JONES & BEACH
ENGINEERS INC.

DRAINAGE ANALYSIS

EROSION AND SEDIMENT CONTROL PLAN

New London Place
Tax Map 72, Lot 17
County Road & Parkside Road
New London, NH 03257

Prepared for:

New London Hospital Association
273 County Road
New London, NH 03257

STATE OF NEW HAMPSHIRE
BARRY W. GIER
No. 12535
LICENSED
PROFESSIONAL ENGINEER

Prepared by:
Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
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July 3, 2018
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Revision #2: November 9, 2018
JBE Project No. 17190

TABLE OF CONTENTS

1. AoT Application Form
2. AoT Application Fee
3. USGS Map
4. Certified Mail Receipt of Application submittal to Town
5. Executive Summary
6. Surface Impairments Map
7. AoT Screening Layers Map
8. NHB Letter
9. Web Soil Survey Map
10. Aerial Photography of Site
11. Representative Photographs of Site
12. Groundwater Recharge Volume Calculations
13. BMP Work Sheets
14. Drainage Analysis
    - 14.1. Introduction
    - 14.2. Methodology
    - 14.3. Existing Conditions Analysis
    - 14.4. Proposed Conditions Analysis
    - 14.5. Conclusion
    - 14.6. Drainage Appendix I – Pre-Development Conditions Analysis
        - 14.6.1. 1-Year – 24 Hour Summary Analysis
        - 14.6.2. 2-Year – 24 Hour Summary Analysis
        - 14.6.3. 10-Year – 24 Hour Complete Analysis
        - 14.6.4. 25-Year – 24 Hour Summary Analysis
        - 14.6.5. 50-Year – 24 Hour Summary Analysis
        - 14.6.6. 100-Year – 24 Hour Summary Analysis
    - 14.7. Drainage Appendix II – Proposed-Development Conditions Analysis
        - 14.7.1. 1-Year – 24 Hour Summary Analysis
        - 14.7.2. 2-Year – 24 Hour Summary Analysis
        - 14.7.3. 10-Year - 24 Hour Complete Analysis
        - 14.7.4. 25-Year – 24 Hour Summary Analysis
        - 14.7.5. 50-Year – 24 Hour Summary Analysis
        - 14.7.6. 100-Year – 24 Hour Summary Analysis
15. Extreme Precipitation Table
16. Rip-Rap Calculations
17. Site Specific Soils Report
18. Infiltration Feasibility Report
19. Registration and Notification Form for Stormwater Infiltration to Groundwater
20. Operations and Maintenance Manual
21. Source Control Plan
22. Plans
    - 22.1. Design Plans
    - 22.2. Soil Plans
        - 22.2.1. Pre-Development Soil Plan
        - 22.2.2. Post-Development Soil Plan
    - 22.3. Drainage Plan
        - 22.3.1. Pre-Development Drainage Plan
        - 22.3.2. Post-Development Drainage Plan

ALTERATION OF TERRAIN PERMIT APPLICATION

New Hampshire Department of Environmental Services Water Division/ Alteration of Terrain Bureau/ Land Resources Management
Check the Status of your Application: www.des.nh.gov/onestop

RSA/ Rule: RSA 485-A:17, Env-Wq 1500

1. APPLICANT INFORMATION (INTENDED PERMIT HOLDER)		
Applicant Name: Continuum Health Services Inc.	Contact Name: Mike Black	
Email: mkb1205@gmail.com	Daytime Telephone: 603-740-4931	
Mailing Address: PO Box 244		
Town/City: Henniker	State: NH	Zip Code: 03242
2. APPLICANT'S AGENT INFORMATION If none, check here: ☐		
Business Name: Jones and Beach Engineers Inc.	Contact Name: Wayne Morrill	
Email: wmorrill@jonesandbeach.com	Daytime Telephone: 603-772-4746	
Address: 85 Portsmouth Ave		
Town/City: Stratham	State: NH	Zip Code: 03885
3. PROPERTY OWNER INFORMATION (IF DIFFERENT FROM APPLICANT)		
Applicant Name: New London Hospital Association	Contact Name:	
Email:	Daytime Telephone:	
Mailing Address: 273 County Road		
Town/City: New London	State: NH	Zip Code: 03257
4. PROPERTY OWNER'S AGENT INFORMATION If none, check here: ☒		
Business Name:	Contact Name:	
Email:	Daytime Telephone:	
Address:		
Town/City:	State:	Zip Code:
5. CONSULTANT INFORMATION If none, check here: ☒		
Engineering Firm:	Contact Name:	
Email:	Daytime Telephone:	
Address:		
Town/City:	State:	Zip Code:

6. PROJECT TYPE

☐ Excavation Only ☐ Residential ☐ Commercial ☐ Golf Course ☐ School ☐ Municipal
☐ Agricultural ☐ Land Conversion ☒ Other: Care Facility

7. PROJECT LOCATION INFORMATION

Project Name: New London Place

Street/Road Address: County Road

Town/City: New London | County: Merrimack

Tax Map: 72 | Block: | Lot Number: 17 | Unit:

Location Coordinates: 43D25'8"N 72D0'3"W ☒ Latitude/Longitude ☐ UTM ☐ State Plane

Post-development, will the proposed project withdraw from or directly discharge to any of the following? If yes, identify the purpose.

1. Stream or Wetland Purpose:	☐ Yes ☐ No	☐ Withdrawal	☐ Discharge
2. Man-made pond created by impounding a stream or wetland Purpose:	☐ Yes ☐ No	☐ Withdrawal	☐ Discharge
3. Unlined pond dug into the water table Purpose: Discharge to proposed ponds	☒ Yes ☐ No	☐ Withdrawal	☐ Discharge

Post-development, will the proposed project discharge to:

- A surface water impaired for phosphorus and/or nitrogen? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen**
- A Class A surface water or Outstanding Resource Water? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen**
- A lake or pond not covered previously? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond**

Is the project a High Load area? ☐ Yes ☒ No
If yes, specify the type of high load land use or activity: _____

Is the project within a Water Supply Intake Protection Area (WSIPA)? ☐ Yes ☒ No
Is the project within a Groundwater Protection Area (GPA)? ☐ Yes ☒ No
Will the well setbacks identified in Env-Wq 1508.02 be met? ☒ Yes ☐ No
Note: Guidance document titled "*Using NHDES's OneStop WebGIS to Locate Protection Areas*" is available online. For more details on the restrictions in these areas, read Chapter 3.1 in Volume 2 of the NH Stormwater Manual.

Is any part of the property within the 100-year floodplain? ☐ Yes ☒ No
If yes: Cut volume: _____ cubic feet within the 100-year floodplain
Fill volume: _____ cubic feet within the 100-year floodplain

☐ Project **IS** within ¼ **mile of a designated river** Name of River:
☒ Project is **NOT** within ¼ mile of a designated river

☐ Project **IS** within **a Coastal/Great Bay Region community - include info required by Env-Wq 1503.08(l) if applicable**
☒ Project is **NOT** within a Coastal/Great Bay Region community

8. BRIEF PROJECT DESCRIPTION (PLEASE DO NOT REPLY "SEE ATTACHED")

This project proposes a 50,703 SF continuing care facility with 33 condominium units in the Town of New London Tax Map 72, Lot 17.

9. IF APPLICABLE, DESCRIBE ANY WORK STARTED PRIOR TO RECEIVING PERMIT

None

10. ADDITIONAL REQUIRED INFORMATION

A. Date a copy of the application was sent to the municipality as required by Env-Wq 1503.05(e)[1]: / / .
(Attach proof of delivery)

B. Date a copy of the application was sent to the local river advisory committee if required by Env-Wq 1503.05(e)[2]: / / .
(Attach proof of delivery)

C. Type of plan required: ☐ Land Conversion ☐ Detailed Development ☐ Excavation, Grading & Reclamation ☐ Steep Slope

D. Additional plans required: ☒ Stormwater Drainage & Hydrologic Soil Groups ☐ Source Control ☐ Chloride Management

E. Total area of disturbance: 651,268 square feet

F. Additional impervious cover as a result of the project: 273,121 square feet (use the "-" symbol to indicate a net reduction in impervious coverage).
Total final impervious cover: 273,121 square feet

G. Total undisturbed cover: 1,238,960 square feet

H. Number of lots proposed: 1

I. Total length of roadway: 3,476 linear feet

J. Name(s) of receiving water(s): Lyon Brook

K. Identify all other NHDES permits required for the project, and for each indicate whether an application has been filed and is pending, or if the required approval has been issued provide the permit number, registration date, or approval letter number, as applicable.

Type of Approval	Application Filed?	Status	
		Pending	If Issued:
1. Water Supply Approval	☐ Yes ☐ No ☐N/A	☐	Permit number:
2. Wetlands Permit	☐ Yes ☐ No ☐N/A	☐	Permit number:
3. Shoreland Permit	☐ Yes ☐ No ☐N/A	☐	Permit number:
4. UIC Registration	☐ Yes ☐ No ☐N/A	☐	Registration date:
5. Large/Small Community Well Approval	☐ Yes ☐ No ☐N/A	☐	Approval letter date:
6. Large Groundwater Withdrawal Permit	☐ Yes ☐ No ☐N/A	☐	Permit number:
7. Other:	☐ Yes ☐ No	☐	Permit number:

L. List all species identified by the Natural Heritage Bureau as threatened or endangered or of concern:
N/A

M. Using NHDES's Web GIS OneStop program (www2.des.state.nh.us/gis/onestop/), with the Surface Water Impairment layer turned on, list the impairments identified for each receiving water. If no pollutants are listed, enter "N/A."
N/A

N. Did the applicant/applicant's agent have a pre-application meeting with AOT staff? ☐ Yes ☒ No
If yes, name of staff member:

[1] Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the governing body of each municipality in which the project is proposed.

[2] Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the Local River Advisory Committee, if the project is within ¼ mile of a designated river.

O. Will blasting of bedrock be required? ☒ Yes ☐ No If yes, estimated quantity of blast rock: 4,500 cubic yards
If yes, standard blasting BMP notes must be placed on the plans, available at:
http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-10-12.pdf

NOTE: If greater than 5,000 cubic yards of blast rock will be generated, a groundwater monitoring program must be developed and submitted to NHDES. Contact AOT staff for additional detail.

11. CHECK ALL APPLICATION ATTACHMENTS THAT APPLY (SUBMIT WITH APPLICATION IN ORDER LISTED)

LOOSE:

- ☒ Signed application form: des.nh.gov/organization/divisions/water/aot/index.htm (with attached proof(s) of delivery)
- ☒ Check for the application fee: des.nh.gov/organization/divisions/water/aot/fees.htm
- ☒ Color copy of a USGS map with the property boundaries outlined (1" = 2,000' scale)
- ☒ If Applicant is not the property owner, proof that the applicant will have a legal right to undertake the project on the property if a permit is issued to the applicant.

BIND IN A REPORT IN THE FOLLOWING ORDER:

- ☒ Copy of the signed application form & application checklist (des.nh.gov/organization/divisions/water/aot/index.htm)
- ☒ Copy of the check
- ☒ Copy of the USGS map with the property boundaries outlined (1" = 2,000' scale)
- ☒ Narrative of the project with a summary table of the peak discharge rate for the off-site discharge points
- ☒ Web GIS printout with the "Surface Water Impairments" layer turned on - http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx
- ☒ Web GIS printouts with the AOT screening layers turned on - http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx
- ☒ NHB letter using DataCheck Tool – www.nhdfl.org/about-forests-and-lands/bureaus/natural-heritage-bureau/
- ☒ The Web Soil Survey Map with project's watershed outlined – websoilsurvey.nrcs.usda.gov
- ☒ Aerial photograph (1" = 2,000' scale with the site boundaries outlined)
- ☒ Photographs representative of the site
- ☒ Groundwater Recharge Volume calculations (one worksheet for each permit application): des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- ☒ BMP worksheets (one worksheet for each treatment system): des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- ☒ Drainage analysis, stamped by a professional engineer (see Application Checklist for details)
- ☒ Riprap apron or other energy dissipation or stability calculations
- ☒ Site Specific Soil Survey report, stamped and with a certification note prepared by the soil scientist that the survey was done in accordance with the Site Specific Soil Mapping standards, *Site-Specific Soil Mapping Standards for NH & VT, SSSNNE Special Publication No. 3.*
- ☒ Infiltration Feasibility Report (example online) [Env-Wq 1503.08(f)(3)]
- ☒ Registration and Notification Form for Storm Water Infiltration to Groundwater (UIC Registration-for underground systems only, including drywells and trenches): (http://des.nh.gov/organization/divisions/water/dwgb/dwspp/gw_discharge)
- ☒ Inspection and maintenance manual with, if applicable, long term maintenance agreements [Env-Wq 1503.08(g)]
- ☐ Source control plan

PLANS:

- ☒ One set of design plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)
- ☒ Pre & post-development color coded soil plans on 11" x 17" (see Application Checklist for details)
- ☒ Pre & post-development drainage area plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)

100-YEAR FLOODPLAIN REPORT:

- ☐ All information required in Env-Wq 1503.09, submitted as a separate report.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

- ☐ See Checklist for Details

☒ **REVIEW APPLICATION FOR COMPLETENESS & CONFIRM INFORMATION LISTED ON THE APPLICATION IS INCLUDED WITH SUBMITTAL.**

12. REQUIRED SIGNATURES

EWG By initialing here, I acknowledge that I am required by Env-Wq 1503.20(e) to submit a copy of all approved documents to the department in PDF format on a CD within one week after permit approval.

By signing below, I certify that:

- The information contained in or otherwise submitted with this application is true, complete, and not misleading to the best of my knowledge and belief;
- I understand that the submission of false, incomplete, or misleading information constitutes grounds for the department to deny the application, revoke any permit that is granted based on the information, and/or refer the matter to the board of professional engineers established by RSA 310-A:3 if I am a professional engineer; and
- I understand that I am subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.

☐ **APPLICANT**

Signature: Emery W. Gier

Name (print or type): EMERY W. GIER

☑ **APPLICANT'S AGENT:**

Date: 9/11/18

Title: VICE-PRESIDENT

☐ **PROPERTY OWNER**

Signature: _____

Name (print or type): _____

☐ **PROPERTY OWNER'S AGENT:**

Date: _____

Title: _____

ATTACHMENT A:
ALTERATION OF TERRAIN PERMIT APPLICATION CHECKLIST

Check the box to indicate the item has been provided or provide an explanation why the item does not apply.

DESIGN PLANS

☒ Plans printed on 34 - 36" by 22 - 24" white paper

☒ PE stamp

☒ Wetland delineation

☒ Temporary erosion control measures

☒ Treatment for all stormwater runoff from impervious surfaces such as roadways (including gravel roadways), parking areas, and non-residential roof runoff. Guidance on treatment BMPs can be found in Volume 2, Chapter 4 of the NH Stormwater Management Manual.

☒ Pre-existing 2-foot contours

☒ Proposed 2-foot contours

☐ Drainage easements protecting the drainage/treatment structures

☒ Compliance with the Wetlands Bureau, RSA 482- A http://des.nh.gov/organization/divisions/water/wetlands/index.htm. Note that artificial detention in wetlands is not allowed.

☒ Compliance with the Comprehensive Shoreland Protection Act, RSA 483-B. http://des.nh.gov/organization/divisions/water/wetlands/cspa

☐ Benches. Benching is needed if you have more than 20 feet change in elevation on a 2:1 slope, 30 feet change in elevation on a 3:1 slope, 40 feet change in elevation on a 4:1 slope.

☒ Check to see if any proposed ponds need state Dam permits. http://des.nh.gov/organization/divisions/water/dam/documents/damdef.pdf

DETAILS

☒ Typical roadway x-section

☒ Detention basin with inverts noted on the outlet structure

☒ Stone berm level spreader

☒ Outlet protection – riprap aprons

☒ A general installation detail for an erosion control blanket

☒ Silt fences or mulch berm

☒ Storm drain inlet protection. Note that since hay bales must be embedded 4 inches into the ground, they are not to be used on hard surfaces such as pavement.

☐ Hay bale barriers

☒ Stone check dams

☒ Gravel construction exit

☐ Temporary sediment trap

☒ The treatment BMP's proposed

☐ Any innovative BMP's proposed

CONSTRUCTION SEQUENCE/EROSION CONTROL

☒ Note that the project is to be managed in a manner that meets the requirements and intent of RSA 430:53 and Chapter Agr 3800 relative to invasive species.

☒ Note that perimeter controls shall be installed prior to earth moving operations.

☒ Note that temporary water diversion (swales, basins, etc) must be used as necessary until areas are stabilized.

☒ Note that ponds and swales shall be installed early on in the construction sequence (before rough grading the site).

☒ Note that all ditches and swales shall be stabilized prior to directing runoff to them.

☒ Note that all roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.

☒ Note that all cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade

☒ Note that all erosion controls shall be inspected weekly AND after every half-inch of rainfall.

☒ Note the limits on the open area allowed, see Env-Wq 1505.02 for detailed information.

Example note: The smallest practical area shall be disturbed during construction, but in no case shall exceed 5 acres at any one time before disturbed areas are stabilized.

☒ Note the definition of the word "stable"

Example note: An area shall be considered stable if one of the following has occurred:

- Base course gravels have been installed in areas to be paved.
- A minimum of 85 percent vegetated growth has been established.
- A minimum of 3 inches of non-erosive material such stone or riprap has been installed.
- Or, erosion control blankets have been properly installed.

☒ Note the limit of time an area may be exposed
Example note: All areas shall be stabilized within 45 days of initial disturbance.

☒ Provide temporary and permanent seeding specifications. (Reed canary grass is listed in the Green Book; however, this is a problematic species according to the Wetlands Bureau and therefore should not be specified)

☒ Provide winter construction notes that meet or exceed our standards.

Standard Winter Notes:

- All proposed vegetated areas that do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events.
- All ditches or swales which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions.
- After October 15, incomplete road or parking surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel per NHDOT item 304.3.

☒ Note at the end of the construction sequence that "Lot disturbance, other than that shown on the approved plans, shall not commence until after the roadway has the base course to design elevation and the associated drainage is complete and stable." – This note is applicable to single/duplex family subdivisions, when lot development is not part of the permit.

DRAINAGE ANALYSES

Please double-side 8 ½" x 11" sheets where possible but, **do not** reduce the text such that more than one page fits on one side.

☒ PE stamp

☒ Rainfall amount obtained from the Northeast Regional Climate Center- http://precip.eas.cornell.edu/. Include extreme precipitation table as obtained from the above referenced website.

☒ Drainage analyses, in the following order:

- Pre-development analysis: Drainage diagram.

- Pre-development analysis: Area Listing and Soil Listing.
- Pre-development analysis: Node listing 1-year (if applicable), 2-year, 10-year and 50-year.
- Pre-development analysis: Full summary of the 10-year storm.
- Post-development analysis: Drainage diagram.
- Post-development analysis: Area Listing and Soil Listing.
- Post-development analysis: Node listing for the 2-year, 10-year and 50-year.
- Post-development analysis: Full summary of the 10-year storm.

☒ Review the Area Listing and Soil Listing reports

- Hydrologic soil groups (HSG) match the HSGs on the soil maps provided.
- There is the same or less HSG A soil area after development (check for each HSG).
- There is the same or less "woods" cover in the post-development.
- Undeveloped land was assumed to be in "good" condition.
- The amount of impervious cover in the analyses is correct.

Note: A good check is to subtract the total impervious area used in the pre analysis from the total impervious area used in the post-analysis. For residential projects without demolition occurring, a good check is to take this change in impervious area, subtract out the roadway and divide the remaining by the number of houses/units proposed. Do these numbers make sense?

☒ Check the storage input used to model the ponds.

☒ Check to see if the artificial berms pass the 50-year storm, i.e., make sure the constructed berms on ponds are not overtopped.

☒ Check the outlet structure proposed and make sure it matches that modeled.

☒ Check to see if the total areas in the pre and post analyses are same.

☒ Confirm the correct NRCS storm type was modeled (Coos, Carroll & Grafton counties are Type II, all others Type III).

PRE- AND POST-DEVELOPMENT DRAINAGE AREA PLANS

☒ Plans printed on 34 - 36" by 22 - 24" on white paper.

☒ Submit these plans separate from the soil plans.

☒ A north arrow.

☒ A scale.

☒ Labeled subcatchments, reaches and ponds.

☒ Tc lines.

☒ A clear delineation of the subcatchment boundaries.

☒ Roadway station numbers.

☒ Culverts and other conveyance structures.

PRE AND POST-DEVELOPMENT COLOR-CODED SOIL PLANS

☐ 11" x 17"sheets suitable, as long as it is readable.

☒ Submit these plans separate from the drainage area plans.

☒ A north arrow.

☒ A scale.

☒ Name of the soil scientist who performed the survey and date the soil survey took place.

☒ 2-foot contours (5-foot contours if application is for a gravel pit) as well as other surveyed features.

☒ Delineation of the soil boundaries and wetland boundaries.

☒ Delineation of the subcatchment boundaries.

☒ Soil series symbols (e.g., 26).

☒ A key or legend which identifies each soil series symbol and its associated soil series name (e.g., 26 = Windsor).

☒ The hydrologic soil group color coding (A = Green, B = yellow, C= orange, D=red, Water=blue, & Impervious = gray).

Please note that excavation projects (e.g., gravel pits) have similar requirements to that above, however the following are common exceptions/additions:

☐ Drainage report is not needed if site does not have off-site flow.

☐ 5 foot contours allowed rather than 2 foot.

☐ No PE stamp needed on the plans.

☐ Add a note to the plans that the applicant must submit to the Department of Environmental Services a written update of the project and revised plans documenting the project status every five years from the date of the Alteration of Terrain permit.

☐ Add reclamation notes.

See NRCS publication titled: *Vegetating New Hampshire Sand and Gravel Pits* for a good resource, it is posted online at: http://des.nh.gov/organization/divisions/water/aot/categories/publications.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

☐ If project will discharge stormwater to a surface water impaired for phosphorus and/or nitrogen, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.

☐ If project will discharge stormwater to a Class A surface water or Outstanding Resource Water, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.

☐ If project will discharge stormwater to a lake or pond not covered previously, include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond.

☐ If project is within a Coastal/Great Bay Region community, include info required by Env-Wq 1503.08(l) if applicable.

8846

JONES & BEACH ENGINEERS, INC.

DATE	INVOICE NO.	COMMENT	AMOUNT	NET AMOUNT
09/11/2018	17190	17190 AOT Application Fee		3,750.00
DATE 09/11/18		**VENDOR** TREASURER, STATE OF NEW HAMPSHIR	**TOTAL**	3,750.00

8846

VOID VOID VOID VOID

JONES & BEACH ENGINEERS, INC.
85 PORTSMOUTH AVENUE
PO BOX 219
STRATHAM , NH 03885

THE PROVIDENT BANK

53-7402/2113

DATE | AMOUNT

Three Thousand Seven Hundred Fifty and no/100

PAY TO THE ORDER OF TREASURER, STATE OF NEW HAMPSHIRE

09/11/18 8846 $3,750.00

AUTHORIZED SIGNATURE

Security features. Details on back

⑈008846⑈ ⑆211374020⑆ 420051013⑈

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- ☐ Return Receipt (electronic) $ $0.00
- ☐ Certified Mail Restricted Delivery $ $0.00
- ☐ Adult Signature Required $ $0.00
- ☐ Adult Signature Restricted Delivery $

Postage $17.20
$

Total Postage and Fees $23.40
$

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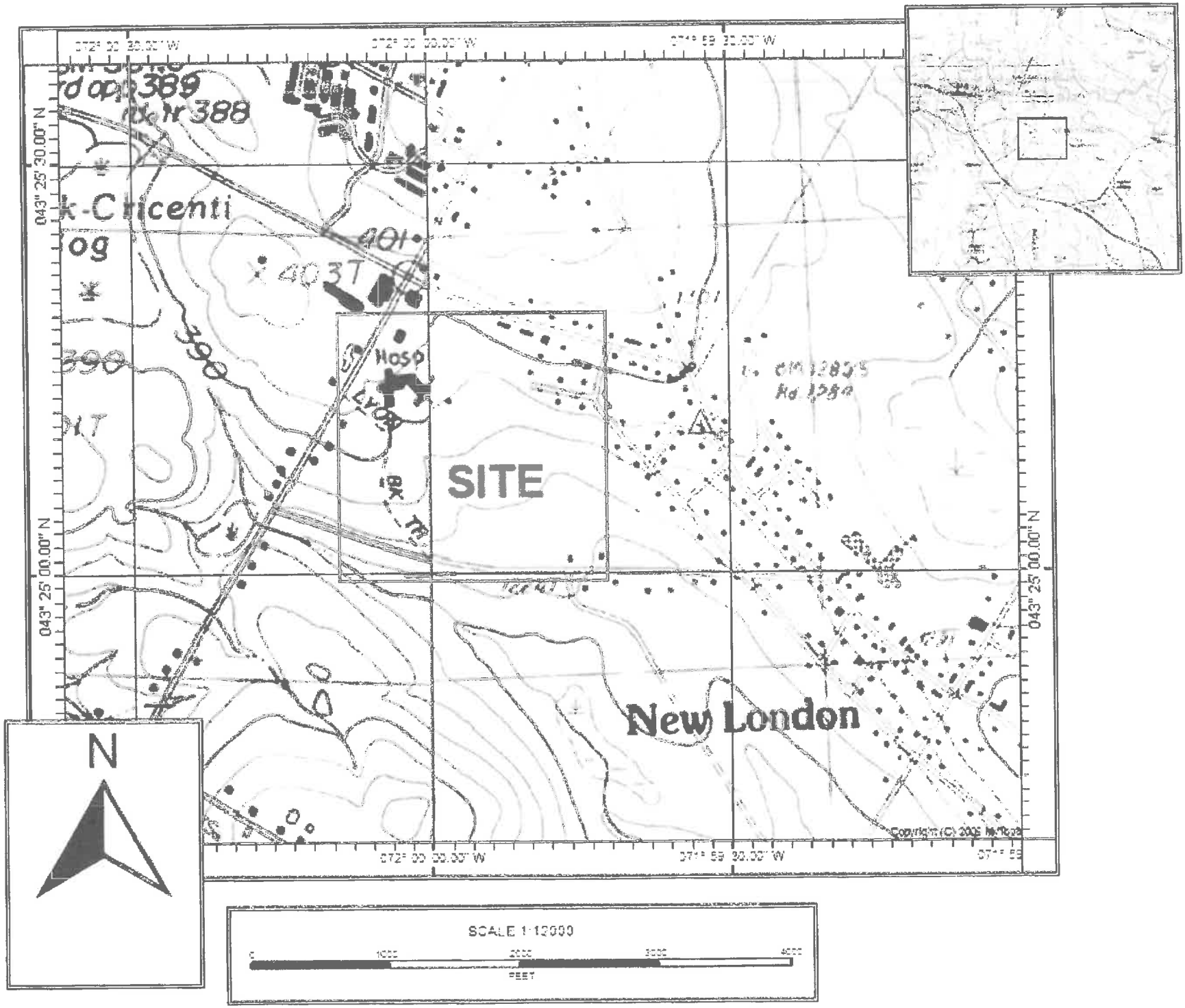
09/11/2018

Town of New London
Attn. Planning Dept.
375 Main St
New London, NH 03257

17790

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions


SITE
New London
N
SCALE 1:12000
FEET
043° 25' 30.00" N
043° 25' 00.00" N
072° 00' 30.00" W
071° 59' 30.00" W

1. EXECUTIVE SUMMARY

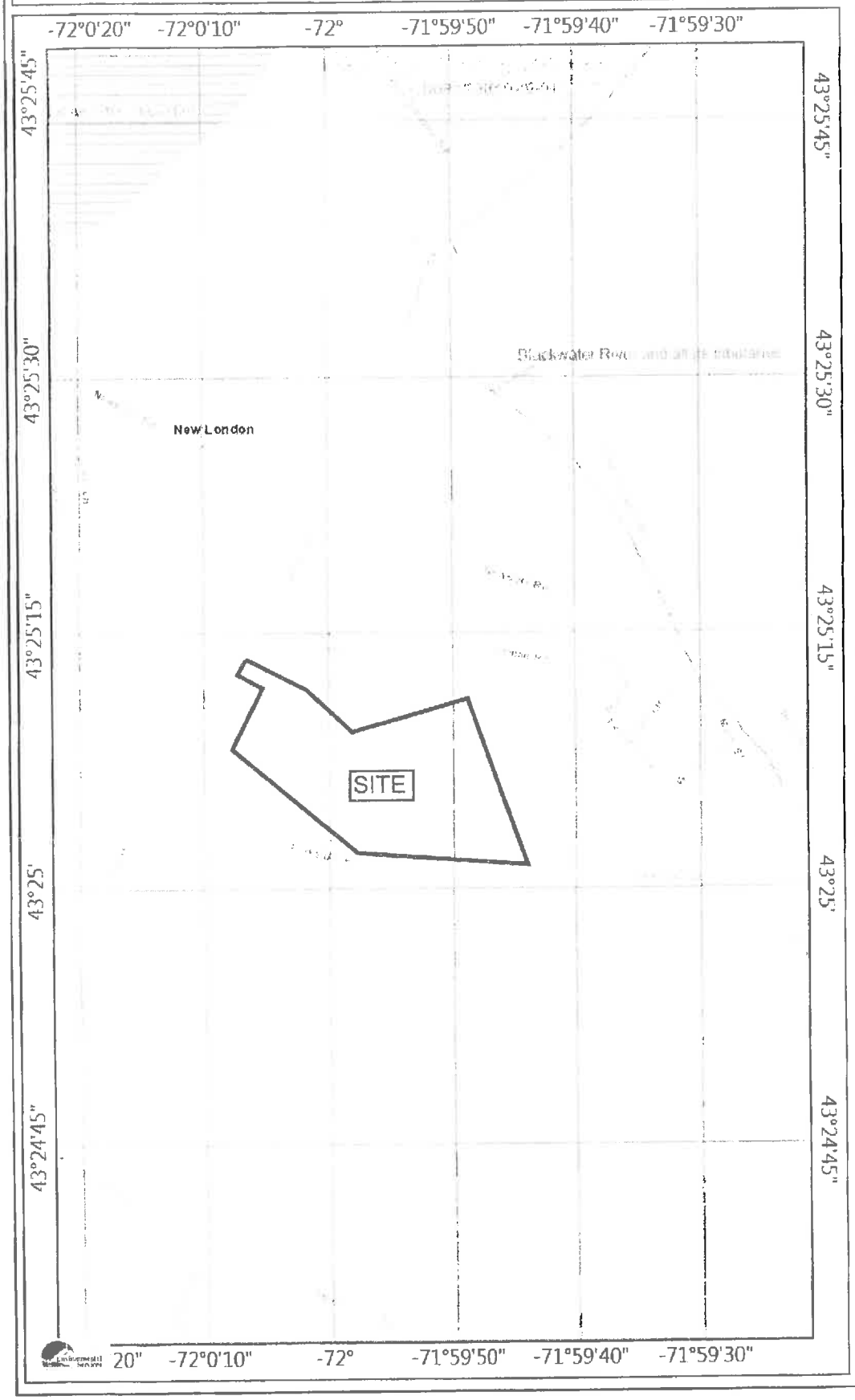
This project proposes a 47,624SF continuing care facility with 33 condominium units in the Town of New London Tax Map 72, Lot 17. The uses will be serviced by an extension to the municipal sewer & water systems and underground electric. Two models were compiled, one for the area in its existing (pre-development) condition, and a second for its proposed (post-development) condition. The analysis was conducted using the USDA SCS TR-20 method within the HydroCAD Stormwater Modeling System environment. A summary of the existing and proposed conditions peak rates of runoff is as follows:

EXECUTIVE SUMMARY TABLE												
Analysis Point	1-Year		2-Year		10-Year		25-Year		50-Year		100-Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
AP #1	0.00	0.00	0.01	0.00	0.11	0.04	0.26	0.10	0.44	0.17	0.68	0.27
AP #2	0.01	0.00	0.03	0.02	0.42	0.18	1.01	0.41	1.70	0.67	2.65	1.04
AP #3	0.01	0.01	0.04	0.04	0.35	0.29	0.78	0.61	1.27	0.95	1.91	1.41
AP #4	7.23	6.74	10.04	9.36	20.60	17.68	28.77	25.19	35.80	32.17	44.31	44.45
AP #5	25.90	21.82	37.06	31.14	76.26	64.48	108.78	92.21	139.61	119.21	177.26	153.15
AP #6	21.81	21.81	31.63	31.63	65.97	65.97	94.39	94.39	121.26	121.26	154.01	154.01
Total	54.96	50.38	78.81	72.19	163.71	148.64	233.99	212.91	300.08	274.43	380.82	354.33

The drainage design intent for this site is to maintain the post-development peak flow to the pre-development peak flow conditions to the extent practicable and to effectively treat stormwater from the development of this project. This has been accomplished through the use of two (2)wet detention ponds, drip edge infiltration trenches, and five (5) infiltration basins to maintain the peak discharge and infiltrate stormwater.

In addition, the potential for increased erosion and sedimentation is handled by way of erosion control blankets, vegetated treatment swales, sedimentation sumps, grease hoods, and riprap inlet and outlet protection aprons. The use of Best Management Practices per the NHDES Stormwater Manual have been applied to the design of this drainage system and will be observed during all stages of construction. Existing wetlands and abutting property owners will suffer minimal impact resultant from this development.

Map By



Legend

- Coastal and Great Bay Regi Communities
- Designated Rivers Quarterm Buffer
- Public Water Supply Wells
- Groundwater Classification / GA1
- Groundwater Classification / GA2
- Water Supply Intake Protect Areas
- Wellhead Protection Areas
- Lakes with a Quarter Mile Bu
- All Features
- All Lakes, with a Quarter Mil Buffer
- Outstanding Resource Wate Watersheds
- Surface Waters with Impairm 2016 with Quarter Mile Buffe
- Watersheds with Chloride Impairments 2016

Map Scale

1: 10,000

© NH DES, http://des.nh.gov

Map Generated: 7/17/2018

Notes

NEW HAMPSHIRE NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Paige Libbey, Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
Stratham, NH 03885

From: NH Natural Heritage Bureau

Date: 10/13/2017 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 10/6/2017

NHB File ID: NHB17-3114 **Applicant:** Paige Libbey

Location: New London
Tax Maps: Tax Map 72 Lot 17

Project Description: Retirement care community

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

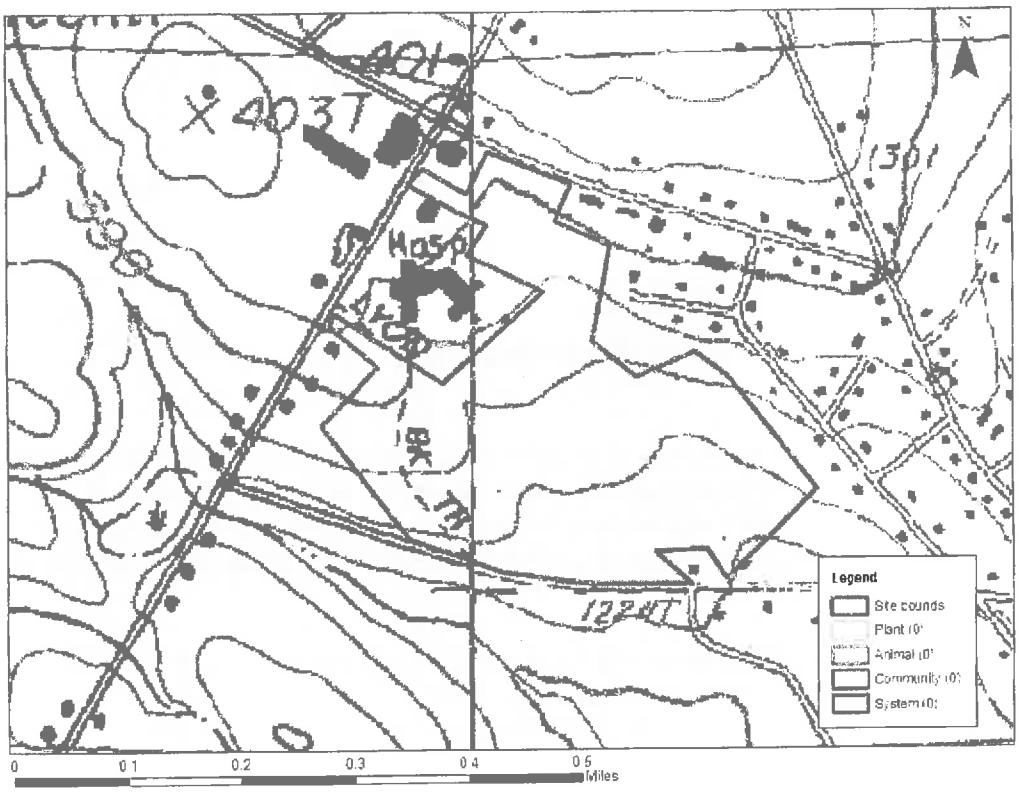
It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 10/6/2017, and cannot be used for any other project.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

MAP OF PROJECT BOUNDARIES FOR: **NHB17-3114**

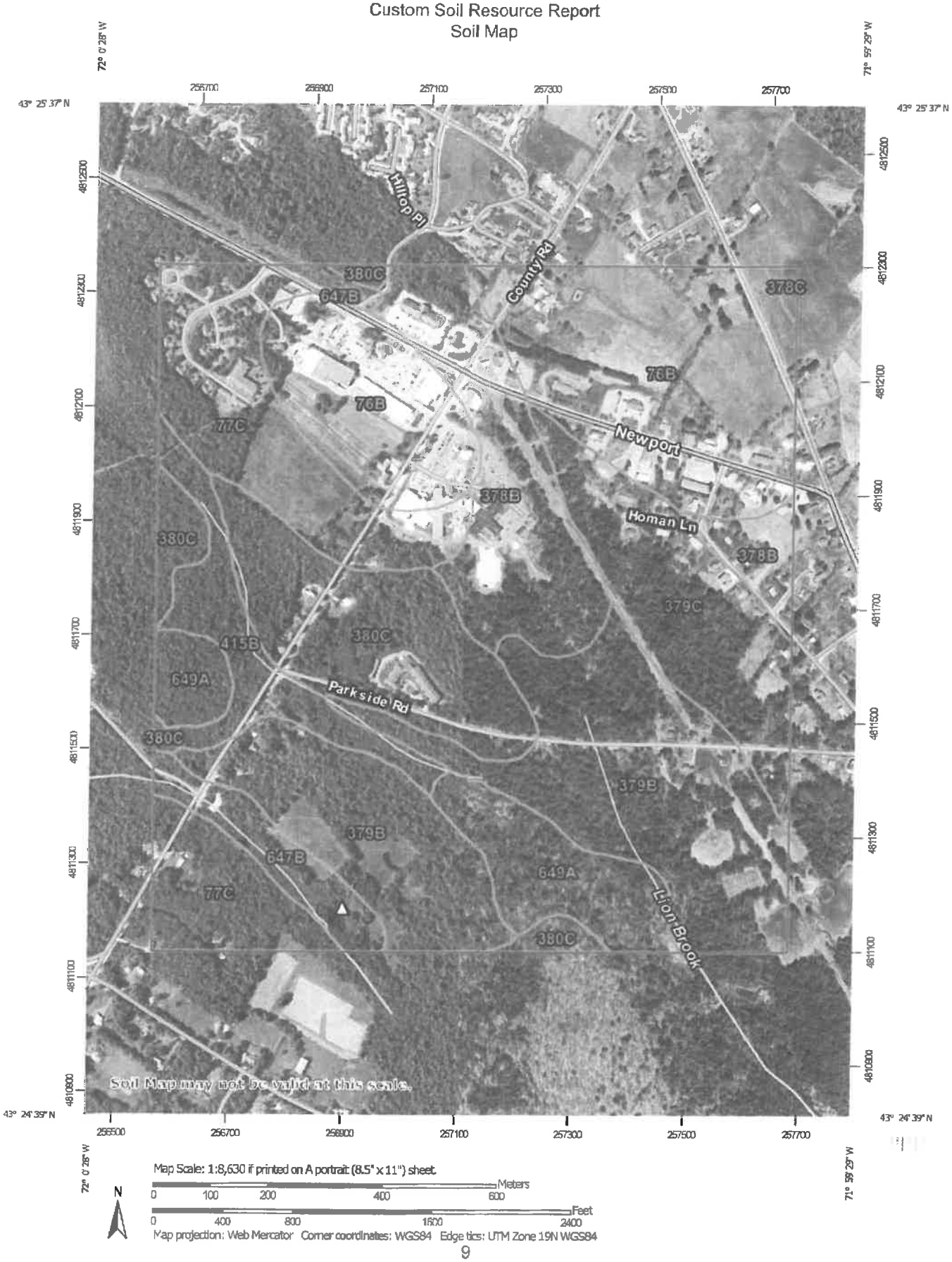
NHB17-3114



Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 22, Sep 11, 2017

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

Date(s) aerial images were photographed: Apr 8, 2011—Oct 8, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
76B	Marlow fine sandy loam, 3 to 8 percent slopes	70.0	21.0%
77C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony	42.8	12.9%
378B	Peru fine sandy loam, 3 to 8 percent slopes	35.0	10.5%
378C	Peru fine sandy loam, 8 to 15 percent slopes	0.8	0.2%
379B	Peru fine sandy loam, 0 to 8 percent slopes, very stony	72.5	21.8%
379C	Peru fine sandy loam, 8 to 15 percent slopes, very stony	27.9	8.4%
380C	Tunbridge-Lyman-Becket complex, 8 to 15 percent slopes, very stony	37.4	11.3%
415B	Moosilauke fine sandy loam, 3 to 8 percent slopes, very stony	15.0	4.5%
647B	Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony	10.6	3.2%
649A	Peacham mucky peat, 0 to 8 percent slopes, very stony	20.6	6.2%
Totals for Area of Interest		**332.6**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a

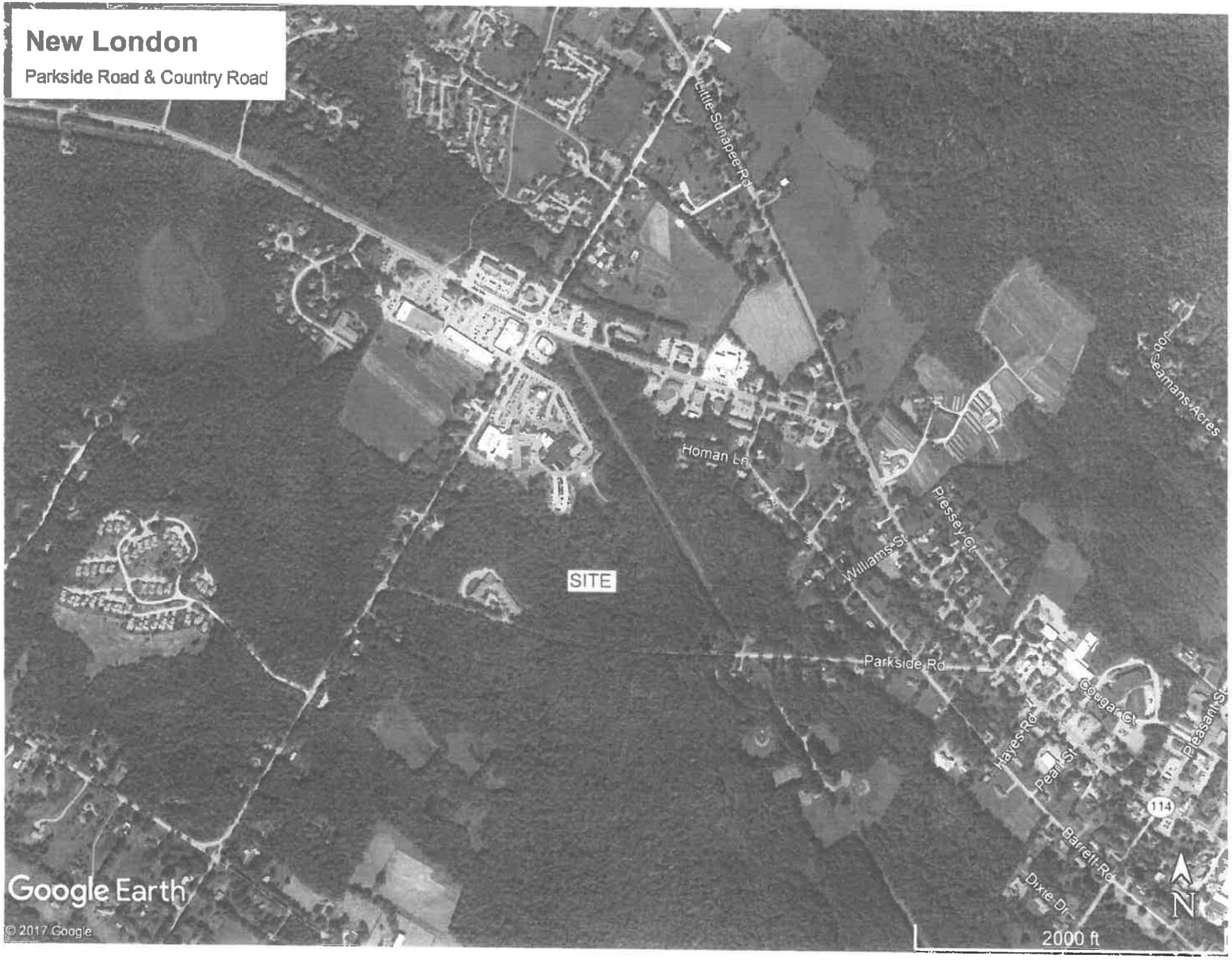

New London
Parkside Road & Country Road
Little Sunapee Rd
Homan Ln
Williams St
Pressey Cir
Job Seamans Acres
SITE
Parkside Rd
Cougar Cir
Pleasant St
Hayes Rd
Pearl St
114
Barrett Rd
Dixie Dr
N
2000 ft
Google Earth
© 2017 Google

Photo Log

New London Place
New London, NH
JBE Project No. 17190

Photo 1 – New London Hospital looking towards site

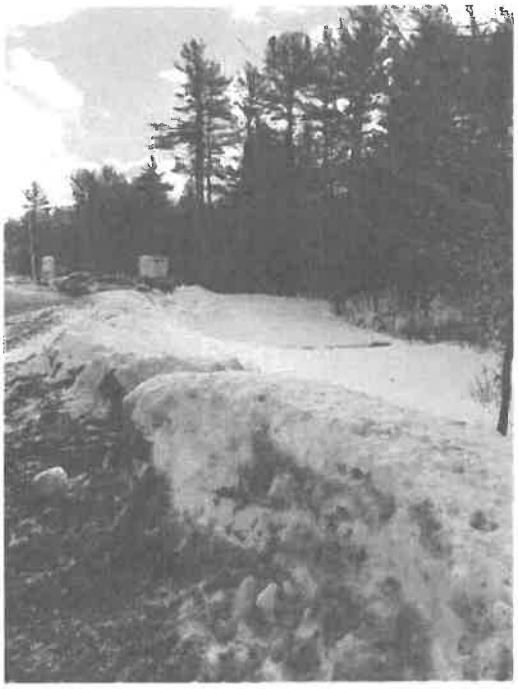


Photo 2 – On site trail system

Photo 3 – Parkside Road

Photo 4 – Corner of Parkside Road and County Road

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Groundwater Recharge Volume (GRV) Calculation

	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
2.05	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
3.90	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.15	inches	Rd = weighted groundwater recharge depth	
0.9008	ac-in	GRV = AI * Rd	
3,270	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12")	

Provide calculations below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

Groundwater recharge accomplished through the use of infiltration basins. The amount of infiltation in each basin is listed below.

Pond #1 2,227 cu.ft.
Pond #4 3,227 cu.ft.
Pond #6 2,616 cu.ft.
Pond #7 7,051 cu.ft.

Total Recharge Volume Proposed:
15,121 cu.ft.

New London Recharge Requirement (per Sec. L.2.b Land Subdivision Control Regulations)
Infiltration required (cu.ft.) = imervious surface (sq.ft.) x 0.5 (inch) / 12 (in/ft)
5.96 acres(43,560 sf) x (0.5") / 12 (in/ft) = 10,817 cu.ft.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

STORMWATER POND DESIGN CRITERIA

Env-Wq 1508.03

Type/Node Name: **Wet Pond #2: (Node 2P)**

Enter the type of stormwater pond (e.g., Wet Pond) and the node name in the drainage analysis, if applicable

0.62	ac	A = Area draining to the practice	
0.43	ac	A_I = Impervious area draining to the practice	
0.69	decimal	I = percent impervious area draining to the practice, in decimal form	
0.67	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.42	ac-in	WQV= 1" x Rv x A	
1,518	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
152	cf	10% x WQV (check calc for sediment forebay and micropool volume)	
759	cf	50% x WQV (check calc for extended detention volume)	
152	cf	V_{SED} = sediment forebay volume	← ≥ 10%WQV
3,125	cf	V_{PP} = permanent pool volume (volume below the lowest invert of the outlet structure) Attach stage-storage table.	
no	cf	Extended Detention?[1]	← ≤ 50% WQV
-		V_{ED} = Volume of Extended detention (if "yes is given in box above)	
		E_{ED} = elevation of WQV if "yes" is given in box above[2]	
-	cfs	$2Q_{avg}$ = 2* V_{ED} / 24 hrs * (1hr / 3600 sec) (used to check against Q_{EDmax} below)	
	cfs	Q_{EDmax} = discharge at the E_{ED} (attach stage-discharge table)	← <$2Q_{avg}$
-	hours	T_{ED} = drawdown time of extended detention = $2V_{ED}/Q_{EDmax}$	← ≥ 24-hrs
3.00	:1	Pond side slopes	← ≥3:1
530.00	ft	Elevation of seasonal high water table	
530.00	ft	Elevation of lowest pond outlet	
525.00	ft	Max floor = maximum elevation of pond bottom (ft)	
522.00	ft	Minimum floor (to maintain depth at less than 8')	← ≤ 8 ft
525.00	ft	Elevation of pond floor[3]	← ≤ Max floor and > Min floor
65.00	ft	Length of the flow path between the inlet and outlet at mid-depth	
35.00	ft	Average Width ([average of the top width + average bottom width]/2)	
1.86	:1	Length to Average Width ratio	← ≥ 3:1
YES	Yes/No	The perimeter should be curvilinear.	
YES	Yes/No	The inlet and outlet should be located as far apart as possible.	
NO	Yes/No	Is there a manually-controlled drain to dewater the pond over a 24hr period?	
If no state why:		Downstream elevations to not allow for a dewatering drain structure	
Baffle Tee		What mechanism is proposed to prevent the outlet structure from clogging (applicable for orifices/weirs with a dimension of <6")?	
532.56	ft	Peak elevation of the 50-year storm event	
533.00	ft	Berm elevation of the pond	
YES		50 peak elevation ≤ the berm elevation?	← yes

1. If the entire WQV is stored in the perm. pool, there is no extended det., and the following five lines do not apply.
2. This is the elevation of WQV if the hydrologic analysis is set up to include the permanent pool storage in the node description.
3. If the pond floor elevation is above the max floor elev., a hydrologic budget must be submitted to demonstrate that a minimum depth of 3 feet can be maintained. (First check whether a revised "lowest pond outlet" elev. will resolve the issue.)

Designer's Notes:

Unable to achieve length to width ratio due to grading and proximity to wetlands. Maximum possible ratio designed.

Stage-Area-Storage for Pond 2F: FOREBAY #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
530.80	40	0	531.34	157	58
530.81	43	0	531.35	158	60
530.82	45	1	531.36	160	61
530.83	48	1	531.37	162	63
530.84	51	2	531.38	163	65
530.85	53	2	531.39	165	66
530.86	56	3	531.40	167	68
530.87	59	3	531.41	168	70
530.88	62	4	531.42	170	71
530.89	65	5	531.43	172	73
530.90	69	5	531.44	174	75
530.91	72	6	531.45	175	76
530.92	75	7	531.46	177	78
530.93	79	8	531.47	179	80
530.94	82	8	531.48	181	82
530.95	86	9	531.49	183	84
530.96	90	10	531.50	184	85
530.97	93	11	531.51	186	87
530.98	97	12	531.52	188	89
530.99	101	13	531.53	190	91
531.00	105	14	531.54	192	93
531.01	106	15	531.55	194	95
531.02	108	16	531.56	195	97
531.03	109	17	531.57	197	99
531.04	111	18	531.58	199	101
531.05	112	19	531.59	201	103
531.06	113	21	531.60	203	105
531.07	115	22	531.61	205	107
531.08	116	23	531.62	207	109
531.09	118	24	531.63	209	111
531.10	119	25	531.64	211	113
531.11	121	26	531.65	213	115
531.12	122	28	531.66	214	117
531.13	124	29	531.67	216	119
531.14	125	30	531.68	218	122
531.15	126	31	531.69	220	124
531.16	128	33	531.70	222	126
531.17	130	34	531.71	224	128
531.18	131	35	531.72	226	131
531.19	133	37	531.73	228	133
531.20	134	38	531.74	230	135
531.21	136	39	531.75	232	137
531.22	137	41	531.76	234	140
531.23	139	42	531.77	237	142
531.24	140	43	531.78	239	144
531.25	142	45	531.79	241	147
531.26	144	46	531.80	243	149
531.27	145	48	531.81	245	152
531.28	147	49	531.82	247	154
531.29	148	51	531.83	249	157
531.30	150	52	531.84	251	159
531.31	152	54	531.85	253	162
531.32	153	55	531.86	255	164
531.33	155	57	531.87	257	167

Lowest Outlet=531.81
WQV Req'd=152 cu.ft.
Vol. Prov'd=152 cu.ft.

Stage-Area-Storage for Pond 2P: WET POND #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
525.00	5	0
525.10	9	1
525.20	13	2
525.30	19	3
525.40	26	6
525.50	33	9
525.60	42	12
525.70	52	17
525.80	63	23
525.90	74	30
526.00	87	38
526.10	99	47
526.20	112	57
526.30	126	69
526.40	140	83
526.50	155	97
526.60	171	114
526.70	188	132
526.80	206	151
526.90	224	173
527.00	243	196
527.10	262	221
527.20	282	249
527.30	303	278
527.40	324	309
527.50	346	343
527.60	369	378
527.70	393	417
527.80	417	457
527.90	442	500
528.00	468	545
528.10	494	594
528.20	521	644
528.30	549	698
528.40	577	754
528.50	607	813
528.60	636	876
528.70	667	941
528.80	698	1,009
528.90	730	1,080
529.00	763	1,155
529.10	796	1,233
529.20	830	1,314
529.30	864	1,399
529.40	899	1,487
529.50	935	1,579
529.60	972	1,674
529.70	1,009	1,773
529.80	1,047	1,876
529.90	1,086	1,983
530.00	1,125	2,093
530.10	1,165	2,208
530.20	1,205	2,326
530.30	1,246	2,449
530.40	1,288	2,575
530.50	1,330	2,706
530.60	1,374	2,842
530.70	1,417	2,981
530.80	1,462	3,125
530.90	1,507	3,273
531.00	1,553	3,426
531.10	1,599	3,584
531.20	1,647	3,746
531.30	1,694	3,913
531.40	1,743	4,085
531.50	1,792	4,262
531.60	1,842	4,444
531.70	1,892	4,630
531.80	1,944	4,822
531.90	1,995	5,019
532.00	2,048	5,221
532.10	2,142	5,431
532.20	2,239	5,650
532.30	2,338	5,879
532.40	2,438	6,117
532.50	2,541	6,366
532.60	2,646	6,626
532.70	2,754	6,896
532.80	2,863	7,177
532.90	2,974	7,468
533.00	**3,088**	**7,772**

Lowest Out=530.80
WQV Req'd=3,036 cu.ft.
Vol. Prov;d=3,125 cu.ft.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

STORMWATER POND DESIGN CRITERIA

Env-Wq 1508.03

Type/Node Name: **Wet Pond #5: (Node 5P)**

Enter the type of stormwater pond (e.g., Wet Pond) and the node name in the drainage analysis, if applicable

2.53	ac	A = Area draining to the practice	
1.22	ac	A_I = Impervious area draining to the practice	
0.48	decimal	I = percent impervious area draining to the practice, in decimal form	
0.48	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
1.22	ac-in	WQV= 1" x Rv x A	
4,445	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
445	cf	10% x WQV (check calc for sediment forebay and micropool volume)	
2,223	cf	50% x WQV (check calc for extended detention volume)	
540	cf	V_{SED} = sediment forebay volume	← ≥ 10%WQV
9,200	cf	V_{PP} = permanent pool volume (volume below the lowest invert of the outlet structure) Attach stage-storage table.	
no	cf	Extended Detention?[1]	← ≤ 50% WQV
-		V_{ED} = Volume of Extended detention (if "yes is given in box above)	
		E_{ED} = elevation of WQV if "yes" is given in box above[2]	
-	cfs	$2Q_{avg}$ = 2* V_{ED} / 24 hrs * (1hr / 3600 sec) (used to check against Q_{EDmax} below)	
	cfs	Q_{EDmax} = discharge at the E_{ED} (attach stage-discharge table)	← <$2Q_{avg}$
-	hours	T_{ED} = drawdown time of extended detention = $2V_{ED}/Q_{EDmax}$	← ≥ 24-hrs
3.00	:1	Pond side slopes	← ≥3:1
491.25	ft	Elevation of seasonal high water table	
491.25	ft	Elevation of lowest pond outlet	
486.25	ft	Max floor = maximum elevation of pond bottom (ft)	
483.25	ft	Minimum floor (to maintain depth at less than 8')	← ≤ 8 ft
486.00	ft	Elevation of pond floor[3]	← ≤ Max floor and > Min floor
61.00	ft	Length of the flow path between the inlet and outlet at mid-depth	
45.00	ft	Average Width ([average of the top width + average bottom width]/2)	
1.36	:1	Length to Average Width ratio	← ≥ 3:1
YES	Yes/No	The perimeter should be curvilinear.	
YES	Yes/No	The inlet and outlet should be located as far apart as possible.	
NO	Yes/No	Is there a manually-controlled drain to dewater the pond over a 24hr period?	
If no state why:		Downstream elevations to not allow for a dewatering drain structure	
Baffle Tee		What mechanism is proposed to prevent the outlet structure from clogging (applicable for orifices/weirs with a dimension of <6")?	
494.68	ft	Peak elevation of the 50-year storm event	
496.00	ft	Berm elevation of the pond	
YES		50 peak elevation ≤ the berm elevation?	← yes

1. If the entire WQV is stored in the perm. pool, there is no extended det., and the following five lines do not apply.
2. This is the elevation of WQV if the hydrologic analysis is set up to include the permanent pool storage in the node description.
3. If the pond floor elevation is above the max floor elev., a hydrologic budget must be submitted to demonstrate that a minimum depth of 3 feet can be maintained. (First check whether a revised "lowest pond outlet" elev. will resolve the issue.)

Designer's Notes:

F#6: 3.11:1 Lenth to width ratio Vol.= 274 cu.ft. (inv.=493.50)

F#5: 1.36:1 (due to grading and proximity to wetlands. Max. possible ratio designed) Vol=266 cu.ft.(inv.=493.50)

Stage-Area-Storage for Pond 5F: FOREBAY #5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
492.00	76	0
492.05	81	4
492.10	86	8
492.15	92	13
492.20	98	17
492.25	103	22
492.30	109	28
492.35	116	33
492.40	122	39
492.45	128	45
492.50	135	52
492.55	142	59
492.60	149	66
492.65	156	74
492.70	163	82
492.75	171	90
492.80	179	99
492.85	186	108
492.90	194	118
492.95	203	128
493.00	211	138
493.05	220	149
493.10	228	160
493.15	237	171
493.20	246	184
493.25	256	196
493.30	265	209
493.35	275	223
493.40	284	237
493.45	294	251
493.50	304	266
493.55	315	282
493.60	325	298
493.65	336	314
493.70	347	331
493.75	358	349
493.80	369	367
493.85	380	386
493.90	392	405
493.95	403	425
494.00	415	445
494.05	415	445
494.10	415	445
494.15	415	445
494.20	415	445
494.25	415	445
494.30	415	445
494.35	415	445
494.40	415	445
494.45	415	445
494.50	415	445
494.55	415	445
494.60	415	445
494.65	415	445

Lowest Outlet=493.50
WQV Req'd= 445 cu.ft
Vol. Prov'd= 266 cu.ft.
(1 of 2 forebays for Pond #5)

Stage-Area-Storage for Pond 6F: FOREBAY #6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
492.00	54	0
492.05	60	3
492.10	66	6
492.15	73	9
492.20	80	13
492.25	87	17
492.30	94	22
492.35	102	27
492.40	110	32
492.45	118	38
492.50	127	44
492.55	136	51
492.60	145	58
492.65	155	65
492.70	165	73
492.75	175	82
492.80	186	91
492.85	197	100
492.90	208	110
492.95	219	121
493.00	231	132
493.05	241	144
493.10	251	156
493.15	262	169
493.20	272	183
493.25	283	196
493.30	294	211
493.35	306	226
493.40	317	241
493.45	329	258
493.50	341	274
493.55	353	292
493.60	365	310
493.65	378	328
493.70	391	347
493.75	404	367
493.80	417	388
493.85	430	409
493.90	444	431
493.95	458	453
494.00	**472**	**477**
494.05	472	477
494.10	472	477
494.15	472	477
494.20	472	477
494.25	472	477
494.30	472	477
494.35	472	477
494.40	472	477
494.45	472	477
494.50	472	477
494.55	472	477
494.60	472	477
494.65	472	477

Lowest Outlet=493.50
WQV Req'd= 445 cu.ft.
Vol. Prov'd=274 cu.ft.
(1 of 2 forebays for
Pond #5)

Stage-Area-Storage for Pond 5P: WET POND #5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
485.00	165	0
485.15	196	27
485.30	229	59
485.45	265	96
485.60	303	138
485.75	344	187
485.90	388	242
486.05	433	303
486.20	478	371
486.35	526	447
486.50	575	529
486.65	628	619
486.80	682	718
486.95	739	824
487.10	800	939
487.25	865	1,064
487.40	932	1,199
487.55	1,002	1,344
487.70	1,074	1,499
487.85	1,149	1,666
488.00	1,226	1,844
488.15	1,305	2,034
488.30	1,386	2,236
488.45	1,469	2,450
488.60	1,556	2,677
488.75	1,644	2,917
488.90	1,735	3,170
489.05	1,829	3,437
489.20	1,926	3,719
489.35	2,025	4,015
489.50	2,128	4,327
489.65	2,232	4,654
489.80	2,339	4,996
489.95	2,449	5,355
490.10	2,560	5,731
490.25	2,672	6,123
490.40	2,787	6,533
490.55	2,904	6,960
490.70	3,024	7,404
490.85	3,146	7,867
491.00	3,271	8,348
491.15	3,390	8,848
491.30	3,512	9,366
491.45	3,635	9,902
491.60	3,761	10,456
491.75	3,889	11,030
491.90	4,019	11,623
492.05	4,150	12,236
492.20	4,279	12,868
492.35	4,410	13,520
492.50	4,543	14,191
492.65	4,677	14,882
492.80	4,814	15,594
492.95	4,953	16,327
493.10	5,093	17,080
493.25	5,234	17,855
493.40	5,377	18,650
493.55	5,521	19,468
493.70	5,668	20,307
493.85	5,817	21,168
494.00	5,967	22,052
494.15	6,292	22,971
494.30	6,625	23,940
494.45	6,967	24,959
494.60	7,318	26,031
494.75	7,677	27,155
494.90	8,045	28,334
495.05	8,358	29,567
495.20	8,547	30,835
495.35	8,739	32,132
495.50	8,933	33,457
495.65	9,129	34,812
495.80	9,327	36,196
495.95	9,528	37,610

Lowest Outlet=491.25
WQV Req'd=8890 cu.ft.
Vol. Prov'd= 9200 cu.ft.

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.06)

Type/Node Name: **Infiltration Basin: Pond #1 (Node 1P)**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	
1.86	ac	A = Area draining to the practice	
0.55	ac	A_I = Impervious area draining to the practice	
0.29	decimal	I = percent impervious area draining to the practice, in decimal form	
0.31	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.58	ac-in	WQV= 1" x Rv x A	
2,117	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
529	cf	25% x WQV (check calc for sediment forebay volume)	
Forebay		Method of pretreatment? (not required for clean or roof runoff)	
560	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
2,227	cf	V = volume[1] (attach a stage-storage table)	← ≥ WQV
3,638	sf	A_{SA} = surface area of the bottom of the pond	
1.51	iph	I_{DESIGN} = design infiltration rate[2]	
4.9	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
521.00	feet	E_{BTM} = elevation of the bottom of the basin	
518.00	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
512.50	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.00	feet	D_{SHWT} = separation from SHWT	← ≥ *[3]
8.5	feet	D_{ROCK} = separation from bedrock	← ≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	← ≥ 24"
	ft	D_T = depth of trench, if trench proposed	← 4 - 10 ft
	Yes/No	If a trench or underground system is proposed, observation well provided[4]	
		If a trench is proposed, material in trench	
		If a basin is proposed, basin floor material	
YES	Yes/No	If a basin is proposed, the perimeter should be curvilinear, basin floor shall be flat.	
3.0	:1	If a basin is proposed, pond side slopes	← ≥3:1
522.13	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
522.61	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
523.00	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. See Env-Wq 1504.14 for requirements for determining the infiltration rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: _____

Stage-Area-Storage for Pond 1F: FOREBAY #1 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
522.08	363	225	522.62	574	476
522.09	367	228	522.63	579	481
522.10	370	232	522.64	583	487
522.11	374	236	522.65	588	493
522.12	377	239	522.66	592	499
522.13	381	243	522.67	596	505
522.14	384	247	522.68	601	511
522.15	388	251	522.69	605	517
522.16	391	255	522.70	610	523
522.17	395	259	522.71	614	529
522.18	399	263	522.72	619	535
522.19	402	267	522.73	623	541
522.20	406	271	522.74	628	548
522.21	410	275	522.75	632	554
522.22	413	279	522.76	637	560
522.23	417	283	522.77	642	567
522.24	421	287	522.78	646	573
522.25	424	292	522.79	651	580
522.26	428	296	522.80	656	586
522.27	432	300	522.81	660	593
522.28	436	304	522.82	665	599
522.29	440	309	522.83	670	606
522.30	443	313	522.84	674	613
522.31	447	318	522.85	679	620
522.32	451	322	522.86	684	626
522.33	455	327	522.87	689	633
522.34	459	331	522.88	693	640
522.35	463	336	522.89	698	647
522.36	467	341	522.90	703	654
522.37	471	345	522.91	708	661
522.38	475	350	522.92	713	668
522.39	479	355	522.93	717	675
522.40	483	359	522.94	722	683
522.41	487	364	522.95	727	690
522.42	491	369	522.96	732	697
522.43	495	374	522.97	737	705
522.44	499	379	522.98	742	712
522.45	503	384	522.99	747	719
522.46	507	389	523.00	**752**	**727**
522.47	511	394	523.01	752	727
522.48	515	399	523.02	752	727
522.49	519	405	523.03	752	727
522.50	523	410	523.04	752	727
522.51	528	415	523.05	752	727
522.52	532	420	523.06	752	727
522.53	536	426	523.07	752	727
522.54	540	431	523.08	752	727
522.55	544	436	523.09	752	727
522.56	549	442	523.10	752	727
522.57	553	447	523.11	752	727
522.58	557	453	523.12	752	727
522.59	561	459	523.13	752	727
522.60	566	464	523.14	752	727
522.61	570	470	523.15	752	727

Lowest Outlet=522.76
WQV Req'd=529 cu.ft.
WQV Prov'd=560 cu.ft.

Stage-Area-Storage for Pond 1P: INFIL POND #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
521.00	3,639	0	521.54	4,300	2,141
521.01	3,651	36	521.55	4,312	2,184
521.02	3,662	73	521.56	4,325	2,227
521.03	3,674	110	521.57	4,338	2,271
521.04	3,686	147	521.58	4,351	2,314
521.05	3,698	183	521.59	4,364	2,358
521.06	3,710	220	521.60	4,377	2,401
521.07	3,722	258	521.61	4,389	2,445
521.08	3,733	295	521.62	4,402	2,489
521.09	3,745	332	521.63	4,415	2,533
521.10	3,757	370	521.64	4,428	2,577
521.11	3,769	407	521.65	4,441	2,622
521.12	3,781	445	521.66	4,454	2,666
521.13	3,793	483	521.67	4,467	2,711
521.14	3,805	521	521.68	4,480	2,756
521.15	3,817	559	521.69	4,493	2,800
521.16	3,829	597	521.70	4,506	2,845
521.17	3,841	636	521.71	4,519	2,890
521.18	3,853	674	521.72	4,532	2,936
521.19	3,865	713	521.73	4,545	2,981
521.20	3,877	752	521.74	4,558	3,027
521.21	3,889	790	521.75	4,572	3,072
521.22	3,902	829	521.76	4,585	3,118
521.23	3,914	868	521.77	4,598	3,164
521.24	3,926	908	521.78	4,611	3,210
521.25	3,938	947	521.79	4,624	3,256
521.26	3,950	986	521.80	4,637	3,303
521.27	3,962	1,026	521.81	4,651	3,349
521.28	3,975	1,066	521.82	4,664	3,396
521.29	3,987	1,105	521.83	4,677	3,442
521.30	3,999	1,145	521.84	4,691	3,489
521.31	4,012	1,185	521.85	4,704	3,536
521.32	4,024	1,226	521.86	4,717	3,583
521.33	4,036	1,266	521.87	4,731	3,630
521.34	4,049	1,306	521.88	4,744	3,678
521.35	4,061	1,347	521.89	4,757	3,725
521.36	4,073	1,387	521.90	4,771	3,773
521.37	4,086	1,428	521.91	4,784	3,821
521.38	4,098	1,469	521.92	4,798	3,869
521.39	4,111	1,510	521.93	4,811	3,917
521.40	4,123	1,551	521.94	4,825	3,965
521.41	4,136	1,593	521.95	4,838	4,013
521.42	4,148	1,634	521.96	4,852	4,062
521.43	4,161	1,676	521.97	4,865	4,110
521.44	4,173	1,717	521.98	4,879	4,159
521.45	4,186	1,759	521.99	4,892	4,208
521.46	4,198	1,801	522.00	4,906	4,257
521.47	4,211	1,843	522.01	4,918	4,306
521.48	4,224	1,885	522.02	4,931	4,355
521.49	4,236	1,928	522.03	4,943	4,404
521.50	4,249	1,970	522.04	4,956	4,454
521.51	4,262	2,013	522.05	4,969	4,504
521.52	4,274	2,055	522.06	4,981	4,553
521.53	4,287	2,098	522.07	4,994	4,603

Lowest Outlet=521.56
WQV Req'd=2,117 cu.ft.
WQV Prov'd=2,227 cu.ft.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.06)

Type/Node Name: **Infiltration Basin: Pond #3 (Node 3P)**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	
0.23	ac	A = Area draining to the practice	
0.23	ac	A_I = Impervious area draining to the practice	
1.00	decimal	I = percent impervious area draining to the practice, in decimal form	
0.95	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.22	ac-in	WQV= 1" x Rv x A	
800	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
200	cf	25% x WQV (check calc for sediment forebay volume)	
Isolation Row		Method of pretreatment? (not required for clean or roof runoff)	
200	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
804	cf	V = volume[1] (attach a stage-storage table)	← ≥ WQV
1,222	sf	A_{SA} = surface area of the bottom of the pond	
0.78	iph	I_{DESIGN} = design infiltration rate[2]	
10.1	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
543.92	feet	E_{BTM} = elevation of the bottom of the basin	
540.92	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
539.16	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.00	feet	D_{SHWT} = separation from SHWT	← ≥ *[3]
4.8	feet	D_{ROCK} = separation from bedrock	← ≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	← ≥ 24"
	ft	D_T = depth of trench, if trench proposed	← 4 - 10 ft
	Yes/No	If a trench or underground system is proposed, observation well provided[4]	
		If a trench is proposed, material in trench	
		If a basin is proposed, basin floor material	
YES	Yes/No	If a basin is proposed, the perimeter should be curvilinear, basin floor shall be flat.	
3.0	:1	If a basin is proposed, pond side slopes	← ≥3:1
544.90	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
545.44	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
546.92	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. See Env-Wq 1504.14 for requirements for determining the infiltration rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: _____

Stage-Area-Storage for Pond 3P: ISO ROW POND #3 (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
545.04	196	545.58	265	546.12	325
545.05	197	545.59	266	546.13	326
545.06	199	545.60	267	546.14	327
545.07	200	545.61	268	546.15	328
545.08	201	545.62	270	546.16	329
545.09	203	545.63	271	546.17	330
545.10	204	545.64	272	546.18	331
545.11	205	545.65	273	546.19	331
545.12	207	545.66	274	546.20	332
545.13	208	545.67	275	546.21	333
545.14	209	545.68	277	546.22	334
545.15	211	545.69	278	546.23	335
545.16	212	545.70	279	546.24	336
545.17	213	545.71	280	546.25	337
545.18	214	545.72	281	546.26	338
545.19	216	545.73	282	546.27	339
545.20	217	545.74	284	546.28	339
545.21	218	545.75	285	546.29	340
545.22	220	545.76	286	546.30	341
545.23	221	545.77	287	546.31	342
545.24	222	545.78	288	546.32	343
545.25	223	545.79	289	546.33	344
545.26	225	545.80	291	546.34	344
545.27	226	545.81	292	546.35	345
545.28	227	545.82	293	546.36	346
545.29	229	545.83	294	546.37	347
545.30	230	545.84	295	546.38	348
545.31	231	545.85	296	546.39	349
545.32	232	545.86	297	546.40	349
545.33	234	545.87	298	546.41	350
545.34	235	545.88	300	546.42	351
545.35	236	545.89	301	546.43	352
545.36	238	545.90	302	546.44	353
545.37	239	545.91	303	546.45	353
545.38	240	545.92	304	546.46	354
545.39	241	545.93	305	546.47	355
545.40	243	545.94	306	546.48	356
545.41	244	545.95	307	546.49	357
545.42	245	545.96	308	546.50	357
545.43	246	545.97	309	546.51	358
545.44	248	545.98	310	546.52	359
545.45	249	545.99	312	546.53	360
545.46	250	546.00	313	546.54	361
545.47	251	546.01	314	546.55	361
545.48	252	546.02	315	546.56	362
545.49	254	546.03	316	546.57	363
545.50	255	546.04	317	546.58	364
545.51	256	546.05	318	546.59	365
545.52	257	546.06	319	546.60	365
545.53	259	546.07	320	546.61	366
545.54	260	546.08	321	546.62	367
545.55	261	546.09	322	546.63	368
545.56	262	546.10	323	546.64	369
545.57	264	546.11	324	546.65	369

Weir Elev.=545.07
Vol.=200 cu.ft.

Stage-Area-Storage for Pond 3P: UNDER GRND INFIL POND #3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
543.42	1,222	0	543.96	1,222	287
543.43	1,222	5	543.97	1,222	298
543.44	1,222	10	543.98	1,222	309
543.45	1,222	15	543.99	1,222	319
543.46	1,222	20	544.00	1,222	330
543.47	1,222	24	544.01	1,222	341
543.48	1,222	29	544.02	1,222	351
543.49	1,222	34	544.03	1,222	362
543.50	1,222	39	544.04	1,222	373
543.51	1,222	44	544.05	1,222	383
543.52	1,222	49	544.06	1,222	394
543.53	1,222	54	544.07	1,222	405
543.54	1,222	59	544.08	1,222	415
543.55	1,222	64	544.09	1,222	426
543.56	1,222	68	544.10	1,222	437
543.57	1,222	73	544.11	1,222	447
543.58	1,222	78	544.12	1,222	458
543.59	1,222	83	544.13	1,222	468
543.60	1,222	88	544.14	1,222	479
543.61	1,222	93	544.15	1,222	490
543.62	1,222	98	544.16	1,222	500
543.63	1,222	103	544.17	1,222	511
543.64	1,222	108	544.18	1,222	521
543.65	1,222	112	544.19	1,222	532
543.66	1,222	117	544.20	1,222	543
543.67	1,222	122	544.21	1,222	553
543.68	1,222	127	544.22	1,222	564
543.69	1,222	132	544.23	1,222	574
543.70	1,222	137	544.24	1,222	585
543.71	1,222	142	544.25	1,222	595
543.72	1,222	147	544.26	1,222	606
543.73	1,222	152	544.27	1,222	616
543.74	1,222	156	544.28	1,222	627
543.75	1,222	161	544.29	1,222	637
543.76	1,222	166	544.30	1,222	648
543.77	1,222	171	544.31	1,222	658
543.78	1,222	176	544.32	1,222	669
543.79	1,222	181	544.33	1,222	679
543.80	1,222	186	544.34	1,222	690
543.81	1,222	191	544.35	1,222	700
543.82	1,222	195	544.36	1,222	711
543.83	1,222	200	544.37	1,222	721
543.84	1,222	205	544.38	1,222	732
543.85	1,222	210	544.39	1,222	742
543.86	1,222	215	544.40	1,222	752
543.87	1,222	220	544.41	1,222	763
543.88	1,222	225	544.42	1,222	773
543.89	1,222	230	544.43	1,222	784
543.90	1,222	235	544.44	1,222	794
543.91	1,222	239	544.45	1,222	804
543.92	1,222	244	544.46	1,222	815
543.93	1,222	255	544.47	1,222	825
543.94	1,222	266	544.48	1,222	835
543.95	1,222	276	544.49	1,222	846

Lowest Outlet=544.45
WQV Req'd=800 cu.ft.
Vol. Prov'd=804 cu.ft.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.06)

Type/Node Name: **Infiltration Basin: Pond #4 (Node 4P)**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	
2.12	ac	A = Area draining to the practice	
0.82	ac	A_I = Impervious area draining to the practice	
0.39	decimal	I = percent impervious area draining to the practice, in decimal form	
0.40	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.85	ac-in	WQV= 1" x Rv x A	
3,074	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
768	cf	25% x WQV (check calc for sediment forebay volume)	
Forebay		Method of pretreatment? (not required for clean or roof runoff)	
768	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
3,227	cf	V = volume[1] (attach a stage-storage table)	← ≥ WQV
1,755	sf	A_{SA} = surface area of the bottom of the pond	
5.00	iph	I_{DESIGN} = design infiltration rate[2]	
4.4	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
500.50	feet	E_{BTM} = elevation of the bottom of the basin	
496.75	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
494.25	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.75	feet	D_{SHWT} = separation from SHWT	← ≥ *[3]
6.3	feet	D_{ROCK} = separation from bedrock	← ≥ *[3]
2.0	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	← ≥ 24"
	ft	D_T = depth of trench, if trench proposed	← 4 - 10 ft
	Yes/No	If a trench or underground system is proposed, observation well provided[4]	
		If a trench is proposed, material in trench	
		If a basin is proposed, basin floor material	
YES	Yes/No	If a basin is proposed, the perimeter should be curvilinear, basin floor shall be flat.	
3.0	:1	If a basin is proposed, pond side slopes	← ≥3:1
502.14	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
502.73	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
503.70	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. See Env-Wq 1504.14 for requirements for determining the infiltration rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: _____

Stage-Area-Storage for Pond 4F: FOREBAY #4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
500.00	10	0
500.05	13	1
500.10	17	1
500.15	21	2
500.20	26	3
500.25	31	5
500.30	36	6
500.35	42	8
500.40	48	11
500.45	55	13
500.50	62	16
500.55	70	19
500.60	78	23
500.65	87	27
500.70	96	32
500.75	105	37
500.80	115	42
500.85	125	48
500.90	136	55
500.95	147	62
501.00	159	70
501.05	169	78
501.10	178	86
501.15	188	96
501.20	199	105
501.25	210	116
501.30	220	126
501.35	232	138
501.40	243	149
501.45	255	162
501.50	267	175
501.55	279	189
501.60	292	203
501.65	305	218
501.70	318	233
501.75	332	250
501.80	345	267
501.85	359	284
501.90	374	303
501.95	388	322
502.00	403	341
502.05	416	362
502.10	430	383
502.15	443	405
502.20	457	427
502.25	471	451
502.30	486	474
502.35	500	499
502.40	515	524
502.45	530	551
502.50	545	577
502.55	560	605
502.60	576	633
502.65	592	663
502.70	608	693
502.75	624	723
502.80	640	755
502.85	657	787
502.90	674	821
502.95	691	855
503.00	708	890
503.05	708	890
503.10	708	890
503.15	708	890
503.20	708	890
503.25	708	890
503.30	708	890
503.35	708	890

Low Outlet=502.82
Req'd= 768 cu.ft.
Prov'd=768 cu.ft.

Stage-Area-Storage for Pond 4P: INFIL POND #4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
500.00	1,755	0
500.05	1,779	88
500.10	1,804	178
500.15	1,828	269
500.20	1,853	361
500.25	1,878	454
500.30	1,903	549
500.35	1,928	644
500.40	1,953	741
500.45	1,979	840
500.50	2,005	939
500.55	2,031	1,040
500.60	2,057	1,142
500.65	2,083	1,246
500.70	2,109	1,351
500.75	2,136	1,457
500.80	2,162	1,564
500.85	2,189	1,673
500.90	2,216	1,783
500.95	2,244	1,895
501.00	2,271	2,007
501.05	2,304	2,122
501.10	2,337	2,238
501.15	2,370	2,356
501.20	2,403	2,475
501.25	2,437	2,596
501.30	2,471	2,719
501.35	2,505	2,843
501.40	2,540	2,969
501.45	2,574	3,097
501.50	2,609	3,227
501.55	2,644	3,358
501.60	2,680	3,491
501.65	2,715	3,626
501.70	2,751	3,763
501.75	2,787	3,901
501.80	2,823	4,041
501.85	2,860	4,183
501.90	2,897	4,327
501.95	2,934	4,473
502.00	2,971	4,621
502.05	3,008	4,770
502.10	3,045	4,921
502.15	3,082	5,075
502.20	3,119	5,230
502.25	3,157	5,387
502.30	3,195	5,545
502.35	3,233	5,706
502.40	3,271	5,869
502.45	3,310	6,033
502.50	3,349	6,200
502.55	3,388	6,368
502.60	3,427	6,538
502.65	3,466	6,711
502.70	3,506	6,885
502.75	3,546	7,061
502.80	3,586	7,240
502.85	3,627	7,420
502.90	3,667	7,602
502.95	3,708	7,787
503.00	3,749	7,973
503.05	3,917	8,165
503.10	4,089	8,365
503.15	4,264	8,574
503.20	4,443	8,791
503.25	4,626	9,018
503.30	4,812	9,254
503.35	5,002	9,499
503.40	5,196	9,754
503.45	5,394	10,019
503.50	5,595	10,294
503.55	5,799	10,579
503.60	6,008	10,874
503.65	6,220	11,179
503.70	**6,436**	**11,496**

Lowest Outlet= 501.50
WQV Req'd= 3074 cu.ft.
Vol. Prov'd= 3227 cu.ft.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.06)

Type/Node Name: **Infiltration Basin: Pond #6 (Node 6P)**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	
1.40	ac	A = Area draining to the practice	
0.72	ac	A_I = Impervious area draining to the practice	
0.51	decimal	I = percent impervious area draining to the practice, in decimal form	
0.51	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.72	ac-in	WQV= 1" x Rv x A	
2,596	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
649	cf	25% x WQV (check calc for sediment forebay volume)	
Forebay		Method of pretreatment? (not required for clean or roof runoff)	
652	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
2,616	cf	V = volume[1] (attach a stage-storage table)	← ≥ WQV
1,657	sf	A_{SA} = surface area of the bottom of the pond	
1.68	iph	I_{DESIGN} = design infiltration rate[2]	
11.3	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
507.00	feet	E_{BTM} = elevation of the bottom of the basin	
501.60	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
499.50	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
5.40	feet	D_{SHWT} = separation from SHWT	← ≥ *[5]
7.5	feet	D_{ROCK} = separation from bedrock	← ≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	← ≥ 24"
	ft	D_T = depth of trench, if trench proposed	← 4 - 10 ft
	Yes/No	If a trench or underground system is proposed, observation well provided[4]	
		If a trench is proposed, material in trench	
		If a basin is proposed, basin floor material	
YES	Yes/No	If a basin is proposed, the perimeter should be curvilinear, basin floor shall be flat.	
3.0	:1	If a basin is proposed, pond side slopes	← ≥3:1
509.45	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
510.95	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
512.00	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. See Env-Wq 1504.14 for requirements for determining the infiltration rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: _____

Stage-Area-Storage for Pond 7F: FOREBAY 7 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
508.08	434	325	508.62	583	599
508.09	437	330	508.63	585	605
508.10	439	334	508.64	588	610
508.11	442	338	508.65	591	616
508.12	444	343	508.66	594	622
508.13	447	347	508.67	597	628
508.14	450	352	508.68	600	634
508.15	452	356	508.69	603	640
508.16	455	361	508.70	606	646
508.17	457	365	508.71	609	652
508.18	460	370	508.72	612	659
508.19	463	375	508.73	615	665
508.20	465	379	508.74	618	671
508.21	468	384	508.75	621	677
508.22	471	389	508.76	625	683
508.23	473	393	508.77	628	690
508.24	476	398	508.78	631	696
508.25	478	403	508.79	634	702
508.26	481	408	508.80	637	708
508.27	484	412	508.81	640	715
508.28	487	417	508.82	643	721
508.29	489	422	508.83	646	728
508.30	492	427	508.84	649	734
508.31	495	432	508.85	652	741
508.32	497	437	508.86	655	747
508.33	500	442	508.87	659	754
508.34	503	447	508.88	662	760
508.35	506	452	508.89	665	767
508.36	508	457	508.90	668	774
508.37	511	462	508.91	671	780
508.38	514	467	508.92	674	787
508.39	517	472	508.93	678	794
508.40	519	478	508.94	681	801
508.41	522	483	508.95	684	808
508.42	525	488	508.96	687	814
508.43	528	493	508.97	690	821
508.44	531	499	508.98	694	828
508.45	533	504	508.99	697	835
508.46	536	509	509.00	**700**	**842**
508.47	539	515	509.01	700	842
508.48	542	520	509.02	700	842
508.49	545	526	509.03	700	842
508.50	548	531	509.04	700	842
508.51	551	536	509.05	700	842
508.52	553	542	509.06	700	842
508.53	556	548	509.07	700	842
508.54	559	553	509.08	700	842
508.55	562	559	509.09	700	842
508.56	565	564	509.10	700	842
508.57	568	570	509.11	700	842
508.58	571	576	509.12	700	842
508.59	574	581	509.13	700	842
508.60	577	587	509.14	700	842
508.61	580	593	509.15	700	842

Lowest Outlet=508.71
WQV Req'd=649 cu.ft.
Vol. Prov'd=652 cu.ft.

Stage-Area-Storage for Pond 6P: INFIL POND#6 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
508.08	2,301	2,108	508.62	2,954	3,523
508.09	2,312	2,131	508.63	2,967	3,552
508.10	2,324	2,154	508.64	2,979	3,582
508.11	2,335	2,177	508.65	2,992	3,612
508.12	2,346	2,201	508.66	3,005	3,642
508.13	2,358	2,224	508.67	3,018	3,672
508.14	2,369	2,248	508.68	3,031	3,702
508.15	2,381	2,272	508.69	3,044	3,733
508.16	2,392	2,296	508.70	3,057	3,763
508.17	2,404	2,320	508.71	3,070	3,794
508.18	2,416	2,344	508.72	3,084	3,825
508.19	2,427	2,368	508.73	3,097	3,856
508.20	2,439	2,392	508.74	3,110	3,887
508.21	2,451	2,417	508.75	3,123	3,918
508.22	2,462	2,441	508.76	3,136	3,949
508.23	2,474	2,466	508.77	3,150	3,981
508.24	2,486	2,491	508.78	3,163	4,012
508.25	2,498	2,516	508.79	3,176	4,044
508.26	2,509	2,541	508.80	3,189	4,076
508.27	2,521	2,566	508.81	3,203	4,108
508.28	2,533	2,591	508.82	3,216	4,140
508.29	2,545	2,616	508.83	3,230	4,172
508.30	2,557	2,642	508.84	3,243	4,204
508.31	2,569	2,668	508.85	3,257	4,237
508.32	2,581	2,693	508.86	3,270	4,269
508.33	2,593	2,719	508.87	3,284	4,302
508.34	2,605	2,745	508.88	3,297	4,335
508.35	2,617	2,771	508.89	3,311	4,368
508.36	2,629	2,798	508.90	3,324	4,401
508.37	2,641	2,824	508.91	3,338	4,435
508.38	2,653	2,850	508.92	3,352	4,468
508.39	2,666	2,877	508.93	3,365	4,502
508.40	2,678	2,904	508.94	3,379	4,535
508.41	2,690	2,930	508.95	3,393	4,569
508.42	2,702	2,957	508.96	3,407	4,603
508.43	2,715	2,985	508.97	3,420	4,637
508.44	2,727	3,012	508.98	3,434	4,672
508.45	2,739	3,039	508.99	3,448	4,706
508.46	2,752	3,067	509.00	3,462	4,741
508.47	2,764	3,094	509.01	3,472	4,775
508.48	2,777	3,122	509.02	3,481	4,810
508.49	2,789	3,150	509.03	3,491	4,845
508.50	2,802	3,178	509.04	3,500	4,880
508.51	2,814	3,206	509.05	3,510	4,915
508.52	2,827	3,234	509.06	3,520	4,950
508.53	2,839	3,262	509.07	3,529	4,985
508.54	2,852	3,291	509.08	3,539	5,021
508.55	2,864	3,319	509.09	3,549	5,056
508.56	2,877	3,348	509.10	3,559	5,092
508.57	2,890	3,377	509.11	3,568	5,127
508.58	2,903	3,406	509.12	3,578	5,163
508.59	2,915	3,435	509.13	3,588	5,199
508.60	2,928	3,464	509.14	3,598	5,235
508.61	2,941	3,493	509.15	3,607	5,271

Lowest Outlet=508.29
WQV Req'd=2,596 cu.ft.
Vol. Pov'd=2,616 cu.ft.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

INFILTRATION PRACTICE CRITERIA (Env-Wq 1508.06)

Type/Node Name: **Infiltration Basin: Pond #7 (Node 7P)**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	
3.55	ac	A = Area draining to the practice	
1.96	ac	A_I = Impervious area draining to the practice	
0.55	decimal	I = percent impervious area draining to the practice, in decimal form	
0.55	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
1.94	ac-in	WQV= 1" x Rv x A	
7,048	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
1,762	cf	25% x WQV (check calc for sediment forebay volume)	
ISO ROW		Method of pretreatment? (not required for clean or roof runoff)	
1,877	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
7,051	cf	V = volume[1] (attach a stage-storage table)	← ≥ WQV
5,433	sf	A_{SA} = surface area of the bottom of the pond	
3.24	iph	I_{DESIGN} = design infiltration rate[2]	
4.8	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
520.75	feet	E_{BTM} = elevation of the bottom of the basin	
517.75	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
514.50	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.00	feet	D_{SHWT} = separation from SHWT	← ≥ *[3]
6.3	feet	D_{ROCK} = separation from bedrock	← ≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	← ≥ 24"
	ft	D_T = depth of trench, if trench proposed	← 4 - 10 ft
	Yes/No	If a trench or underground system is proposed, observation well provided[4]	
		If a trench is proposed, material in trench	
		If a basin is proposed, basin floor material	
NA	Yes/No	If a basin is proposed, the perimeter should be curvilinear, basin floor shall be flat.	
0.0	:1	If a basin is proposed, pond side slopes	← ≥3:1
522.41	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
523.10	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
523.75	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. See Env-Wq 1504.14 for requirements for determining the infiltration rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: _____

Stage-Area-Storage for Pond 7P: ISO ROW POND #7 (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
521.87	1,115	522.41	1,508	522.95	1,846
521.88	1,123	522.42	1,515	522.96	1,851
521.89	1,131	522.43	1,522	522.97	1,856
521.90	1,138	522.44	1,529	522.98	1,861
521.91	1,146	522.45	1,535	522.99	1,867
521.92	1,153	522.46	1,542	523.00	1,872
521.93	1,161	522.47	1,549	523.01	1,877
521.94	1,168	522.48	1,556	523.02	1,882
521.95	1,176	522.49	1,562	523.03	1,887
521.96	1,183	522.50	1,569	523.04	1,892
521.97	1,191	522.51	1,576	523.05	1,896
521.98	1,198	522.52	1,582	523.06	1,901
521.99	1,206	522.53	1,589	523.07	1,906
522.00	1,213	522.54	1,596	523.08	1,911
522.01	1,221	522.55	1,602	523.09	1,915
522.02	1,228	522.56	1,609	523.10	1,920
522.03	1,236	522.57	1,615	523.11	1,924
522.04	1,243	522.58	1,622	523.12	1,929
522.05	1,250	522.59	1,629	523.13	1,934
522.06	1,258	522.60	1,635	523.14	1,938
522.07	1,265	522.61	1,642	523.15	1,943
522.08	1,273	522.62	1,648	523.16	1,947
522.09	1,280	522.63	1,654	523.17	1,952
522.10	1,287	522.64	1,661	523.18	1,956
522.11	1,295	522.65	1,667	523.19	1,960
522.12	1,302	522.66	1,674	523.20	1,965
522.13	1,309	522.67	1,680	523.21	1,969
522.14	1,317	522.68	1,686	523.22	1,973
522.15	1,324	522.69	1,693	523.23	1,978
522.16	1,331	522.70	1,699	523.24	1,982
522.17	1,338	522.71	1,705	523.25	1,986
522.18	1,346	522.72	1,711	523.26	1,990
522.19	1,353	522.73	1,717	523.27	1,995
522.20	1,360	522.74	1,724	523.28	1,999
522.21	1,367	522.75	1,730	523.29	2,003
522.22	1,374	522.76	1,736	523.30	2,007
522.23	1,382	522.77	1,742	523.31	2,012
522.24	1,389	522.78	1,748	523.32	2,016
522.25	1,396	522.79	1,754	523.33	2,020
522.26	1,403	522.80	1,760	523.34	2,024
522.27	1,410	522.81	1,766	523.35	2,029
522.28	1,417	522.82	1,772	523.36	2,033
522.29	1,424	522.83	1,778	523.37	2,037
522.30	1,431	522.84	1,784	523.38	2,041
522.31	1,439	522.85	1,790	523.39	2,045
522.32	1,446	522.86	1,795	523.40	2,050
522.33	1,453	522.87	1,801	523.41	2,054
522.34	1,460	522.88	1,807	523.42	2,058
522.35	1,467	522.89	1,813	523.43	2,062
522.36	1,474	522.90	1,818	523.44	2,067
522.37	1,481	522.91	1,824	523.45	2,071
522.38	1,487	522.92	1,829	523.46	2,075
522.39	1,494	522.93	1,835	523.47	2,079
522.40	1,501	522.94	1,840	523.48	2,084

Weir Elev.=523.01
Vol.=1,877 cu.ft.

Stage-Area-Storage for Pond 7P: UNDER GRND INFIL POND #7 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
521.33	5,433	3,807
521.34	5,433	3,852
521.35	5,433	3,898
521.36	5,433	3,944
521.37	5,433	3,989
521.38	5,433	4,035
521.39	5,433	4,081
521.40	5,433	4,126
521.41	5,433	4,172
521.42	5,433	4,217
521.43	5,433	4,263
521.44	5,433	4,308
521.45	5,433	4,353
521.46	5,433	4,398
521.47	5,433	4,444
521.48	5,433	4,489
521.49	5,433	4,534
521.50	5,433	4,579
521.51	5,433	4,624
521.52	5,433	4,669
521.53	5,433	4,714
521.54	5,433	4,759
521.55	5,433	4,803
521.56	5,433	4,848
521.57	5,433	4,893
521.58	5,433	4,938
521.59	5,433	4,982
521.60	5,433	5,027
521.61	5,433	5,071
521.62	5,433	5,116
521.63	5,433	5,160
521.64	5,433	5,204
521.65	5,433	5,249
521.66	5,433	5,293
521.67	5,433	5,337
521.68	5,433	5,381
521.69	5,433	5,425
521.70	5,433	5,469
521.71	5,433	5,513
521.72	5,433	5,557
521.73	5,433	5,601
521.74	5,433	5,645
521.75	5,433	5,688
521.76	5,433	5,732
521.77	5,433	5,776
521.78	5,433	5,819
521.79	5,433	5,863
521.80	5,433	5,906
521.81	5,433	5,949
521.82	5,433	5,993
521.83	5,433	6,036
521.84	5,433	6,079
521.85	5,433	6,122
521.86	5,433	6,165
521.87	5,433	6,208
521.88	5,433	6,251
521.89	5,433	6,293
521.90	5,433	6,336
521.91	5,433	6,379
521.92	5,433	6,421
521.93	5,433	6,464
521.94	5,433	6,506
521.95	5,433	6,548
521.96	5,433	6,591
521.97	5,433	6,633
521.98	5,433	6,675
521.99	5,433	6,717
522.00	5,433	6,759
522.01	5,433	6,801
522.02	5,433	6,843
522.03	5,433	6,885
522.04	5,433	6,926
522.05	5,433	6,968
522.06	5,433	7,009
522.07	5,433	7,051
522.08	5,433	7,092
522.09	5,433	7,133
522.10	5,433	7,175
522.11	5,433	7,216
522.12	5,433	7,257
522.13	5,433	7,298
522.14	5,433	7,339
522.15	5,433	7,380
522.16	5,433	7,420
522.17	5,433	7,461
522.18	5,433	7,501
522.19	5,433	7,542
522.20	5,433	7,582
522.21	5,433	7,622
522.22	5,433	7,663
522.23	5,433	7,703
522.24	5,433	7,743
522.25	5,433	7,783
522.26	5,433	7,823
522.27	5,433	7,862
522.28	5,433	7,902
522.29	5,433	7,942
522.30	5,433	7,981
522.31	5,433	8,021
522.32	5,433	8,060
522.33	5,433	8,099
522.34	5,433	8,138
522.35	5,433	8,177
522.36	5,433	8,216
522.37	5,433	8,255
522.38	5,433	8,294
522.39	5,433	8,332
522.40	5,433	8,370

Lowest Outlet=522.07
WQV Req'd=7,048 cu.ft.
WQV Prov'd=7,051 cu.ft.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.06)

Type/Node Name: **Infiltration Basin: Pond #8 (Node 8P)**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	
15.40	ac	A = Area draining to the practice	
6.24	ac	A_I = Impervious area draining to the practice	
0.41	decimal	I = percent impervious area draining to the practice, in decimal form	
0.41	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
6.39	ac-in	WQV= 1" x Rv x A	
23,181	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
5,795	cf	25% x WQV (check calc for sediment forebay volume)	
Forebay		Method of pretreatment? (not required for clean or roof runoff)	
410	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
242	cf	V = volume[1] (attach a stage-storage table)	← ≥ WQV
643	sf	A_{SA} = surface area of the bottom of the pond	
4.93	iph	I_{DESIGN} = design infiltration rate[2]	
0.9	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
556.00	feet	E_{BTM} = elevation of the bottom of the basin	
552.92	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
549.20	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.08	feet	D_{SHWT} = separation from SHWT	← ≥ *[3]
6.8	feet	D_{ROCK} = separation from bedrock	← ≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	← ≥ 24"
	ft	D_T = depth of trench, if trench proposed	← 4 - 10 ft
	Yes/No	If a trench or underground system is proposed, observation well provided[4]	
		If a trench is proposed, material in trench	
		If a basin is proposed, basin floor material	
NA	Yes/No	If a basin is proposed, the perimeter should be curvilinear, basin floor shall be flat.	
3.0	:1	If a basin is proposed, pond side slopes	← ≥3:1
558.16	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
558.52	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
559.00	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. See Env-Wq 1504.14 for requirements for determining the infiltration rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: Pond is to provide partial treatment for stromwater from abutting properties.

Stage-Area-Storage for Pond 3F: FOREBAY #3 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
558.04	338	225	558.56	492	439
558.05	340	228	558.57	495	444
558.06	343	231	558.58	498	449
558.07	346	235	558.59	502	454
558.08	349	238	558.60	505	459
558.09	351	242	558.61	508	464
558.10	354	245	558.62	512	469
558.11	357	249	558.63	515	474
558.12	360	253	558.64	518	479
558.13	362	256	558.65	522	485
558.14	365	260	558.66	525	490
558.15	368	263	558.67	528	495
558.16	371	267	558.68	532	500
558.17	374	271	558.69	535	506
558.18	376	275	558.70	538	511
558.19	379	278	558.71	542	517
558.20	382	282	558.72	545	522
558.21	385	286	558.73	549	527
558.22	388	290	558.74	552	533
558.23	391	294	558.75	555	539
558.24	394	298	558.76	559	544
558.25	396	302	558.77	562	550
558.26	399	306	558.78	566	555
558.27	402	310	558.79	569	561
558.28	405	314	558.80	573	567
558.29	408	318	558.81	576	572
558.30	411	322	558.82	580	578
558.31	414	326	558.83	583	584
558.32	417	330	558.84	587	590
558.33	420	334	558.85	590	596
558.34	423	339	558.86	594	602
558.35	426	343	558.87	598	608
558.36	429	347	558.88	601	614
558.37	432	351	558.89	605	620
558.38	435	356	558.90	608	626
558.39	438	360	558.91	612	632
558.40	441	364	558.92	616	638
558.41	444	369	558.93	619	644
558.42	448	373	558.94	623	650
558.43	451	378	558.95	627	657
558.44	454	382	558.96	630	663
558.45	457	387	558.97	634	669
558.46	460	391	558.98	638	676
558.47	463	396	558.99	641	682
558.48	466	401	559.00	**645**	**688**
558.49	469	405	559.01	645	688
558.50	473	410	~~559.02~~	~~645~~	~~688~~
558.51	476	415	559.03	645	688
558.52	479	420	559.04	645	688
558.53	482	424	559.05	645	688
558.54	485	429	559.06	645	688
558.55	489	434	559.07	645	688

Lowest Outlet=558.50
WQV Req'd= 5795 cu.ft.
Vol. Prov'd= 410 cu.ft.
(Abutting property-partial treatment)

Stage-Area-Storage for Pond 8P: INFIL POND #8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
556.00	643	0
556.05	670	33
556.10	697	67
556.15	724	102
556.20	752	139
556.25	781	178
556.30	810	217
556.35	840	259
556.40	870	301
556.45	901	346
556.50	932	392
556.55	964	439
556.60	996	488
556.65	1,029	539
556.70	1,063	591
556.75	1,097	645
556.80	1,131	701
556.85	1,167	758
556.90	1,202	817
556.95	1,238	878
557.00	1,275	941
557.05	1,308	1,006
557.10	1,341	1,072
557.15	1,375	1,140
557.20	1,409	1,209
557.25	1,444	1,281
557.30	1,479	1,354
557.35	1,514	1,429
557.40	1,550	1,505
557.45	1,586	1,584
557.50	1,623	1,664
557.55	1,660	1,746
557.60	1,697	1,830
557.65	1,735	1,916
557.70	1,773	2,003
557.75	1,812	2,093
557.80	1,851	2,184
557.85	1,891	2,278
557.90	1,931	2,374
557.95	1,971	2,471
558.00	2,012	2,571
558.05	2,049	2,672
558.10	2,086	2,776
558.15	2,124	2,881
558.20	2,162	2,988
558.25	2,200	3,097
558.30	2,239	3,208
558.35	2,278	3,321
558.40	2,317	3,436
558.45	2,357	3,553
558.50	2,397	3,671
558.55	2,437	3,792
558.60	2,478	3,915
558.65	2,519	4,040
558.70	2,560	4,167
558.75	2,602	4,296
558.80	2,644	4,427
558.85	2,686	4,560
558.90	2,729	4,696
558.95	2,772	4,833
559.00	2,815	4,973

Lowest Outlet=556.33
WQV Req'd= 23,181 cu.ft.
Vol. Prov'd= 242 cu.ft.
(Abutting property-partial treatment)

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.06)

Type/Node Name: **Infiltration Basin: Pond #27 (Node 27P)**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	
0.58	ac	A = Area draining to the practice	
0.53	ac	A_I = Impervious area draining to the practice	
0.91	decimal	I = percent impervious area draining to the practice, in decimal form	
0.87	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.51	ac-in	WQV= 1" x Rv x A	
1,844	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
461	cf	25% x WQV (check calc for sediment forebay volume)	
Isolation Row		Method of pretreatment? (not required for clean or roof runoff)	
463	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
1,851	cf	V = volume[1] (attach a stage-storage table)	← ≥ WQV
2,405	sf	A_{SA} = surface area of the bottom of the pond	
0.78	iph	I_{DESIGN} = design infiltration rate[2]	
11.8	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
543.92	feet	E_{BTM} = elevation of the bottom of the basin	
540.92	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
539.16	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.00	feet	D_{SHWT} = separation from SHWT	← ≥ *[3]
4.8	feet	D_{ROCK} = separation from bedrock	← ≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	← ≥ 24"
	ft	D_T = depth of trench, if trench proposed	← 4 - 10 ft
	Yes/No	If a trench or underground system is proposed, observation well provided[4]	
		If a trench is proposed, material in trench	
		If a basin is proposed, basin floor material	
YES	Yes/No	If a basin is proposed, the perimeter should be curvilinear, basin floor shall be flat.	
3.0	:1	If a basin is proposed, pond side slopes	← ≥3:1
544.75	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
545.49	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
546.92	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. See Env-Wq 1504.14 for requirements for determining the infiltration rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes:

Isolation Row Vol. = 12 -SC 74- Chambers wrapped in filter fabric.

Stage-Area-Storage for Pond 27P: ISO ROW POND #27

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
543.42	0	543.96	128	544.50	348
543.43	2	543.97	132	544.51	352
543.44	4	543.98	136	544.52	356
543.45	7	543.99	140	544.53	360
543.46	9	544.00	144	544.54	364
543.47	11	544.01	149	544.55	368
543.48	13	544.02	153	544.56	372
543.49	16	544.03	157	544.57	376
543.50	18	544.04	161	544.58	380
543.51	20	544.05	165	544.59	384
543.52	22	544.06	169	544.60	388
543.53	24	544.07	173	544.61	392
543.54	27	544.08	177	544.62	396
543.55	29	544.09	181	544.63	400
543.56	31	544.10	186	544.64	404
543.57	33	544.11	190	544.65	408
543.58	36	544.12	194	544.66	412
543.59	38	544.13	198	544.67	416
543.60	40	544.14	202	544.68	420
543.61	42	544.15	206	544.69	424
543.62	45	544.16	210	544.70	428
543.63	47	544.17	214	544.71	432
543.64	49	544.18	218	544.72	435
543.65	51	544.19	223	544.73	439
543.66	53	544.20	227	544.74	443
543.67	56	544.21	231	544.75	447
543.68	58	544.22	235	544.76	451
543.69	60	544.23	239	544.77	455
543.70	62	544.24	243	544.78	459
543.71	65	544.25	247	544.79	463
543.72	67	544.26	251	544.80	467
543.73	69	544.27	255	544.81	471
543.74	71	544.28	259	544.82	475
543.75	73	544.29	263	544.83	478
543.76	76	544.30	267	544.84	482
543.77	78	544.31	272	544.85	486
543.78	80	544.32	276	544.86	490
543.79	82	544.33	280	544.87	494
543.80	85	544.34	284	544.88	498
543.81	87	544.35	288	544.89	502
543.82	89	544.36	292	544.90	506
543.83	91	544.37	296	544.91	509
543.84	94	544.38	300	544.92	513
543.85	96	544.39	304	544.93	517
543.86	98	544.40	308	544.94	521
543.87	100	544.41	312	544.95	525
543.88	102	544.42	316	544.96	529
543.89	105	544.43	320	544.97	532
543.90	107	544.44	324	544.98	536
543.91	109	544.45	328	544.99	540
543.92	111	544.46	332	545.00	544
543.93	115	544.47	336	545.01	548
543.94	120	544.48	340	545.02	551
543.95	124	544.49	344	545.03	555

Weir Elev=544.79
Vol.=463 cu.ft.

Stage-Area-Storage for Pond 27P: UNDER GRND INFIL POND #27 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
544.50	2,405	1,688	545.04	2,405	2,754
544.51	2,405	1,709	545.05	2,405	2,773
544.52	2,405	1,729	545.06	2,405	2,792
544.53	2,405	1,749	545.07	2,405	2,811
544.54	2,405	1,770	545.08	2,405	2,830
544.55	2,405	1,790	545.09	2,405	2,849
544.56	2,405	1,810	545.10	2,405	2,868
544.57	2,405	1,830	545.11	2,405	2,887
544.58	2,405	1,851	545.12	2,405	2,906
544.59	2,405	1,871	545.13	2,405	2,924
544.60	2,405	1,891	545.14	2,405	2,943
544.61	2,405	1,911	545.15	2,405	2,962
544.62	2,405	1,931	545.16	2,405	2,980
544.63	2,405	1,951	545.17	2,405	2,999
544.64	2,405	1,971	545.18	2,405	3,018
544.65	2,405	1,991	545.19	2,405	3,036
544.66	2,405	2,011	545.20	2,405	3,055
544.67	2,405	2,031	545.21	2,405	3,073
544.68	2,405	2,051	545.22	2,405	3,092
544.69	2,405	2,071	545.23	2,405	3,110
544.70	2,405	2,091	545.24	2,405	3,129
544.71	2,405	2,111	545.25	2,405	3,147
544.72	2,405	2,131	545.26	2,405	3,165
544.73	2,405	2,151	545.27	2,405	3,184
544.74	2,405	2,171	545.28	2,405	3,202
544.75	2,405	2,191	545.29	2,405	3,220
544.76	2,405	2,210	545.30	2,405	3,238
544.77	2,405	2,230	545.31	2,405	3,256
544.78	2,405	2,250	545.32	2,405	3,274
544.79	2,405	2,270	545.33	2,405	3,293
544.80	2,405	2,289	545.34	2,405	3,311
544.81	2,405	2,309	545.35	2,405	3,329
544.82	2,405	2,329	545.36	2,405	3,346
544.83	2,405	2,348	545.37	2,405	3,364
544.84	2,405	2,368	545.38	2,405	3,382
544.85	2,405	2,387	545.39	2,405	3,400
544.86	2,405	2,407	545.40	2,405	3,418
544.87	2,405	2,427	545.41	2,405	3,436
544.88	2,405	2,446	545.42	2,405	3,453
544.89	2,405	2,466	545.43	2,405	3,471
544.90	2,405	2,485	545.44	2,405	3,489
544.91	2,405	2,504	545.45	2,405	3,506
544.92	2,405	2,524	545.46	2,405	3,524
544.93	2,405	2,543	545.47	2,405	3,541
544.94	2,405	2,563	545.48	2,405	3,559
544.95	2,405	2,582	545.49	2,405	3,576
544.96	2,405	2,601	545.50	2,405	3,594
544.97	2,405	2,620	545.51	2,405	3,611
544.98	2,405	2,640	545.52	2,405	3,628
544.99	2,405	2,659	545.53	2,405	3,646
545.00	2,405	2,678	545.54	2,405	3,663
545.01	2,405	2,697	545.55	2,405	3,680
545.02	2,405	2,716	545.56	2,405	3,697
545.03	2,405	2,735	545.57	2,405	3,714

Lowest Outlet=544.58
WQV Req'd=1,844 cu.ft.
WQV Prov'd=1,851 cu.ft

14. DRAINAGE ANALYSIS

14.1 INTRODUCTION

This project proposes a 47,624 SF continuing care facility with 33 condominium units in the Town of New London Tax Map 72, Lot 17. The uses will be serviced by an extension to the municipal sewer & water systems and underground electric.

14.2 METHODOLOGY

The existing and proposed watersheds were modeled utilizing HydroCad stormwater software, version 9.10. The watersheds were analyzed utilizing the SCS TR-20 methodology for hydrograph development and the TR-55 methodology for Time of Concentration (Tc) determination. The Dynamic-Storage-Indicating method for reach and pond routing was utilized. Type III, 24-hour hydrographs were developed for the 1-year, 2-year, 10-year, 25-year, 50-year, and 100-year corresponding to rainfall events of 2.24", 2.63", 3.83", 4.74", 5.57 ", 6.56" respectively.

Existing topography and site features were obtained through on-ground topography completed by Jones & Beach Engineers. Existing soil conditions were derived from a combination of a Site Specific Soil Survey conducted by Gove Environmental and soils information obtained from the NRCS Web Soil Survey.

14.3 EXISTING CONDITIONS ANALYSIS

The study area consists of the subject property and upstream contributing area. The study area consists of 69.5± acres including offsite contributing areas. The existing site is currently undeveloped and primarily covered by wooded terrain. The entire site drains south across the site through an existing wetland system, towards Parkside Road.

The majority of the soils for this site are described as Hydrological Soils "C". A small section of soils in the western corner of the site are described as Hydrological Soils "B".

Six (6) Analysis Points (AP's) were defined for this project. Analysis Points are described as below:

Analysis Point #1 is defined as a section of the west corner property line. This analysis point receives runoff from a portion of the abutting property and on site woodland area.

Analysis Point #2 is defined as a section of the southwest corner property line. This analysis point receives runoff from a portion of the abutting property and on site woodland area.

Analysis Point #3 is defined as a section of the southwest corner property line. This analysis point receives runoff from a woodland area of the site.

Analysis Point #4 is defined as a 15" corrugated metal pipe located under Parkside Road. The contributing watershed is a section on the western side of the site which includes a large portion of the existing New London Hospital. This analysis point receives runoff from the existing hospital, sections

of County Road, sections of Newport Road, as well as from woodland areas on site. This runoff then enters a wetland area on site and discharges to AP #4.

Analysis Point #5 is defined as a 30" corrugated plastic pipe located under Parkside Road. The contributing watershed is a large section of in the center of the site. which includes a large portion of the existing New London Hospital. This analysis point receives runoff from the existing hospital, sections of Newport Road, as well as from woodland areas on site. This runoff then enters a wetland area on site and discharges to AP #5.

Analysis Point #6 is defined as a 15" corrugated metal pipe located under Parkside Road. The contributing watershed is a large section on the eastern side of the site. This analysis point receives runoff from sections of Newport Road, sections of the residential area off of Everett Park, as well as from woodland areas on site. This runoff then enters a wetland area on site and discharges to AP #6.

14.4 PROPOSED CONDITIONS ANALYSIS

This project proposes a 47,624 SF continuing care facility with 33 condominium units in the Town of New London Tax Map 72, Lot 17. The uses will be serviced by an extension to the municipal sewer & water systems and underground electric.

The addition of the proposed impervious paved areas and buildings causes an increase in the curve number (C_n) and a decrease in the time of concentration (T_c), the net result being a potential increase in peak rates of runoff from the site. To mitigate the potential increase in the peak rate of runoff and to effectively treat the subsequent stormwater runoff the following Best Management Practices (BMP's) have been employed at the Analysis Points as follows:

Analysis Point #1 has been reduced in size, and has no proposed impervious area included in it.

Analysis Point #2 has been reduced in size, and has no proposed impervious area included in it.

Analysis Point #3 has been reduced in size, and has no proposed impervious area included in it.

Analysis Point #4 receives runoff from existing woodland terrain, proposed grassed areas, proposed paved parking & roadway surfaces, and future building areas. All proposed paved areas are treated prior to discharge to AP #4. The following treatment trains are included within the Analysis Point #4 watershed system.

A large section of the existing New London Hospital discharges south towards the site, and enters the existing wetland network. This runoff flows through the site and passes through several culvert crossings. This runoff then discharges to AP #4. No treatment is provided for offsite runoff.

The reminder of the offsite runoff located to the southwest corner of the County Road Newport Road intersection. This stormwater enters the site via a pipe on the southwest corner of the existing hospital. This stormwater is captured via a closed drainage system and discharges to Forebay #3. This flow then discharges into a Infiltration Pond (Pond #8) for partial treatment, and then discharges into the existing wetland network to AP #4. The infiltration water quality volume within this pond is not included in the groundwater recharge volume total for the site.

Wet Pond #2 (Node 2P) receives runoff via sheet flow from the rear of the main building, which then discharges to Forebay #2 (Node 2F) through a riprap curb break. The storm water then discharges to Wet Pond #2 for treatment and discharges to the existing wetland network on site. The stormwater then channels flows to AP#4. A portion of the main building's roof runoff also discharges directly to Wet Pond #2 via a roof drain.

Underground Infiltration System (Pond #7) receives runoff via sheet flow from the south side of the main building ,and channel flow from the proposed swale along Hope Stryker Drive. The runoff then enters a closed drainage system and discharges into a isolation row within Pond #7 for pretreatment. The stormwater then discharges internally via a weir into Pond #7. The storm water then discharges to Infiltration Basin (Pond #6), and discharges to the existing wetland network on site. The stormwater then channels flows to AP#4.

Infiltration Basin (Pond #6) receives runoff via sheet flow from the southeast corner of the main building, and roof runoff via a roof drain. The runoff then enters a closed drainage system and discharges into Forebay #7 . The storm water then discharges to Infiltration Basin (Pond #6) for treatment and discharges to the existing wetland network on site. The stormwater then channels flows to AP#4.

Several Roof Drip Edge Infiltration systems are also included within the Analysis Point #4 watershed. These treat small sections of the condominium roof areas only. Runoff from the roofs discharges directly to the drip edges and infiltrates. Excess storm water in high rainfall events discharges from the drip edge systems and into the existing wetland network. The stormwater then channel flows to AP #4.

Analysis Point #5 receives runoff from existing woodland terrain, proposed grassed areas, proposed paved parking & roadway surfaces, and future building areas. All proposed paved areas are treated prior to discharge to AP #5. The following treatment trains are included within the Analysis Point #5 watershed system.

A large section of the existing New London Hospital discharges south towards the site, and enters the existing wetland network. This runoff flows through the site and passes through several culvert crossings. This runoff then discharges to AP #5. No treatment is provided for offsite runoff.

Infiltration Basin (Pond #1) receives runoff via sheet flow from Clough Circle and the surrounding condominiums. The runoff then enters a closed drainage system and discharges into Forebay #1. The storm water then discharges to Infiltration Basin (Pond #1) for treatment and discharges to the existing wetland network on site. The stormwater then channels flows to AP#5.

Infiltration Basin (Pond #4) receives runoff via sheet flow from Griffin Way and the surrounding condominiums. The runoff then enters Forebay #4 via a riprap curb break. The storm water then discharges to Infiltration Basin (Pond #4) for treatment and discharges to the existing wetland network on site. The stormwater then channels flows to AP#5.

Wet Pond #5 receives runoff via sheet flow from a section of Hope Stryker Drive, Griffin Way and the surrounding condominiums. The runoff then enters Forebay #5 and Forebay #6 via a closed drainage system. The storm water then discharges to We Pond #5 for treatment and discharges to the existing wetland network on site. The stormwater then channels flows to AP#5.

Several Roof Drip Edge Infiltration systems are also included within the Analysis Point #4 watershed. These treat small sections of the condominium roof areas only. Runoff from the roofs discharges directly to the drip edges and infiltrates. Excess storm water in high rainfall events discharges from the drip edge systems and into the existing wetland network. The stormwater then channel flows to AP #5.

Analysis Point #6 has not been disturbed, and no development is proposed within the Analysis Point #6 watershed.

14.5 CONCLUSION

The proposed site development will have minimal adverse effect on abutting infrastructures or properties by way of stormwater runoff or siltation if properly constructed in accordance with this Drainage Analysis and approved project plan set. The post-construction peak rates of runoff for the site will be lower than the existing conditions for all analyzed storm events. Appropriate steps will be taken to control erosion and sedimentation; these will be accomplished through the construction of a drainage system consisting of site grading, curbing, catch basins with sedimentation sumps, jute matting, vegetated swales, vegetated pre-treatment swales, and riprap outlet protection aprons. The use of Best Management Practices developed by the State of New Hampshire have been utilized in the design of this system and their application will be enforced with regular inspections throughout the construction process.

An NHDES Alteration of Terrain Permit (RSA 485:A-17) is required for this site plan due to the area of disturbance being greater than 100,000 square-feet.

Respectfully Submitted,
JONES & BEACH ENGINEERS, INC.

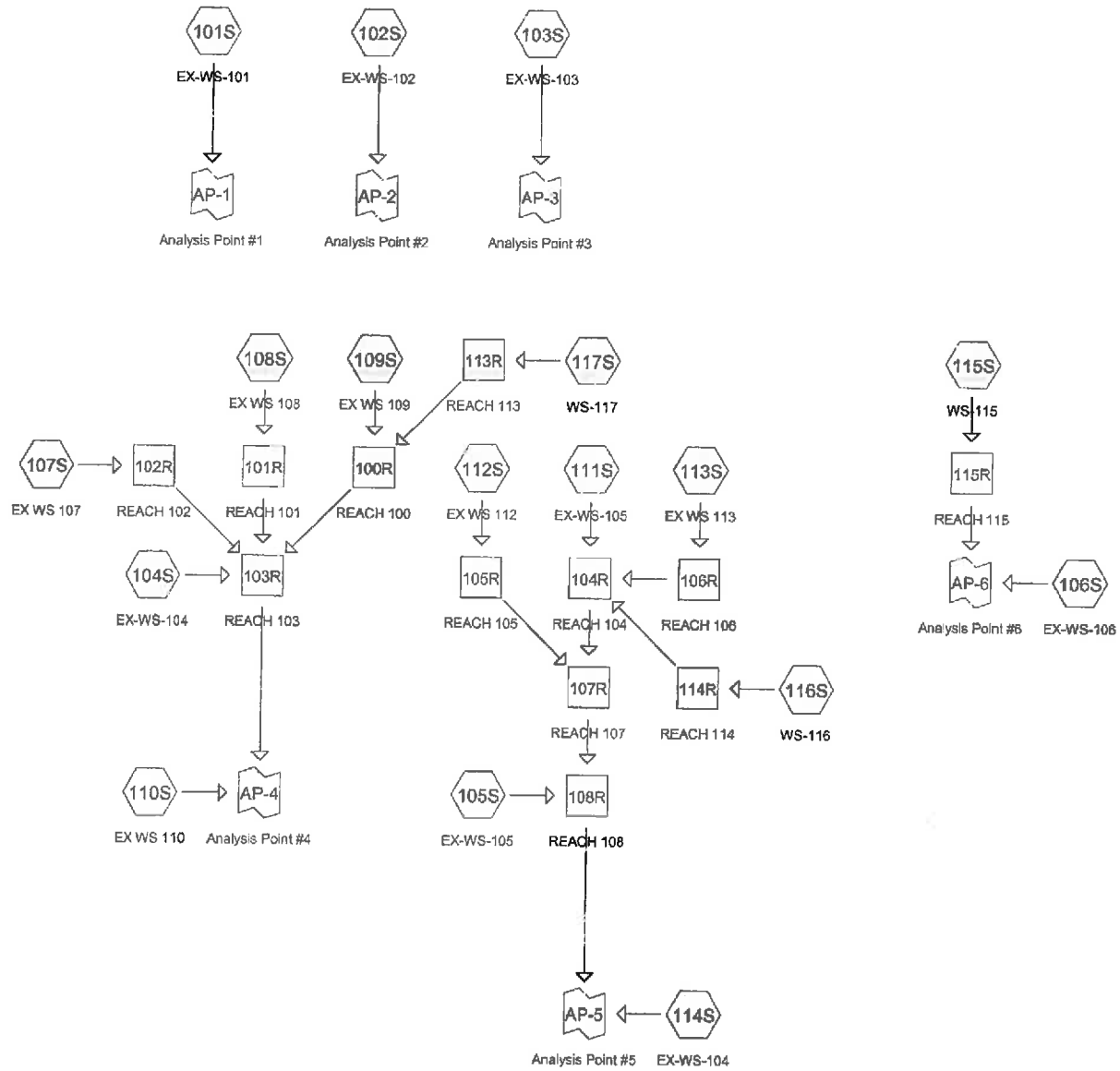
Barry W. Gier

Barry Gier, P.E.
Vice President

14.6 DRAINAGE CALCUALTIONS

PRE-DEVELOPMENT CONDITIONS ANALYSIS

14.6.1 1-Year 24-Hour Summary Analysis
14.6.2 2-Year 24-Hour Summary Analysis
14.6.3 10-Year 24-Hour Complete Analysis
14.6.4 25-Year 24-Hour Summary Analysis
14.6.5 50-Year 24-Hour Summary Analysis
14.6.6 100-Year 24-Hour Summary Analysis



Subcat Reach Pond Link

Routing Diagram for 17190-EXISTING
Prepared by Jones & Beach Engineers, Printed 9/4/2018
HydroCAD® 10.00-20 s/n 03433 © 2017 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
28.543	80	1/2 acre lots, 25% imp, HSG C (106S, 115S)
45.756	77	2 acre lots, 12% imp, HSG C (115S, 116S)
0.739	61	>75% Grass cover, Good, HSG B (104S, 105S, 111S)
11.924	74	>75% Grass cover, Good, HSG C (104S, 105S, 106S, 110S, 111S, 114S, 117S)
0.043	85	Gravel roads, HSG B (105S)
0.272	98	Paved parking, HSG B (104S)
1.321	98	Paved parking, HSG C (104S, 105S, 106S, 110S, 111S, 113S, 114S)
0.043	98	Roofs, HSG C (106S)
0.384	92	Urban commercial, 85% imp, HSG B (107S, 109S)
33.047	94	Urban commercial, 85% imp, HSG C (104S, 105S, 106S, 107S, 108S, 109S, 111S, 112S, 113S, 115S, 116S, 117S)
6.273	55	Woods, Good, HSG B (101S, 102S, 103S, 104S, 105S, 110S, 111S)
48.700	70	Woods, Good, HSG C (103S, 104S, 105S, 106S, 110S, 111S, 114S, 115S, 116S, 117S)
177.046	78	TOTAL AREA

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101S: EX-WS-101 Runoff Area=19,765 sf 0.00% Impervious Runoff Depth=0.04"
Flow Length=263' Slope=0.0600 '/' Tc=14.7 min CN=55 Runoff=0.00 cfs 0.002 af

Subcatchment 102S: EX-WS-102 Runoff Area=77,021 sf 0.00% Impervious Runoff Depth=0.04"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=55 Runoff=0.01 cfs 0.006 af

Subcatchment 103S: EX-WS-103 Runoff Area=44,627 sf 0.00% Impervious Runoff Depth=0.06"
Flow Length=174' Slope=0.1000 '/' Tc=10.9 min CN=57 Runoff=0.01 cfs 0.006 af

Subcatchment 104S: EX-WS-104 Runoff Area=199,952 sf 19.00% Impervious Runoff Depth=0.34"
Flow Length=855' Tc=25.9 min CN=70 Runoff=0.77 cfs 0.129 af

Subcatchment 105S: EX-WS-105 Runoff Area=378,473 sf 7.58% Impervious Runoff Depth=0.40"
Flow Length=780' Tc=38.2 min CN=72 Runoff=1.60 cfs 0.289 af

Subcatchment 106S: EX-WS-106 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=0.54"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=3.17 cfs 0.788 af

Subcatchment 107S: EX WS 107 Runoff Area=37,307 sf 85.00% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=1.60 cfs 0.116 af

Subcatchment 108S: EX WS 108 Runoff Area=37,996 sf 85.00% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=1.63 cfs 0.118 af

Subcatchment 109S: EX WS 109 Runoff Area=109,778 sf 85.00% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=4.72 cfs 0.341 af

Subcatchment 110S: EX WS 110 Runoff Area=256,351 sf 1.53% Impervious Runoff Depth=0.28"
Flow Length=689' Tc=19.7 min CN=68 Runoff=0.81 cfs 0.138 af

Subcatchment 111S: EX-WS-105 Runoff Area=525,152 sf 5.85% Impervious Runoff Depth=0.40"
Flow Length=1,342' Tc=28.7 min CN=72 Runoff=2.53 cfs 0.401 af

Subcatchment 112S: EX WS 112 Runoff Area=38,010 sf 85.00% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=1.63 cfs 0.118 af

Subcatchment 113S: EX WS 113 Runoff Area=248,253 sf 85.80% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=10.67 cfs 0.770 af

Subcatchment 114S: EX-WS-104 Runoff Area=295,484 sf 1.79% Impervious Runoff Depth=0.37"
Flow Length=793' Tc=28.1 min CN=71 Runoff=1.27 cfs 0.208 af

Subcatchment 115S: WS-115 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=0.67"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=20.16 cfs 3.301 af

Subcatchment 116S: WS-116 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=0.76"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=17.41 cfs 2.265 af

Subcatchment 117S: WS-117 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=0.76"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=4.46 cfs 0.800 af

Reach 100R: REACH 100 Avg. Flow Depth=0.20' Max Vel=2.29 fps Inflow=5.27 cfs 1.140 af
n=0.035 L=768.0' S=0.0430 '/' Capacity=708.76 cfs Outflow=4.83 cfs 1.140 af

Reach 101R: REACH 101 Avg. Flow Depth=0.12' Max Vel=1.49 fps Inflow=1.63 cfs 0.118 af
n=0.035 L=453.0' S=0.0375 '/' Capacity=662.37 cfs Outflow=1.40 cfs 0.118 af

Reach 102R: REACH 102 Avg. Flow Depth=0.11' Max Vel=1.60 fps Inflow=1.60 cfs 0.116 af
n=0.035 L=509.0' S=0.0472 '/' Capacity=742.46 cfs Outflow=1.36 cfs 0.116 af

Reach 103R: REACH 103 Avg. Flow Depth=0.23' Max Vel=2.60 fps Inflow=7.38 cfs 1.503 af
n=0.035 L=808.0' S=0.0458 '/' Capacity=731.68 cfs Outflow=6.77 cfs 1.503 af

Reach 104R: REACH 104 Avg. Flow Depth=0.43' Max Vel=3.42 fps Inflow=22.78 cfs 3.437 af
n=0.035 L=146.0' S=0.0342 '/' Capacity=632.75 cfs Outflow=22.77 cfs 3.437 af

Reach 105R: REACH 105 Avg. Flow Depth=0.11' Max Vel=1.53 fps Inflow=1.63 cfs 0.118 af
n=0.035 L=774.0' S=0.0439 '/' Capacity=716.63 cfs Outflow=1.24 cfs 0.118 af

Reach 106R: REACH 106 Avg. Flow Depth=0.28' Max Vel=2.58 fps Inflow=10.67 cfs 0.770 af
n=0.035 L=877.0' S=0.0353 '/' Capacity=642.84 cfs Outflow=8.90 cfs 0.770 af

Reach 107R: REACH 107 Avg. Flow Depth=0.39' Max Vel=4.03 fps Inflow=23.35 cfs 3.555 af
n=0.035 L=240.0' S=0.0542 '/' Capacity=795.77 cfs Outflow=23.32 cfs 3.555 af

Reach 108R: REACH 108 Avg. Flow Depth=0.45' Max Vel=3.52 fps Inflow=24.70 cfs 3.844 af
n=0.035 L=404.0' S=0.0347 '/' Capacity=636.50 cfs Outflow=24.64 cfs 3.844 af

Reach 113R: REACH 113 Avg. Flow Depth=1.00' Max Vel=5.97 fps Inflow=4.46 cfs 0.800 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.43 cfs 0.800 af

Reach 114R: REACH 114 Avg. Flow Depth=0.29' Max Vel=4.56 fps Inflow=17.41 cfs 2.265 af
n=0.022 L=1,342.0' S=0.0402 '/' Capacity=1,091.16 cfs Outflow=17.00 cfs 2.265 af

Reach 115R: REACH 115 Avg. Flow Depth=0.31' Max Vel=4.76 fps Inflow=20.16 cfs 3.301 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=19.55 cfs 3.301 af

Link AP-1: Analysis Point #1 Inflow=0.00 cfs 0.002 af
Primary=0.00 cfs 0.002 af

Link AP-2: Analysis Point #2 Inflow=0.01 cfs 0.006 af
Primary=0.01 cfs 0.006 af

Link AP-3: Analysis Point #3 Inflow=0.01 cfs 0.006 af
Primary=0.01 cfs 0.006 af

Link AP-4: Analysis Point #4 Inflow=7.23 cfs 1.641 af
Primary=7.23 cfs 1.641 af

Link AP-5: Analysis Point #5

Inflow=25.90 cfs 4.052 af
Primary=25.90 cfs 4.052 af

Link AP-6: Analysis Point #6

Inflow=21.81 cfs 4.090 af
Primary=21.81 cfs 4.090 af

Total Runoff Area = 177.046 ac Runoff Volume = 9.796 af Average Runoff Depth = 0.66"
75.89% Pervious = 134.367 ac 24.11% Impervious = 42.679 ac

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101S: EX-WS-101 Runoff Area=19,765 sf 0.00% Impervious Runoff Depth=0.11"
Flow Length=263' Slope=0.0600 '/' Tc=14.7 min CN=55 Runoff=0.01 cfs 0.004 af

Subcatchment 102S: EX-WS-102 Runoff Area=77,021 sf 0.00% Impervious Runoff Depth=0.11"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=55 Runoff=0.03 cfs 0.016 af

Subcatchment 103S: EX-WS-103 Runoff Area=44,627 sf 0.00% Impervious Runoff Depth=0.15"
Flow Length=174' Slope=0.1000 '/' Tc=10.9 min CN=57 Runoff=0.04 cfs 0.012 af

Subcatchment 104S: EX-WS-104 Runoff Area=199,952 sf 19.00% Impervious Runoff Depth=0.52"
Flow Length=855' Tc=25.9 min CN=70 Runoff=1.36 cfs 0.198 af

Subcatchment 105S: EX-WS-105 Runoff Area=378,473 sf 7.58% Impervious Runoff Depth=0.60"
Flow Length=780' Tc=38.2 min CN=72 Runoff=2.63 cfs 0.433 af

Subcatchment 106S: EX-WS-106 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=0.77"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=4.79 cfs 1.125 af

Subcatchment 107S: EX WS 107 Runoff Area=37,307 sf 85.00% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=1.95 cfs 0.142 af

Subcatchment 108S: EX WS 108 Runoff Area=37,996 sf 85.00% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=1.99 cfs 0.145 af

Subcatchment 109S: EX WS 109 Runoff Area=109,778 sf 85.00% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=5.75 cfs 0.419 af

Subcatchment 110S: EX WS 110 Runoff Area=256,351 sf 1.53% Impervious Runoff Depth=0.45"
Flow Length=689' Tc=19.7 min CN=68 Runoff=1.54 cfs 0.219 af

Subcatchment 111S: EX-WS-105 Runoff Area=525,152 sf 5.85% Impervious Runoff Depth=0.60"
Flow Length=1,342' Tc=28.7 min CN=72 Runoff=4.18 cfs 0.600 af

Subcatchment 112S: EX WS 112 Runoff Area=38,010 sf 85.00% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=1.99 cfs 0.145 af

Subcatchment 113S: EX WS 113 Runoff Area=248,253 sf 85.80% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=13.00 cfs 0.947 af

Subcatchment 114S: EX-WS-104 Runoff Area=295,484 sf 1.79% Impervious Runoff Depth=0.56"
Flow Length=793' Tc=28.1 min CN=71 Runoff=2.16 cfs 0.315 af

Subcatchment 115S: WS-115 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=0.93"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=28.85 cfs 4.572 af

Subcatchment 116S: WS-116 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=1.04"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=24.23 cfs 3.081 af

Subcatchment 117S: WS-117 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=1.04"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=6.21 cfs 1.087 af

Reach 100R: REACH 100 Avg. Flow Depth=0.22' Max Vel=2.44 fps Inflow=6.70 cfs 1.506 af
n=0.035 L=768.0' S=0.0430 '/' Capacity=708.76 cfs Outflow=5.86 cfs 1.506 af

Reach 101R: REACH 101 Avg. Flow Depth=0.13' Max Vel=1.59 fps Inflow=1.99 cfs 0.145 af
n=0.035 L=453.0' S=0.0375 '/' Capacity=662.37 cfs Outflow=1.73 cfs 0.145 af

Reach 102R: REACH 102 Avg. Flow Depth=0.12' Max Vel=1.70 fps Inflow=1.95 cfs 0.142 af
n=0.035 L=509.0' S=0.0472 '/' Capacity=742.46 cfs Outflow=1.68 cfs 0.142 af

Reach 103R: REACH 103 Avg. Flow Depth=0.26' Max Vel=2.84 fps Inflow=9.63 cfs 1.992 af
n=0.035 L=808.0' S=0.0458 '/' Capacity=731.68 cfs Outflow=8.95 cfs 1.992 af

Reach 104R: REACH 104 Avg. Flow Depth=0.50' Max Vel=3.79 fps Inflow=31.97 cfs 4.628 af
n=0.035 L=146.0' S=0.0342 '/' Capacity=632.75 cfs Outflow=31.97 cfs 4.628 af

Reach 105R: REACH 105 Avg. Flow Depth=0.12' Max Vel=1.63 fps Inflow=1.99 cfs 0.145 af
n=0.035 L=774.0' S=0.0439 '/' Capacity=716.63 cfs Outflow=1.54 cfs 0.145 af

Reach 106R: REACH 106 Avg. Flow Depth=0.31' Max Vel=2.75 fps Inflow=13.00 cfs 0.947 af
n=0.035 L=877.0' S=0.0353 '/' Capacity=642.84 cfs Outflow=10.97 cfs 0.947 af

Reach 107R: REACH 107 Avg. Flow Depth=0.46' Max Vel=4.47 fps Inflow=32.67 cfs 4.773 af
n=0.035 L=240.0' S=0.0542 '/' Capacity=795.77 cfs Outflow=32.65 cfs 4.773 af

Reach 108R: REACH 108 Avg. Flow Depth=0.52' Max Vel=3.91 fps Inflow=35.01 cfs 5.206 af
n=0.035 L=404.0' S=0.0347 '/' Capacity=636.50 cfs Outflow=34.92 cfs 5.206 af

Reach 113R: REACH 113 Avg. Flow Depth=1.00' Max Vel=5.96 fps Inflow=6.21 cfs 1.087 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.25 cfs 1.087 af

Reach 114R: REACH 114 Avg. Flow Depth=0.34' Max Vel=5.05 fps Inflow=24.23 cfs 3.081 af
n=0.022 L=1,342.0' S=0.0402 '/' Capacity=1,091.16 cfs Outflow=23.75 cfs 3.081 af

Reach 115R: REACH 115 Avg. Flow Depth=0.37' Max Vel=5.32 fps Inflow=28.85 cfs 4.572 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=28.17 cfs 4.572 af

Link AP-1: Analysis Point #1 Inflow=0.01 cfs 0.004 af
Primary=0.01 cfs 0.004 af

Link AP-2: Analysis Point #2 Inflow=0.03 cfs 0.016 af
Primary=0.03 cfs 0.016 af

Link AP-3: Analysis Point #3 Inflow=0.04 cfs 0.012 af
Primary=0.04 cfs 0.012 af

Link AP-4: Analysis Point #4 Inflow=10.04 cfs 2.211 af
Primary=10.04 cfs 2.211 af

Link AP-5: Analysis Point #5

Inflow=37.06 cfs 5.521 af
Primary=37.06 cfs 5.521 af

Link AP-6: Analysis Point #6

Inflow=31.63 cfs 5.697 af
Primary=31.63 cfs 5.697 af

Total Runoff Area = 177.046 ac Runoff Volume = 13.461 af Average Runoff Depth = 0.91"
75.89% Pervious = 134.367 ac 24.11% Impervious = 42.679 ac

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
7.712	HSG B	101S, 102S, 103S, 104S, 105S, 107S, 109S, 110S, 111S
169.335	HSG C	103S, 104S, 105S, 106S, 107S, 108S, 109S, 110S, 111S, 112S, 113S, 114S, 115S, 116S, 117S
0.000	HSG D	
0.000	Other	
177.046		**TOTAL AREA**

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101S: EX-WS-101 Runoff Area=19,765 sf 0.00% Impervious Runoff Depth=0.46"
Flow Length=263' Slope=0.0600 '/' Tc=14.7 min CN=55 Runoff=0.11 cfs 0.018 af

Subcatchment 102S: EX-WS-102 Runoff Area=77,021 sf 0.00% Impervious Runoff Depth=0.46"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=55 Runoff=0.42 cfs 0.068 af

Subcatchment 103S: EX-WS-103 Runoff Area=44,627 sf 0.00% Impervious Runoff Depth=0.55"
Flow Length=174' Slope=0.1000 '/' Tc=10.9 min CN=57 Runoff=0.35 cfs 0.047 af

Subcatchment 104S: EX-WS-104 Runoff Area=199,952 sf 19.00% Impervious Runoff Depth=1.22"
Flow Length=855' Tc=25.9 min CN=70 Runoff=3.71 cfs 0.466 af

Subcatchment 105S: EX-WS-105 Runoff Area=378,473 sf 7.58% Impervious Runoff Depth=1.34"
Flow Length=780' Tc=38.2 min CN=72 Runoff=6.60 cfs 0.972 af

Subcatchment 106S: EX-WS-106 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=1.61"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=10.67 cfs 2.337 af

Subcatchment 107S: EX WS 107 Runoff Area=37,307 sf 85.00% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=3.02 cfs 0.225 af

Subcatchment 108S: EX WS 108 Runoff Area=37,996 sf 85.00% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=3.07 cfs 0.230 af

Subcatchment 109S: EX WS 109 Runoff Area=109,778 sf 85.00% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=8.88 cfs 0.663 af

Subcatchment 110S: EX WS 110 Runoff Area=256,351 sf 1.53% Impervious Runoff Depth=1.10"
Flow Length=689' Tc=19.7 min CN=68 Runoff=4.69 cfs 0.539 af

Subcatchment 111S: EX-WS-105 Runoff Area=525,152 sf 5.85% Impervious Runoff Depth=1.34"
Flow Length=1,342' Tc=28.7 min CN=72 Runoff=10.47 cfs 1.348 af

Subcatchment 112S: EX WS 112 Runoff Area=38,010 sf 85.00% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=3.08 cfs 0.230 af

Subcatchment 113S: EX WS 113 Runoff Area=248,253 sf 85.80% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=20.09 cfs 1.500 af

Subcatchment 114S: EX-WS-104 Runoff Area=295,484 sf 1.79% Impervious Runoff Depth=1.28"
Flow Length=793' Tc=28.1 min CN=71 Runoff=5.62 cfs 0.723 af

Subcatchment 115S: WS-115 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=1.83"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=58.99 cfs 9.022 af

Subcatchment 116S: WS-116 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=1.98"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=47.41 cfs 5.886 af

Subcatchment 117S: WS-117 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=1.98"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=12.16 cfs 2.077 af

Reach 100R: REACH 100 Avg. Flow Depth=0.28' Max Vel=2.90 fps Inflow=11.37 cfs 2.741 af
n=0.035 L=768.0' S=0.0430 '/' Capacity=708.76 cfs Outflow=10.32 cfs 2.741 af

Reach 101R: REACH 101 Avg. Flow Depth=0.16' Max Vel=1.83 fps Inflow=3.07 cfs 0.230 af
n=0.035 L=453.0' S=0.0375 '/' Capacity=662.37 cfs Outflow=2.74 cfs 0.230 af

Reach 102R: REACH 102 Avg. Flow Depth=0.15' Max Vel=1.97 fps Inflow=3.02 cfs 0.225 af
n=0.035 L=509.0' S=0.0472 '/' Capacity=742.46 cfs Outflow=2.67 cfs 0.225 af

Reach 103R: REACH 103 Avg. Flow Depth=0.35' Max Vel=3.42 fps Inflow=17.32 cfs 3.661 af
n=0.035 L=808.0' S=0.0458 '/' Capacity=731.68 cfs Outflow=16.50 cfs 3.661 af

Reach 104R: REACH 104 Avg. Flow Depth=0.69' Max Vel=4.69 fps Inflow=63.62 cfs 8.734 af
n=0.035 L=146.0' S=0.0342 '/' Capacity=632.75 cfs Outflow=63.61 cfs 8.734 af

Reach 105R: REACH 105 Avg. Flow Depth=0.15' Max Vel=1.88 fps Inflow=3.08 cfs 0.230 af
n=0.035 L=774.0' S=0.0439 '/' Capacity=716.63 cfs Outflow=2.47 cfs 0.230 af

Reach 106R: REACH 106 Avg. Flow Depth=0.38' Max Vel=3.18 fps Inflow=20.09 cfs 1.500 af
n=0.035 L=877.0' S=0.0353 '/' Capacity=642.84 cfs Outflow=17.57 cfs 1.500 af

Reach 107R: REACH 107 Avg. Flow Depth=0.63' Max Vel=5.52 fps Inflow=64.71 cfs 8.964 af
n=0.035 L=240.0' S=0.0542 '/' Capacity=795.77 cfs Outflow=64.69 cfs 8.964 af

Reach 108R: REACH 108 Avg. Flow Depth=0.72' Max Vel=4.86 fps Inflow=70.79 cfs 9.935 af
n=0.035 L=404.0' S=0.0347 '/' Capacity=636.50 cfs Outflow=70.70 cfs 9.935 af

Reach 113R: REACH 113 Avg. Flow Depth=1.00' Max Vel=5.97 fps Inflow=12.16 cfs 2.077 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.11 cfs 2.077 af

Reach 114R: REACH 114 Avg. Flow Depth=0.47' Max Vel=6.22 fps Inflow=47.41 cfs 5.886 af
n=0.022 L=1,342.0' S=0.0402 '/' Capacity=1,091.16 cfs Outflow=46.79 cfs 5.886 af

Reach 115R: REACH 115 Avg. Flow Depth=0.52' Max Vel=6.65 fps Inflow=58.99 cfs 9.022 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=58.13 cfs 9.022 af

Link AP-1: Analysis Point #1
Inflow=0.11 cfs 0.018 af
Primary=0.11 cfs 0.018 af

Link AP-2: Analysis Point #2
Inflow=0.42 cfs 0.068 af
Primary=0.42 cfs 0.068 af

Link AP-3: Analysis Point #3
Inflow=0.35 cfs 0.047 af
Primary=0.35 cfs 0.047 af

Link AP-4: Analysis Point #4
Inflow=20.60 cfs 4.200 af
Primary=20.60 cfs 4.200 af

Link AP-5: Analysis Point #5

Inflow=76.26 cfs 10.658 af
Primary=76.26 cfs 10.658 af

Link AP-6: Analysis Point #6

Inflow=65.97 cfs 11.359 af
Primary=65.97 cfs 11.359 af

Total Runoff Area = 177.046 ac Runoff Volume = 26.350 af Average Runoff Depth = 1.79"
75.89% Pervious = 134.367 ac 24.11% Impervious = 42.679 ac

Summary for Subcatchment 101S: EX-WS-101

Runoff = 0.11 cfs @ 12.34 hrs, Volume= 0.018 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
19,765	55	Woods, Good, HSG B
19,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.1	75	0.0600	0.10		**Sheet Flow, THROUGH WOODS** Woods: Light underbrush n= 0.400 P2= 2.63"
2.6	188	0.0600	1.22		**Shallow Concentrated Flow, THROUGH WOODS** Woodland Kv= 5.0 fps
14.7	263	Total			

Summary for Subcatchment 102S: EX-WS-102

Runoff = 0.42 cfs @ 12.34 hrs, Volume= 0.068 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
77,021	55	Woods, Good, HSG B
77,021		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	75	0.0700	0.11		**Sheet Flow, THROUGH WOODS** Woods: Light underbrush n= 0.400 P2= 2.63"
3.2	254	0.0700	1.32		**Shallow Concentrated Flow, THROUGH WOODS** Woodland Kv= 5.0 fps
14.6	329	Total			

Summary for Subcatchment 103S: EX-WS-103

Runoff = 0.35 cfs @ 12.21 hrs, Volume= 0.047 af, Depth= 0.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
40,057	55	Woods, Good, HSG B
4,570	70	Woods, Good, HSG C
44,627	57	Weighted Average
44,627		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	75	0.1000	0.13		**Sheet Flow, THROUGH WOODS** Woods: Light underbrush n= 0.400 P2= 2.63"
1.0	99	0.1000	1.58		**Shallow Concentrated Flow, THROUGH WOODS** Woodland Kv= 5.0 fps
10.9	174	Total			

Summary for Subcatchment 104S: EX-WS-104

Runoff = 3.71 cfs @ 12.39 hrs, Volume= 0.466 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
11,853	98	Paved parking, HSG B
14,767	98	Paved parking, HSG C
16,704	61	>75% Grass cover, Good, HSG B
13,036	74	>75% Grass cover, Good, HSG C
62,408	55	Woods, Good, HSG B
67,795	70	Woods, Good, HSG C
13,389	94	Urban commercial, 85% imp, HSG C
199,952	70	Weighted Average
161,951		81.00% Pervious Area
38,001		19.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	15	0.0200	0.85		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.63"
2.0	29	0.1200	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
4.5	31	0.1200	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.63"
5.2	327	0.0440	1.05		**Shallow Concentrated Flow, THROUGH WOODS** Woodland Kv= 5.0 fps
13.9	453	0.0470	0.54		**Shallow Concentrated Flow, THROUGH WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
25.9	855	Total			

Summary for Subcatchment 105S: EX-WS-105

Runoff = 6.60 cfs @ 12.57 hrs, Volume= 0.972 af, Depth= 1.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
4,220	98	Paved parking, HSG C
9,883	61	>75% Grass cover, Good, HSG B
17,745	74	>75% Grass cover, Good, HSG C
6,875	55	Woods, Good, HSG B
309,102	70	Woods, Good, HSG C
1,872	85	Gravel roads, HSG B
28,776	94	Urban commercial, 85% imp, HSG C
378,473	72	Weighted Average
349,793		92.42% Pervious Area
28,680		7.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	75	0.1000	0.07		**Sheet Flow, WOODLAND** Woods: Dense underbrush n= 0.800 P2= 2.63"
1.1	91	0.0800	1.41		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
19.9	614	0.0423	0.51		**Shallow Concentrated Flow, THROUGH WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
38.2	780	Total			

Summary for Subcatchment 106S: EX-WS-106

Runoff = 10.67 cfs @ 13.09 hrs, Volume= 2.337 af, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,353	98	Paved parking, HSG C
1,858	98	Roofs, HSG C
76,670	74	>75% Grass cover, Good, HSG C
325,831	70	Woods, Good, HSG C
301,513	80	1/2 acre lots, 25% imp, HSG C
50,832	94	Urban commercial, 85% imp, HSG C
759,057	76	Weighted Average
636,261		83.82% Pervious Area
122,796		16.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	75	0.0400	0.09		**Sheet Flow, THROUGH WETLAND** Woods: Light underbrush n= 0.400 P2= 2.63"
64.7	1,942	0.0400	0.50		**Shallow Concentrated Flow, THROUGH WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
79.0	2,017	Total			

Summary for Subcatchment 107S: EX WS 107

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.02 cfs @ 12.07 hrs, Volume= 0.225 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
28,090	94	Urban commercial, 85% imp, HSG C
9,217	92	Urban commercial, 85% imp, HSG B
37,307	94	Weighted Average
5,596		15.00% Pervious Area
31,711		85.00% Impervious Area

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

Summary for Subcatchment 108S: EX WS 108

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.07 cfs @ 12.07 hrs, Volume= 0.230 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
37,996	94	Urban commercial, 85% imp, HSG C
5,699		15.00% Pervious Area
32,297		85.00% Impervious Area

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

Summary for Subcatchment 109S: EX WS 109

[49] Hint: Tc<2dt may require smaller dt

Runoff = 8.88 cfs @ 12.07 hrs, Volume= 0.663 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
102,257	94	Urban commercial, 85% imp, HSG C
7,521	92	Urban commercial, 85% imp, HSG B
109,778	94	Weighted Average
16,467		15.00% Pervious Area
93,311		85.00% Impervious Area

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

Summary for Subcatchment 110S: EX WS 110

Runoff = 4.69 cfs @ 12.30 hrs, Volume= 0.539 af, Depth= 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
3,932	98	Paved parking, HSG C
4,886	74	>75% Grass cover, Good, HSG C
197,353	70	Woods, Good, HSG C
50,180	55	Woods, Good, HSG B
256,351	68	Weighted Average
252,419		98.47% Pervious Area
3,932		1.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	75	0.0930	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.63"
6.6	531	0.0716	1.34		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	83	0.0361	0.47		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
19.7	689	Total			

Summary for Subcatchment 111S: EX-WS-105

Runoff = 10.47 cfs @ 12.43 hrs, Volume= 1.348 af, Depth= 1.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
13,731	98	Paved parking, HSG C
5,620	61	>75% Grass cover, Good, HSG B
101,521	74	>75% Grass cover, Good, HSG C
16,955	55	Woods, Good, HSG B
367,309	70	Woods, Good, HSG C
20,016	94	Urban commercial, 85% imp, HSG C
525,152	72	Weighted Average
494,407		94.15% Pervious Area
30,745		5.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	75	0.1400	0.14		**Sheet Flow, WOODLAND** Woods: Light underbrush n= 0.400 P2= 2.63"
7.8	559	0.0570	1.19		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
6.2	524	0.0400	1.40		**Shallow Concentrated Flow, GRASS** Short Grass Pasture Kv= 7.0 fps
6.1	184	0.0400	0.50		**Shallow Concentrated Flow, THROUGH WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
28.7	1,342	Total			

Summary for Subcatchment 112S: EX WS 112

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.08 cfs @ 12.07 hrs, Volume= 0.230 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
38,010	94	Urban commercial, 85% imp, HSG C
5,702		15.00% Pervious Area
32,309		85.00% Impervious Area

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

Summary for Subcatchment 113S: EX WS 113

[49] Hint: Tc<2dt may require smaller dt

Runoff = 20.09 cfs @ 12.07 hrs, Volume= 1.500 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
234,994	94	Urban commercial, 85% imp, HSG C
13,259	98	Paved parking, HSG C
248,253	94	Weighted Average
35,249		14.20% Pervious Area
213,004		85.80% Impervious Area

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

Summary for Subcatchment 114S: EX-WS-104

Runoff = 5.62 cfs @ 12.42 hrs, Volume= 0.723 af, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
5,300	98	Paved parking, HSG C
10,500	74	>75% Grass cover, Good, HSG C
279,684	70	Woods, Good, HSG C
295,484	71	Weighted Average
290,184		98.21% Pervious Area
5,300		1.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	75	0.1400	0.08		**Sheet Flow, WOODLAND** Woods: Dense underbrush n= 0.800 P2= 2.63"
7.8	559	0.0570	1.19		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
5.3	159	0.0400	0.50		**Shallow Concentrated Flow, THROUGH WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
28.1	793	Total			

Summary for Subcatchment 115S: WS-115

Runoff = 58.99 cfs @ 12.62 hrs, Volume= 9.022 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
385,505	70	Woods, Good, HSG C
941,822	80	1/2 acre lots, 25% imp, HSG C
998,298	77	2 acre lots, 12% imp, HSG C
256,374	94	Urban commercial, 85% imp, HSG C
2,581,999	79	Weighted Average
2,008,830		77.80% Pervious Area
573,169		22.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	75	0.0132	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
29.2	1,411	0.0132	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
44.0	1,486	Total			

Summary for Subcatchment 116S: WS-116

Runoff = 47.41 cfs @ 12.41 hrs, Volume= 5.886 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
425,123	94	Urban commercial, 85% imp, HSG C
134,379	70	Woods, Good, HSG C
994,823	77	2 acre lots, 12% imp, HSG C
1,554,325	81	Weighted Average
1,073,592		69.07% Pervious Area
480,733		30.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	75	0.0279	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
18.1	1,267	0.0279	1.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.0	1,342	Total			

Summary for Subcatchment 117S: WS-117

Runoff = 12.16 cfs @ 12.75 hrs, Volume= 2.077 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
295,060	74	>75% Grass cover, Good, HSG C
203,681	94	Urban commercial, 85% imp, HSG C
49,853	70	Woods, Good, HSG C
548,594	81	Weighted Average
375,465		68.44% Pervious Area
173,129		31.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0	75	0.0080	0.07		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
36.1	1,357	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
54.1	1,432	Total			

Summary for Reach 100R: REACH 100

Inflow Area = 15.114 ac, 40.47% Impervious, Inflow Depth = 2.18" for 10-YR event
Inflow = 11.37 cfs @ 12.08 hrs, Volume= 2.741 af
Outflow = 10.32 cfs @ 12.13 hrs, Volume= 2.741 af, Atten= 9%, Lag= 3.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 2.90 fps, Min. Travel Time= 4.4 min
Avg. Velocity = 1.21 fps, Avg. Travel Time= 10.6 min

Peak Storage= 2,735 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 708.76 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035 High grass
Length= 768.0' Slope= 0.0430 '/'
Inlet Invert= 564.00', Outlet Invert= 531.00'

Summary for Reach 101R: REACH 101

Inflow Area = 0.872 ac, 85.00% Impervious, Inflow Depth = 3.16" for 10-YR event
Inflow = 3.07 cfs @ 12.07 hrs, Volume= 0.230 af
Outflow = 2.74 cfs @ 12.12 hrs, Volume= 0.230 af, Atten= 11%, Lag= 2.6 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.83 fps, Min. Travel Time= 4.1 min
Avg. Velocity = 0.63 fps, Avg. Travel Time= 12.1 min

Peak Storage= 674 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 662.37 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035 High grass
Length= 453.0' Slope= 0.0375 '/'
Inlet Invert= 548.00', Outlet Invert= 531.00'

‡

Summary for Reach 102R: REACH 102

Inflow Area = 0.856 ac, 85.00% Impervious, Inflow Depth = 3.16" for 10-YR event
Inflow = 3.02 cfs @ 12.07 hrs, Volume= 0.225 af
Outflow = 2.67 cfs @ 12.12 hrs, Volume= 0.225 af, Atten= 12%, Lag= 2.7 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.97 fps, Min. Travel Time= 4.3 min
Avg. Velocity = 0.68 fps, Avg. Travel Time= 12.5 min

Peak Storage= 687 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 742.46 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035 High grass
Length= 509.0' Slope= 0.0472 '/'
Inlet Invert= 555.00', Outlet Invert= 531.00'

‡

Summary for Reach 103R: REACH 103

[62] Hint: Exceeded Reach 100R OUTLET depth by 0.08' @ 12.30 hrs
[62] Hint: Exceeded Reach 101R OUTLET depth by 0.22' @ 12.35 hrs
[62] Hint: Exceeded Reach 102R OUTLET depth by 0.22' @ 12.30 hrs

Inflow Area =	21.433 ac,	39.46% Impervious,	Inflow Depth =	2.05"	for 10-YR event
Inflow =	17.32 cfs @	12.14 hrs, Volume=	3.661 af		
Outflow =	16.50 cfs @	12.20 hrs, Volume=	3.661 af,	Atten= 5%,	Lag= 3.5 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 3.42 fps, Min. Travel Time= 3.9 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 10.2 min

Peak Storage= 3,893 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 731.68 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035 High grass
Length= 808.0' Slope= 0.0458 '/'
Inlet Invert= 531.00', Outlet Invert= 494.00'

‡

Summary for Reach 104R: REACH 104

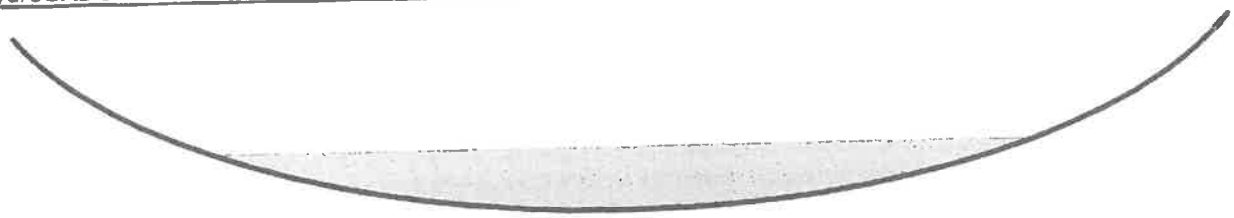
[62] Hint: Exceeded Reach 106R OUTLET depth by 0.47' @ 12.55 hrs

Inflow Area =	53.437 ac,	31.12% Impervious,	Inflow Depth =	1.96"	for 10-YR event
Inflow =	63.62 cfs @	12.43 hrs, Volume=	8.734 af		
Outflow =	63.61 cfs @	12.43 hrs, Volume=	8.734 af,	Atten= 0%,	Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 4.69 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.48 fps, Avg. Travel Time= 1.6 min

Peak Storage= 1,981 cf @ 12.43 hrs
Average Depth at Peak Storage= 0.69'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 632.75 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 146.0' Slope= 0.0342 '/'
Inlet Invert= 517.00', Outlet Invert= 512.00'



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Summary for Reach 105R: REACH 105

Inflow Area = 0.873 ac, 85.00% Impervious, Inflow Depth = 3.16" for 10-YR event
Inflow = 3.08 cfs @ 12.07 hrs, Volume= 0.230 af
Outflow = 2.47 cfs @ 12.14 hrs, Volume= 0.230 af, Atten= 20%, Lag= 3.8 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.88 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 0.66 fps, Avg. Travel Time= 19.6 min

Peak Storage= 1,014 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 716.63 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035 High grass
Length= 774.0' Slope= 0.0439 '/'
Inlet Invert= 546.00', Outlet Invert= 512.00'

‡

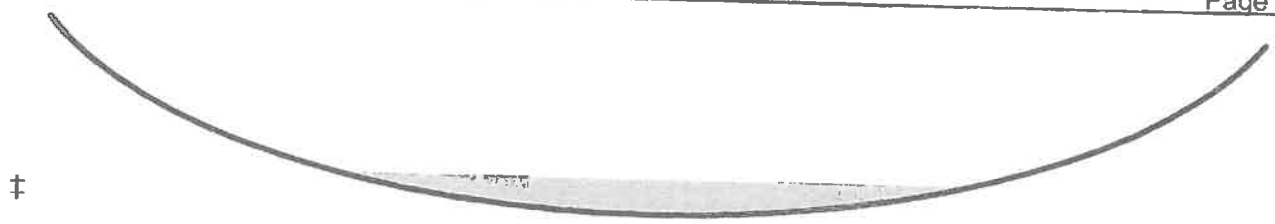
Summary for Reach 106R: REACH 106

Inflow Area = 5.699 ac, 85.80% Impervious, Inflow Depth = 3.16" for 10-YR event
Inflow = 20.09 cfs @ 12.07 hrs, Volume= 1.500 af
Outflow = 17.57 cfs @ 12.12 hrs, Volume= 1.500 af, Atten= 13%, Lag= 2.8 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 3.18 fps, Min. Travel Time= 4.6 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 15.2 min

Peak Storage= 4,831 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 642.84 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 877.0' Slope= 0.0353 '/'
Inlet Invert= 548.00', Outlet Invert= 517.00'



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Summary for Reach 107R: REACH 107

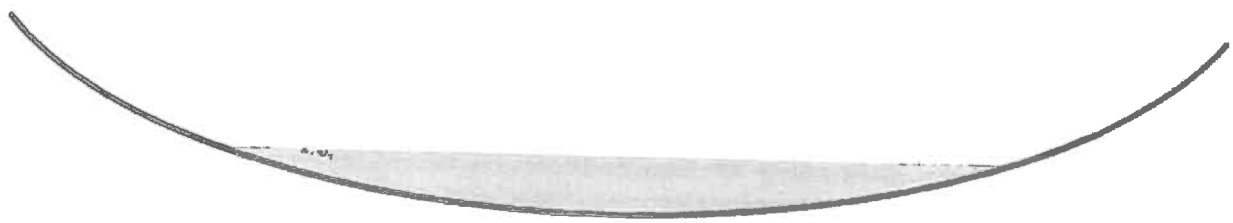
[62] Hint: Exceeded Reach 104R OUTLET depth by 1.00' @ 26.15 hrs
[62] Hint: Exceeded Reach 105R OUTLET depth by 1.53' @ 12.50 hrs

Inflow Area =	54.310 ac, 31.99% Impervious, Inflow Depth = 1.98" for 10-YR event				
Inflow =	64.71 cfs @ 12.43 hrs, Volume=	8.964 af			
Outflow =	64.69 cfs @ 12.44 hrs, Volume=	8.964 af, Atten= 0%, Lag= 0.5 min			

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 5.52 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.76 fps, Avg. Travel Time= 2.3 min

Peak Storage= 2,811 cf @ 12.44 hrs
Average Depth at Peak Storage= 0.63'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 795.77 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 240.0' Slope= 0.0542 '/'
Inlet Invert= 513.00', Outlet Invert= 500.00'



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Summary for Reach 108R: REACH 108

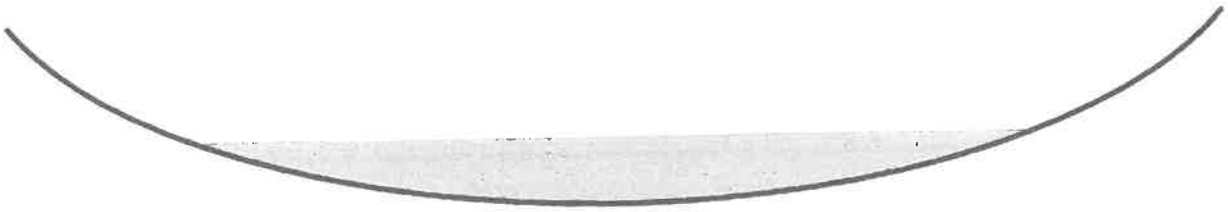
[62] Hint: Exceeded Reach 107R OUTLET depth by 0.11' @ 12.60 hrs

Inflow Area =	62.998 ac, 28.62% Impervious, Inflow Depth = 1.89" for 10-YR event				
Inflow =	70.79 cfs @ 12.45 hrs, Volume=	9.935 af			
Outflow =	70.70 cfs @ 12.46 hrs, Volume=	9.935 af, Atten= 0%, Lag= 1.0 min			

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 4.86 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.52 fps, Avg. Travel Time= 4.4 min

Peak Storage= 5,875 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.72'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 636.50 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 404.0' Slope= 0.0347 '/'
Inlet Invert= 500.00', Outlet Invert= 486.00'



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Summary for Reach 113R: REACH 113

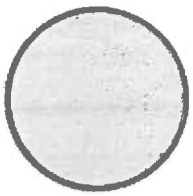
[52] Hint: Inlet/Outlet conditions not evaluated
[55] Hint: Peak inflow is 295% of Manning's capacity
[76] Warning: Detained 0.521 af (Pond w/culvert advised)

Inflow Area =	12.594 ac,	31.56% Impervious,	Inflow Depth =	1.98"	for 10-YR event
Inflow =	12.16 cfs @	12.75 hrs,	Volume=	2.077 af	
Outflow =	4.11 cfs @	12.25 hrs,	Volume=	2.077 af,	Atten= 66%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 5.97 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 3.59 fps, Avg. Travel Time= 0.7 min

Peak Storage= 118 cf @ 12.25 hrs
Average Depth at Peak Storage= 1.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 150.0' Slope= 0.0133 '/'
Inlet Invert= 574.00', Outlet Invert= 572.00'



Summary for Reach 114R: REACH 114

Inflow Area =	35.682 ac,	30.93% Impervious,	Inflow Depth =	1.98"	for 10-YR event
Inflow =	47.41 cfs @	12.41 hrs,	Volume=	5.886 af	
Outflow =	46.79 cfs @	12.46 hrs,	Volume=	5.886 af,	Atten= 1%, Lag= 2.7 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 6.22 fps, Min. Travel Time= 3.6 min
Avg. Velocity = 2.21 fps, Avg. Travel Time= 10.1 min

Peak Storage= 10,093 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 1,091.16 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 1,342.0' Slope= 0.0402 '/'
Inlet Invert= 582.00', Outlet Invert= 528.00'

‡

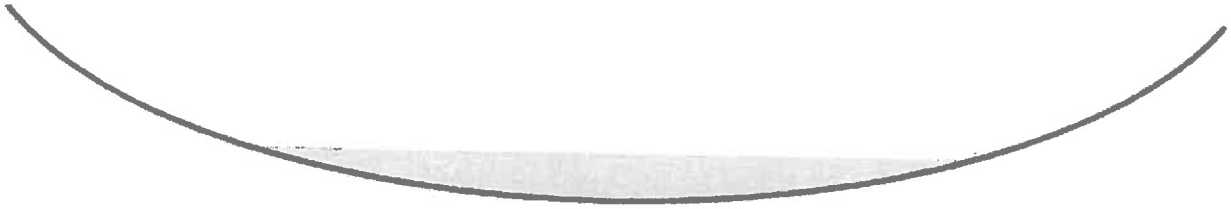
Summary for Reach 115R: REACH 115

Inflow Area =	59.275 ac,	22.20% Impervious,	Inflow Depth =	1.83"	for 10-YR event
Inflow =	58.99 cfs @	12.62 hrs, Volume=	9.022 af		
Outflow =	58.13 cfs @	12.68 hrs, Volume=	9.022 af,	Atten= 1%,	Lag= 3.7 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 6.65 fps, Min. Travel Time= 5.2 min
Avg. Velocity = 2.35 fps, Avg. Travel Time= 14.6 min

Peak Storage= 18,023 cf @ 12.68 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 1,091.35 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 2,062.0' Slope= 0.0403 '/'
Inlet Invert= 571.00', Outlet Invert= 488.00'



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Summary for Link AP-1: Analysis Point #1

Inflow Area =	0.454 ac,	0.00% Impervious,	Inflow Depth =	0.46"	for 10-YR event
Inflow =	0.11 cfs @	12.34 hrs, Volume=	0.018 af		
Primary =	0.11 cfs @	12.34 hrs, Volume=	0.018 af,	Atten= 0%,	Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

Inflow Area = 1.768 ac, 0.00% Impervious, Inflow Depth = 0.46" for 10-YR event
Inflow = 0.42 cfs @ 12.34 hrs, Volume= 0.068 af
Primary = 0.42 cfs @ 12.34 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: Analysis Point #3

Inflow Area = 1.024 ac, 0.00% Impervious, Inflow Depth = 0.55" for 10-YR event
Inflow = 0.35 cfs @ 12.21 hrs, Volume= 0.047 af
Primary = 0.35 cfs @ 12.21 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs

Summary for Link AP-4: Analysis Point #4

Inflow Area = 27.318 ac, 31.29% Impervious, Inflow Depth = 1.84" for 10-YR event
Inflow = 20.60 cfs @ 12.22 hrs, Volume= 4.200 af
Primary = 20.60 cfs @ 12.22 hrs, Volume= 4.200 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs

Summary for Link AP-5: Analysis Point #5

Inflow Area = 69.782 ac, 26.01% Impervious, Inflow Depth = 1.83" for 10-YR event
Inflow = 76.26 cfs @ 12.46 hrs, Volume= 10.658 af
Primary = 76.26 cfs @ 12.46 hrs, Volume= 10.658 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs

Summary for Link AP-6: Analysis Point #6

Inflow Area = 76.700 ac, 20.83% Impervious, Inflow Depth = 1.78" for 10-YR event
Inflow = 65.97 cfs @ 12.71 hrs, Volume= 11.359 af
Primary = 65.97 cfs @ 12.71 hrs, Volume= 11.359 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101S: EX-WS-101 Runoff Area=19,765 sf 0.00% Impervious Runoff Depth=0.85"
Flow Length=263' Slope=0.0600 '/' Tc=14.7 min CN=55 Runoff=0.26 cfs 0.032 af

Subcatchment 102S: EX-WS-102 Runoff Area=77,021 sf 0.00% Impervious Runoff Depth=0.85"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=55 Runoff=1.01 cfs 0.126 af

Subcatchment 103S: EX-WS-103 Runoff Area=44,627 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=174' Slope=0.1000 '/' Tc=10.9 min CN=57 Runoff=0.78 cfs 0.083 af

Subcatchment 104S: EX-WS-104 Runoff Area=199,952 sf 19.00% Impervious Runoff Depth=1.85"
Flow Length=855' Tc=25.9 min CN=70 Runoff=5.82 cfs 0.706 af

Subcatchment 105S: EX-WS-105 Runoff Area=378,473 sf 7.58% Impervious Runoff Depth=2.00"
Flow Length=780' Tc=38.2 min CN=72 Runoff=10.08 cfs 1.448 af

Subcatchment 106S: EX-WS-106 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=2.32"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=15.65 cfs 3.373 af

Subcatchment 107S: EX WS 107 Runoff Area=37,307 sf 85.00% Impervious Runoff Depth=4.05"
Tc=5.0 min CN=94 Runoff=3.82 cfs 0.289 af

Subcatchment 108S: EX WS 108 Runoff Area=37,996 sf 85.00% Impervious Runoff Depth=4.05"
Tc=5.0 min CN=94 Runoff=3.89 cfs 0.295 af

Subcatchment 109S: EX WS 109 Runoff Area=109,778 sf 85.00% Impervious Runoff Depth=4.05"
Tc=5.0 min CN=94 Runoff=11.24 cfs 0.851 af

Subcatchment 110S: EX WS 110 Runoff Area=256,351 sf 1.53% Impervious Runoff Depth=1.70"
Flow Length=689' Tc=19.7 min CN=68 Runoff=7.59 cfs 0.832 af

Subcatchment 111S: EX-WS-105 Runoff Area=525,152 sf 5.85% Impervious Runoff Depth=2.00"
Flow Length=1,342' Tc=28.7 min CN=72 Runoff=16.01 cfs 2.009 af

Subcatchment 112S: EX WS 112 Runoff Area=38,010 sf 85.00% Impervious Runoff Depth=4.05"
Tc=5.0 min CN=94 Runoff=3.89 cfs 0.295 af

Subcatchment 113S: EX WS 113 Runoff Area=248,253 sf 85.80% Impervious Runoff Depth=4.05"
Tc=5.0 min CN=94 Runoff=25.41 cfs 1.924 af

Subcatchment 114S: EX-WS-104 Runoff Area=295,484 sf 1.79% Impervious Runoff Depth=1.92"
Flow Length=793' Tc=28.1 min CN=71 Runoff=8.70 cfs 1.086 af

Subcatchment 115S: WS-115 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=2.58"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=83.82 cfs 12.740 af

Subcatchment 116S: WS-116 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=2.76"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=66.15 cfs 8.197 af

Subcatchment 117S: WS-117 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=2.76"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=16.98 cfs 2.893 af

Reach 100R: REACH 100 Avg. Flow Depth=0.33' Max Vel=3.16 fps Inflow=15.15 cfs 3.744 af
n=0.035 L=768.0' S=0.0430 '/' Capacity=708.76 cfs Outflow=13.87 cfs 3.744 af

Reach 101R: REACH 101 Avg. Flow Depth=0.18' Max Vel=1.98 fps Inflow=3.89 cfs 0.295 af
n=0.035 L=453.0' S=0.0375 '/' Capacity=662.37 cfs Outflow=3.51 cfs 0.295 af

Reach 102R: REACH 102 Avg. Flow Depth=0.17' Max Vel=2.13 fps Inflow=3.82 cfs 0.289 af
n=0.035 L=509.0' S=0.0472 '/' Capacity=742.46 cfs Outflow=3.42 cfs 0.289 af

Reach 103R: REACH 103 Avg. Flow Depth=0.40' Max Vel=3.74 fps Inflow=23.37 cfs 5.034 af
n=0.035 L=808.0' S=0.0458 '/' Capacity=731.68 cfs Outflow=22.25 cfs 5.034 af

Reach 104R: REACH 104 Avg. Flow Depth=0.81' Max Vel=5.20 fps Inflow=89.59 cfs 12.130 af
n=0.035 L=146.0' S=0.0342 '/' Capacity=632.75 cfs Outflow=89.58 cfs 12.130 af

Reach 105R: REACH 105 Avg. Flow Depth=0.16' Max Vel=2.03 fps Inflow=3.89 cfs 0.295 af
n=0.035 L=774.0' S=0.0439 '/' Capacity=716.63 cfs Outflow=3.17 cfs 0.295 af

Reach 106R: REACH 106 Avg. Flow Depth=0.43' Max Vel=3.43 fps Inflow=25.41 cfs 1.924 af
n=0.035 L=877.0' S=0.0353 '/' Capacity=642.84 cfs Outflow=22.52 cfs 1.924 af

Reach 107R: REACH 107 Avg. Flow Depth=0.73' Max Vel=6.13 fps Inflow=90.98 cfs 12.425 af
n=0.035 L=240.0' S=0.0542 '/' Capacity=795.77 cfs Outflow=90.91 cfs 12.425 af

Reach 108R: REACH 108 Avg. Flow Depth=0.85' Max Vel=5.41 fps Inflow=100.29 cfs 13.873 af
n=0.035 L=404.0' S=0.0347 '/' Capacity=636.50 cfs Outflow=100.18 cfs 13.873 af

Reach 113R: REACH 113 Avg. Flow Depth=1.00' Max Vel=5.96 fps Inflow=16.98 cfs 2.893 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.26 cfs 2.893 af

Reach 114R: REACH 114 Avg. Flow Depth=0.55' Max Vel=6.90 fps Inflow=66.15 cfs 8.197 af
n=0.022 L=1,342.0' S=0.0402 '/' Capacity=1,091.16 cfs Outflow=65.44 cfs 8.197 af

Reach 115R: REACH 115 Avg. Flow Depth=0.61' Max Vel=7.41 fps Inflow=83.82 cfs 12.740 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=82.88 cfs 12.740 af

Link AP-1: Analysis Point #1 Inflow=0.26 cfs 0.032 af
Primary=0.26 cfs 0.032 af

Link AP-2: Analysis Point #2 Inflow=1.01 cfs 0.126 af
Primary=1.01 cfs 0.126 af

Link AP-3: Analysis Point #3 Inflow=0.78 cfs 0.083 af
Primary=0.78 cfs 0.083 af

Link AP-4: Analysis Point #4 Inflow=28.77 cfs 5.866 af
Primary=28.77 cfs 5.866 af

Link AP-5: Analysis Point #5 Inflow=108.78 cfs 14.959 af
Primary=108.78 cfs 14.959 af

Link AP-6: Analysis Point #6 Inflow=94.39 cfs 16.113 af
Primary=94.39 cfs 16.113 af

Total Runoff Area = 177.046 ac Runoff Volume = 37.179 af Average Runoff Depth = 2.52"
75.89% Pervious = 134.367 ac 24.11% Impervious = 42.679 ac

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101S: EX-WS-101 Runoff Area=19,765 sf 0.00% Impervious Runoff Depth=1.28"
Flow Length=263' Slope=0.0600 '/' Tc=14.7 min CN=55 Runoff=0.44 cfs 0.048 af

Subcatchment 102S: EX-WS-102 Runoff Area=77,021 sf 0.00% Impervious Runoff Depth=1.28"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=55 Runoff=1.70 cfs 0.188 af

Subcatchment 103S: EX-WS-103 Runoff Area=44,627 sf 0.00% Impervious Runoff Depth=1.42"
Flow Length=174' Slope=0.1000 '/' Tc=10.9 min CN=57 Runoff=1.27 cfs 0.121 af

Subcatchment 104S: EX-WS-104 Runoff Area=199,952 sf 19.00% Impervious Runoff Depth=2.47"
Flow Length=855' Tc=25.9 min CN=70 Runoff=7.91 cfs 0.944 af

Subcatchment 105S: EX-WS-105 Runoff Area=378,473 sf 7.58% Impervious Runoff Depth=2.65"
Flow Length=780' Tc=38.2 min CN=72 Runoff=13.47 cfs 1.915 af

Subcatchment 106S: EX-WS-106 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=3.01"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=20.40 cfs 4.374 af

Subcatchment 107S: EX WS 107 Runoff Area=37,307 sf 85.00% Impervious Runoff Depth=4.87"
Tc=5.0 min CN=94 Runoff=4.54 cfs 0.348 af

Subcatchment 108S: EX WS 108 Runoff Area=37,996 sf 85.00% Impervious Runoff Depth=4.87"
Tc=5.0 min CN=94 Runoff=4.63 cfs 0.354 af

Subcatchment 109S: EX WS 109 Runoff Area=109,778 sf 85.00% Impervious Runoff Depth=4.87"
Tc=5.0 min CN=94 Runoff=13.37 cfs 1.023 af

Subcatchment 110S: EX WS 110 Runoff Area=256,351 sf 1.53% Impervious Runoff Depth=2.30"
Flow Length=689' Tc=19.7 min CN=68 Runoff=10.48 cfs 1.126 af

Subcatchment 111S: EX-WS-105 Runoff Area=525,152 sf 5.85% Impervious Runoff Depth=2.65"
Flow Length=1,342' Tc=28.7 min CN=72 Runoff=21.40 cfs 2.658 af

Subcatchment 112S: EX WS 112 Runoff Area=38,010 sf 85.00% Impervious Runoff Depth=4.87"
Tc=5.0 min CN=94 Runoff=4.63 cfs 0.354 af

Subcatchment 113S: EX WS 113 Runoff Area=248,253 sf 85.80% Impervious Runoff Depth=4.87"
Tc=5.0 min CN=94 Runoff=30.24 cfs 2.313 af

Subcatchment 114S: EX-WS-104 Runoff Area=295,484 sf 1.79% Impervious Runoff Depth=2.56"
Flow Length=793' Tc=28.1 min CN=71 Runoff=11.72 cfs 1.445 af

Subcatchment 115S: WS-115 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=3.30"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=107.25 cfs 16.292 af

Subcatchment 116S: WS-116 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=3.49"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=83.67 cfs 10.390 af

Subcatchment 117S: WS-117 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=3.49"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=21.53 cfs 3.667 af

Reach 100R: REACH 100 Avg. Flow Depth=0.35' Max Vel=3.32 fps Inflow=17.47 cfs 4.690 af
n=0.035 L=768.0' S=0.0430 '/' Capacity=708.76 cfs Outflow=16.16 cfs 4.690 af

Reach 101R: REACH 101 Avg. Flow Depth=0.19' Max Vel=2.10 fps Inflow=4.63 cfs 0.354 af
n=0.035 L=453.0' S=0.0375 '/' Capacity=662.37 cfs Outflow=4.21 cfs 0.354 af

Reach 102R: REACH 102 Avg. Flow Depth=0.18' Max Vel=2.25 fps Inflow=4.54 cfs 0.348 af
n=0.035 L=509.0' S=0.0472 '/' Capacity=742.46 cfs Outflow=4.10 cfs 0.348 af

Reach 103R: REACH 103 Avg. Flow Depth=0.44' Max Vel=3.98 fps Inflow=28.34 cfs 6.336 af
n=0.035 L=808.0' S=0.0458 '/' Capacity=731.68 cfs Outflow=27.11 cfs 6.336 af

Reach 104R: REACH 104 Avg. Flow Depth=0.91' Max Vel=5.60 fps Inflow=114.02 cfs 15.361 af
n=0.035 L=146.0' S=0.0342 '/' Capacity=632.75 cfs Outflow=114.01 cfs 15.361 af

Reach 105R: REACH 105 Avg. Flow Depth=0.18' Max Vel=2.14 fps Inflow=4.63 cfs 0.354 af
n=0.035 L=774.0' S=0.0439 '/' Capacity=716.63 cfs Outflow=3.82 cfs 0.354 af

Reach 106R: REACH 106 Avg. Flow Depth=0.46' Max Vel=3.63 fps Inflow=30.24 cfs 2.313 af
n=0.035 L=877.0' S=0.0353 '/' Capacity=642.84 cfs Outflow=27.04 cfs 2.313 af

Reach 107R: REACH 107 Avg. Flow Depth=0.82' Max Vel=6.59 fps Inflow=115.67 cfs 15.715 af
n=0.035 L=240.0' S=0.0542 '/' Capacity=795.77 cfs Outflow=115.64 cfs 15.715 af

Reach 108R: REACH 108 Avg. Flow Depth=0.95' Max Vel=5.84 fps Inflow=128.15 cfs 17.631 af
n=0.035 L=404.0' S=0.0347 '/' Capacity=636.50 cfs Outflow=128.03 cfs 17.631 af

Reach 113R: REACH 113 Avg. Flow Depth=1.00' Max Vel=5.96 fps Inflow=21.53 cfs 3.667 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.26 cfs 3.667 af

Reach 114R: REACH 114 Avg. Flow Depth=0.61' Max Vel=7.41 fps Inflow=83.67 cfs 10.390 af
n=0.022 L=1,342.0' S=0.0402 '/' Capacity=1,091.16 cfs Outflow=82.88 cfs 10.390 af

Reach 115R: REACH 115 Avg. Flow Depth=0.68' Max Vel=8.00 fps Inflow=107.25 cfs 16.292 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=106.21 cfs 16.292 af

Link AP-1: Analysis Point #1 Inflow=0.44 cfs 0.048 af
Primary=0.44 cfs 0.048 af

Link AP-2: Analysis Point #2 Inflow=1.70 cfs 0.188 af
Primary=1.70 cfs 0.188 af

Link AP-3: Analysis Point #3 Inflow=1.27 cfs 0.121 af
Primary=1.27 cfs 0.121 af

Link AP-4: Analysis Point #4 Inflow=35.80 cfs 7.462 af
Primary=35.80 cfs 7.462 af

Link AP-5: Analysis Point #5

Inflow=139.61 cfs 19.076 af
Primary=139.61 cfs 19.076 af

Link AP-6: Analysis Point #6

Inflow=121.26 cfs 20.666 af
Primary=121.26 cfs 20.666 af

Total Runoff Area = 177.046 ac Runoff Volume = 47.561 af Average Runoff Depth = 3.22"
75.89% Pervious = 134.367 ac 24.11% Impervious = 42.679 ac

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101S: EX-WS-101 Runoff Area=19,765 sf 0.00% Impervious Runoff Depth=1.85"
Flow Length=263' Slope=0.0600 '/' Tc=14.7 min CN=55 Runoff=0.68 cfs 0.070 af

Subcatchment 102S: EX-WS-102 Runoff Area=77,021 sf 0.00% Impervious Runoff Depth=1.85"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=55 Runoff=2.65 cfs 0.273 af

Subcatchment 103S: EX-WS-103 Runoff Area=44,627 sf 0.00% Impervious Runoff Depth=2.03"
Flow Length=174' Slope=0.1000 '/' Tc=10.9 min CN=57 Runoff=1.91 cfs 0.173 af

Subcatchment 104S: EX-WS-104 Runoff Area=199,952 sf 19.00% Impervious Runoff Depth=3.26"
Flow Length=855' Tc=25.9 min CN=70 Runoff=10.53 cfs 1.245 af

Subcatchment 105S: EX-WS-105 Runoff Area=378,473 sf 7.58% Impervious Runoff Depth=3.46"
Flow Length=780' Tc=38.2 min CN=72 Runoff=17.70 cfs 2.503 af

Subcatchment 106S: EX-WS-106 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=3.87"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=26.26 cfs 5.617 af

Subcatchment 107S: EX WS 107 Runoff Area=37,307 sf 85.00% Impervious Runoff Depth>5.85"
Tc=5.0 min CN=94 Runoff=5.40 cfs 0.418 af

Subcatchment 108S: EX WS 108 Runoff Area=37,996 sf 85.00% Impervious Runoff Depth>5.85"
Tc=5.0 min CN=94 Runoff=5.50 cfs 0.425 af

Subcatchment 109S: EX WS 109 Runoff Area=109,778 sf 85.00% Impervious Runoff Depth>5.85"
Tc=5.0 min CN=94 Runoff=15.90 cfs 1.229 af

Subcatchment 110S: EX WS 110 Runoff Area=256,351 sf 1.53% Impervious Runoff Depth=3.06"
Flow Length=689' Tc=19.7 min CN=68 Runoff=14.13 cfs 1.500 af

Subcatchment 111S: EX-WS-105 Runoff Area=525,152 sf 5.85% Impervious Runoff Depth=3.46"
Flow Length=1,342' Tc=28.7 min CN=72 Runoff=28.12 cfs 3.473 af

Subcatchment 112S: EX WS 112 Runoff Area=38,010 sf 85.00% Impervious Runoff Depth>5.85"
Tc=5.0 min CN=94 Runoff=5.51 cfs 0.426 af

Subcatchment 113S: EX WS 113 Runoff Area=248,253 sf 85.80% Impervious Runoff Depth>5.85"
Tc=5.0 min CN=94 Runoff=35.96 cfs 2.779 af

Subcatchment 114S: EX-WS-104 Runoff Area=295,484 sf 1.79% Impervious Runoff Depth=3.36"
Flow Length=793' Tc=28.1 min CN=71 Runoff=15.49 cfs 1.897 af

Subcatchment 115S: WS-115 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=4.18"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=135.72 cfs 20.665 af

Subcatchment 116S: WS-116 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=4.40"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=104.82 cfs 13.076 af

Subcatchment 117S: WS-117 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=4.40"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=27.00 cfs 4.615 af

Reach 100R: REACH 100 Avg. Flow Depth=0.37' Max Vel=3.47 fps Inflow=20.01 cfs 5.844 af
n=0.035 L=768.0' S=0.0430 '/' Capacity=708.76 cfs Outflow=18.55 cfs 5.844 af

Reach 101R: REACH 101 Avg. Flow Depth=0.21' Max Vel=2.22 fps Inflow=5.50 cfs 0.425 af
n=0.035 L=453.0' S=0.0375 '/' Capacity=662.37 cfs Outflow=5.04 cfs 0.425 af

Reach 102R: REACH 102 Avg. Flow Depth=0.20' Max Vel=2.38 fps Inflow=5.40 cfs 0.418 af
n=0.035 L=509.0' S=0.0472 '/' Capacity=742.46 cfs Outflow=4.92 cfs 0.418 af

Reach 103R: REACH 103 Avg. Flow Depth=0.47' Max Vel=4.21 fps Inflow=33.83 cfs 7.932 af
n=0.035 L=808.0' S=0.0458 '/' Capacity=731.68 cfs Outflow=32.48 cfs 7.932 af

Reach 104R: REACH 104 Avg. Flow Depth=1.01' Max Vel=6.02 fps Inflow=143.70 cfs 19.328 af
n=0.035 L=146.0' S=0.0342 '/' Capacity=632.75 cfs Outflow=143.69 cfs 19.328 af

Reach 105R: REACH 105 Avg. Flow Depth=0.19' Max Vel=2.27 fps Inflow=5.51 cfs 0.426 af
n=0.035 L=774.0' S=0.0439 '/' Capacity=716.63 cfs Outflow=4.63 cfs 0.426 af

Reach 106R: REACH 106 Avg. Flow Depth=0.50' Max Vel=3.84 fps Inflow=35.96 cfs 2.779 af
n=0.035 L=877.0' S=0.0353 '/' Capacity=642.84 cfs Outflow=32.43 cfs 2.779 af

Reach 107R: REACH 107 Avg. Flow Depth=0.91' Max Vel=7.08 fps Inflow=145.66 cfs 19.754 af
n=0.035 L=240.0' S=0.0542 '/' Capacity=795.77 cfs Outflow=145.64 cfs 19.754 af

Reach 108R: REACH 108 Avg. Flow Depth=1.06' Max Vel=6.27 fps Inflow=162.09 cfs 22.257 af
n=0.035 L=404.0' S=0.0347 '/' Capacity=636.50 cfs Outflow=161.96 cfs 22.257 af

Reach 113R: REACH 113 Avg. Flow Depth=1.00' Max Vel=5.97 fps Inflow=27.00 cfs 4.615 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.20 cfs 4.615 af

Reach 114R: REACH 114 Avg. Flow Depth=0.68' Max Vel=7.94 fps Inflow=104.82 cfs 13.076 af
n=0.022 L=1,342.0' S=0.0402 '/' Capacity=1,091.16 cfs Outflow=103.96 cfs 13.076 af

Reach 115R: REACH 115 Avg. Flow Depth=0.76' Max Vel=8.61 fps Inflow=135.72 cfs 20.665 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=134.60 cfs 20.665 af

Link AP-1: Analysis Point #1 Inflow=0.68 cfs 0.070 af
Primary=0.68 cfs 0.070 af

Link AP-2: Analysis Point #2 Inflow=2.65 cfs 0.273 af
Primary=2.65 cfs 0.273 af

Link AP-3: Analysis Point #3 Inflow=1.91 cfs 0.173 af
Primary=1.91 cfs 0.173 af

Link AP-4: Analysis Point #4 Inflow=44.31 cfs 9.432 af
Primary=44.31 cfs 9.432 af

Link AP-5: Analysis Point #5

Inflow=177.26 cfs 24.154 af
Primary=177.26 cfs 24.154 af

Link AP-6: Analysis Point #6

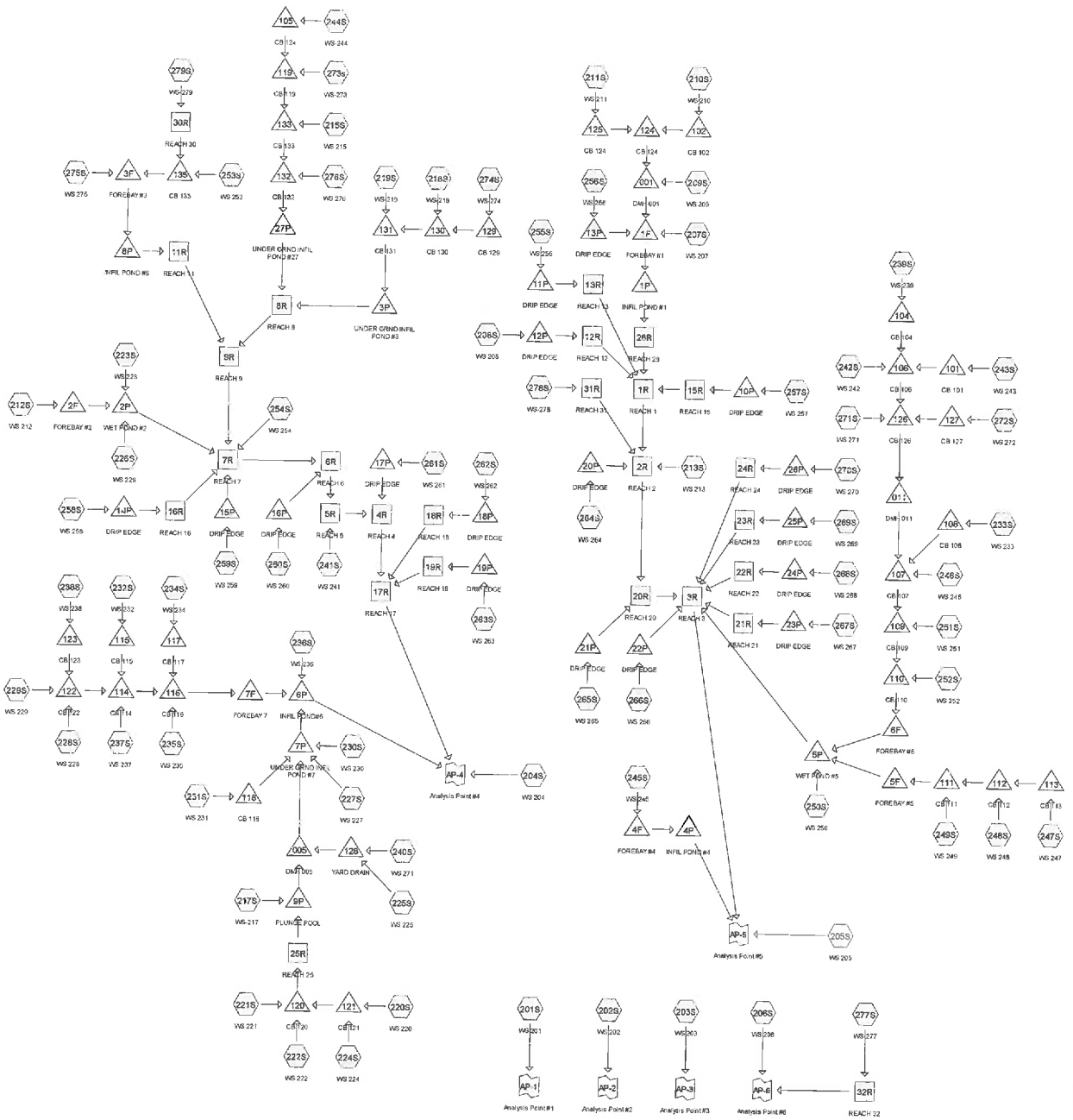
Inflow=154.01 cfs 26.282 af
Primary=154.01 cfs 26.282 af

Total Runoff Area = 177.046 ac Runoff Volume = 60.383 af Average Runoff Depth = 4.09"
75.89% Pervious = 134.367 ac 24.11% Impervious = 42.679 ac

14.7 APPENDIX II

POST-DEVELOPMENT CONDITIONS ANALYSIS

14.7.1 1-Year 24-Hour Summary Analysis
14.7.2 2-Year 24-Hour Summary Analysis
14.7.3 10-Year 24-Hour Complete Analysis
14.7.4 25-Year 24-Hour Summary Analysis
14.7.5 50-Year 24-Hour Summary Analysis
14.7.6 100-Year 24-Hour Summary Analysis



Subcat Reach Pond Link

Routing Diagram for 17190-PROPOSED
Prepared by Jones & Beach Engineers, Printed 11/9/2018
HydroCAD® 10.00-20 s/n 03433 © 2017 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
28.543	80	1/2 acre lots, 25% imp, HSG C (206S, 277S)
45.756	77	2 acre lots, 12% imp, HSG C (277S, 278S)
2.697	61	>75% Grass cover, Good, HSG B (202S, 203S, 205S, 212S, 213S, 217S, 220S, 221S, 228S, 231S, 238S, 240S, 241S, 254S, 275S)
20.367	74	>75% Grass cover, Good, HSG C (203S, 204S, 205S, 206S, 207S, 209S, 210S, 211S, 212S, 213S, 215S, 228S, 231S, 232S, 233S, 234S, 235S, 236S, 237S, 238S, 239S, 241S, 242S, 243S, 244S, 245S, 246S, 247S, 248S, 249S, 250S, 251S, 254S, 271S, 272S, 273s, 279S)
0.043	96	Gravel surface, HSG B (213S)
0.107	96	Gravel surface, HSG C (208S, 247S, 255S, 256S, 257S, 258S, 259S, 260S, 261S, 262S, 263S, 264S, 265S, 266S, 267S, 268S, 269S, 270S)
1.544	98	Paved parking, HSG B (212S, 217S, 220S, 221S, 228S, 231S, 238S, 240S)
4.108	98	Paved parking, HSG C (204S, 205S, 206S, 209S, 210S, 211S, 212S, 215S, 218S, 219S, 228S, 231S, 232S, 233S, 234S, 235S, 237S, 238S, 239S, 241S, 242S, 243S, 244S, 245S, 246S, 247S, 248S, 249S, 251S, 252S, 271S, 272S, 273s, 274S, 276S)
0.771	98	Roofs, HSG B (222S, 223S, 224S, 225S, 226S, 227S, 229S, 230S)
1.793	98	Roofs, HSG C (206S, 207S, 208S, 209S, 210S, 211S, 227S, 229S, 230S, 233S, 245S, 246S, 247S, 248S, 251S, 255S, 256S, 257S, 258S, 259S, 260S, 261S, 262S, 263S, 264S, 265S, 266S, 267S, 268S, 269S, 270S, 271S)
0.440	92	Urban commercial, 85% imp, HSG B (253S, 254S)
32.384	94	Urban commercial, 85% imp, HSG C (205S, 206S, 213S, 253S, 254S, 277S, 278S, 279S)
2.217	55	Woods, Good, HSG B (201S, 202S, 203S, 205S, 213S, 217S, 254S)
36.277	70	Woods, Good, HSG C (203S, 204S, 205S, 206S, 213S, 241S, 245S, 246S, 247S, 254S, 277S, 278S, 279S)
177.048	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
7.712	HSG B	201S, 202S, 203S, 205S, 212S, 213S, 217S, 220S, 221S, 222S, 223S, 224S, 225S, 226S, 227S, 228S, 229S, 230S, 231S, 238S, 240S, 241S, 253S, 254S, 275S
169.335	HSG C	203S, 204S, 205S, 206S, 207S, 208S, 209S, 210S, 211S, 212S, 213S, 215S, 218S, 219S, 227S, 228S, 229S, 230S, 231S, 232S, 233S, 234S, 235S, 236S, 237S, 238S, 239S, 241S, 242S, 243S, 244S, 245S, 246S, 247S, 248S, 249S, 250S, 251S, 252S, 253S, 254S, 255S, 256S, 257S, 258S, 259S, 260S, 261S, 262S, 263S, 264S, 265S, 266S, 267S, 268S, 269S, 270S, 271S, 272S, 273s, 274S, 276S, 277S, 278S, 279S
0.000	HSG D	
0.000	Other	
177.048		**TOTAL AREA**

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 201S: WS 201 Runoff Area=8,114 sf 0.00% Impervious Runoff Depth=0.04"
Flow Length=193' Tc=16.6 min CN=55 Runoff=0.00 cfs 0.001 af

Subcatchment 202S: WS 202 Runoff Area=28,333 sf 0.00% Impervious Runoff Depth=0.05"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=56 Runoff=0.00 cfs 0.003 af

Subcatchment 203S: WS 203 Runoff Area=29,560 sf 0.00% Impervious Runoff Depth=0.08"
Flow Length=75' Slope=0.1300 '/' Tc=8.9 min CN=58 Runoff=0.01 cfs 0.004 af

Subcatchment 204S: WS 204 Runoff Area=85,545 sf 10.10% Impervious Runoff Depth=0.50"
Flow Length=499' Tc=29.7 min CN=75 Runoff=0.56 cfs 0.083 af

Subcatchment 205S: WS 205 Runoff Area=919,977 sf 27.03% Impervious Runoff Depth=0.62"
Flow Length=2,082' Tc=60.6 min CN=78 Runoff=5.47 cfs 1.099 af

Subcatchment 206S: WS 206 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=0.54"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=3.17 cfs 0.788 af

Subcatchment 207S: WS 207 Runoff Area=13,565 sf 9.83% Impervious Runoff Depth=0.54"
Flow Length=42' Slope=0.0100 '/' Tc=10.4 min CN=76 Runoff=0.15 cfs 0.014 af

Subcatchment 208S: WS 208 Runoff Area=2,760 sf 88.44% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 209S: WS 209 Runoff Area=21,404 sf 50.80% Impervious Runoff Depth=1.03"
Flow Length=107' Tc=9.6 min CN=86 Runoff=0.52 cfs 0.042 af

Subcatchment 210S: WS 210 Runoff Area=20,614 sf 15.57% Impervious Runoff Depth=0.62"
Flow Length=223' Slope=0.0100 '/' Tc=14.8 min CN=78 Runoff=0.24 cfs 0.025 af

Subcatchment 211S: WS 211 Runoff Area=24,495 sf 31.63% Impervious Runoff Depth=0.81"
Flow Length=323' Tc=13.4 min CN=82 Runoff=0.40 cfs 0.038 af

Subcatchment 212S: WS 212 Runoff Area=15,490 sf 46.67% Impervious Runoff Depth=0.62"
Tc=5.0 min CN=78 Runoff=0.24 cfs 0.019 af

Subcatchment 213S: WS 213 Runoff Area=249,068 sf 12.90% Impervious Runoff Depth=0.47"
Flow Length=1,113' Tc=47.5 min CN=74 Runoff=1.17 cfs 0.223 af

Subcatchment 215S: WS 215 Runoff Area=4,199 sf 98.81% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.21 cfs 0.016 af

Subcatchment 217S: WS-217 Runoff Area=70,416 sf 40.40% Impervious Runoff Depth=0.50"
Flow Length=830' Tc=13.4 min CN=75 Runoff=0.63 cfs 0.068 af

Subcatchment 218S: WS-218 Runoff Area=2,802 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 219S: WS-219 Runoff Area=5,454 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.27 cfs 0.021 af

Subcatchment 220S: WS 220 Runoff Area=10,162 sf 57.32% Impervious Runoff Depth=0.81"
Tc=5.0 min CN=82 Runoff=0.22 cfs 0.016 af

Subcatchment 221S: WS 221 Runoff Area=7,202 sf 52.55% Impervious Runoff Depth=0.71"
Tc=5.0 min CN=80 Runoff=0.13 cfs 0.010 af

Subcatchment 222S: WS 222 Runoff Area=2,763 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 223S: WS 223 Runoff Area=7,260 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.36 cfs 0.028 af

Subcatchment 224S: WS 224 Runoff Area=3,992 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.20 cfs 0.015 af

Subcatchment 225S: WS 225 Runoff Area=12,002 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.60 cfs 0.046 af

Subcatchment 226S: WS 226 Runoff Area=4,369 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.22 cfs 0.017 af

Subcatchment 227S: WS 227 Runoff Area=2,557 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.13 cfs 0.010 af

Subcatchment 228S: WS 228 Runoff Area=7,526 sf 40.95% Impervious Runoff Depth=0.58"
Flow Length=135' Tc=7.5 min CN=77 Runoff=0.10 cfs 0.008 af

Subcatchment 229S: WS 229 Runoff Area=7,375 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.37 cfs 0.028 af

Subcatchment 230S: WS 230 Runoff Area=7,306 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.36 cfs 0.028 af

Subcatchment 231S: WS 231 Runoff Area=20,899 sf 71.84% Impervious Runoff Depth=1.23"
Tc=5.0 min CN=89 Runoff=0.69 cfs 0.049 af

Subcatchment 232S: WS 232 Runoff Area=1,617 sf 79.47% Impervious Runoff Depth=1.54"
Flow Length=158' Tc=6.8 min CN=93 Runoff=0.06 cfs 0.005 af

Subcatchment 233S: WS 233 Runoff Area=15,995 sf 70.05% Impervious Runoff Depth=1.38"
Flow Length=312' Tc=9.1 min CN=91 Runoff=0.52 cfs 0.042 af

Subcatchment 234S: WS 234 Runoff Area=17,444 sf 44.90% Impervious Runoff Depth=0.98"
Flow Length=299' Tc=6.0 min CN=85 Runoff=0.44 cfs 0.033 af

Subcatchment 235S: WS 235 Runoff Area=7,366 sf 82.00% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=0.32 cfs 0.023 af

Subcatchment 236S: WS 236 Runoff Area=10,261 sf 0.00% Impervious Runoff Depth=0.47"
Tc=5.0 min CN=74 Runoff=0.11 cfs 0.009 af

Subcatchment 237S: WS 237 Runoff Area=6,793 sf 60.02% Impervious Runoff Depth=1.16"
Flow Length=195' Tc=3.2 min CN=88 Runoff=0.23 cfs 0.015 af

Subcatchment 238S: WS 238 Runoff Area=2,469 sf 63.35% Impervious Runoff Depth=1.03"
Tc=5.0 min CN=86 Runoff=0.07 cfs 0.005 af

Subcatchment 239S: WS 239 Runoff Area=2,027 sf 73.95% Impervious Runoff Depth=1.45"
Tc=5.0 min CN=92 Runoff=0.08 cfs 0.006 af

Subcatchment 240S: WS 271 Runoff Area=17,326 sf 21.92% Impervious Runoff Depth=0.31"
Flow Length=133' Tc=11.6 min CN=69 Runoff=0.07 cfs 0.010 af

Subcatchment 241S: WS 241 Runoff Area=34,184 sf 8.69% Impervious Runoff Depth=0.47"
Flow Length=335' Tc=39.8 min CN=74 Runoff=0.18 cfs 0.031 af

Subcatchment 242S: WS 242 Runoff Area=7,261 sf 94.20% Impervious Runoff Depth=1.91"
Tc=5.0 min CN=97 Runoff=0.35 cfs 0.026 af

Subcatchment 243S: WS 243 Runoff Area=3,870 sf 84.50% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=0.17 cfs 0.012 af

Subcatchment 244S: WS-244 Runoff Area=10,006 sf 84.79% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=0.43 cfs 0.031 af

Subcatchment 245S: WS 245 Runoff Area=92,391 sf 38.82% Impervious Runoff Depth=0.86"
Flow Length=322' Tc=7.5 min CN=83 Runoff=1.96 cfs 0.153 af

Subcatchment 246S: WS 246 Runoff Area=14,444 sf 34.40% Impervious Runoff Depth=0.81"
Flow Length=351' Slope=0.0320 '/' Tc=10.5 min CN=82 Runoff=0.26 cfs 0.022 af

Subcatchment 247S: WS 247 Runoff Area=28,201 sf 23.60% Impervious Runoff Depth=0.67"
Flow Length=234' Slope=0.0430 '/' Tc=11.4 min CN=79 Runoff=0.39 cfs 0.036 af

Subcatchment 248S: WS 248 Runoff Area=6,298 sf 62.62% Impervious Runoff Depth=1.23"
Flow Length=208' Tc=5.5 min CN=89 Runoff=0.21 cfs 0.015 af

Subcatchment 249S: WS 249 Runoff Area=2,657 sf 85.40% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=0.11 cfs 0.008 af

Subcatchment 250S: WS 250 Runoff Area=13,455 sf 0.00% Impervious Runoff Depth=0.47"
Tc=5.0 min CN=74 Runoff=0.14 cfs 0.012 af

Subcatchment 251S: WS 251 Runoff Area=4,230 sf 76.17% Impervious Runoff Depth=1.45"
Tc=5.0 min CN=92 Runoff=0.17 cfs 0.012 af

Subcatchment 252S: WS 252 Runoff Area=3,060 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment 253S: WS 253 Runoff Area=116,031 sf 85.00% Impervious Runoff Depth=1.62"
Flow Length=673' Slope=0.0100 '/' Tc=7.8 min CN=94 Runoff=4.61 cfs 0.360 af

Subcatchment 254S: WS 254 Runoff Area=197,956 sf 36.70% Impervious Runoff Depth=0.71"
Flow Length=791' Tc=31.5 min CN=80 Runoff=1.98 cfs 0.270 af

Subcatchment 255S: WS 255 Runoff Area=725 sf 85.38% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment 256S: WS 256 Runoff Area=710 sf 85.07% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment 257S: WS 257 Runoff Area=725 sf 85.38% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment 258S: WS 258 Runoff Area=962 sf 90.96% Impervious Runoff Depth>2.01"
Flow Length=237' Tc=5.7 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment 259S: WS 259 Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.08 cfs 0.007 af

Subcatchment 260S: WS 260 Runoff Area=1,634 sf 88.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.08 cfs 0.006 af

Subcatchment 261S: WS 261 Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.08 cfs 0.007 af

Subcatchment 262S: WS 262 Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 263S: WS 263 Runoff Area=2,223 sf 90.42% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.11 cfs 0.009 af

Subcatchment 264S: WS 264 Runoff Area=2,611 sf 89.81% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.13 cfs 0.010 af

Subcatchment 265S: WS 265 Runoff Area=1,439 sf 89.09% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.07 cfs 0.006 af

Subcatchment 266S: WS 266 Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 267S: WS 267 Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 268S: WS 268 Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.08 cfs 0.007 af

Subcatchment 269S: WS 269 Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 270S: WS 270 Runoff Area=2,166 sf 90.17% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.11 cfs 0.008 af

Subcatchment 271S: WS 271 Runoff Area=6,211 sf 63.11% Impervious Runoff Depth=1.23"
Flow Length=139' Tc=6.4 min CN=89 Runoff=0.20 cfs 0.015 af

Subcatchment 272S: WS 272 Runoff Area=2,532 sf 83.57% Impervious Runoff Depth=1.62"
Tc=5.0 min CN=94 Runoff=0.11 cfs 0.008 af

Subcatchment 273s: WS-273 Runoff Area=5,486 sf 88.52% Impervious Runoff Depth=1.71"
Tc=5.0 min CN=95 Runoff=0.25 cfs 0.018 af

Subcatchment 274S: WS-274 Runoff Area=1,861 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.09 cfs 0.007 af

Subcatchment 275S: WS 275 Runoff Area=6,128 sf 0.00% Impervious Runoff Depth=0.13"
Tc=5.0 min CN=61 Runoff=0.01 cfs 0.001 af

Subcatchment 276S: WS 276 Runoff Area=5,684 sf 100.00% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=98 Runoff=0.28 cfs 0.022 af

Subcatchment 277S: WS-277 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=0.67"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=20.16 cfs 3.301 af

Subcatchment 278S: WS-278 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=0.76"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=17.41 cfs 2.265 af

Subcatchment 279S: WS-279 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=0.76"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=4.46 cfs 0.800 af

Reach 1R: REACH 1 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=152.0' S=0.0658 '/' Capacity=877.01 cfs Outflow=0.00 cfs 0.000 af

Reach 2R: REACH 2 Avg. Flow Depth=0.46' Max Vel=4.76 fps Inflow=17.72 cfs 2.488 af
x 2.00 n=0.012 L=46.0' S=0.0054 '/' Capacity=146.07 cfs Outflow=17.72 cfs 2.488 af

Reach 3R: REACH 3 Avg. Flow Depth=0.34' Max Vel=3.91 fps Inflow=17.91 cfs 2.661 af
n=0.035 L=90.0' S=0.0623 '/' Capacity=853.66 cfs Outflow=17.91 cfs 2.661 af

Reach 4R: REACH 4 Avg. Flow Depth=0.21' Max Vel=2.68 fps Inflow=6.24 cfs 1.338 af
n=0.035 L=261.0' S=0.0536 '/' Capacity=791.90 cfs Outflow=6.24 cfs 1.338 af

Reach 5R: REACH 5 Avg. Flow Depth=0.35' Max Vel=9.99 fps Inflow=6.24 cfs 1.338 af
18.0" Round Pipe x 2.00 n=0.013 L=64.0' S=0.0625 '/' Capacity=52.52 cfs Outflow=6.24 cfs 1.338 af

Reach 6R: REACH 6 Avg. Flow Depth=0.14' Max Vel=5.07 fps Inflow=6.06 cfs 1.308 af
n=0.013 L=242.0' S=0.0475 '/' Capacity=2,006.73 cfs Outflow=6.06 cfs 1.308 af

Reach 7R: REACH 7 Avg. Flow Depth=0.41' Max Vel=3.83 fps Inflow=6.06 cfs 1.308 af
18.0" Round Pipe x 4.00 n=0.013 L=33.0' S=0.0076 '/' Capacity=36.57 cfs Outflow=6.06 cfs 1.308 af

Reach 8R: REACH 8
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=184.0' S=0.0489 '/' Capacity=756.20 cfs Outflow=0.00 cfs 0.000 af

Reach 9R: REACH 9
Avg. Flow Depth=0.19' Max Vel=2.28 fps Inflow=4.62 cfs 0.978 af
n=0.030 L=93.0' S=0.0323 '/' Capacity=716.46 cfs Outflow=4.61 cfs 0.978 af

Reach 11R: REACH 11
Avg. Flow Depth=0.31' Max Vel=1.15 fps Inflow=4.69 cfs 0.978 af
n=0.035 L=409.0' S=0.0061 '/' Capacity=267.32 cfs Outflow=4.62 cfs 0.978 af

Reach 12R: REACH 12
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=516.0' S=0.0368 '/' Capacity=656.11 cfs Outflow=0.00 cfs 0.000 af

Reach 13R: REACH 13
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=668.0' S=0.0359 '/' Capacity=648.10 cfs Outflow=0.00 cfs 0.000 af

Reach 15R: REACH 15
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=355.0' S=0.0366 '/' Capacity=654.31 cfs Outflow=0.00 cfs 0.000 af

Reach 16R: REACH 16
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=247.0' S=0.0121 '/' Capacity=376.82 cfs Outflow=0.00 cfs 0.000 af

Reach 17R: REACH 17
Avg. Flow Depth=0.25' Max Vel=2.16 fps Inflow=6.24 cfs 1.338 af
n=0.035 L=69.0' S=0.0286 '/' Capacity=577.74 cfs Outflow=6.24 cfs 1.338 af

Reach 18R: REACH 18
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=165.0' S=0.0485 '/' Capacity=752.88 cfs Outflow=0.00 cfs 0.000 af

Reach 19R: REACH 19
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=134.0' S=0.0448 '/' Capacity=723.51 cfs Outflow=0.00 cfs 0.000 af

Reach 20R: REACH 20
Avg. Flow Depth=0.38' Max Vel=3.18 fps Inflow=17.72 cfs 2.488 af
n=0.035 L=258.0' S=0.0349 '/' Capacity=638.61 cfs Outflow=17.69 cfs 2.488 af

Reach 21R: REACH 21
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=149.0' S=0.0738 '/' Capacity=929.02 cfs Outflow=0.00 cfs 0.000 af

Reach 22R: REACH 22
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=357.0' S=0.0336 '/' Capacity=626.87 cfs Outflow=0.00 cfs 0.000 af

Reach 23R: REACH 23
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=481.0' S=0.0249 '/' Capacity=540.06 cfs Outflow=0.00 cfs 0.000 af

Reach 24R: REACH 24
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=600.0' S=0.0317 '/' Capacity=608.45 cfs Outflow=0.00 cfs 0.000 af

Reach 25R: REACH 25
Avg. Flow Depth=0.12' Max Vel=2.49 fps Inflow=0.69 cfs 0.051 af
n=0.030 L=201.0' S=0.0498 '/' Capacity=140.98 cfs Outflow=0.67 cfs 0.051 af

Reach 28R: REACH 28
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=205.0' S=0.0463 '/' Capacity=736.05 cfs Outflow=0.00 cfs 0.000 af

Reach 30R: REACH 30 Avg. Flow Depth=1.00' Max Vel=5.97 fps Inflow=4.46 cfs 0.800 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.43 cfs 0.800 af

Reach 31R: REACH 31 Avg. Flow Depth=0.28' Max Vel=4.84 fps Inflow=17.41 cfs 2.265 af
n=0.022 L=1,716.0' S=0.0484 '/' Capacity=1,196.33 cfs Outflow=16.81 cfs 2.265 af

Reach 32R: REACH 32 Avg. Flow Depth=0.31' Max Vel=4.76 fps Inflow=20.16 cfs 3.301 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=19.55 cfs 3.301 af

Pond 001: DMH 001 Peak Elev=523.08' Storage=0.000 af Inflow=1.11 cfs 0.105 af
18.0" Round Culvert n=0.013 L=86.0' S=0.0099 '/' Outflow=1.10 cfs 0.105 af

Pond 1F: FOREBAY #1 Peak Elev=522.92' Storage=665 cf Inflow=1.26 cfs 0.119 af
Outflow=1.24 cfs 0.106 af

Pond 1P: INFIL POND #1 Peak Elev=521.42' Storage=1,637 cf Inflow=1.24 cfs 0.106 af
Discarded=0.16 cfs 0.106 af Primary=0.00 cfs 0.000 af Outflow=0.16 cfs 0.106 af

Pond 2F: FOREBAY #2 Peak Elev=531.85' Storage=163 cf Inflow=0.24 cfs 0.019 af
Outflow=0.20 cfs 0.015 af

Pond 2P: WET POND #2 Peak Elev=531.50' Storage=4,265 cf Inflow=0.59 cfs 0.060 af
Outflow=0.07 cfs 0.060 af

Pond 3F: FOREBAY #3 Peak Elev=558.85' Storage=595 cf Inflow=5.31 cfs 1.161 af
Outflow=5.24 cfs 1.152 af

Pond 3P: UNDER GRND INFIL POND #3 Peak Elev=544.40' Storage=749 cf Inflow=0.50 cfs 0.039 af
Discarded=0.03 cfs 0.039 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.039 af

Pond 4F: FOREBAY #4 Peak Elev=503.03' Storage=890 cf Inflow=1.96 cfs 0.153 af
Outflow=2.00 cfs 0.135 af

Pond 4P: INFIL POND #4 Peak Elev=500.91' Storage=1,809 cf Inflow=2.00 cfs 0.135 af
Discarded=0.32 cfs 0.135 af Primary=0.00 cfs 0.000 af Outflow=0.32 cfs 0.135 af

Pond 005: DMH 005 Peak Elev=527.88' Storage=7 cf Inflow=1.63 cfs 0.176 af
18.0" Round Culvert n=0.013 L=115.0' S=0.0548 '/' Outflow=1.61 cfs 0.176 af

Pond 5F: FOREBAY #5 Peak Elev=493.60' Storage=297 cf Inflow=0.64 cfs 0.058 af
Outflow=0.63 cfs 0.052 af

Pond 5P: WET POND #5 Peak Elev=492.43' Storage=13,863 cf Inflow=2.67 cfs 0.213 af
Outflow=0.29 cfs 0.172 af

Pond 6F: FOREBAY #6 Peak Elev=493.71' Storage=350 cf Inflow=1.91 cfs 0.155 af
Outflow=1.91 cfs 0.148 af

Pond 6P: INFIL POND#6 Peak Elev=508.19' Storage=2,374 cf Inflow=1.64 cfs 0.111 af
Discarded=0.11 cfs 0.111 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.111 af

Pond 7F: FOREBAY 7 Peak Elev=508.89' Storage=766 cf Inflow=1.54 cfs 0.117 af
Outflow=1.53 cfs 0.102 af

Pond 7P: UNDER GRND INFIL POND #7 Peak Elev=521.16' Storage=3,015 cf Inflow=2.74 cfs 0.263 af
Discarded=0.56 cfs 0.263 af Primary=0.00 cfs 0.000 af Outflow=0.56 cfs 0.263 af

Pond 8P: INFIL POND #8 Peak Elev=557.53' Storage=1,720 cf Inflow=5.24 cfs 1.152 af
Discarded=0.25 cfs 0.174 af Primary=4.69 cfs 0.978 af Outflow=4.94 cfs 1.152 af

Pond 9P: PLUNGE POOL Peak Elev=528.47' Storage=111 cf Inflow=1.12 cfs 0.119 af
18.0" Round Culvert n=0.013 L=9.0' S=0.0667 '/' Outflow=1.13 cfs 0.119 af

Pond 10P: DRIP EDGE Peak Elev=520.71' Storage=30 cf Inflow=0.04 cfs 0.003 af
Discarded=0.01 cfs 0.003 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.003 af

Pond 011: DMH 011 Peak Elev=504.19' Storage=6 cf Inflow=0.89 cfs 0.067 af
15.0" Round Culvert n=0.013 L=127.0' S=0.0350 '/' Outflow=0.89 cfs 0.067 af

Pond 11P: DRIP EDGE Peak Elev=531.08' Storage=25 cf Inflow=0.04 cfs 0.003 af
Discarded=0.01 cfs 0.003 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.003 af

Pond 12P: DRIP EDGE Peak Elev=527.15' Storage=137 cf Inflow=0.14 cfs 0.011 af
Discarded=0.03 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.011 af

Pond 13P: DRIP EDGE Peak Elev=524.85' Storage=36 cf Inflow=0.04 cfs 0.003 af
Discarded=0.00 cfs 0.003 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.003 af

Pond 14P: DRIP EDGE Peak Elev=529.49' Storage=52 cf Inflow=0.05 cfs 0.004 af
Discarded=0.01 cfs 0.004 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.004 af

Pond 15P: DRIP EDGE Peak Elev=529.41' Storage=109 cf Inflow=0.08 cfs 0.007 af
Discarded=0.01 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.007 af

Pond 16P: DRIP EDGE Peak Elev=522.39' Storage=88 cf Inflow=0.08 cfs 0.006 af
Discarded=0.02 cfs 0.006 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.006 af

Pond 17P: DRIP EDGE Peak Elev=505.31' Storage=89 cf Inflow=0.08 cfs 0.007 af
Discarded=0.01 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.007 af

Pond 18P: DRIP EDGE Peak Elev=503.16' Storage=149 cf Inflow=0.14 cfs 0.011 af
Discarded=0.02 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.011 af

Pond 19P: DRIP EDGE Peak Elev=503.57' Storage=134 cf Inflow=0.11 cfs 0.009 af
Discarded=0.01 cfs 0.009 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.009 af

Pond 20P: DRIP EDGE Peak Elev=504.07' Storage=115 cf Inflow=0.13 cfs 0.010 af
Discarded=0.03 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.010 af

Pond 21P: DRIP EDGE Peak Elev=495.67' Storage=42 cf Inflow=0.07 cfs 0.006 af
Discarded=0.02 cfs 0.006 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.006 af

Pond 22P: DRIP EDGE Peak Elev=495.65' Storage=82 cf Inflow=0.14 cfs 0.011 af
Discarded=0.04 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.011 af

Pond 23P: DRIP EDGE Peak Elev=498.67' Storage=86 cf Inflow=0.14 cfs 0.011 af
Discarded=0.04 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.011 af

Pond 24P: DRIP EDGE Peak Elev=498.61' Storage=47 cf Inflow=0.08 cfs 0.007 af
Discarded=0.02 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.007 af

Pond 25P: DRIP EDGE Peak Elev=498.64' Storage=83 cf Inflow=0.14 cfs 0.011 af
Discarded=0.04 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.011 af

Pond 26P: DRIP EDGE Peak Elev=506.81' Storage=70 cf Inflow=0.11 cfs 0.008 af
Discarded=0.03 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.008 af

Pond 27P: UNDER GRND INFIL POND #27 Peak Elev=544.56' Storage=1,811 cf Inflow=1.16 cfs 0.087 af
Discarded=0.06 cfs 0.087 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.087 af

Pond 101: CB 101 Peak Elev=510.51' Storage=3 cf Inflow=0.17 cfs 0.012 af
15.0" Round Culvert n=0.013 L=31.0' S=0.0097 '/' Outflow=0.17 cfs 0.012 af

Pond 102: CB 102 Peak Elev=524.04' Storage=0.000 af Inflow=0.24 cfs 0.025 af
18.0" Round Culvert n=0.013 L=43.0' S=0.0093 '/' Outflow=0.24 cfs 0.025 af

Pond 104: CB 104 Peak Elev=510.50' Storage=2 cf Inflow=0.08 cfs 0.006 af
15.0" Round Culvert n=0.013 L=34.0' S=0.0103 '/' Outflow=0.08 cfs 0.006 af

Pond 105: CB 124 Peak Elev=546.01' Storage=0.000 af Inflow=0.43 cfs 0.031 af
15.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/' Outflow=0.43 cfs 0.031 af

Pond 106: CB 106 Peak Elev=510.26' Storage=5 cf Inflow=0.59 cfs 0.044 af
15.0" Round Culvert n=0.013 L=171.0' S=0.0173 '/' Outflow=0.59 cfs 0.044 af

Pond 107: CB 107 Peak Elev=499.82' Storage=8 cf Inflow=1.62 cfs 0.131 af
15.0" Round Culvert n=0.013 L=63.0' S=0.0302 '/' Outflow=1.62 cfs 0.131 af

Pond 108: CB 108 Peak Elev=500.11' Storage=5 cf Inflow=0.52 cfs 0.042 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0205 '/' Outflow=0.52 cfs 0.042 af

Pond 109: CB 109 Peak Elev=497.85' Storage=8 cf Inflow=1.77 cfs 0.143 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0318 '/' Outflow=1.77 cfs 0.143 af

Pond 110: CB 110 Peak Elev=497.03' Storage=8 cf Inflow=1.91 cfs 0.155 af
18.0" Round Culvert n=0.013 L=29.0' S=0.0483 '/' Outflow=1.91 cfs 0.155 af

Pond 111: CB 111 Peak Elev=493.61' Storage=14 cf Inflow=0.64 cfs 0.059 af
18.0" Round Culvert n=0.013 L=46.0' S=0.0100 '/' Outflow=0.64 cfs 0.058 af

Pond 112: CB 112 Peak Elev=493.63' Storage=11 cf Inflow=0.54 cfs 0.051 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=0.54 cfs 0.050 af

Pond 113: CB 113
Peak Elev=493.65' Storage=8 cf Inflow=0.39 cfs 0.036 af
15.0" Round Culvert n=0.013 L=12.0' S=0.0117 '/' Outflow=0.39 cfs 0.036 af

Pond 114: CB 114
Peak Elev=517.55' Storage=0.000 af Inflow=0.80 cfs 0.062 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0883 '/' Outflow=0.79 cfs 0.062 af

Pond 115: CB 115
Peak Elev=517.68' Storage=2 cf Inflow=0.06 cfs 0.005 af
15.0" Round Culvert n=0.013 L=16.0' S=0.0200 '/' Outflow=0.06 cfs 0.005 af

Pond 116: CB 116
Peak Elev=511.80' Storage=8 cf Inflow=1.54 cfs 0.117 af
15.0" Round Culvert n=0.013 L=61.0' S=0.0525 '/' Outflow=1.54 cfs 0.117 af

Pond 117: CB 117
Peak Elev=513.79' Storage=0.000 af Inflow=0.44 cfs 0.033 af
15.0" Round Culvert n=0.013 L=138.0' S=0.0163 '/' Outflow=0.45 cfs 0.033 af

Pond 118: CB 118
Peak Elev=521.64' Storage=5 cf Inflow=0.69 cfs 0.049 af
15.0" Round Culvert n=0.013 L=5.0' S=0.0500 '/' Outflow=0.69 cfs 0.049 af

Pond 119: CB 119
Peak Elev=545.57' Storage=0.000 af Inflow=0.68 cfs 0.049 af
15.0" Round Culvert n=0.013 L=112.0' S=0.0050 '/' Outflow=0.67 cfs 0.049 af

Pond 120: CB 120
Peak Elev=540.13' Storage=0.000 af Inflow=0.68 cfs 0.052 af
15.0" Round Culvert n=0.013 L=53.0' S=0.0100 '/' Outflow=0.69 cfs 0.051 af

Pond 121: CB 121
Peak Elev=540.82' Storage=0.000 af Inflow=0.41 cfs 0.031 af
15.0" Round Culvert n=0.013 L=84.0' S=0.0223 '/' Outflow=0.41 cfs 0.031 af

Pond 122: CB 122
Peak Elev=524.16' Storage=0.000 af Inflow=0.52 cfs 0.042 af
15.0" Round Culvert n=0.013 L=162.0' S=0.0407 '/' Outflow=0.52 cfs 0.042 af

Pond 123: CB 123
Peak Elev=524.37' Storage=0.000 af Inflow=0.07 cfs 0.005 af
15.0" Round Culvert n=0.013 L=16.0' S=0.0200 '/' Outflow=0.07 cfs 0.005 af

Pond 124: CB 124
Peak Elev=523.71' Storage=5 cf Inflow=0.64 cfs 0.063 af
18.0" Round Culvert n=0.013 L=107.0' S=0.0084 '/' Outflow=0.64 cfs 0.063 af

Pond 125: CB 124
Peak Elev=524.31' Storage=4 cf Inflow=0.40 cfs 0.038 af
18.0" Round Culvert n=0.013 L=90.0' S=0.0067 '/' Outflow=0.40 cfs 0.038 af

Pond 126: CB 126
Peak Elev=507.29' Storage=6 cf Inflow=0.88 cfs 0.067 af
15.0" Round Culvert n=0.013 L=100.0' S=0.0300 '/' Outflow=0.89 cfs 0.067 af

Pond 127: CB 127
Peak Elev=507.40' Storage=22 cf Inflow=0.11 cfs 0.008 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0114 '/' Outflow=0.10 cfs 0.008 af

Pond 128: YARD DRAIN
Peak Elev=529.87' Storage=0 cf Inflow=0.62 cfs 0.056 af
15.0" Round Culvert n=0.013 L=136.0' S=0.0154 '/' Outflow=0.62 cfs 0.056 af

Pond 129: CB 129
Peak Elev=544.93' Storage=2 cf Inflow=0.09 cfs 0.007 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0100 '/' Outflow=0.09 cfs 0.007 af

Pond 130: CB 130
Peak Elev=544.71' Storage=3 cf Inflow=0.23 cfs 0.018 af
15.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/' Outflow=0.23 cfs 0.018 af

Pond 131: CB 131
Peak Elev=544.47' Storage=5 cf Inflow=0.50 cfs 0.039 af
15.0" Round Culvert n=0.013 L=23.0' S=0.0083 '/' Outflow=0.50 cfs 0.039 af

Pond 132: CB 132
Peak Elev=544.60' Storage=8 cf Inflow=1.16 cfs 0.087 af
15.0" Round Culvert n=0.013 L=9.0' S=0.0056 '/' Outflow=1.16 cfs 0.087 af

Pond 133: CB 133
Peak Elev=545.00' Storage=7 cf Inflow=0.88 cfs 0.065 af
15.0" Round Culvert n=0.013 L=75.0' S=0.0051 '/' Outflow=0.88 cfs 0.065 af

Pond 135: CB 135
Peak Elev=563.05' Storage=0.000 af Inflow=5.31 cfs 1.160 af
18.0" Round Culvert n=0.013 L=73.0' S=0.0123 '/' Outflow=5.31 cfs 1.160 af

Link AP-1: Analysis Point #1
Inflow=0.00 cfs 0.001 af
Primary=0.00 cfs 0.001 af

Link AP-2: Analysis Point #2
Inflow=0.00 cfs 0.003 af
Primary=0.00 cfs 0.003 af

Link AP-3: Analysis Point #3
Inflow=0.01 cfs 0.004 af
Primary=0.01 cfs 0.004 af

Link AP-4: Analysis Point #4
Inflow=6.74 cfs 1.421 af
Primary=6.74 cfs 1.421 af

Link AP-5: Analysis Point #5
Inflow=21.81 cfs 3.760 af
Primary=21.81 cfs 3.760 af

Link AP-6: Analysis Point #6
Inflow=21.81 cfs 4.090 af
Primary=21.81 cfs 4.090 af

Total Runoff Area = 177.048 ac Runoff Volume = 10.431 af Average Runoff Depth = 0.71"
72.47% Pervious = 128.304 ac 27.53% Impervious = 48.744 ac

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 201S: WS 201 Runoff Area=8,114 sf 0.00% Impervious Runoff Depth=0.11"
Flow Length=193' Tc=16.6 min CN=55 Runoff=0.00 cfs 0.002 af

Subcatchment 202S: WS 202 Runoff Area=28,333 sf 0.00% Impervious Runoff Depth=0.13"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=56 Runoff=0.02 cfs 0.007 af

Subcatchment 203S: WS 203 Runoff Area=29,560 sf 0.00% Impervious Runoff Depth=0.17"
Flow Length=75' Slope=0.1300 '/' Tc=8.9 min CN=58 Runoff=0.04 cfs 0.009 af

Subcatchment 204S: WS 204 Runoff Area=85,545 sf 10.10% Impervious Runoff Depth=0.73"
Flow Length=499' Tc=29.7 min CN=75 Runoff=0.87 cfs 0.119 af

Subcatchment 205S: WS 205 Runoff Area=919,977 sf 27.03% Impervious Runoff Depth=0.87"
Flow Length=2,082' Tc=60.6 min CN=78 Runoff=7.98 cfs 1.537 af

Subcatchment 206S: WS 206 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=0.77"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=4.79 cfs 1.125 af

Subcatchment 207S: WS 207 Runoff Area=13,565 sf 9.83% Impervious Runoff Depth=0.77"
Flow Length=42' Slope=0.0100 '/' Tc=10.4 min CN=76 Runoff=0.22 cfs 0.020 af

Subcatchment 208S: WS 208 Runoff Area=2,760 sf 88.44% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment 209S: WS 209 Runoff Area=21,404 sf 50.80% Impervious Runoff Depth=1.35"
Flow Length=107' Tc=9.6 min CN=86 Runoff=0.68 cfs 0.055 af

Subcatchment 210S: WS 210 Runoff Area=20,614 sf 15.57% Impervious Runoff Depth=0.87"
Flow Length=223' Slope=0.0100 '/' Tc=14.8 min CN=78 Runoff=0.35 cfs 0.034 af

Subcatchment 211S: WS 211 Runoff Area=24,495 sf 31.63% Impervious Runoff Depth=1.09"
Flow Length=323' Tc=13.4 min CN=82 Runoff=0.55 cfs 0.051 af

Subcatchment 212S: WS 212 Runoff Area=15,490 sf 46.67% Impervious Runoff Depth=0.87"
Tc=5.0 min CN=78 Runoff=0.35 cfs 0.026 af

Subcatchment 213S: WS 213 Runoff Area=249,068 sf 12.90% Impervious Runoff Depth=0.68"
Flow Length=1,113' Tc=47.5 min CN=74 Runoff=1.84 cfs 0.325 af

Subcatchment 215S: WS 215 Runoff Area=4,199 sf 98.81% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.25 cfs 0.019 af

Subcatchment 217S: WS-217 Runoff Area=70,416 sf 40.40% Impervious Runoff Depth=0.73"
Flow Length=830' Tc=13.4 min CN=75 Runoff=0.98 cfs 0.098 af

Subcatchment 218S: WS-218 Runoff Area=2,802 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment 219S: WS-219 Runoff Area=5,454 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.32 cfs 0.025 af

Subcatchment 220S: WS 220 Runoff Area=10,162 sf 57.32% Impervious Runoff Depth=1.09"
Tc=5.0 min CN=82 Runoff=0.30 cfs 0.021 af

Subcatchment 221S: WS 221 Runoff Area=7,202 sf 52.55% Impervious Runoff Depth=0.98"
Tc=5.0 min CN=80 Runoff=0.19 cfs 0.014 af

Subcatchment 222S: WS 222 Runoff Area=2,763 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment 223S: WS 223 Runoff Area=7,260 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.43 cfs 0.033 af

Subcatchment 224S: WS 224 Runoff Area=3,992 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.23 cfs 0.018 af

Subcatchment 225S: WS 225 Runoff Area=12,002 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.70 cfs 0.055 af

Subcatchment 226S: WS 226 Runoff Area=4,369 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.26 cfs 0.020 af

Subcatchment 227S: WS 227 Runoff Area=2,557 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment 228S: WS 228 Runoff Area=7,526 sf 40.95% Impervious Runoff Depth=0.82"
Flow Length=135' Tc=7.5 min CN=77 Runoff=0.15 cfs 0.012 af

Subcatchment 229S: WS 229 Runoff Area=7,375 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.43 cfs 0.034 af

Subcatchment 230S: WS 230 Runoff Area=7,306 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.43 cfs 0.034 af

Subcatchment 231S: WS 231 Runoff Area=20,899 sf 71.84% Impervious Runoff Depth=1.57"
Tc=5.0 min CN=89 Runoff=0.88 cfs 0.063 af

Subcatchment 232S: WS 232 Runoff Area=1,617 sf 79.47% Impervious Runoff Depth=1.90"
Flow Length=158' Tc=6.8 min CN=93 Runoff=0.08 cfs 0.006 af

Subcatchment 233S: WS 233 Runoff Area=15,995 sf 70.05% Impervious Runoff Depth=1.73"
Flow Length=312' Tc=9.1 min CN=91 Runoff=0.65 cfs 0.053 af

Subcatchment 234S: WS 234 Runoff Area=17,444 sf 44.90% Impervious Runoff Depth=1.28"
Flow Length=299' Tc=6.0 min CN=85 Runoff=0.59 cfs 0.043 af

Subcatchment 235S: WS 235 Runoff Area=7,366 sf 82.00% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=0.39 cfs 0.028 af

Subcatchment 236S: WS 236 Runoff Area=10,261 sf 0.00% Impervious Runoff Depth=0.68"
Tc=5.0 min CN=74 Runoff=0.17 cfs 0.013 af

Subcatchment 237S: WS 237 Runoff Area=6,793 sf 60.02% Impervious Runoff Depth=1.49"
Flow Length=195' Tc=3.2 min CN=88 Runoff=0.30 cfs 0.019 af

Subcatchment 238S: WS 238 Runoff Area=2,469 sf 63.35% Impervious Runoff Depth=1.35"
Tc=5.0 min CN=86 Runoff=0.09 cfs 0.006 af

Subcatchment 239S: WS 239 Runoff Area=2,027 sf 73.95% Impervious Runoff Depth=1.81"
Tc=5.0 min CN=92 Runoff=0.10 cfs 0.007 af

Subcatchment 240S: WS 271 Runoff Area=17,326 sf 21.92% Impervious Runoff Depth=0.48"
Flow Length=133' Tc=11.6 min CN=69 Runoff=0.14 cfs 0.016 af

Subcatchment 241S: WS 241 Runoff Area=34,184 sf 8.69% Impervious Runoff Depth=0.68"
Flow Length=335' Tc=39.8 min CN=74 Runoff=0.28 cfs 0.045 af

Subcatchment 242S: WS 242 Runoff Area=7,261 sf 94.20% Impervious Runoff Depth=2.29"
Tc=5.0 min CN=97 Runoff=0.42 cfs 0.032 af

Subcatchment 243S: WS 243 Runoff Area=3,870 sf 84.50% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=0.20 cfs 0.015 af

Subcatchment 244S: WS-244 Runoff Area=10,006 sf 84.79% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=0.52 cfs 0.038 af

Subcatchment 245S: WS 245 Runoff Area=92,391 sf 38.82% Impervious Runoff Depth=1.15"
Flow Length=322' Tc=7.5 min CN=83 Runoff=2.66 cfs 0.204 af

Subcatchment 246S: WS 246 Runoff Area=14,444 sf 34.40% Impervious Runoff Depth=1.09"
Flow Length=351' Slope=0.0320 '/' Tc=10.5 min CN=82 Runoff=0.36 cfs 0.030 af

Subcatchment 247S: WS 247 Runoff Area=28,201 sf 23.60% Impervious Runoff Depth=0.93"
Flow Length=234' Slope=0.0430 '/' Tc=11.4 min CN=79 Runoff=0.56 cfs 0.050 af

Subcatchment 248S: WS 248 Runoff Area=6,298 sf 62.62% Impervious Runoff Depth=1.57"
Flow Length=208' Tc=5.5 min CN=89 Runoff=0.26 cfs 0.019 af

Subcatchment 249S: WS 249 Runoff Area=2,657 sf 85.40% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=0.14 cfs 0.010 af

Subcatchment 250S: WS 250 Runoff Area=13,455 sf 0.00% Impervious Runoff Depth=0.68"
Tc=5.0 min CN=74 Runoff=0.22 cfs 0.018 af

Subcatchment 251S: WS 251 Runoff Area=4,230 sf 76.17% Impervious Runoff Depth=1.81"
Tc=5.0 min CN=92 Runoff=0.20 cfs 0.015 af

Subcatchment 252S: WS 252 Runoff Area=3,060 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.18 cfs 0.014 af

Subcatchment 253S: WS 253 Runoff Area=116,031 sf 85.00% Impervious Runoff Depth=1.99"
Flow Length=673' Slope=0.0100 '/' Tc=7.8 min CN=94 Runoff=5.61 cfs 0.443 af

Subcatchment 254S: WS 254 Runoff Area=197,956 sf 36.70% Impervious Runoff Depth=0.98"
Flow Length=791' Tc=31.5 min CN=80 Runoff=2.79 cfs 0.371 af

Subcatchment 255S: WS 255 Runoff Area=725 sf 85.38% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment 256S: WS 256 Runoff Area=710 sf 85.07% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment 257S: WS 257 Runoff Area=725 sf 85.38% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment 258S: WS 258 Runoff Area=962 sf 90.96% Impervious Runoff Depth>2.40"
Flow Length=237' Tc=5.7 min CN=98 Runoff=0.06 cfs 0.004 af

Subcatchment 259S: WS 259 Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.10 cfs 0.008 af

Subcatchment 260S: WS 260 Runoff Area=1,634 sf 88.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.10 cfs 0.008 af

Subcatchment 261S: WS 261 Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.10 cfs 0.008 af

Subcatchment 262S: WS 262 Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.013 af

Subcatchment 263S: WS 263 Runoff Area=2,223 sf 90.42% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.13 cfs 0.010 af

Subcatchment 264S: WS 264 Runoff Area=2,611 sf 89.81% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment 265S: WS 265 Runoff Area=1,439 sf 89.09% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.08 cfs 0.007 af

Subcatchment 266S: WS 266 Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.013 af

Subcatchment 267S: WS 267 Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.013 af

Subcatchment 268S: WS 268 Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.10 cfs 0.008 af

Subcatchment 269S: WS 269 Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.013 af

Subcatchment 270S: WS 270 Runoff Area=2,166 sf 90.17% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.13 cfs 0.010 af

Subcatchment 271S: WS 271 Runoff Area=6,211 sf 63.11% Impervious Runoff Depth=1.57"
Flow Length=139' Tc=6.4 min CN=89 Runoff=0.25 cfs 0.019 af

Subcatchment 272S: WS 272 Runoff Area=2,532 sf 83.57% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=94 Runoff=0.13 cfs 0.010 af

Subcatchment 273s: WS-273 Runoff Area=5,486 sf 88.52% Impervious Runoff Depth=2.09"
Tc=5.0 min CN=95 Runoff=0.30 cfs 0.022 af

Subcatchment 274S: WS-274 Runoff Area=1,861 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.11 cfs 0.009 af

Subcatchment 275S: WS 275 Runoff Area=6,128 sf 0.00% Impervious Runoff Depth=0.24"
Tc=5.0 min CN=61 Runoff=0.02 cfs 0.003 af

Subcatchment 276S: WS 276 Runoff Area=5,684 sf 100.00% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=98 Runoff=0.33 cfs 0.026 af

Subcatchment 277S: WS-277 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=0.93"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=28.85 cfs 4.572 af

Subcatchment 278S: WS-278 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=1.04"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=24.23 cfs 3.081 af

Subcatchment 279S: WS-279 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=1.04"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=6.21 cfs 1.087 af

Reach 1R: REACH 1 Avg. Flow Depth=0.01' Max Vel=0.61 fps Inflow=0.02 cfs 0.004 af
n=0.035 L=152.0' S=0.0658 '/' Capacity=877.01 cfs Outflow=0.02 cfs 0.004 af

Reach 2R: REACH 2 Avg. Flow Depth=0.58' Max Vel=5.37 fps Inflow=25.02 cfs 3.410 af
x 2.00 n=0.012 L=46.0' S=0.0054 '/' Capacity=146.07 cfs Outflow=25.02 cfs 3.410 af

Reach 3R: REACH 3 Avg. Flow Depth=0.39' Max Vel=4.35 fps Inflow=25.44 cfs 3.647 af
n=0.035 L=90.0' S=0.0623 '/' Capacity=853.66 cfs Outflow=25.44 cfs 3.647 af

Reach 4R: REACH 4 Avg. Flow Depth=0.25' Max Vel=2.95 fps Inflow=8.53 cfs 1.834 af
n=0.035 L=261.0' S=0.0536 '/' Capacity=791.90 cfs Outflow=8.52 cfs 1.834 af

Reach 5R: REACH 5 Avg. Flow Depth=0.41' Max Vel=10.93 fps Inflow=8.53 cfs 1.834 af
18.0" Round Pipe x 2.00 n=0.013 L=64.0' S=0.0625 '/' Capacity=52.52 cfs Outflow=8.53 cfs 1.834 af

Reach 6R: REACH 6 Avg. Flow Depth=0.16' Max Vel=5.56 fps Inflow=8.26 cfs 1.789 af
n=0.013 L=242.0' S=0.0475 '/' Capacity=2,006.73 cfs Outflow=8.25 cfs 1.789 af

Reach 7R: REACH 7 Avg. Flow Depth=0.48' Max Vel=4.18 fps Inflow=8.26 cfs 1.789 af
18.0" Round Pipe x 4.00 n=0.013 L=33.0' S=0.0076 '/' Capacity=36.57 cfs Outflow=8.26 cfs 1.789 af

Reach 8R: REACH 8 Avg. Flow Depth=0.02' Max Vel=0.63 fps Inflow=0.05 cfs 0.009 af
n=0.035 L=184.0' S=0.0489 '/' Capacity=756.20 cfs Outflow=0.05 cfs 0.009 af

Reach 9R: REACH 9 Avg. Flow Depth=0.21' Max Vel=2.40 fps Inflow=5.45 cfs 1.343 af
n=0.030 L=93.0' S=0.0323 '/' Capacity=716.46 cfs Outflow=5.44 cfs 1.343 af

Reach 11R: REACH 11 Avg. Flow Depth=0.33' Max Vel=1.21 fps Inflow=5.88 cfs 1.333 af
n=0.035 L=409.0' S=0.0061 '/' Capacity=267.32 cfs Outflow=5.43 cfs 1.333 af

Reach 12R: REACH 12 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=516.0' S=0.0368 '/' Capacity=656.11 cfs Outflow=0.00 cfs 0.000 af

Reach 13R: REACH 13 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=668.0' S=0.0359 '/' Capacity=648.10 cfs Outflow=0.00 cfs 0.000 af

Reach 15R: REACH 15 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=355.0' S=0.0366 '/' Capacity=654.31 cfs Outflow=0.00 cfs 0.000 af

Reach 16R: REACH 16 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=247.0' S=0.0121 '/' Capacity=376.82 cfs Outflow=0.00 cfs 0.000 af

Reach 17R: REACH 17 Avg. Flow Depth=0.29' Max Vel=2.37 fps Inflow=8.52 cfs 1.834 af
n=0.035 L=69.0' S=0.0286 '/' Capacity=577.74 cfs Outflow=8.51 cfs 1.834 af

Reach 18R: REACH 18 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=165.0' S=0.0485 '/' Capacity=752.88 cfs Outflow=0.00 cfs 0.000 af

Reach 19R: REACH 19 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=134.0' S=0.0448 '/' Capacity=723.51 cfs Outflow=0.00 cfs 0.000 af

Reach 20R: REACH 20 Avg. Flow Depth=0.45' Max Vel=3.54 fps Inflow=25.02 cfs 3.410 af
n=0.035 L=258.0' S=0.0349 '/' Capacity=638.61 cfs Outflow=25.00 cfs 3.410 af

Reach 21R: REACH 21 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=149.0' S=0.0738 '/' Capacity=929.02 cfs Outflow=0.00 cfs 0.000 af

Reach 22R: REACH 22 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=357.0' S=0.0336 '/' Capacity=626.87 cfs Outflow=0.00 cfs 0.000 af

Reach 23R: REACH 23 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=481.0' S=0.0249 '/' Capacity=540.06 cfs Outflow=0.00 cfs 0.000 af

Reach 24R: REACH 24 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=600.0' S=0.0317 '/' Capacity=608.45 cfs Outflow=0.00 cfs 0.000 af

Reach 25R: REACH 25 Avg. Flow Depth=0.14' Max Vel=2.71 fps Inflow=0.89 cfs 0.065 af
n=0.030 L=201.0' S=0.0498 '/' Capacity=140.98 cfs Outflow=0.87 cfs 0.065 af

Reach 28R: REACH 28 Avg. Flow Depth=0.01' Max Vel=0.51 fps Inflow=0.02 cfs 0.004 af
n=0.035 L=205.0' S=0.0463 '/' Capacity=736.05 cfs Outflow=0.02 cfs 0.004 af

Reach 30R: REACH 30 Avg. Flow Depth=1.00' Max Vel=5.96 fps Inflow=6.21 cfs 1.087 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.25 cfs 1.087 af

Reach 31R: REACH 31 Avg. Flow Depth=0.33' Max Vel=5.37 fps Inflow=24.23 cfs 3.081 af
n=0.022 L=1,716.0' S=0.0484 '/' Capacity=1,196.33 cfs Outflow=23.54 cfs 3.081 af

Reach 32R: REACH 32 Avg. Flow Depth=0.37' Max Vel=5.32 fps Inflow=28.85 cfs 4.572 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=28.17 cfs 4.572 af

Pond 001: DMH 001 Peak Elev=523.17' Storage=0.000 af Inflow=1.52 cfs 0.141 af
18.0" Round Culvert n=0.013 L=86.0' S=0.0099 '/' Outflow=1.52 cfs 0.141 af

Pond 1F: FOREBAY #1 Peak Elev=522.95' Storage=692 cf Inflow=1.74 cfs 0.161 af
Outflow=1.73 cfs 0.148 af

Pond 1P: INFIL POND #1 Peak Elev=521.65' Storage=2,634 cf Inflow=1.73 cfs 0.148 af
Discarded=0.19 cfs 0.145 af Primary=0.02 cfs 0.004 af Outflow=0.21 cfs 0.148 af

Pond 2F: FOREBAY #2 Peak Elev=531.88' Storage=171 cf Inflow=0.35 cfs 0.026 af
Outflow=0.41 cfs 0.022 af

Pond 2P: WET POND #2 Peak Elev=531.69' Storage=4,619 cf Inflow=1.06 cfs 0.076 af
Outflow=0.09 cfs 0.076 af

Pond 3F: FOREBAY #3 Peak Elev=558.91' Storage=630 cf Inflow=6.80 cfs 1.533 af
Outflow=6.71 cfs 1.523 af

Pond 3P: UNDER GRND INFIL POND #3 Peak Elev=544.55' Storage=907 cf Inflow=0.59 cfs 0.046 af
Discarded=0.03 cfs 0.045 af Primary=0.01 cfs 0.002 af Outflow=0.04 cfs 0.046 af

Pond 4F: FOREBAY #4 Peak Elev=503.08' Storage=890 cf Inflow=2.66 cfs 0.204 af
Outflow=2.73 cfs 0.187 af

Pond 4P: INFIL POND #4 Peak Elev=501.37' Storage=2,901 cf Inflow=2.73 cfs 0.187 af
Discarded=0.39 cfs 0.187 af Primary=0.00 cfs 0.000 af Outflow=0.39 cfs 0.187 af

Pond 005: DMH 005 Peak Elev=527.99' Storage=9 cf Inflow=2.24 cfs 0.234 af
18.0" Round Culvert n=0.013 L=115.0' S=0.0548 '/' Outflow=2.24 cfs 0.234 af

Pond 5F: FOREBAY #5 Peak Elev=493.62' Storage=305 cf Inflow=0.86 cfs 0.078 af
Outflow=0.86 cfs 0.072 af

Pond 5P: WET POND #5 Peak Elev=492.70' Storage=15,111 cf Inflow=3.45 cfs 0.277 af
Outflow=0.47 cfs 0.237 af

Pond 6F: FOREBAY #6 Peak Elev=493.74' Storage=363 cf Inflow=2.39 cfs 0.194 af
Outflow=2.39 cfs 0.188 af

Pond 6P: INFIL POND#6 Peak Elev=508.47' Storage=3,091 cf Inflow=2.12 cfs 0.147 af
Discarded=0.13 cfs 0.136 af Primary=0.05 cfs 0.010 af Outflow=0.18 cfs 0.147 af

Pond 7F: FOREBAY 7 Peak Elev=508.92' Storage=787 cf Inflow=1.96 cfs 0.148 af
Outflow=1.95 cfs 0.133 af

Pond 7P: UNDER GRND INFIL POND #7 Peak Elev=521.49' Storage=4,550 cf Inflow=3.61 cfs 0.342 af
Discarded=0.61 cfs 0.343 af Primary=0.00 cfs 0.000 af Outflow=0.61 cfs 0.343 af

Pond 8P: INFIL POND #8 Peak Elev=557.65' Storage=1,923 cf Inflow=6.71 cfs 1.523 af
Discarded=0.26 cfs 0.190 af Primary=5.88 cfs 1.333 af Outflow=6.15 cfs 1.523 af

Pond 9P: PLUNGE POOL Peak Elev=528.58' Storage=138 cf Inflow=1.61 cfs 0.163 af
18.0" Round Culvert n=0.013 L=9.0' S=0.0667 '/' Outflow=1.61 cfs 0.163 af

Pond 10P: DRIP EDGE Peak Elev=520.88' Storage=38 cf Inflow=0.04 cfs 0.003 af
Discarded=0.01 cfs 0.003 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.003 af

Pond 011: DMH 011 Peak Elev=504.25' Storage=6 cf Inflow=1.08 cfs 0.082 af
15.0" Round Culvert n=0.013 L=127.0' S=0.0350 '/' Outflow=1.08 cfs 0.082 af

Pond 11P: DRIP EDGE Peak Elev=531.22' Storage=31 cf Inflow=0.04 cfs 0.003 af
Discarded=0.01 cfs 0.003 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.003 af

Pond 12P: DRIP EDGE Peak Elev=527.42' Storage=170 cf Inflow=0.16 cfs 0.013 af
Discarded=0.03 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.013 af

Pond 13P: DRIP EDGE Peak Elev=525.07' Storage=46 cf Inflow=0.04 cfs 0.003 af
Discarded=0.01 cfs 0.003 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.003 af

Pond 14P: DRIP EDGE Peak Elev=529.81' Storage=63 cf Inflow=0.06 cfs 0.004 af
Discarded=0.01 cfs 0.004 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.004 af

Pond 15P: DRIP EDGE Peak Elev=529.75' Storage=135 cf Inflow=0.10 cfs 0.008 af
Discarded=0.01 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.008 af

Pond 16P: DRIP EDGE Peak Elev=522.69' Storage=106 cf Inflow=0.10 cfs 0.008 af
Discarded=0.02 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.008 af

Pond 17P: DRIP EDGE Peak Elev=505.63' Storage=111 cf Inflow=0.10 cfs 0.008 af
Discarded=0.01 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.008 af

Pond 18P: DRIP EDGE Peak Elev=503.45' Storage=186 cf Inflow=0.17 cfs 0.013 af
Discarded=0.02 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.013 af

Pond 19P: DRIP EDGE Peak Elev=503.98' Storage=168 cf Inflow=0.13 cfs 0.010 af
Discarded=0.01 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.010 af

Pond 20P: DRIP EDGE Peak Elev=504.32' Storage=142 cf Inflow=0.15 cfs 0.012 af
Discarded=0.04 cfs 0.012 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.012 af

Pond 21P: DRIP EDGE Peak Elev=495.91' Storage=57 cf Inflow=0.08 cfs 0.007 af
Discarded=0.02 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.007 af

Pond 22P: DRIP EDGE Peak Elev=495.89' Storage=113 cf Inflow=0.17 cfs 0.013 af
Discarded=0.04 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.013 af

Pond 23P: DRIP EDGE Peak Elev=498.92' Storage=118 cf Inflow=0.17 cfs 0.013 af
Discarded=0.04 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.013 af

Pond 24P: DRIP EDGE Peak Elev=498.84' Storage=65 cf Inflow=0.10 cfs 0.008 af
Discarded=0.03 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.008 af

Pond 25P: DRIP EDGE Peak Elev=498.89' Storage=114 cf Inflow=0.17 cfs 0.013 af
Discarded=0.04 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.013 af

Pond 26P: DRIP EDGE Peak Elev=507.10' Storage=94 cf Inflow=0.13 cfs 0.010 af
Discarded=0.03 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.010 af

Pond 27P: UNDER GRND INFIL POND #27 Peak Elev=544.73' Storage=2,156 cf Inflow=1.39 cfs 0.105 af
Discarded=0.07 cfs 0.098 af Primary=0.04 cfs 0.008 af Outflow=0.11 cfs 0.105 af

Pond 101: CB 101 Peak Elev=510.54' Storage=3 cf Inflow=0.20 cfs 0.015 af
15.0" Round Culvert n=0.013 L=31.0' S=0.0097 '/' Outflow=0.20 cfs 0.015 af

Pond 102: CB 102 Peak Elev=524.10' Storage=0.000 af Inflow=0.35 cfs 0.034 af
18.0" Round Culvert n=0.013 L=43.0' S=0.0093 '/' Outflow=0.35 cfs 0.034 af

Pond 104: CB 104 Peak Elev=510.52' Storage=2 cf Inflow=0.10 cfs 0.007 af
15.0" Round Culvert n=0.013 L=34.0' S=0.0103 '/' Outflow=0.10 cfs 0.007 af

Pond 105: CB 124 Peak Elev=546.05' Storage=0.000 af Inflow=0.52 cfs 0.038 af
15.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/' Outflow=0.52 cfs 0.038 af

Pond 106: CB 106 Peak Elev=510.30' Storage=5 cf Inflow=0.72 cfs 0.054 af
15.0" Round Culvert n=0.013 L=171.0' S=0.0173 '/' Outflow=0.71 cfs 0.054 af

Pond 107: CB 107 Peak Elev=499.90' Storage=9 cf Inflow=2.03 cfs 0.165 af
15.0" Round Culvert n=0.013 L=63.0' S=0.0302 '/' Outflow=2.03 cfs 0.165 af

Pond 108: CB 108 Peak Elev=500.18' Storage=5 cf Inflow=0.65 cfs 0.053 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0205 '/' Outflow=0.65 cfs 0.053 af

Pond 109: CB 109 Peak Elev=497.94' Storage=9 cf Inflow=2.22 cfs 0.180 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0318 '/' Outflow=2.22 cfs 0.180 af

Pond 110: CB 110 Peak Elev=497.11' Storage=9 cf Inflow=2.39 cfs 0.194 af
18.0" Round Culvert n=0.013 L=29.0' S=0.0483 '/' Outflow=2.39 cfs 0.194 af

Pond 111: CB 111 Peak Elev=493.64' Storage=15 cf Inflow=0.86 cfs 0.079 af
18.0" Round Culvert n=0.013 L=46.0' S=0.0100 '/' Outflow=0.86 cfs 0.078 af

Pond 112: CB 112 Peak Elev=493.68' Storage=12 cf Inflow=0.75 cfs 0.069 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=0.75 cfs 0.069 af

Pond 113: CB 113
Peak Elev=493.71' Storage=9 cf Inflow=0.56 cfs 0.050 af
15.0" Round Culvert n=0.013 L=12.0' S=0.0117 '/' Outflow=0.56 cfs 0.050 af

Pond 114: CB 114
Peak Elev=517.60' Storage=0.000 af Inflow=1.00 cfs 0.077 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0883 '/' Outflow=1.00 cfs 0.077 af

Pond 115: CB 115
Peak Elev=517.71' Storage=2 cf Inflow=0.08 cfs 0.006 af
15.0" Round Culvert n=0.013 L=16.0' S=0.0200 '/' Outflow=0.08 cfs 0.006 af

Pond 116: CB 116
Peak Elev=511.89' Storage=9 cf Inflow=1.96 cfs 0.148 af
15.0" Round Culvert n=0.013 L=61.0' S=0.0525 '/' Outflow=1.96 cfs 0.148 af

Pond 117: CB 117
Peak Elev=513.84' Storage=0.000 af Inflow=0.59 cfs 0.043 af
15.0" Round Culvert n=0.013 L=138.0' S=0.0163 '/' Outflow=0.59 cfs 0.043 af

Pond 118: CB 118
Peak Elev=521.69' Storage=6 cf Inflow=0.88 cfs 0.063 af
15.0" Round Culvert n=0.013 L=5.0' S=0.0500 '/' Outflow=0.88 cfs 0.063 af

Pond 119: CB 119
Peak Elev=545.63' Storage=0.000 af Inflow=0.82 cfs 0.060 af
15.0" Round Culvert n=0.013 L=112.0' S=0.0050 '/' Outflow=0.82 cfs 0.060 af

Pond 120: CB 120
Peak Elev=540.16' Storage=0.000 af Inflow=0.87 cfs 0.066 af
15.0" Round Culvert n=0.013 L=53.0' S=0.0100 '/' Outflow=0.89 cfs 0.065 af

Pond 121: CB 121
Peak Elev=540.86' Storage=0.000 af Inflow=0.53 cfs 0.040 af
15.0" Round Culvert n=0.013 L=84.0' S=0.0223 '/' Outflow=0.53 cfs 0.040 af

Pond 122: CB 122
Peak Elev=524.21' Storage=0.000 af Inflow=0.65 cfs 0.052 af
15.0" Round Culvert n=0.013 L=162.0' S=0.0407 '/' Outflow=0.65 cfs 0.052 af

Pond 123: CB 123
Peak Elev=524.40' Storage=0.000 af Inflow=0.09 cfs 0.006 af
15.0" Round Culvert n=0.013 L=16.0' S=0.0200 '/' Outflow=0.09 cfs 0.006 af

Pond 124: CB 124
Peak Elev=523.79' Storage=6 cf Inflow=0.90 cfs 0.086 af
18.0" Round Culvert n=0.013 L=107.0' S=0.0084 '/' Outflow=0.90 cfs 0.086 af

Pond 125: CB 124
Peak Elev=524.37' Storage=5 cf Inflow=0.55 cfs 0.051 af
18.0" Round Culvert n=0.013 L=90.0' S=0.0067 '/' Outflow=0.55 cfs 0.051 af

Pond 126: CB 126
Peak Elev=507.34' Storage=6 cf Inflow=1.08 cfs 0.082 af
15.0" Round Culvert n=0.013 L=100.0' S=0.0300 '/' Outflow=1.08 cfs 0.082 af

Pond 127: CB 127
Peak Elev=507.43' Storage=26 cf Inflow=0.13 cfs 0.010 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0114 '/' Outflow=0.13 cfs 0.010 af

Pond 128: YARD DRAIN
Peak Elev=529.91' Storage=0 cf Inflow=0.77 cfs 0.071 af
15.0" Round Culvert n=0.013 L=136.0' S=0.0154 '/' Outflow=0.77 cfs 0.071 af

Pond 129: CB 129
Peak Elev=544.95' Storage=2 cf Inflow=0.11 cfs 0.009 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0100 '/' Outflow=0.11 cfs 0.009 af

Pond 130: CB 130
Peak Elev=544.73' Storage=3 cf Inflow=0.27 cfs 0.021 af
15.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/' Outflow=0.27 cfs 0.021 af

Pond 131: CB 131
Peak Elev=544.55' Storage=6 cf Inflow=0.59 cfs 0.046 af
15.0" Round Culvert n=0.013 L=23.0' S=0.0083 '/' Outflow=0.59 cfs 0.046 af

Pond 132: CB 132
Peak Elev=544.73' Storage=10 cf Inflow=1.39 cfs 0.105 af
15.0" Round Culvert n=0.013 L=9.0' S=0.0056 '/' Outflow=1.39 cfs 0.105 af

Pond 133: CB 133
Peak Elev=545.06' Storage=8 cf Inflow=1.07 cfs 0.079 af
15.0" Round Culvert n=0.013 L=75.0' S=0.0051 '/' Outflow=1.06 cfs 0.079 af

Pond 135: CB 135
Peak Elev=563.27' Storage=0.000 af Inflow=6.79 cfs 1.530 af
18.0" Round Culvert n=0.013 L=73.0' S=0.0123 '/' Outflow=6.78 cfs 1.530 af

Link AP-1: Analysis Point #1
Inflow=0.00 cfs 0.002 af
Primary=0.00 cfs 0.002 af

Link AP-2: Analysis Point #2
Inflow=0.02 cfs 0.007 af
Primary=0.02 cfs 0.007 af

Link AP-3: Analysis Point #3
Inflow=0.04 cfs 0.009 af
Primary=0.04 cfs 0.009 af

Link AP-4: Analysis Point #4
Inflow=9.36 cfs 1.963 af
Primary=9.36 cfs 1.963 af

Link AP-5: Analysis Point #5
Inflow=31.13 cfs 5.184 af
Primary=31.13 cfs 5.184 af

Link AP-6: Analysis Point #6
Inflow=31.63 cfs 5.697 af
Primary=31.63 cfs 5.697 af

Total Runoff Area = 177.048 ac Runoff Volume = 14.267 af Average Runoff Depth = 0.97"
72.47% Pervious = 128.304 ac 27.53% Impervious = 48.744 ac

Time span=2.00-72.00 hrs, dt=0.05 hrs, 1401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 201S: WS 201 Runoff Area=8,114 sf 0.00% Impervious Runoff Depth=0.46"
Flow Length=193' Tc=16.6 min CN=55 Runoff=0.04 cfs 0.007 af

Subcatchment 202S: WS 202 Runoff Area=28,333 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=329' Slope=0.0700 '/' Tc=14.6 min CN=56 Runoff=0.18 cfs 0.027 af

Subcatchment 203S: WS 203 Runoff Area=29,560 sf 0.00% Impervious Runoff Depth=0.59"
Flow Length=75' Slope=0.1300 '/' Tc=8.9 min CN=58 Runoff=0.29 cfs 0.033 af

Subcatchment 204S: WS 204 Runoff Area=85,545 sf 10.10% Impervious Runoff Depth=1.54"
Flow Length=499' Tc=29.7 min CN=75 Runoff=1.97 cfs 0.252 af

Subcatchment 205S: WS 205 Runoff Area=919,977 sf 27.03% Impervious Runoff Depth=1.75"
Flow Length=2,082' Tc=60.6 min CN=78 Runoff=16.78 cfs 3.084 af

Subcatchment 206S: WS 206 Runoff Area=759,057 sf 16.18% Impervious Runoff Depth=1.61"
Flow Length=2,017' Slope=0.0400 '/' Tc=79.0 min CN=76 Runoff=10.67 cfs 2.337 af

Subcatchment 207S: WS 207 Runoff Area=13,565 sf 9.83% Impervious Runoff Depth=1.61"
Flow Length=42' Slope=0.0100 '/' Tc=10.4 min CN=76 Runoff=0.49 cfs 0.042 af

Subcatchment 208S: WS 208 Runoff Area=2,760 sf 88.44% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.24 cfs 0.019 af

Subcatchment 209S: WS 209 Runoff Area=21,404 sf 50.80% Impervious Runoff Depth=2.39"
Flow Length=107' Tc=9.6 min CN=86 Runoff=1.20 cfs 0.098 af

Subcatchment 210S: WS 210 Runoff Area=20,614 sf 15.57% Impervious Runoff Depth=1.75"
Flow Length=223' Slope=0.0100 '/' Tc=14.8 min CN=78 Runoff=0.73 cfs 0.069 af

Subcatchment 211S: WS 211 Runoff Area=24,495 sf 31.63% Impervious Runoff Depth=2.06"
Flow Length=323' Tc=13.4 min CN=82 Runoff=1.06 cfs 0.096 af

Subcatchment 212S: WS 212 Runoff Area=15,490 sf 46.67% Impervious Runoff Depth=1.75"
Tc=5.0 min CN=78 Runoff=0.73 cfs 0.052 af

Subcatchment 213S: WS 213 Runoff Area=249,068 sf 12.90% Impervious Runoff Depth=1.47"
Flow Length=1,113' Tc=47.5 min CN=74 Runoff=4.30 cfs 0.702 af

Subcatchment 215S: WS 215 Runoff Area=4,199 sf 98.81% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.36 cfs 0.029 af

Subcatchment 217S: WS-217 Runoff Area=70,416 sf 40.40% Impervious Runoff Depth=1.54"
Flow Length=830' Tc=13.4 min CN=75 Runoff=2.23 cfs 0.207 af

Subcatchment 218S: WS-218 Runoff Area=2,802 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.24 cfs 0.019 af

Subcatchment 219S: WS-219
Runoff Area=5,454 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.47 cfs 0.037 af

Subcatchment 220S: WS 220
Runoff Area=10,162 sf 57.32% Impervious Runoff Depth=2.06"
Tc=5.0 min CN=82 Runoff=0.56 cfs 0.040 af

Subcatchment 221S: WS 221
Runoff Area=7,202 sf 52.55% Impervious Runoff Depth=1.90"
Tc=5.0 min CN=80 Runoff=0.37 cfs 0.026 af

Subcatchment 222S: WS 222
Runoff Area=2,763 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.24 cfs 0.019 af

Subcatchment 223S: WS 223
Runoff Area=7,260 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.63 cfs 0.050 af

Subcatchment 224S: WS 224
Runoff Area=3,992 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.34 cfs 0.027 af

Subcatchment 225S: WS 225
Runoff Area=12,002 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=1.04 cfs 0.082 af

Subcatchment 226S: WS 226
Runoff Area=4,369 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.38 cfs 0.030 af

Subcatchment 227S: WS 227
Runoff Area=2,557 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment 228S: WS 228
Runoff Area=7,526 sf 40.95% Impervious Runoff Depth=1.68"
Flow Length=135' Tc=7.5 min CN=77 Runoff=0.32 cfs 0.024 af

Subcatchment 229S: WS 229
Runoff Area=7,375 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.64 cfs 0.051 af

Subcatchment 230S: WS 230
Runoff Area=7,306 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.63 cfs 0.050 af

Subcatchment 231S: WS 231
Runoff Area=20,899 sf 71.84% Impervious Runoff Depth=2.66"
Tc=5.0 min CN=89 Runoff=1.49 cfs 0.107 af

Subcatchment 232S: WS 232
Runoff Area=1,617 sf 79.47% Impervious Runoff Depth=3.05"
Flow Length=158' Tc=6.8 min CN=93 Runoff=0.12 cfs 0.009 af

Subcatchment 233S: WS 233
Runoff Area=15,995 sf 70.05% Impervious Runoff Depth=2.85"
Flow Length=312' Tc=9.1 min CN=91 Runoff=1.06 cfs 0.087 af

Subcatchment 234S: WS 234
Runoff Area=17,444 sf 44.90% Impervious Runoff Depth=2.31"
Flow Length=299' Tc=6.0 min CN=85 Runoff=1.06 cfs 0.077 af

Subcatchment 235S: WS 235
Runoff Area=7,366 sf 82.00% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=0.60 cfs 0.045 af

Subcatchment 236S: WS 236 Runoff Area=10,261 sf 0.00% Impervious Runoff Depth=1.47"
Tc=5.0 min CN=74 Runoff=0.40 cfs 0.029 af

Subcatchment 237S: WS 237 Runoff Area=6,793 sf 60.02% Impervious Runoff Depth=2.57"
Flow Length=195' Tc=3.2 min CN=88 Runoff=0.50 cfs 0.033 af

Subcatchment 238S: WS 238 Runoff Area=2,469 sf 63.35% Impervious Runoff Depth=2.39"
Tc=5.0 min CN=86 Runoff=0.16 cfs 0.011 af

Subcatchment 239S: WS 239 Runoff Area=2,027 sf 73.95% Impervious Runoff Depth=2.95"
Tc=5.0 min CN=92 Runoff=0.16 cfs 0.011 af

Subcatchment 240S: WS 271 Runoff Area=17,326 sf 21.92% Impervious Runoff Depth=1.16"
Flow Length=133' Tc=11.6 min CN=69 Runoff=0.41 cfs 0.038 af

Subcatchment 241S: WS 241 Runoff Area=34,184 sf 8.69% Impervious Runoff Depth=1.47"
Flow Length=335' Tc=39.8 min CN=74 Runoff=0.65 cfs 0.096 af

Subcatchment 242S: WS 242 Runoff Area=7,261 sf 94.20% Impervious Runoff Depth>3.48"
Tc=5.0 min CN=97 Runoff=0.62 cfs 0.048 af

Subcatchment 243S: WS 243 Runoff Area=3,870 sf 84.50% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=0.31 cfs 0.023 af

Subcatchment 244S: WS-244 Runoff Area=10,006 sf 84.79% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=0.81 cfs 0.060 af

Subcatchment 245S: WS 245 Runoff Area=92,391 sf 38.82% Impervious Runoff Depth=2.14"
Flow Length=322' Tc=7.5 min CN=83 Runoff=4.99 cfs 0.378 af

Subcatchment 246S: WS 246 Runoff Area=14,444 sf 34.40% Impervious Runoff Depth=2.06"
Flow Length=351' Slope=0.0320 '/' Tc=10.5 min CN=82 Runoff=0.68 cfs 0.057 af

Subcatchment 247S: WS 247 Runoff Area=28,201 sf 23.60% Impervious Runoff Depth=1.83"
Flow Length=234' Slope=0.0430 '/' Tc=11.4 min CN=79 Runoff=1.15 cfs 0.099 af

Subcatchment 248S: WS 248 Runoff Area=6,298 sf 62.62% Impervious Runoff Depth=2.66"
Flow Length=208' Tc=5.5 min CN=89 Runoff=0.44 cfs 0.032 af

Subcatchment 249S: WS 249 Runoff Area=2,657 sf 85.40% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=0.22 cfs 0.016 af

Subcatchment 250S: WS 250 Runoff Area=13,455 sf 0.00% Impervious Runoff Depth=1.47"
Tc=5.0 min CN=74 Runoff=0.52 cfs 0.038 af

Subcatchment 251S: WS 251 Runoff Area=4,230 sf 76.17% Impervious Runoff Depth=2.95"
Tc=5.0 min CN=92 Runoff=0.33 cfs 0.024 af

Subcatchment 252S: WS 252 Runoff Area=3,060 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.26 cfs 0.021 af

Subcatchment 253S: WS 253
Runoff Area=116,031 sf 85.00% Impervious Runoff Depth=3.16"
Flow Length=673' Slope=0.0100 '/' Tc=7.8 min CN=94 Runoff=8.68 cfs 0.701 af

Subcatchment 254S: WS 254
Runoff Area=197,956 sf 36.70% Impervious Runoff Depth=1.90"
Flow Length=791' Tc=31.5 min CN=80 Runoff=5.57 cfs 0.720 af

Subcatchment 255S: WS 255
Runoff Area=725 sf 85.38% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.06 cfs 0.005 af

Subcatchment 256S: WS 256
Runoff Area=710 sf 85.07% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.06 cfs 0.005 af

Subcatchment 257S: WS 257
Runoff Area=725 sf 85.38% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.06 cfs 0.005 af

Subcatchment 258S: WS 258
Runoff Area=962 sf 90.96% Impervious Runoff Depth>3.59"
Flow Length=237' Tc=5.7 min CN=98 Runoff=0.08 cfs 0.007 af

Subcatchment 259S: WS 259
Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment 260S: WS 260
Runoff Area=1,634 sf 88.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 261S: WS 261
Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment 262S: WS 262
Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.25 cfs 0.020 af

Subcatchment 263S: WS 263
Runoff Area=2,223 sf 90.42% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.19 cfs 0.015 af

Subcatchment 264S: WS 264
Runoff Area=2,611 sf 89.81% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.23 cfs 0.018 af

Subcatchment 265S: WS 265
Runoff Area=1,439 sf 89.09% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.12 cfs 0.010 af

Subcatchment 266S: WS 266
Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.25 cfs 0.020 af

Subcatchment 267S: WS 267
Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.25 cfs 0.020 af

Subcatchment 268S: WS 268
Runoff Area=1,690 sf 88.58% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment 269S: WS 269
Runoff Area=2,876 sf 88.91% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.25 cfs 0.020 af

Subcatchment 270S: WS 270 Runoff Area=2,166 sf 90.17% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.19 cfs 0.015 af

Subcatchment 271S: WS 271 Runoff Area=6,211 sf 63.11% Impervious Runoff Depth=2.66"
Flow Length=139' Tc=6.4 min CN=89 Runoff=0.43 cfs 0.032 af

Subcatchment 272S: WS 272 Runoff Area=2,532 sf 83.57% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=94 Runoff=0.20 cfs 0.015 af

Subcatchment 273s: WS-273 Runoff Area=5,486 sf 88.52% Impervious Runoff Depth=3.26"
Tc=5.0 min CN=95 Runoff=0.45 cfs 0.034 af

Subcatchment 274S: WS-274 Runoff Area=1,861 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment 275S: WS 275 Runoff Area=6,128 sf 0.00% Impervious Runoff Depth=0.73"
Tc=5.0 min CN=61 Runoff=0.10 cfs 0.009 af

Subcatchment 276S: WS 276 Runoff Area=5,684 sf 100.00% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=98 Runoff=0.49 cfs 0.039 af

Subcatchment 277S: WS-277 Runoff Area=2,581,999 sf 22.20% Impervious Runoff Depth=1.83"
Flow Length=1,486' Slope=0.0132 '/' Tc=44.0 min CN=79 Runoff=58.99 cfs 9.022 af

Subcatchment 278S: WS-278 Runoff Area=1,554,325 sf 30.93% Impervious Runoff Depth=1.98"
Flow Length=1,342' Slope=0.0279 '/' Tc=29.0 min CN=81 Runoff=47.41 cfs 5.886 af

Subcatchment 279S: WS-279 Runoff Area=548,594 sf 31.56% Impervious Runoff Depth=1.98"
Flow Length=1,432' Slope=0.0080 '/' Tc=54.1 min CN=81 Runoff=12.16 cfs 2.077 af

Reach 1R: REACH 1 Avg. Flow Depth=0.07' Max Vel=1.43 fps Inflow=0.63 cfs 0.094 af
n=0.035 L=152.0' S=0.0658 '/' Capacity=877.01 cfs Outflow=0.63 cfs 0.094 af

Reach 2R: REACH 2 Avg. Flow Depth=0.93' Max Vel=6.75 fps Inflow=50.47 cfs 6.681 af
x 2.00 n=0.012 L=46.0' S=0.0054 '/' Capacity=146.07 cfs Outflow=50.47 cfs 6.681 af

Reach 3R: REACH 3 Avg. Flow Depth=0.55' Max Vel=5.40 fps Inflow=51.22 cfs 7.132 af
n=0.035 L=90.0' S=0.0623 '/' Capacity=853.66 cfs Outflow=51.22 cfs 7.132 af

Reach 4R: REACH 4 Avg. Flow Depth=0.32' Max Vel=3.53 fps Inflow=15.30 cfs 3.546 af
n=0.035 L=261.0' S=0.0536 '/' Capacity=791.90 cfs Outflow=15.30 cfs 3.546 af

Reach 5R: REACH 5 Avg. Flow Depth=0.55' Max Vel=12.88 fps Inflow=15.29 cfs 3.546 af
18.0" Round Pipe x 2.00 n=0.013 L=64.0' S=0.0625 '/' Capacity=52.52 cfs Outflow=15.30 cfs 3.546 af

Reach 6R: REACH 6 Avg. Flow Depth=0.21' Max Vel=6.67 fps Inflow=14.82 cfs 3.450 af
n=0.013 L=242.0' S=0.0475 '/' Capacity=2,006.73 cfs Outflow=14.81 cfs 3.450 af

Reach 7R: REACH 7 Avg. Flow Depth=0.66' Max Vel=4.90 fps Inflow=14.81 cfs 3.450 af
18.0" Round Pipe x 4.00 n=0.013 L=33.0' S=0.0076 '/' Capacity=36.57 cfs Outflow=14.82 cfs 3.450 af

Reach 8R: REACH 8
Avg. Flow Depth=0.06' Max Vel=1.14 fps Inflow=0.43 cfs 0.065 af
n=0.035 L=184.0' S=0.0489 '/' Capacity=756.20 cfs Outflow=0.42 cfs 0.065 af

Reach 9R: REACH 9
Avg. Flow Depth=0.28' Max Vel=2.89 fps Inflow=10.03 cfs 2.601 af
n=0.030 L=93.0' S=0.0323 '/' Capacity=716.46 cfs Outflow=10.04 cfs 2.601 af

Reach 11R: REACH 11
Avg. Flow Depth=0.43' Max Vel=1.45 fps Inflow=10.38 cfs 2.537 af
n=0.035 L=409.0' S=0.0061 '/' Capacity=267.32 cfs Outflow=9.82 cfs 2.537 af

Reach 12R: REACH 12
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=516.0' S=0.0368 '/' Capacity=656.11 cfs Outflow=0.00 cfs 0.000 af

Reach 13R: REACH 13
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=668.0' S=0.0359 '/' Capacity=648.10 cfs Outflow=0.00 cfs 0.000 af

Reach 15R: REACH 15
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=355.0' S=0.0366 '/' Capacity=654.31 cfs Outflow=0.00 cfs 0.000 af

Reach 16R: REACH 16
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=247.0' S=0.0121 '/' Capacity=376.82 cfs Outflow=0.00 cfs 0.000 af

Reach 17R: REACH 17
Avg. Flow Depth=0.37' Max Vel=2.84 fps Inflow=15.30 cfs 3.547 af
n=0.035 L=69.0' S=0.0286 '/' Capacity=577.74 cfs Outflow=15.31 cfs 3.547 af

Reach 18R: REACH 18
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=165.0' S=0.0485 '/' Capacity=752.88 cfs Outflow=0.00 cfs 0.000 af

Reach 19R: REACH 19
Avg. Flow Depth=0.01' Max Vel=0.51 fps Inflow=0.05 cfs 0.001 af
n=0.035 L=134.0' S=0.0448 '/' Capacity=723.51 cfs Outflow=0.02 cfs 0.001 af

Reach 20R: REACH 20
Avg. Flow Depth=0.62' Max Vel=4.39 fps Inflow=50.47 cfs 6.681 af
n=0.035 L=258.0' S=0.0349 '/' Capacity=638.61 cfs Outflow=50.44 cfs 6.681 af

Reach 21R: REACH 21
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=149.0' S=0.0738 '/' Capacity=929.02 cfs Outflow=0.00 cfs 0.000 af

Reach 22R: REACH 22
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=357.0' S=0.0336 '/' Capacity=626.87 cfs Outflow=0.00 cfs 0.000 af

Reach 23R: REACH 23
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=481.0' S=0.0249 '/' Capacity=540.06 cfs Outflow=0.00 cfs 0.000 af

Reach 24R: REACH 24
Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=600.0' S=0.0317 '/' Capacity=608.45 cfs Outflow=0.00 cfs 0.000 af

Reach 25R: REACH 25
Avg. Flow Depth=0.19' Max Vel=3.27 fps Inflow=1.51 cfs 0.112 af
n=0.030 L=201.0' S=0.0498 '/' Capacity=140.98 cfs Outflow=1.51 cfs 0.112 af

Reach 28R: REACH 28
Avg. Flow Depth=0.08' Max Vel=1.26 fps Inflow=0.63 cfs 0.094 af
n=0.035 L=205.0' S=0.0463 '/' Capacity=736.05 cfs Outflow=0.63 cfs 0.094 af

Reach 30R: REACH 30 Avg. Flow Depth=1.00' Max Vel=5.97 fps Inflow=12.16 cfs 2.077 af
12.0" Round Pipe n=0.013 L=150.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=4.11 cfs 2.077 af

Reach 31R: REACH 31 Avg. Flow Depth=0.45' Max Vel=6.62 fps Inflow=47.41 cfs 5.886 af
n=0.022 L=1,716.0' S=0.0484 '/' Capacity=1,196.33 cfs Outflow=46.51 cfs 5.886 af

Reach 32R: REACH 32 Avg. Flow Depth=0.52' Max Vel=6.65 fps Inflow=58.99 cfs 9.022 af
n=0.022 L=2,062.0' S=0.0403 '/' Capacity=1,091.35 cfs Outflow=58.13 cfs 9.022 af

Pond 001: DMH 001 Peak Elev=523.43' Storage=0.000 af Inflow=2.90 cfs 0.264 af
18.0" Round Culvert n=0.013 L=86.0' S=0.0099 '/' Outflow=2.90 cfs 0.263 af

Pond 1F: FOREBAY #1 Peak Elev=523.06' Storage=727 cf Inflow=3.39 cfs 0.305 af
Outflow=3.44 cfs 0.292 af

Pond 1P: INFIL POND #1 Peak Elev=522.13' Storage=4,895 cf Inflow=3.44 cfs 0.292 af
Discarded=0.23 cfs 0.199 af Primary=0.63 cfs 0.094 af Outflow=0.86 cfs 0.292 af

Pond 2F: FOREBAY #2 Peak Elev=532.16' Storage=202 cf Inflow=0.73 cfs 0.052 af
Outflow=0.73 cfs 0.048 af

Pond 2P: WET POND #2 Peak Elev=532.16' Storage=5,550 cf Inflow=1.72 cfs 0.128 af
Outflow=0.27 cfs 0.128 af

Pond 3F: FOREBAY #3 Peak Elev=559.09' Storage=688 cf Inflow=11.69 cfs 2.787 af
Outflow=11.95 cfs 2.777 af

Pond 3P: UNDER GRND INFIL POND #3 Peak Elev=544.90' Storage=1,258 cf Inflow=0.86 cfs 0.070 af
Discarded=0.04 cfs 0.053 af Primary=0.14 cfs 0.017 af Outflow=0.17 cfs 0.070 af

Pond 4F: FOREBAY #4 Peak Elev=503.20' Storage=890 cf Inflow=4.99 cfs 0.378 af
Outflow=4.94 cfs 0.360 af

Pond 4P: INFIL POND #4 Peak Elev=502.14' Storage=5,042 cf Inflow=4.94 cfs 0.360 af
Discarded=0.53 cfs 0.283 af Primary=1.25 cfs 0.078 af Outflow=1.77 cfs 0.361 af

Pond 005: DMH 005 Peak Elev=528.33' Storage=13 cf Inflow=4.46 cfs 0.440 af
18.0" Round Culvert n=0.013 L=115.0' S=0.0548 '/' Outflow=4.46 cfs 0.440 af

Pond 5F: FOREBAY #5 Peak Elev=493.69' Storage=327 cf Inflow=1.64 cfs 0.146 af
Outflow=1.64 cfs 0.140 af

Pond 5P: WET POND #5 Peak Elev=493.63' Storage=19,922 cf Inflow=5.99 cfs 0.491 af
Outflow=0.80 cfs 0.451 af

Pond 6F: FOREBAY #6 Peak Elev=493.83' Storage=399 cf Inflow=3.89 cfs 0.319 af
Outflow=3.88 cfs 0.313 af

Pond 6P: INFIL POND#6 Peak Elev=509.45' Storage=6,403 cf Inflow=3.73 cfs 0.336 af
Discarded=0.20 cfs 0.184 af Primary=1.13 cfs 0.152 af Outflow=1.33 cfs 0.336 af

Pond 7F: FOREBAY 7 Peak Elev=509.45' Storage=842 cf Inflow=3.29 cfs 0.250 af
Outflow=3.33 cfs 0.236 af

Pond 7P: UNDER GRND INFIL POND #7 Peak Elev=522.41' Storage=8,417 cf Inflow=6.56 cfs 0.615 af
Discarded=0.76 cfs 0.543 af Primary=1.61 cfs 0.072 af Outflow=2.37 cfs 0.615 af

Pond 8P: INFIL POND #8 Peak Elev=558.16' Storage=2,896 cf Inflow=11.95 cfs 2.777 af
Discarded=0.34 cfs 0.241 af Primary=10.38 cfs 2.537 af Outflow=10.72 cfs 2.778 af

Pond 9P: PLUNGE POOL Peak Elev=528.87' Storage=226 cf Inflow=3.32 cfs 0.320 af
18.0" Round Culvert n=0.013 L=9.0' S=0.0667 '/' Outflow=3.34 cfs 0.320 af

Pond 10P: DRIP EDGE Peak Elev=521.44' Storage=62 cf Inflow=0.06 cfs 0.005 af
Discarded=0.01 cfs 0.005 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.005 af

Pond 011: DMH 011 Peak Elev=504.38' Storage=8 cf Inflow=1.69 cfs 0.130 af
15.0" Round Culvert n=0.013 L=127.0' S=0.0350 '/' Outflow=1.69 cfs 0.130 af

Pond 11P: DRIP EDGE Peak Elev=531.66' Storage=50 cf Inflow=0.06 cfs 0.005 af
Discarded=0.02 cfs 0.005 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.005 af

Pond 12P: DRIP EDGE Peak Elev=528.30' Storage=277 cf Inflow=0.24 cfs 0.019 af
Discarded=0.04 cfs 0.019 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.019 af

Pond 13P: DRIP EDGE Peak Elev=525.81' Storage=77 cf Inflow=0.06 cfs 0.005 af
Discarded=0.01 cfs 0.005 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.005 af

Pond 14P: DRIP EDGE Peak Elev=530.79' Storage=97 cf Inflow=0.08 cfs 0.007 af
Discarded=0.02 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.007 af

Pond 15P: DRIP EDGE Peak Elev=530.79' Storage=216 cf Inflow=0.15 cfs 0.012 af
Discarded=0.02 cfs 0.012 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.012 af

Pond 16P: DRIP EDGE Peak Elev=523.61' Storage=164 cf Inflow=0.14 cfs 0.011 af
Discarded=0.03 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.011 af

Pond 17P: DRIP EDGE Peak Elev=506.67' Storage=182 cf Inflow=0.15 cfs 0.012 af
Discarded=0.02 cfs 0.012 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.012 af

Pond 18P: DRIP EDGE Peak Elev=504.39' Storage=307 cf Inflow=0.25 cfs 0.020 af
Discarded=0.03 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.020 af

Pond 19P: DRIP EDGE Peak Elev=505.01' Storage=254 cf Inflow=0.19 cfs 0.015 af
Discarded=0.01 cfs 0.015 af Primary=0.05 cfs 0.001 af Outflow=0.07 cfs 0.015 af

Pond 20P: DRIP EDGE Peak Elev=505.13' Storage=228 cf Inflow=0.23 cfs 0.018 af
Discarded=0.05 cfs 0.018 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.018 af

Pond 21P: DRIP EDGE Peak Elev=496.71' Storage=107 cf Inflow=0.12 cfs 0.010 af
Discarded=0.02 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.010 af

Pond 22P: DRIP EDGE Peak Elev=496.67' Storage=213 cf Inflow=0.25 cfs 0.020 af
Discarded=0.05 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.020 af

Pond 23P: DRIP EDGE Peak Elev=499.76' Storage=224 cf Inflow=0.25 cfs 0.020 af
Discarded=0.04 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.020 af

Pond 24P: DRIP EDGE Peak Elev=499.61' Storage=125 cf Inflow=0.15 cfs 0.012 af
Discarded=0.03 cfs 0.012 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.012 af

Pond 25P: DRIP EDGE Peak Elev=499.68' Storage=215 cf Inflow=0.25 cfs 0.020 af
Discarded=0.05 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.020 af

Pond 26P: DRIP EDGE Peak Elev=508.01' Storage=172 cf Inflow=0.19 cfs 0.015 af
Discarded=0.03 cfs 0.015 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.015 af

Pond 27P: UNDER GRND INFIL POND #27 Peak Elev=545.25' Storage=3,146 cf Inflow=2.10 cfs 0.163 af
Discarded=0.08 cfs 0.115 af Primary=0.29 cfs 0.048 af Outflow=0.37 cfs 0.163 af

Pond 101: CB 101 Peak Elev=510.61' Storage=4 cf Inflow=0.31 cfs 0.023 af
15.0" Round Culvert n=0.013 L=31.0' S=0.0097 '/' Outflow=0.31 cfs 0.023 af

Pond 102: CB 102 Peak Elev=524.28' Storage=0.000 af Inflow=0.73 cfs 0.069 af
18.0" Round Culvert n=0.013 L=43.0' S=0.0093 '/' Outflow=0.73 cfs 0.069 af

Pond 104: CB 104 Peak Elev=510.58' Storage=3 cf Inflow=0.16 cfs 0.011 af
15.0" Round Culvert n=0.013 L=34.0' S=0.0103 '/' Outflow=0.16 cfs 0.011 af

Pond 105: CB 124 Peak Elev=546.17' Storage=0.000 af Inflow=0.81 cfs 0.060 af
15.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/' Outflow=0.81 cfs 0.060 af

Pond 106: CB 106 Peak Elev=510.40' Storage=6 cf Inflow=1.09 cfs 0.083 af
15.0" Round Culvert n=0.013 L=171.0' S=0.0173 '/' Outflow=1.09 cfs 0.083 af

Pond 107: CB 107 Peak Elev=500.15' Storage=12 cf Inflow=3.33 cfs 0.274 af
15.0" Round Culvert n=0.013 L=63.0' S=0.0302 '/' Outflow=3.33 cfs 0.274 af

Pond 108: CB 108 Peak Elev=500.37' Storage=8 cf Inflow=1.06 cfs 0.087 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0205 '/' Outflow=1.06 cfs 0.087 af

Pond 109: CB 109 Peak Elev=498.21' Storage=13 cf Inflow=3.64 cfs 0.298 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0318 '/' Outflow=3.64 cfs 0.298 af

Pond 110: CB 110 Peak Elev=497.35' Storage=12 cf Inflow=3.88 cfs 0.319 af
18.0" Round Culvert n=0.013 L=29.0' S=0.0483 '/' Outflow=3.89 cfs 0.319 af

Pond 111: CB 111 Peak Elev=493.75' Storage=16 cf Inflow=1.64 cfs 0.146 af
18.0" Round Culvert n=0.013 L=46.0' S=0.0100 '/' Outflow=1.64 cfs 0.146 af

Pond 112: CB 112 Peak Elev=493.84' Storage=14 cf Inflow=1.47 cfs 0.131 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=1.47 cfs 0.130 af

Pond 113: CB 113
Peak Elev=493.91' Storage=11 cf Inflow=1.15 cfs 0.099 af
15.0" Round Culvert n=0.013 L=12.0' S=0.0117 '/' Outflow=1.15 cfs 0.098 af

Pond 114: CB 114
Peak Elev=517.76' Storage=0.000 af Inflow=1.67 cfs 0.129 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0883 '/' Outflow=1.67 cfs 0.129 af

Pond 115: CB 115
Peak Elev=517.80' Storage=3 cf Inflow=0.12 cfs 0.009 af
15.0" Round Culvert n=0.013 L=16.0' S=0.0200 '/' Outflow=0.13 cfs 0.009 af

Pond 116: CB 116
Peak Elev=512.15' Storage=12 cf Inflow=3.29 cfs 0.250 af
15.0" Round Culvert n=0.013 L=61.0' S=0.0525 '/' Outflow=3.29 cfs 0.250 af

Pond 117: CB 117
Peak Elev=513.97' Storage=0.000 af Inflow=1.06 cfs 0.077 af
15.0" Round Culvert n=0.013 L=138.0' S=0.0163 '/' Outflow=1.06 cfs 0.077 af

Pond 118: CB 118
Peak Elev=522.41' Storage=15 cf Inflow=1.49 cfs 0.107 af
15.0" Round Culvert n=0.013 L=5.0' S=0.0500 '/' Outflow=1.48 cfs 0.107 af

Pond 119: CB 119
Peak Elev=545.78' Storage=0.000 af Inflow=1.26 cfs 0.095 af
15.0" Round Culvert n=0.013 L=112.0' S=0.0050 '/' Outflow=1.26 cfs 0.095 af

Pond 120: CB 120
Peak Elev=540.26' Storage=0.000 af Inflow=1.51 cfs 0.113 af
15.0" Round Culvert n=0.013 L=53.0' S=0.0100 '/' Outflow=1.51 cfs 0.112 af

Pond 121: CB 121
Peak Elev=540.98' Storage=0.000 af Inflow=0.91 cfs 0.067 af
15.0" Round Culvert n=0.013 L=84.0' S=0.0223 '/' Outflow=0.90 cfs 0.067 af

Pond 122: CB 122
Peak Elev=524.33' Storage=0.000 af Inflow=1.08 cfs 0.086 af
15.0" Round Culvert n=0.013 L=162.0' S=0.0407 '/' Outflow=1.08 cfs 0.086 af

Pond 123: CB 123
Peak Elev=524.47' Storage=0.000 af Inflow=0.16 cfs 0.011 af
15.0" Round Culvert n=0.013 L=16.0' S=0.0200 '/' Outflow=0.16 cfs 0.011 af

Pond 124: CB 124
Peak Elev=524.03' Storage=9 cf Inflow=1.79 cfs 0.166 af
18.0" Round Culvert n=0.013 L=107.0' S=0.0084 '/' Outflow=1.79 cfs 0.166 af

Pond 125: CB 124
Peak Elev=524.55' Storage=7 cf Inflow=1.06 cfs 0.096 af
18.0" Round Culvert n=0.013 L=90.0' S=0.0067 '/' Outflow=1.06 cfs 0.096 af

Pond 126: CB 126
Peak Elev=507.48' Storage=8 cf Inflow=1.69 cfs 0.130 af
15.0" Round Culvert n=0.013 L=100.0' S=0.0300 '/' Outflow=1.69 cfs 0.130 af

Pond 127: CB 127
Peak Elev=507.54' Storage=38 cf Inflow=0.20 cfs 0.015 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0114 '/' Outflow=0.21 cfs 0.015 af

Pond 128: YARD DRAIN
Peak Elev=530.05' Storage=0 cf Inflow=1.31 cfs 0.121 af
15.0" Round Culvert n=0.013 L=136.0' S=0.0154 '/' Outflow=1.31 cfs 0.121 af

Pond 129: CB 129
Peak Elev=544.99' Storage=3 cf Inflow=0.16 cfs 0.013 af
15.0" Round Culvert n=0.013 L=22.0' S=0.0100 '/' Outflow=0.16 cfs 0.013 af

Pond 130: CB 130 Peak Elev=544.91' Storage=6 cf Inflow=0.40 cfs 0.032 af
15.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/' Outflow=0.40 cfs 0.032 af

Pond 131: CB 131 Peak Elev=544.90' Storage=10 cf Inflow=0.87 cfs 0.070 af
15.0" Round Culvert n=0.013 L=23.0' S=0.0083 '/' Outflow=0.86 cfs 0.070 af

Pond 132: CB 132 Peak Elev=545.25' Storage=16 cf Inflow=2.11 cfs 0.163 af
15.0" Round Culvert n=0.013 L=9.0' S=0.0056 '/' Outflow=2.10 cfs 0.163 af

Pond 133: CB 133 Peak Elev=545.28' Storage=10 cf Inflow=1.62 cfs 0.124 af
15.0" Round Culvert n=0.013 L=75.0' S=0.0051 '/' Outflow=1.61 cfs 0.124 af

Pond 135: CB 135 Peak Elev=564.50' Storage=0.001 af Inflow=11.60 cfs 2.778 af
18.0" Round Culvert n=0.013 L=73.0' S=0.0123 '/' Outflow=11.60 cfs 2.778 af

Link AP-1: Analysis Point #1 Inflow=0.04 cfs 0.007 af
Primary=0.04 cfs 0.007 af

Link AP-2: Analysis Point #2 Inflow=0.18 cfs 0.027 af
Primary=0.18 cfs 0.027 af

Link AP-3: Analysis Point #3 Inflow=0.29 cfs 0.033 af
Primary=0.29 cfs 0.033 af

Link AP-4: Analysis Point #4 Inflow=17.68 cfs 3.951 af
Primary=17.68 cfs 3.951 af

Link AP-5: Analysis Point #5 Inflow=64.43 cfs 10.294 af
Primary=64.43 cfs 10.294 af

Link AP-6: Analysis Point #6 Inflow=65.97 cfs 11.359 af
Primary=65.97 cfs 11.359 af

Total Runoff Area = 177.048 ac Runoff Volume = 27.623 af Average Runoff Depth = 1.87"
72.47% Pervious = 128.304 ac 27.53% Impervious = 48.744 ac

Summary for Subcatchment 201S: WS 201

Runoff = 0.04 cfs @ 12.38 hrs, Volume= 0.007 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
8,114	55	Woods, Good, HSG B
8,114		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	75	0.0330	0.08		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 2.63"
1.2	118	0.1000	1.58		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
16.6	193	Total			

Summary for Subcatchment 202S: WS 202

Runoff = 0.18 cfs @ 12.31 hrs, Volume= 0.027 af, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
25,012	55	Woods, Good, HSG B
3,321	61	>75% Grass cover, Good, HSG B
28,333	56	Weighted Average
28,333		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	75	0.0700	0.11		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 2.63"
3.2	254	0.0700	1.32		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
14.6	329	Total			

Summary for Subcatchment 203S: WS 203

Runoff = 0.29 cfs @ 12.17 hrs, Volume= 0.033 af, Depth= 0.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
19,099	55	Woods, Good, HSG B
1,868	70	Woods, Good, HSG C
1,198	74	>75% Grass cover, Good, HSG C
7,395	61	>75% Grass cover, Good, HSG B
29,560	58	Weighted Average
29,560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	75	0.1300	0.14		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 2.63"

Summary for Subcatchment 204S: WS 204

Runoff = 1.97 cfs @ 12.44 hrs, Volume= 0.252 af, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
8,644	98	Paved parking, HSG C
40,483	74	>75% Grass cover, Good, HSG C
36,418	70	Woods, Good, HSG C
85,545	75	Weighted Average
76,901		89.90% Pervious Area
8,644		10.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	50	0.1200	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 2.63"
10.2	35	0.0800	0.06		**Sheet Flow, WETLAND** Woods: Dense underbrush n= 0.800 P2= 2.63"
16.5	414	0.0280	0.42		**Shallow Concentrated Flow, WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
29.7	499	Total			

Summary for Subcatchment 205S: WS 205

Runoff = 16.78 cfs @ 12.85 hrs, Volume= 3.084 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
32,291	98	Paved parking, HSG C
6,029	61	>75% Grass cover, Good, HSG B
167,460	74	>75% Grass cover, Good, HSG C
16,546	55	Woods, Good, HSG B
443,120	70	Woods, Good, HSG C
254,531	94	Urban commercial, 85% imp, HSG C
919,977	78	Weighted Average
671,335		72.97% Pervious Area
248,642		27.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	75	0.1400	0.08		**Sheet Flow, WOODLAND** Woods: Dense underbrush n= 0.800 P2= 2.63"
7.8	559	0.0570	1.19		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
6.2	524	0.0400	1.40		**Shallow Concentrated Flow, GRASS** Short Grass Pasture Kv= 7.0 fps
31.6	924	0.0380	0.49		**Shallow Concentrated Flow, THROUGH WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
60.6	2,082	Total			

Summary for Subcatchment 206S: WS 206

Runoff = 10.67 cfs @ 13.09 hrs, Volume= 2.337 af, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,353	98	Paved parking, HSG C
1,858	98	Roofs, HSG C
76,670	74	>75% Grass cover, Good, HSG C
325,831	70	Woods, Good, HSG C
50,832	94	Urban commercial, 85% imp, HSG C
301,513	80	1/2 acre lots, 25% imp, HSG C
759,057	76	Weighted Average
636,261		83.82% Pervious Area
122,796		16.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	75	0.0400	0.09		**Sheet Flow, WETLAND** Woods: Light underbrush n= 0.400 P2= 2.63"
64.7	1,942	0.0400	0.50		**Shallow Concentrated Flow, WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
79.0	2,017	Total			

Summary for Subcatchment 207S: WS 207

Runoff = 0.49 cfs @ 12.15 hrs, Volume= 0.042 af, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
12,232	74	>75% Grass cover, Good, HSG C
1,333	98	Roofs, HSG C
13,565	76	Weighted Average
12,232		90.17% Pervious Area
1,333		9.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	42	0.0100	0.07		**Sheet Flow, THROUGH GRASS** Grass: Dense n= 0.240 P2= 2.63"

Summary for Subcatchment 208S: WS 208

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.24 cfs @ 12.07 hrs, Volume= 0.019 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,441	98	Roofs, HSG C
319	96	Gravel surface, HSG C
2,760	98	Weighted Average
319		11.56% Pervious Area
2,441		88.44% Impervious Area

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

Summary for Subcatchment 209S: WS 209

Runoff = 1.20 cfs @ 12.14 hrs, Volume= 0.098 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
7,587	98	Paved parking, HSG C
3,286	98	Roofs, HSG C
10,531	74	>75% Grass cover, Good, HSG C
21,404	86	Weighted Average
10,531		49.20% Pervious Area
10,873		50.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	58	0.0100	0.10		**Sheet Flow, THROUGH GRASS** Grass: Short n= 0.150 P2= 2.63"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow, OVER PAVEMENT** Paved Kv= 20.3 fps
0.3	29	0.0500	1.57		**Shallow Concentrated Flow, GRASS** Short Grass Pasture Kv= 7.0 fps
9.6	107	Total			

Summary for Subcatchment 210S: WS 210

Runoff = 0.73 cfs @ 12.21 hrs, Volume= 0.069 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
63	98	Paved parking, HSG C
3,146	98	Roofs, HSG C
17,405	74	>75% Grass cover, Good, HSG C
20,614	78	Weighted Average
17,405		84.43% Pervious Area
3,209		15.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.3	75	0.0100	0.11		**Sheet Flow, THROUGH GRASS** Grass: Short n= 0.150 P2= 2.63"
3.5	148	0.0100	0.70		**Shallow Concentrated Flow, THROUGH GRASS** Short Grass Pasture Kv= 7.0 fps
14.8	223	Total			

Summary for Subcatchment 211S: WS 211

Runoff = 1.06 cfs @ 12.19 hrs, Volume= 0.096 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
5,097	98	Paved parking, HSG C
16,747	74	>75% Grass cover, Good, HSG C
2,651	98	Roofs, HSG C
24,495	82	Weighted Average
16,747		68.37% Pervious Area
7,748		31.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.3	75	0.0100	0.11		**Sheet Flow, THROUGH GRASS** Grass: Short n= 0.150 P2= 2.63"
1.0	41	0.0100	0.70		**Shallow Concentrated Flow, THROUGH GRASS** Short Grass Pasture Kv= 7.0 fps
1.1	207	0.0220	3.01		**Shallow Concentrated Flow, PAVE** Paved Kv= 20.3 fps
13.4	323	Total			

Summary for Subcatchment 212S: WS 212

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.73 cfs @ 12.08 hrs, Volume= 0.052 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
67	74	>75% Grass cover, Good, HSG C
25	98	Paved parking, HSG C
7,204	98	Paved parking, HSG B
8,194	61	>75% Grass cover, Good, HSG B
15,490	78	Weighted Average
8,261		53.33% Pervious Area
7,229		46.67% Impervious Area

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

Summary for Subcatchment 213S: WS 213

Runoff = 4.30 cfs @ 12.69 hrs, Volume= 0.702 af, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
6,874	55	Woods, Good, HSG B
37,805	94	Urban commercial, 85% imp, HSG C
1,871	96	Gravel surface, HSG B
9,884	61	>75% Grass cover, Good, HSG B
133,288	70	Woods, Good, HSG C
59,346	74	>75% Grass cover, Good, HSG C
249,068	74	Weighted Average
216,934		87.10% Pervious Area
32,134		12.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	67	0.0100	0.07		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
0.6	35	0.0200	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.63"
31.8	1,011	0.0450	0.53		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
47.5	1,113	Total			

Summary for Subcatchment 215S: WS 215

Per UNH Stormwater Center Porous Pavement Specifications, lag time through a 41" standard porous pavement base = 790 minutes. Porous Section #1 = 57.36", therefore, lag time = 1105 min.

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.36 cfs @ 12.07 hrs, Volume= 0.029 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
4,149	98	Paved parking, HSG C
50	74	>75% Grass cover, Good, HSG C
4,199	98	Weighted Average
50		1.19% Pervious Area
4,149		98.81% Impervious Area

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

Summary for Subcatchment 217S: WS-217

Runoff = 2.23 cfs @ 12.20 hrs, Volume= 0.207 af, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
28,450	98	Paved parking, HSG B
13,663	55	Woods, Good, HSG B
28,303	61	>75% Grass cover, Good, HSG B
70,416	75	Weighted Average
41,966		59.60% Pervious Area
28,450		40.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	75	0.0900	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.63"
2.4	127	0.0310	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	628	0.0490	13.99	167.89	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.025 Earth, clean & winding
13.4	830	Total			

Summary for Subcatchment 218S: WS-218

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.24 cfs @ 12.07 hrs, Volume= 0.019 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,802	98	Paved parking, HSG C
2,802		100.00% Impervious Area

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

Summary for Subcatchment 219S: WS-219

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.47 cfs @ 12.07 hrs, Volume= 0.037 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
5,454	98	Paved parking, HSG C
5,454		100.00% Impervious Area

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

Summary for Subcatchment 220S: WS 220

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.56 cfs @ 12.08 hrs, Volume= 0.040 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
4,337	61	>75% Grass cover, Good, HSG B
5,825	98	Paved parking, HSG B
10,162	82	Weighted Average
4,337		42.68% Pervious Area
5,825		57.32% Impervious Area

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

Summary for Subcatchment 221S: WS 221

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.37 cfs @ 12.08 hrs, Volume= 0.026 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
3,417	61	>75% Grass cover, Good, HSG B
3,785	98	Paved parking, HSG B
7,202	80	Weighted Average
3,417		47.45% Pervious Area
3,785		52.55% Impervious Area

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

Summary for Subcatchment 222S: WS 222

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.24 cfs @ 12.07 hrs, Volume= 0.019 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,763	98	Roofs, HSG B
2,763		100.00% Impervious Area

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

Summary for Subcatchment 223S: WS 223

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.63 cfs @ 12.07 hrs, Volume= 0.050 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
7,260	98	Roofs, HSG B
7,260		100.00% Impervious Area

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

Summary for Subcatchment 224S: WS 224

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 0.027 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
3,992	98	Roofs, HSG B
3,992		100.00% Impervious Area

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

Summary for Subcatchment 225S: WS 225

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.04 cfs @ 12.07 hrs, Volume= 0.082 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
12,002	98	Roofs, HSG B
12,002		100.00% Impervious Area

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

Summary for Subcatchment 226S: WS 226

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.38 cfs @ 12.07 hrs, Volume= 0.030 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
4,369	98	Roofs, HSG B
4,369		100.00% Impervious Area

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

Summary for Subcatchment 227S: WS 227

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.22 cfs @ 12.07 hrs, Volume= 0.018 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
289	98	Roofs, HSG C
2,268	98	Roofs, HSG B
2,557	98	Weighted Average
2,557		100.00% Impervious Area

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

Summary for Subcatchment 228S: WS 228

Runoff = 0.32 cfs @ 12.11 hrs, Volume= 0.024 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
72	98	Paved parking, HSG C
310	74	>75% Grass cover, Good, HSG C
3,010	98	Paved parking, HSG B
4,134	61	>75% Grass cover, Good, HSG B
7,526	77	Weighted Average
4,444		59.05% Pervious Area
3,082		40.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	75	0.0300	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.2	60	0.0580	4.89		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	135	Total			

Summary for Subcatchment 229S: WS 229

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.64 cfs @ 12.07 hrs, Volume= 0.051 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
934	98	Roofs, HSG B
6,441	98	Roofs, HSG C
7,375	98	Weighted Average
7,375		100.00% Impervious Area

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

Summary for Subcatchment 230S: WS 230

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.63 cfs @ 12.07 hrs, Volume= 0.050 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
17	98	Roofs, HSG B
7,289	98	Roofs, HSG C
7,306	98	Weighted Average
7,306		100.00% Impervious Area

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

Summary for Subcatchment 231S: WS 231

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.49 cfs @ 12.07 hrs, Volume= 0.107 af, Depth= 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
1,655	74	>75% Grass cover, Good, HSG C
1,164	98	Paved parking, HSG C
4,230	61	>75% Grass cover, Good, HSG B
13,850	98	Paved parking, HSG B
20,899	89	Weighted Average
5,885		28.16% Pervious Area
15,014		71.84% Impervious Area

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

Summary for Subcatchment 232S: WS 232

Runoff = 0.12 cfs @ 12.10 hrs, Volume= 0.009 af, Depth= 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
332	74	>75% Grass cover, Good, HSG C
1,285	98	Paved parking, HSG C
1,617	93	Weighted Average
332		20.53% Pervious Area
1,285		79.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0430	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.4	55	0.0860	2.05		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	28	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.8	158	Total			

Summary for Subcatchment 233S: WS 233

Runoff = 1.06 cfs @ 12.13 hrs, Volume= 0.087 af, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
3,333	98	Roofs, HSG C
4,791	74	>75% Grass cover, Good, HSG C
7,871	98	Paved parking, HSG C
15,995	91	Weighted Average
4,791		29.95% Pervious Area
11,204		70.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	68	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.1	7	0.0290	0.85		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.63"
1.1	237	0.0290	3.46		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
9.1	312	Total			

Summary for Subcatchment 234S: WS 234

Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.077 af, Depth= 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
9,612	74	>75% Grass cover, Good, HSG C
7,832	98	Paved parking, HSG C
17,444	85	Weighted Average
9,612		55.10% Pervious Area
7,832		44.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	68	0.0800	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.2	8	0.0200	0.75		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.63"
1.2	223	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.0	299	Total			

Summary for Subcatchment 235S: WS 235

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.60 cfs @ 12.07 hrs, Volume= 0.045 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
6,040	98	Paved parking, HSG C
1,326	74	>75% Grass cover, Good, HSG C
7,366	94	Weighted Average
1,326		18.00% Pervious Area
6,040		82.00% Impervious Area

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

Summary for Subcatchment 236S: WS 236

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.40 cfs @ 12.08 hrs, Volume= 0.029 af, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
10,261	74	>75% Grass cover, Good, HSG C
10,261		100.00% Pervious Area

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

Summary for Subcatchment 237S: WS 237

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.50 cfs @ 12.05 hrs, Volume= 0.033 af, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,716	74	>75% Grass cover, Good, HSG C
4,077	98	Paved parking, HSG C
6,793	88	Weighted Average
2,716		39.98% Pervious Area
4,077		60.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	40	0.1400	0.28		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.4	35	0.0600	1.57		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.63"
0.4	120	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.2	195	Total			

Summary for Subcatchment 238S: WS 238

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.16 cfs @ 12.08 hrs, Volume= 0.011 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
602	61	>75% Grass cover, Good, HSG B
303	74	>75% Grass cover, Good, HSG C
1,331	98	Paved parking, HSG B
233	98	Paved parking, HSG C
2,469	86	Weighted Average
905		36.65% Pervious Area
1,564		63.35% Impervious Area

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

Summary for Subcatchment 239S: WS 239

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 0.011 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
1,499	98	Paved parking, HSG C
528	74	>75% Grass cover, Good, HSG C
2,027	92	Weighted Average
528		26.05% Pervious Area
1,499		73.95% Impervious Area

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

Summary for Subcatchment 240S: WS 271

Runoff = 0.41 cfs @ 12.18 hrs, Volume= 0.038 af, Depth= 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
3,797	98	Paved parking, HSG B
13,529	61	>75% Grass cover, Good, HSG B
17,326	69	Weighted Average
13,529		78.08% Pervious Area
3,797		21.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.3	75	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.3	58	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.6	133	Total			

Summary for Subcatchment 241S: WS 241

Runoff = 0.65 cfs @ 12.58 hrs, Volume= 0.096 af, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,894	61	>75% Grass cover, Good, HSG B
7,641	70	Woods, Good, HSG C
2,970	98	Paved parking, HSG C
20,679	74	>75% Grass cover, Good, HSG C
34,184	74	Weighted Average
31,214		91.31% Pervious Area
2,970		8.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	27	0.1500	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
28.5	58	0.0170	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.63"
8.8	250	0.0360	0.47		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
39.8	335	Total			

Summary for Subcatchment 242S: WS 242

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.62 cfs @ 12.07 hrs, Volume= 0.048 af, Depth> 3.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
6,840	98	Paved parking, HSG C
421	74	>75% Grass cover, Good, HSG C
7,261	97	Weighted Average
421		5.80% Pervious Area
6,840		94.20% Impervious Area

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

Summary for Subcatchment 243S: WS 243

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 0.023 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
3,270	98	Paved parking, HSG C
600	74	>75% Grass cover, Good, HSG C
3,870	94	Weighted Average
600		15.50% Pervious Area
3,270		84.50% Impervious Area

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

Summary for Subcatchment 244S: WS-244

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.81 cfs @ 12.07 hrs, Volume= 0.060 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
1,522	74	>75% Grass cover, Good, HSG C
8,484	98	Paved parking, HSG C
10,006	94	Weighted Average
1,522		15.21% Pervious Area
8,484		84.79% Impervious Area

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

Summary for Subcatchment 245S: WS 245

Runoff = 4.99 cfs @ 12.11 hrs, Volume= 0.378 af, Depth= 2.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
14,075	98	Roofs, HSG C
21,793	98	Paved parking, HSG C
51,955	74	>75% Grass cover, Good, HSG C
4,568	70	Woods, Good, HSG C
92,391	83	Weighted Average
56,523		61.18% Pervious Area
35,868		38.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	75	0.1000	0.28		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
2.5	131	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	116	0.0380	3.96		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	322	Total			

Summary for Subcatchment 246S: WS 246

Runoff = 0.68 cfs @ 12.15 hrs, Volume= 0.057 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
1,393	70	Woods, Good, HSG C
8,082	74	>75% Grass cover, Good, HSG C
1,012	98	Roofs, HSG C
3,957	98	Paved parking, HSG C
14,444	82	Weighted Average
9,475		65.60% Pervious Area
4,969		34.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	75	0.0320	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
3.2	237	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	39	0.0320	3.63		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.5	351	Total			

Summary for Subcatchment 247S: WS 247

Runoff = 1.15 cfs @ 12.16 hrs, Volume= 0.099 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,947	98	Roofs, HSG C
9,615	70	Woods, Good, HSG C
1,030	96	Gravel surface, HSG C
3,709	98	Paved parking, HSG C
10,900	74	>75% Grass cover, Good, HSG C
28,201	79	Weighted Average
21,545		76.40% Pervious Area
6,656		23.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0430	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
5.1	159	0.0430	0.52		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
11.4	234	Total			

Summary for Subcatchment 248S: WS 248

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.44 cfs @ 12.08 hrs, Volume= 0.032 af, Depth= 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
367	98	Roofs, HSG C
2,354	74	>75% Grass cover, Good, HSG C
3,577	98	Paved parking, HSG C
6,298	89	Weighted Average
2,354		37.38% Pervious Area
3,944		62.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	44	0.0350	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.4	31	0.0390	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.63"
0.6	133	0.0390	4.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.5	208	Total			

Summary for Subcatchment 249S: WS 249

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.22 cfs @ 12.07 hrs, Volume= 0.016 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,269	98	Paved parking, HSG C
388	74	>75% Grass cover, Good, HSG C
2,657	94	Weighted Average
388		14.60% Pervious Area
2,269		85.40% Impervious Area

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

Summary for Subcatchment 250S: WS 250

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.52 cfs @ 12.08 hrs, Volume= 0.038 af, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
13,455	74	>75% Grass cover, Good, HSG C
13,455		100.00% Pervious Area

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

Summary for Subcatchment 251S: WS 251

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.024 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
361	98	Roofs, HSG C
2,861	98	Paved parking, HSG C
1,008	74	>75% Grass cover, Good, HSG C
4,230	92	Weighted Average
1,008		23.83% Pervious Area
3,222		76.17% Impervious Area

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

Summary for Subcatchment 252S: WS 252

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.26 cfs @ 12.07 hrs, Volume= 0.021 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
3,060	98	Paved parking, HSG C
3,060		100.00% Impervious Area

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

Summary for Subcatchment 253S: WS 253

Runoff = 8.68 cfs @ 12.11 hrs, Volume= 0.701 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
102,257	94	Urban commercial, 85% imp, HSG C
13,774	92	Urban commercial, 85% imp, HSG B
116,031	94	Weighted Average
17,405		15.00% Pervious Area
98,626		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	78	0.0100	0.90		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.63"
6.4	595	0.0100	1.55	2.73	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.050
7.8	673	Total			

Summary for Subcatchment 254S: WS 254

Runoff = 5.57 cfs @ 12.45 hrs, Volume= 0.720 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
80,053	94	Urban commercial, 85% imp, HSG C
46,740	70	Woods, Good, HSG C
43,423	74	>75% Grass cover, Good, HSG C
7,254	55	Woods, Good, HSG B
15,076	61	>75% Grass cover, Good, HSG B
5,410	92	Urban commercial, 85% imp, HSG B
197,956	80	Weighted Average
125,312		63.30% Pervious Area
72,644		36.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.3	75	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.4	16	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	70	0.0100	5.94	10.50	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
19.6	630	0.0460	0.54		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
31.5	791	Total			

Summary for Subcatchment 255S: WS 255

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.06 cfs @ 12.07 hrs, Volume= 0.005 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
106	96	Gravel surface, HSG C
619	98	Roofs, HSG C
725	98	Weighted Average
106		14.62% Pervious Area
619		85.38% Impervious Area

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

Summary for Subcatchment 256S: WS 256

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.06 cfs @ 12.07 hrs, Volume= 0.005 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
106	96	Gravel surface, HSG C
604	98	Roofs, HSG C
710	98	Weighted Average
106		14.93% Pervious Area
604		85.07% Impervious Area

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

Summary for Subcatchment 257S: WS 257

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.06 cfs @ 12.07 hrs, Volume= 0.005 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
106	96	Gravel surface, HSG C
619	98	Roofs, HSG C
725	98	Weighted Average
106		14.62% Pervious Area
619		85.38% Impervious Area

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

Summary for Subcatchment 258S: WS 258

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.08 cfs @ 12.08 hrs, Volume= 0.007 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
875	98	Roofs, HSG C
87	96	Gravel surface, HSG C
962	98	Weighted Average
87		9.04% Pervious Area
875		90.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	75	0.2400	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
1.1	162	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
5.7	237	Total			

Summary for Subcatchment 259S: WS 259

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
193	96	Gravel surface, HSG C
1,497	98	Roofs, HSG C
1,690	98	Weighted Average
193		11.42% Pervious Area
1,497		88.58% Impervious Area

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

Summary for Subcatchment 260S: WS 260

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.14 cfs @ 12.07 hrs, Volume= 0.011 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
196	96	Gravel surface, HSG C
1,438	98	Roofs, HSG C
1,634	98	Weighted Average
196		12.00% Pervious Area
1,438		88.00% Impervious Area

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

Summary for Subcatchment 261S: WS 261

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
193	96	Gravel surface, HSG C
1,497	98	Roofs, HSG C
1,690	98	Weighted Average
193		11.42% Pervious Area
1,497		88.58% Impervious Area

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

Summary for Subcatchment 262S: WS 262

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.25 cfs @ 12.07 hrs, Volume= 0.020 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
319	96	Gravel surface, HSG C
2,557	98	Roofs, HSG C
2,876	98	Weighted Average
319		11.09% Pervious Area
2,557		88.91% Impervious Area

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

Summary for Subcatchment 263S: WS 263

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 0.015 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
213	96	Gravel surface, HSG C
2,010	98	Roofs, HSG C
2,223	98	Weighted Average
213		9.58% Pervious Area
2,010		90.42% Impervious Area

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

Summary for Subcatchment 264S: WS 264

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 0.018 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,345	98	Roofs, HSG C
266	96	Gravel surface, HSG C
2,611	98	Weighted Average
266		10.19% Pervious Area
2,345		89.81% Impervious Area

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

Summary for Subcatchment 265S: WS 265

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 0.010 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
157	96	Gravel surface, HSG C
1,282	98	Roofs, HSG C
1,439	98	Weighted Average
157		10.91% Pervious Area
1,282		89.09% Impervious Area

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

Summary for Subcatchment 266S: WS 266

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.25 cfs @ 12.07 hrs, Volume= 0.020 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
319	96	Gravel surface, HSG C
2,557	98	Roofs, HSG C
2,876	98	Weighted Average
319		11.09% Pervious Area
2,557		88.91% Impervious Area

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

Summary for Subcatchment 267S: WS 267

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.25 cfs @ 12.07 hrs, Volume= 0.020 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
319	96	Gravel surface, HSG C
2,557	98	Roofs, HSG C
2,876	98	Weighted Average
319		11.09% Pervious Area
2,557		88.91% Impervious Area

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

Summary for Subcatchment 268S: WS 268

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
193	96	Gravel surface, HSG C
1,497	98	Roofs, HSG C
1,690	98	Weighted Average
193		11.42% Pervious Area
1,497		88.58% Impervious Area

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

Summary for Subcatchment 269S: WS 269

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.25 cfs @ 12.07 hrs, Volume= 0.020 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
319	96	Gravel surface, HSG C
2,557	98	Roofs, HSG C
2,876	98	Weighted Average
319		11.09% Pervious Area
2,557		88.91% Impervious Area

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

Summary for Subcatchment 270S: WS 270

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 0.015 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
213	96	Gravel surface, HSG C
1,953	98	Roofs, HSG C
2,166	98	Weighted Average
213		9.83% Pervious Area
1,953		90.17% Impervious Area

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

Summary for Subcatchment 271S: WS 271

Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.032 af, Depth= 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
3,120	98	Paved parking, HSG C
800	98	Roofs, HSG C
2,291	74	>75% Grass cover, Good, HSG C
6,211	89	Weighted Average
2,291		36.89% Pervious Area
3,920		63.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	37	0.0150	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.63"
0.6	38	0.0250	1.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.63"
0.3	64	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.4	139	Total			

Summary for Subcatchment 272S: WS 272

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 0.015 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
2,116	98	Paved parking, HSG C
416	74	>75% Grass cover, Good, HSG C
2,532	94	Weighted Average
416		16.43% Pervious Area
2,116		83.57% Impervious Area

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

Summary for Subcatchment 273s: WS-273

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.45 cfs @ 12.07 hrs, Volume= 0.034 af, Depth= 3.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
4,856	98	Paved parking, HSG C
630	74	>75% Grass cover, Good, HSG C
5,486	95	Weighted Average
630		11.48% Pervious Area
4,856		88.52% Impervious Area

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

Summary for Subcatchment 274S: WS-274

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 0.013 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
1,861	98	Paved parking, HSG C
1,861		100.00% Impervious Area

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

Summary for Subcatchment 275S: WS 275

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.10 cfs @ 12.10 hrs, Volume= 0.009 af, Depth= 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
6,128	61	>75% Grass cover, Good, HSG B
6,128		100.00% Pervious Area

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

Summary for Subcatchment 276S: WS 276

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.49 cfs @ 12.07 hrs, Volume= 0.039 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
5,684	98	Paved parking, HSG C
5,684		100.00% Impervious Area

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

Summary for Subcatchment 277S: WS-277

Runoff = 58.99 cfs @ 12.62 hrs, Volume= 9.022 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
385,505	70	Woods, Good, HSG C
941,822	80	1/2 acre lots, 25% imp, HSG C
998,298	77	2 acre lots, 12% imp, HSG C
256,374	94	Urban commercial, 85% imp, HSG C
2,581,999	79	Weighted Average
2,008,830		77.80% Pervious Area
573,169		22.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	75	0.0132	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
29.2	1,411	0.0132	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
44.0	1,486	Total			

Summary for Subcatchment 278S: WS-278

Runoff = 47.41 cfs @ 12.41 hrs, Volume= 5.886 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
425,123	94	Urban commercial, 85% imp, HSG C
134,379	70	Woods, Good, HSG C
994,823	77	2 acre lots, 12% imp, HSG C
1,554,325	81	Weighted Average
1,073,592		69.07% Pervious Area
480,733		30.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	75	0.0279	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
18.1	1,267	0.0279	1.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
29.0	1,342	Total			

Summary for Subcatchment 279S: WS-279

Runoff = 12.16 cfs @ 12.75 hrs, Volume= 2.077 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=3.83"

Area (sf)	CN	Description
295,060	74	>75% Grass cover, Good, HSG C
203,681	94	Urban commercial, 85% imp, HSG C
49,853	70	Woods, Good, HSG C
548,594	81	Weighted Average
375,465		68.44% Pervious Area
173,129		31.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0	75	0.0080	0.07		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.63"
36.1	1,357	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
54.1	1,432	Total			

Summary for Reach 1R: REACH 1

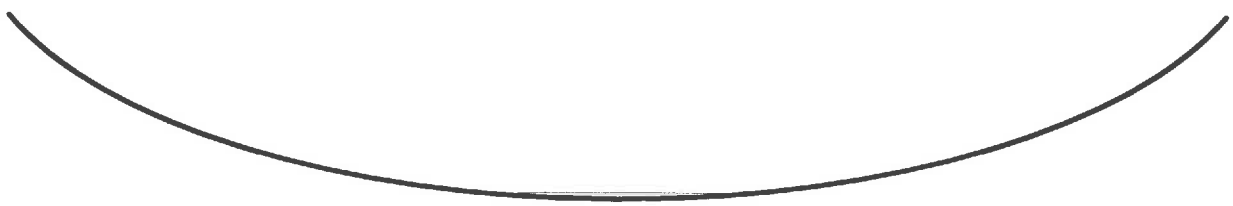
[62] Hint: Exceeded Reach 12R OUTLET depth by 0.07' @ 12.75 hrs
[62] Hint: Exceeded Reach 13R OUTLET depth by 0.07' @ 12.75 hrs
[62] Hint: Exceeded Reach 15R OUTLET depth by 0.07' @ 12.75 hrs
[61] Hint: Exceeded Reach 28R outlet invert by 0.07' @ 12.75 hrs

Inflow Area = 1.951 ac, 32.29% Impervious, Inflow Depth = 0.58" for 10-YR event
Inflow = 0.63 cfs @ 12.71 hrs, Volume= 0.094 af
Outflow = 0.63 cfs @ 12.74 hrs, Volume= 0.094 af, Atten= 0%, Lag= 1.3 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.43 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.90 fps, Avg. Travel Time= 2.8 min

Peak Storage= 66 cf @ 12.74 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 877.01 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 152.0' Slope= 0.0658 '/'
Inlet Invert= 509.00', Outlet Invert= 499.00'



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Summary for Reach 2R: REACH 2

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.87' @ 12.45 hrs
[62] Hint: Exceeded Reach 31R OUTLET depth by 0.49' @ 12.50 hrs

Inflow Area = 43.411 ac, 28.70% Impervious, Inflow Depth = 1.85" for 10-YR event
Inflow = 50.47 cfs @ 12.48 hrs, Volume= 6.681 af
Outflow = 50.47 cfs @ 12.48 hrs, Volume= 6.681 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 6.75 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.08 fps, Avg. Travel Time= 0.4 min

Peak Storage= 344 cf @ 12.48 hrs
Average Depth at Peak Storage= 0.93'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 146.07 cfs

A factor of 2.00 has been applied to the storage and discharge capacity
4.00' x 2.00' deep channel, n= 0.012 Concrete pipe, finished
Length= 46.0' Slope= 0.0054 '/'
Inlet Invert= 499.00', Outlet Invert= 498.75'

Summary for Reach 3R: REACH 3

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[62] Hint: Exceeded Reach 20R OUTLET depth by 0.02' @ 27.05 hrs
[62] Hint: Exceeded Reach 21R OUTLET depth by 0.55' @ 12.50 hrs
[62] Hint: Exceeded Reach 22R OUTLET depth by 0.55' @ 12.50 hrs
[62] Hint: Exceeded Reach 23R OUTLET depth by 0.55' @ 12.50 hrs
[62] Hint: Exceeded Reach 24R OUTLET depth by 0.55' @ 12.50 hrs

Inflow Area = 46.262 ac, 30.17% Impervious, Inflow Depth = 1.85" for 10-YR event
Inflow = 51.22 cfs @ 12.49 hrs, Volume= 7.132 af
Outflow = 51.22 cfs @ 12.49 hrs, Volume= 7.132 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 5.40 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.04 fps, Avg. Travel Time= 1.4 min

Peak Storage= 854 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 853.66 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 90.0' Slope= 0.0623 '/'
Inlet Invert= 489.00', Outlet Invert= 483.39'

‡

Summary for Reach 4R: REACH 4

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[61] Hint: Exceeded Reach 5R outlet invert by 0.32' @ 12.35 hrs
[80] Warning: Exceeded Pond 17P by 6.09' @ 19.45 hrs (1,080.97 cfs 6,075.510 af)

Inflow Area = 22.302 ac, 41.67% Impervious, Inflow Depth = 1.91" for 10-YR event
Inflow = 15.30 cfs @ 12.36 hrs, Volume= 3.546 af
Outflow = 15.30 cfs @ 12.37 hrs, Volume= 3.546 af, Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 3.53 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 5.0 min

Peak Storage= 1,130 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 791.90 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 261.0' Slope= 0.0536 '/'
Inlet Invert= 510.00', Outlet Invert= 496.00'

‡

Summary for Reach 5R: REACH 5

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area =	22.263 ac, 41.59% Impervious, Inflow Depth = 1.91" for 10-YR event				
Inflow =	15.29 cfs @ 12.35 hrs, Volume=	3.546 af			
Outflow =	15.30 cfs @ 12.36 hrs, Volume=	3.546 af, Atten= 0%, Lag= 0.1 min			

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 12.88 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.17 fps, Avg. Travel Time= 0.3 min

Peak Storage= 76 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 1.50' Flow Area= 3.5 sf, Capacity= 52.52 cfs

A factor of 2.00 has been applied to the storage and discharge capacity
18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 64.0' Slope= 0.0625 '/'
Inlet Invert= 514.00', Outlet Invert= 510.00'

Summary for Reach 6R: REACH 6

[80] Warning: Exceeded Pond 16P by 5.56' @ 19.85 hrs (647.75 cfs 3,667.528 af)

Inflow Area = 21.479 ac, 42.79% Impervious, Inflow Depth = 1.93" for 10-YR event
Inflow = 14.82 cfs @ 12.33 hrs, Volume= 3.450 af
Outflow = 14.81 cfs @ 12.34 hrs, Volume= 3.450 af, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 6.67 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 2.08 fps, Avg. Travel Time= 1.9 min

Peak Storage= 538 cf @ 12.34 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 2,006.73 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.013 Corrugated PE, smooth interior
Length= 242.0' Slope= 0.0475 '/'
Inlet Invert= 526.50', Outlet Invert= 515.00'

‡

Summary for Reach 7R: REACH 7

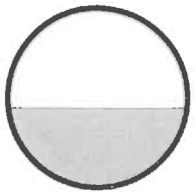
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 9R OUTLET depth by 0.40' @ 12.40 hrs
[62] Hint: Exceeded Reach 16R OUTLET depth by 0.66' @ 12.35 hrs

Inflow Area = 21.441 ac, 42.71% Impervious, Inflow Depth = 1.93" for 10-YR event
Inflow = 14.81 cfs @ 12.33 hrs, Volume= 3.450 af
Outflow = 14.82 cfs @ 12.33 hrs, Volume= 3.450 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 4.90 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.98 fps, Avg. Travel Time= 0.6 min

Peak Storage= 100 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 1.50' Flow Area= 7.1 sf, Capacity= 36.57 cfs

A factor of 4.00 has been applied to the storage and discharge capacity
18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 33.0' Slope= 0.0076 '/'
Inlet Invert= 528.00', Outlet Invert= 527.75'



Summary for Reach 8R: REACH 8

Inflow Area = 0.815 ac, 93.80% Impervious, Inflow Depth = 0.95" for 10-YR event
Inflow = 0.43 cfs @ 12.52 hrs, Volume= 0.065 af
Outflow = 0.42 cfs @ 12.55 hrs, Volume= 0.065 af, Atten= 0%, Lag= 2.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.14 fps, Min. Travel Time= 2.7 min
Avg. Velocity = 0.74 fps, Avg. Travel Time= 4.2 min

Peak Storage= 68 cf @ 12.55 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 756.20 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 184.0' Slope= 0.0489 '/'
Inlet Invert= 540.00', Outlet Invert= 531.00'

‡

Summary for Reach 9R: REACH 9

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[62] Hint: Exceeded Reach 8R OUTLET depth by 0.24' @ 12.20 hrs

Inflow Area = 16.213 ac, 43.19% Impervious, Inflow Depth = 1.93" for 10-YR event
Inflow = 10.03 cfs @ 12.25 hrs, Volume= 2.601 af
Outflow = 10.04 cfs @ 12.26 hrs, Volume= 2.601 af, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 2.89 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 1.2 min

Peak Storage= 322 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 716.46 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.030 Stream, clean & straight
Length= 93.0' Slope= 0.0323 '/'
Inlet Invert= 531.00', Outlet Invert= 528.00'

‡

Summary for Reach 11R: REACH 11

Inflow Area = 15.398 ac, 40.51% Impervious, Inflow Depth = 1.98" for 10-YR event
Inflow = 10.38 cfs @ 12.19 hrs, Volume= 2.537 af
Outflow = 9.82 cfs @ 12.25 hrs, Volume= 2.537 af, Atten= 5%, Lag= 3.7 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.45 fps, Min. Travel Time= 4.7 min
Avg. Velocity = 0.64 fps, Avg. Travel Time= 10.7 min

Peak Storage= 2,764 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 267.32 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 409.0' Slope= 0.0061 '/'
Inlet Invert= 553.50', Outlet Invert= 551.00'

‡

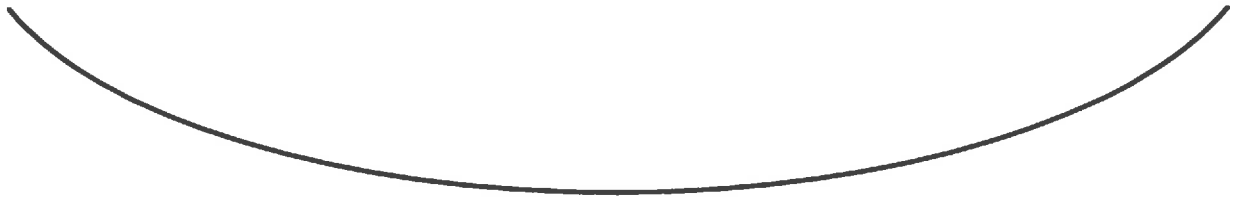
Summary for Reach 12R: REACH 12

Inflow Area = 0.063 ac, 88.44% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 656.11 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 516.0' Slope= 0.0368 '/'
Inlet Invert= 528.00', Outlet Invert= 509.00'



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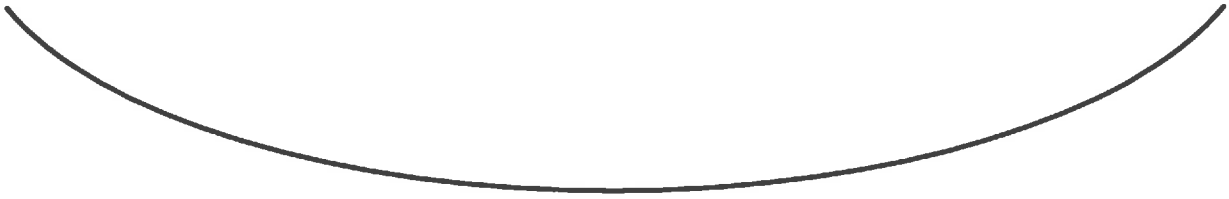
Summary for Reach 13R: REACH 13

Inflow Area = 0.017 ac, 85.38% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 648.10 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 668.0' Slope= 0.0359 '/'
Inlet Invert= 533.00', Outlet Invert= 509.00'



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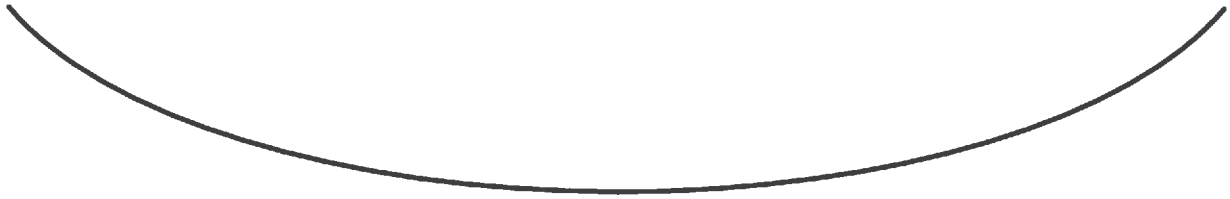
Summary for Reach 15R: REACH 15

Inflow Area = 0.017 ac, 85.38% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 654.31 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 355.0' Slope= 0.0366 '/'
Inlet Invert= 522.00', Outlet Invert= 509.00'



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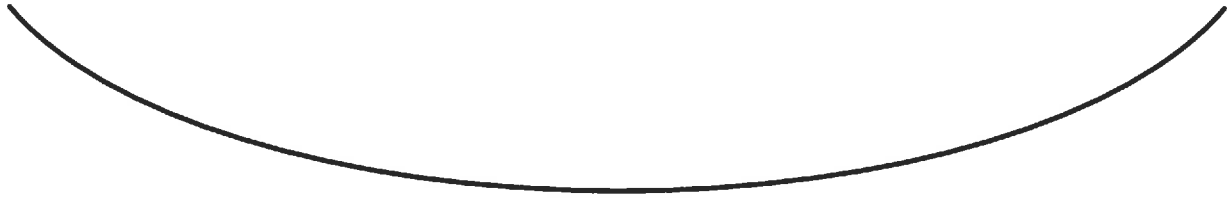
Summary for Reach 16R: REACH 16

Inflow Area = 0.022 ac, 90.96% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 376.82 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 247.0' Slope= 0.0121 '/'
Inlet Invert= 531.00', Outlet Invert= 528.00'



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Summary for Reach 17R: REACH 17

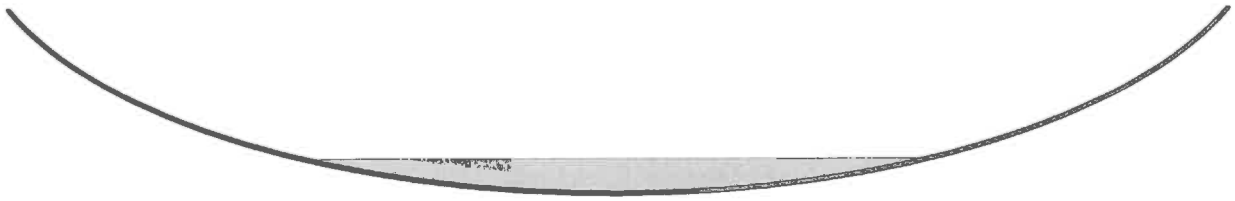
[62] Hint: Exceeded Reach 4R OUTLET depth by 0.05' @ 12.40 hrs
[62] Hint: Exceeded Reach 18R OUTLET depth by 0.37' @ 12.35 hrs
[62] Hint: Exceeded Reach 19R OUTLET depth by 0.37' @ 12.35 hrs

Inflow Area = 22.419 ac, 41.92% Impervious, Inflow Depth = 1.90" for 10-YR event
Inflow = 15.30 cfs @ 12.37 hrs, Volume= 3.547 af
Outflow = 15.31 cfs @ 12.37 hrs, Volume= 3.547 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 2.84 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.65 fps, Avg. Travel Time= 1.8 min

Peak Storage= 372 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 577.74 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 69.0' Slope= 0.0286 '/'
Inlet Invert= 496.00', Outlet Invert= 494.03'



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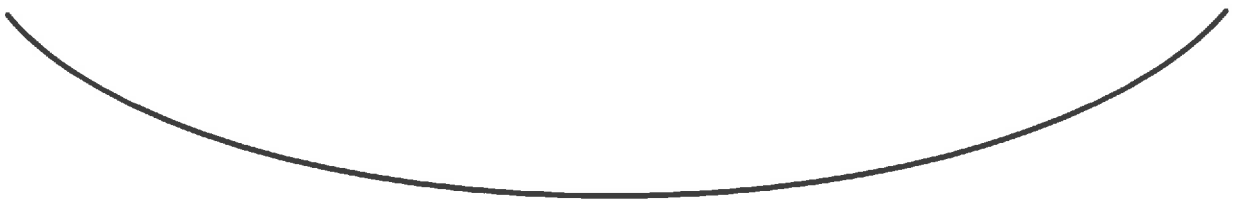
Summary for Reach 18R: REACH 18

Inflow Area =	0.066 ac, 88.91% Impervious, Inflow Depth = 0.00" for 10-YR event				
Inflow =	0.00 cfs @	2.00 hrs, Volume=	0.000 af		
Outflow =	0.00 cfs @	2.00 hrs, Volume=	0.000 af, Atten= 0%, Lag= 0.0 min		

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 752.88 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 165.0' Slope= 0.0485 '/'
Inlet Invert= 504.00', Outlet Invert= 496.00'



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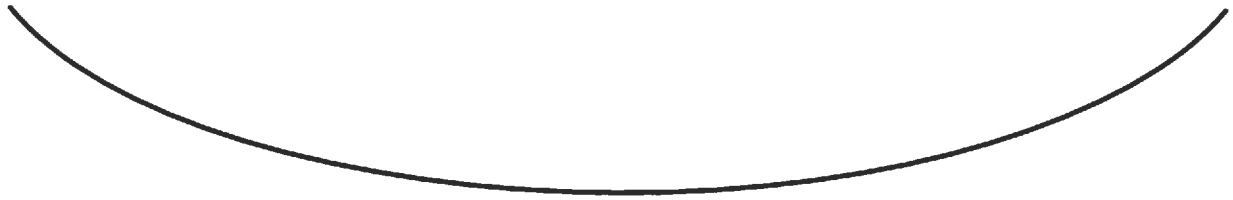
Summary for Reach 19R: REACH 19

Inflow Area =	0.051 ac, 90.42% Impervious, Inflow Depth = 0.16" for 10-YR event				
Inflow =	0.05 cfs @	12.44 hrs, Volume=	0.001 af		
Outflow =	0.02 cfs @	12.50 hrs, Volume=	0.001 af, Atten= 53%, Lag= 3.6 min		

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.51 fps, Min. Travel Time= 4.4 min
Avg. Velocity = 0.51 fps, Avg. Travel Time= 4.4 min

Peak Storage= 7 cf @ 12.50 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 723.51 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 134.0' Slope= 0.0448 '/'
Inlet Invert= 502.00', Outlet Invert= 496.00'



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Summary for Reach 20R: REACH 20

[80] Warning: Exceeded Pond 21P by 3.23' @ 14.85 hrs (6.06 cfs 6.145 af)

Inflow Area =	43.444 ac,	28.74% Impervious,	Inflow Depth =	1.85"	for 10-YR event
Inflow =	50.47 cfs @	12.48 hrs,	Volume=	6.681 af	
Outflow =	50.44 cfs @	12.49 hrs,	Volume=	6.681 af,	Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 4.39 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.51 fps, Avg. Travel Time= 2.8 min

Peak Storage= 2,963 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.62'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 638.61 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 258.0' Slope= 0.0349 '/'
Inlet Invert= 498.00', Outlet Invert= 489.00'

‡

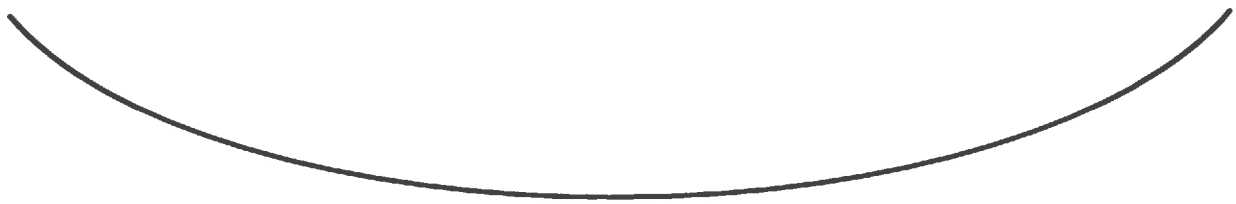
Summary for Reach 21R: REACH 21

Inflow Area =	0.066 ac,	88.91% Impervious,	Inflow Depth =	0.00"	for 10-YR event
Inflow =	0.00 cfs @	2.00 hrs,	Volume=	0.000 af	
Outflow =	0.00 cfs @	2.00 hrs,	Volume=	0.000 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 929.02 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 149.0' Slope= 0.0738 '/'
Inlet Invert= 500.00', Outlet Invert= 489.00'



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Summary for Reach 22R: REACH 22

Inflow Area = 0.039 ac, 88.58% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 626.87 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 357.0' Slope= 0.0336 '/'
Inlet Invert= 501.00', Outlet Invert= 489.00'

‡

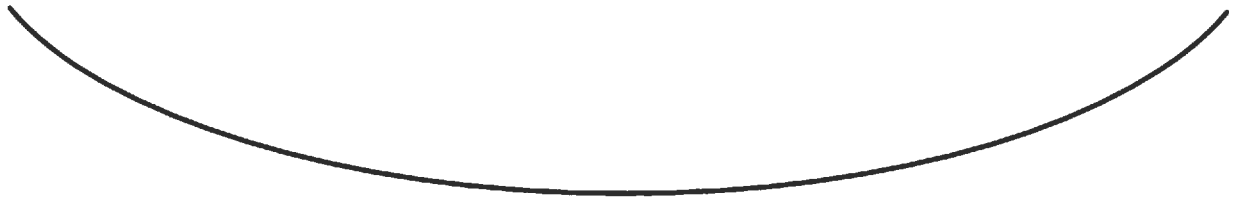
Summary for Reach 23R: REACH 23

Inflow Area = 0.066 ac, 88.91% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 540.06 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 481.0' Slope= 0.0249 '/'
Inlet Invert= 501.00', Outlet Invert= 489.00'



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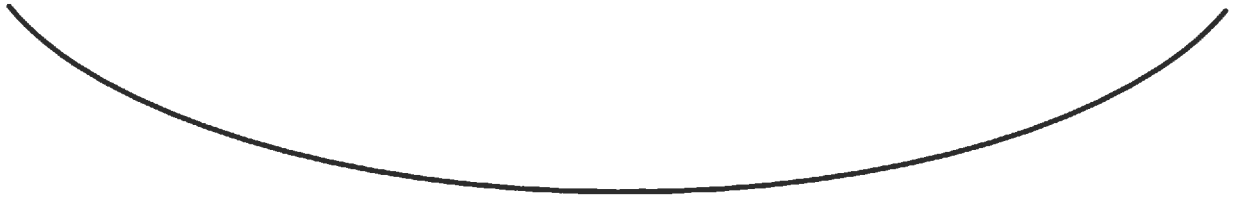
Summary for Reach 24R: REACH 24

Inflow Area = 0.050 ac, 90.17% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 2.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 608.45 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 600.0' Slope= 0.0317 '/'
Inlet Invert= 508.00', Outlet Invert= 489.00'



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Summary for Reach 25R: REACH 25

[80] Warning: Exceeded Pond 120 by 1.46' @ 2.00 hrs (5.43 cfs 3.687 af)

Inflow Area = 0.554 ac, 67.85% Impervious, Inflow Depth = 2.43" for 10-YR event
Inflow = 1.51 cfs @ 12.08 hrs, Volume= 0.112 af
Outflow = 1.51 cfs @ 12.09 hrs, Volume= 0.112 af, Atten= 0%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 3.27 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 0.97 fps, Avg. Travel Time= 3.4 min

Peak Storage= 93 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 140.98 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 201.0' Slope= 0.0498 '/'
Inlet Invert= 540.00', Outlet Invert= 530.00'

Summary for Reach 28R: REACH 28

Inflow Area =	1.855 ac,	29.42% Impervious,	Inflow Depth =	0.61"	for 10-YR event
Inflow =	0.63 cfs @	12.68 hrs, Volume=	0.094 af		
Outflow =	0.63 cfs @	12.71 hrs, Volume=	0.094 af,	Atten= 0%,	Lag= 2.3 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.26 fps, Min. Travel Time= 2.7 min
Avg. Velocity = 0.79 fps, Avg. Travel Time= 4.3 min

Peak Storage= 102 cf @ 12.71 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 736.05 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 205.0' Slope= 0.0463 '/'
Inlet Invert= 518.50', Outlet Invert= 509.00'

‡

Summary for Reach 30R: REACH 30

[52] Hint: Inlet/Outlet conditions not evaluated
[55] Hint: Peak inflow is 295% of Manning's capacity
[76] Warning: Detained 0.521 af (Pond w/culvert advised)

Inflow Area =	12.594 ac,	31.56% Impervious,	Inflow Depth =	1.98"	for 10-YR event
Inflow =	12.16 cfs @	12.75 hrs,	Volume=	2.077 af	
Outflow =	4.11 cfs @	12.25 hrs,	Volume=	2.077 af,	Atten= 66%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 5.97 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 3.59 fps, Avg. Travel Time= 0.7 min

Peak Storage= 118 cf @ 12.25 hrs
Average Depth at Peak Storage= 1.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 150.0' Slope= 0.0133 '/'
Inlet Invert= 574.00', Outlet Invert= 572.00'

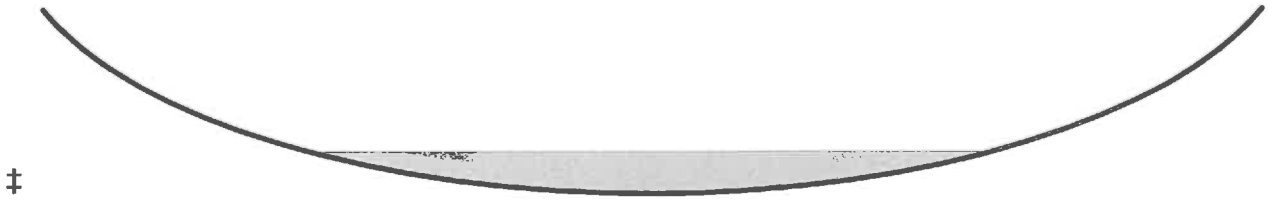
Summary for Reach 31R: REACH 31

Inflow Area =	35.682 ac,	30.93% Impervious,	Inflow Depth =	1.98"	for 10-YR event
Inflow =	47.41 cfs @	12.41 hrs,	Volume=	5.886 af	
Outflow =	46.51 cfs @	12.46 hrs,	Volume=	5.886 af,	Atten= 2%, Lag= 3.3 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 6.62 fps, Min. Travel Time= 4.3 min
Avg. Velocity = 2.32 fps, Avg. Travel Time= 12.3 min

Peak Storage= 12,060 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 1,196.33 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 1,716.0' Slope= 0.0484 '/'
Inlet Invert= 582.00', Outlet Invert= 499.00'



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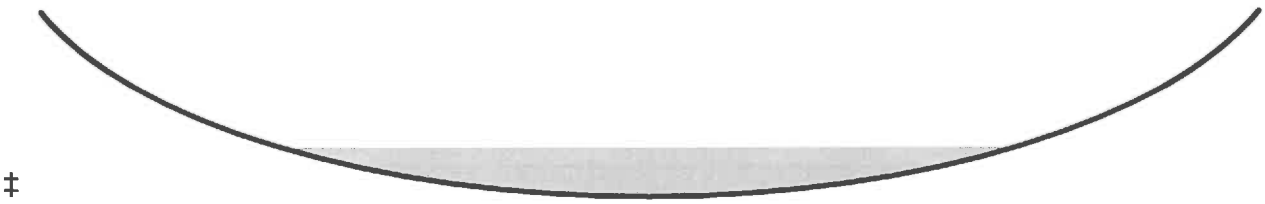
Summary for Reach 32R: REACH 32

Inflow Area = 59.275 ac, 22.20% Impervious, Inflow Depth = 1.83" for 10-YR event
Inflow = 58.99 cfs @ 12.62 hrs, Volume= 9.022 af
Outflow = 58.13 cfs @ 12.68 hrs, Volume= 9.022 af, Atten= 1%, Lag= 3.7 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 6.65 fps, Min. Travel Time= 5.2 min
Avg. Velocity = 2.35 fps, Avg. Travel Time= 14.6 min

Peak Storage= 18,023 cf @ 12.68 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 1,091.35 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 2,062.0' Slope= 0.0403 '/'
Inlet Invert= 571.00', Outlet Invert= 488.00'



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Summary for Pond 001: DMH 001

Inflow Area = 1.527 ac, 32.82% Impervious, Inflow Depth = 2.07" for 10-YR event
Inflow = 2.90 cfs @ 12.17 hrs, Volume= 0.264 af
Outflow = 2.90 cfs @ 12.17 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.0 min
Primary = 2.90 cfs @ 12.17 hrs, Volume= 0.263 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 523.43' @ 12.17 hrs Surf.Area= 0.000 ac Storage= 0.000 af
Flood Elev= 531.25' Surf.Area= 0.000 ac Storage= 0.003 af

Plug-Flow detention time= 1.5 min calculated for 0.263 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (832.6 - 832.4)

Volume	Invert	Avail.Storage	Storage Description
#1	522.30'	0.003 af	**4.00'D x 8.95'H Vertical Cone/Cylinder**

Device	Routing	Invert	Outlet Devices
#1	Primary	522.30'	**18.0" Round Culvert** L= 86.0' Ke= 0.500

Inlet / Outlet Invert= 522.30' / 521.45' S= 0.0099 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=2.85 cfs @ 12.17 hrs HW=523.42' TW=523.06' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.85 cfs @ 2.81 fps)

Summary for Pond 1F: FOREBAY #1

[93] Warning: Storage range exceeded by 0.06'
[58] Hint: Peaked 0.06' above defined flood level
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[80] Warning: Exceeded Pond 001 by 0.01' @ 25.65 hrs (0.12 cfs 0.481 af)

Inflow Area =	1.855 ac,	29.42% Impervious,	Inflow Depth =	1.97"	for 10-YR event
Inflow =	3.39 cfs @	12.17 hrs, Volume=	0.305 af		
Outflow =	3.44 cfs @	12.16 hrs, Volume=	0.292 af,	Atten= 0%,	Lag= 0.0 min
Primary =	3.44 cfs @	12.16 hrs, Volume=	0.292 af		

Routing by Dyn-Stor-Ind method, Time Span= 2.00-72.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 523.06' @ 12.16 hrs Surf.Area= 752 sf Storage= 727 cf
Flood Elev= 523.00' Surf.Area= 752 sf Storage= 727 cf

Plug-Flow detention time= 36.2 min calculated for 0.292 af (96% of inflow)
Center-of-Mass det. time= 11.8 min (846.7 - 834.9)

Volume	Invert	Avail.Storage	Storage Description
#1	521.00'	727 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

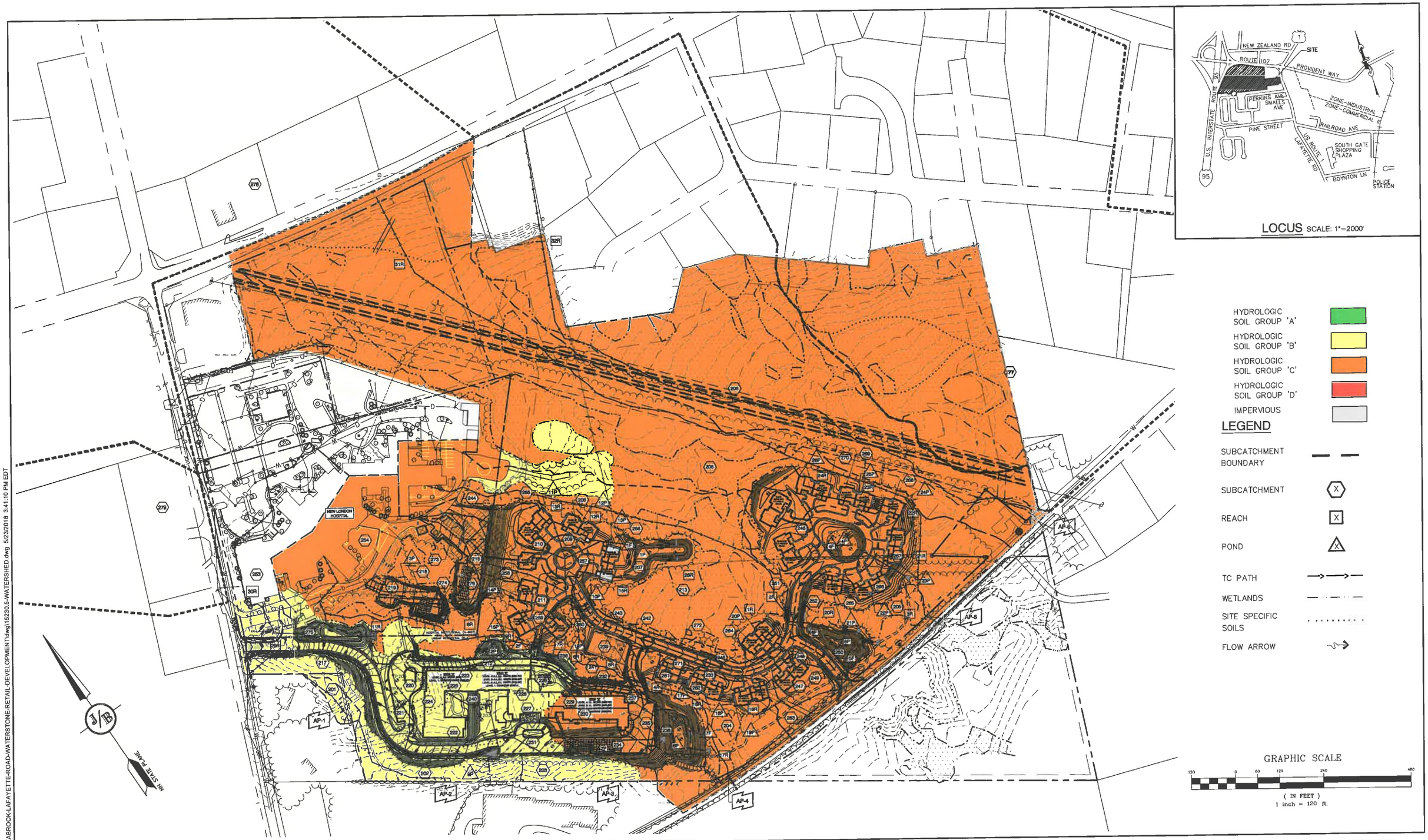
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
521.00	85	47.0	0	0	85
522.00	336	107.0	197	197	824
523.00	752	156.0	530	727	1,858

Device	Routing	Invert	Outlet Devices
#1	Primary	522.76'	**8.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.37 cfs @ 12.16 hrs HW=523.06' TW=521.58' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 3.37 cfs @ 1.41 fps)

Summary for Pond 1P: INFIL POND #1

Inflow Area =	1.855 ac,	29.42% Impervious,	Inflow Depth =	1.89"	for 10-YR event
Inflow =	3.44 cfs @	12.16 hrs, Volume=	0.292 af		
Outflow =	0.86 cfs @	12.68 hrs, Volume=	0.292 af,	Atten= 75%,	Lag= 30.8 min
Discarded =	0.23 cfs @	12.68 hrs, Volume=	0.199 af		
Primary =	0.63 cfs @	12.68 hrs, Volume=	0.094 af		



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Design: ISM	Draft: ISM	Date: 04/03/18
Checked: BWG	Scale: AS NOTED	Project No.: 17190
Drawing Name: 17190-WATERSHED.DWG		

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REV.	DATE	REVISION	BY
2	11/9/18	REVISED PER TOWN REVIEW COMMENTS	EMP
1	9/10/18	ISSUED FOR AOT REVIEW	EMP
0	7/3/2018	ISSUED FOR REVIEW	EMP

Designed and Produced in NH

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Stratham, NH 03885

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FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: PROPOSED SOIL PLAN

Project: "NEW LONDON PLACE"
COUNTY RD & PARKSIDE RD, NEW LONDON, NH

Owner of Record: NEW LONDON HOSPITAL ASSOCIATION
273 COUNTY RD, NEW LONDON, NH 03257

DRAWING No.

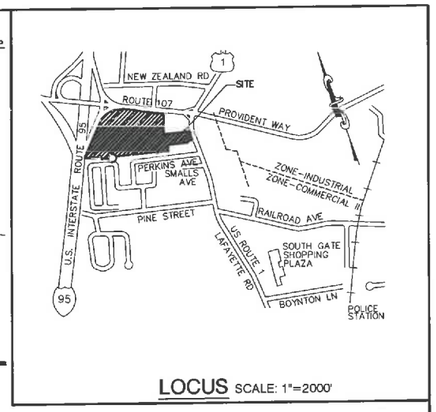
S2

SHEET 2 OF 2
JBE PROJECT NO. 17190

SOIL SERIES SYMBOL LEGEND

SYMBOL	TYPE	HYDRAULIC SOIL GROUP
142	MONADNOCK	B
78	PERU	C
99	TUNBRIDGE	C
646/P	PILLSBURY POORLY DRAINED	C

*SOIL SURVEY PREFORMED BY LUKE HURLEY CSS OF GOVE ENVIRONMENTAL SERVICES INC.



LOCUS SCALE: 1"=2000'

SLOPE PHASES

ALPHA SLOPE SYMBOL	RANGE
A	0-3%
B	3-8%
C	8-15%
D	15-25%
E	25-50%
F	>50%

HYDROLOGIC SOIL GROUP 'A'

HYDROLOGIC SOIL GROUP 'B'

HYDROLOGIC SOIL GROUP 'C'

HYDROLOGIC SOIL GROUP 'D'

IMPERVIOUS

LEGEND

SUBCATCHMENT BOUNDARY

SUBCATCHMENT

REACH

POND

TC PATH

WETLANDS

SITE SPECIFIC SOILS

FLOW ARROW

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)
1 inch = 120 ft.

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Design: ISM	Draft: ISM	Date: 04/03/18
Checked: BWG	Scale: AS NOTED	Project No.: 17190
Drawing Name: 17190-WATERSHED.DWG		

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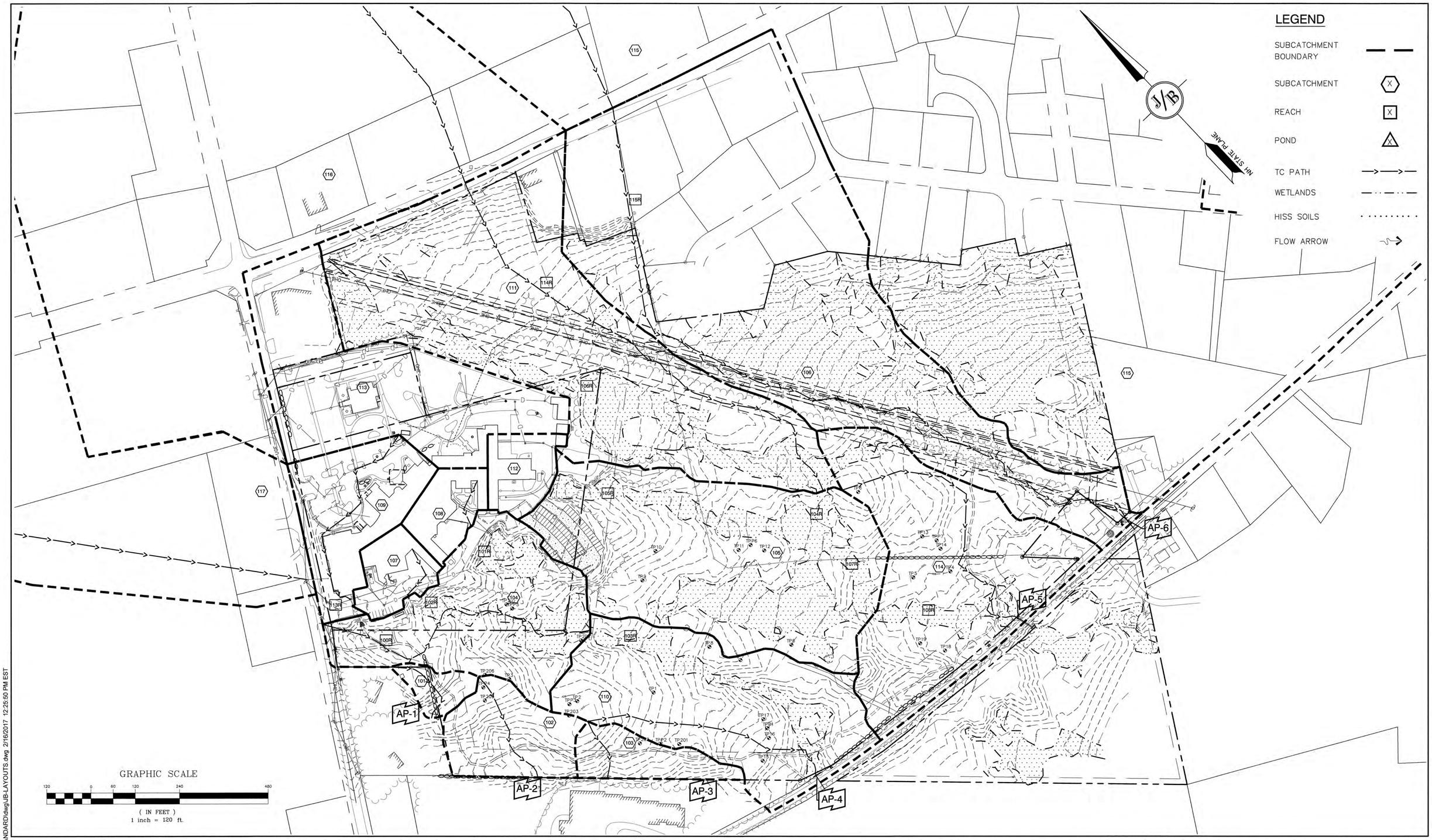
Plan Name:	EXISTING SOIL PLAN
Project:	"NEW LONDON PLACE" COUNTY RD & PARKSIDE RD, NEW LONDON, NH
Owner of Record:	NEW LONDON HOSPITAL ASSOCIATION 273 COUNTY RD, NEW LONDON, NH 03257

DRAWING No.
S1
SHEET 1 OF 2
JBE PROJECT NO. 17190



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Design: ISM	Draft: ISM	Date: 04/03/18
Checked: BWG	Scale: AS NOTED	Project No.: 17190
Drawing Name: 17190-WATERSHED.DWG		

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Plan Name: EXISTING WATERSHED PLAN

Project: "NEW LONDON PLACE"
COUNTY RD & PARKSIDE RD, NEW LONDON, NH

Owner of Record: NEW LONDON HOSPITAL ASSOCIATION
273 COUNTY RD, NEW LONDON, NH 03257

DRAWING No.
W1
SHEET 1 OF 6
JBE PROJECT NO. 17190

Design: ISM	Draft: ISM	Date: 04/03/18
Checked: BWG	Scale: AS NOTED	Project No.: 17190
Drawing Name: 17190-WATERSHED.DWG		

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REV.	DATE	REVISION	BY
2	11/9/18	REVISED PER TOWN REVIEW COMMENTS	EMP
1	9/10/18	ISSUED FOR AOT REVIEW	EMP
0	7/3/2018	ISSUED FOR REVIEW	EMP

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Plan Name: OVERALL PROPOSED WATERSHED PLAN

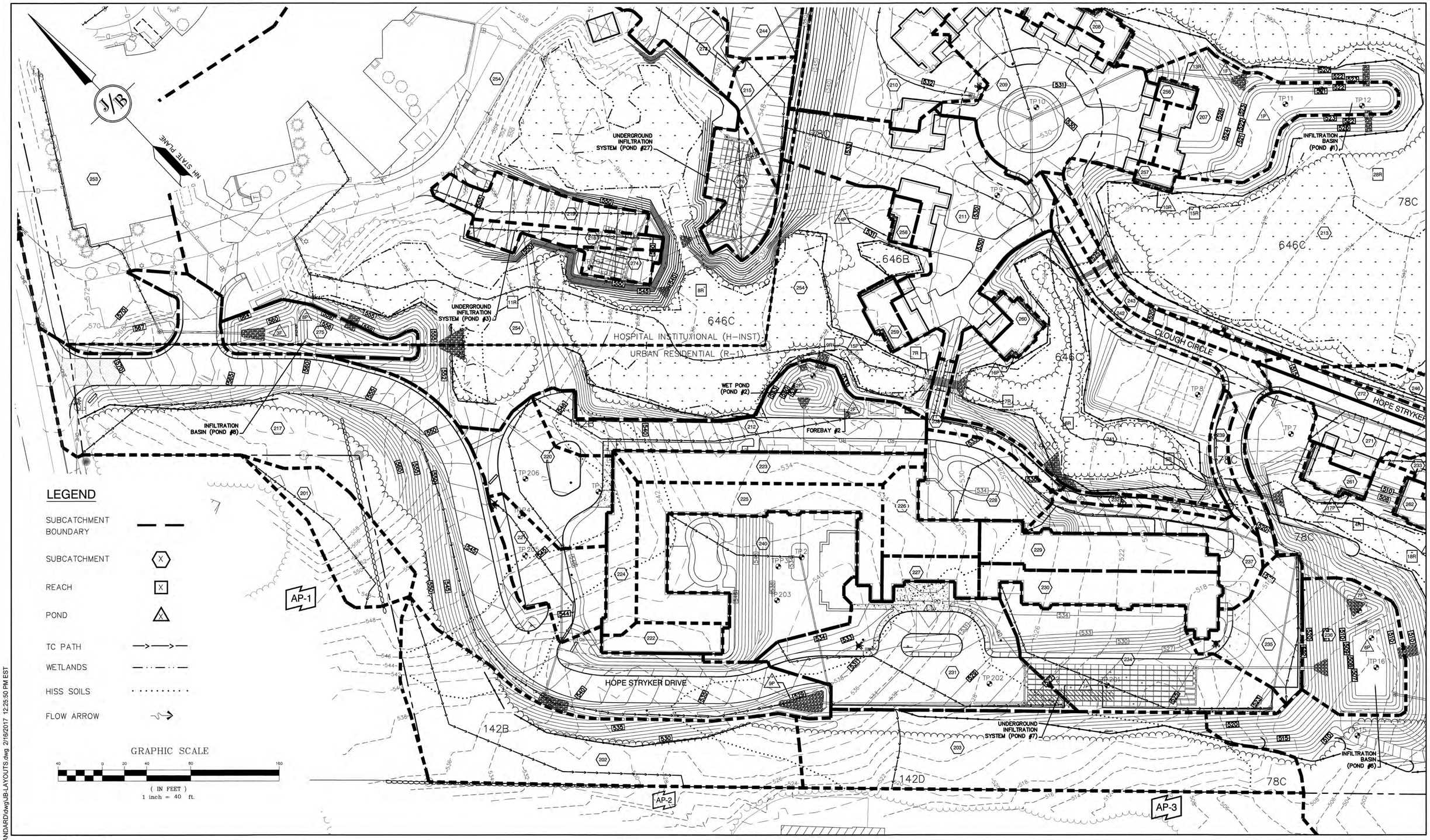
Project: "NEW LONDON PLACE"
COUNTY RD & PARKSIDE RD, NEW LONDON, NH

Owner of Record: NEW LONDON HOSPITAL ASSOCIATION
273 COUNTY RD, NEW LONDON, NH 03257

DRAWING No.

W2

SHEET 2 OF 6
JBE PROJECT NO. 17190



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Checked: BWG	Scale: AS NOTED	Project No.: 17190
Drawing Name: 17190-WATERSHED.DWG		

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REV.	DATE	REVISION	BY
2	11/9/18	REVISED PER TOWN REVIEW COMMENTS	EMP
1	9/10/18	ISSUED FOR AOT REVIEW	EMP
0	7/3/2018	ISSUED FOR REVIEW	EMP

Designed and Produced in NH
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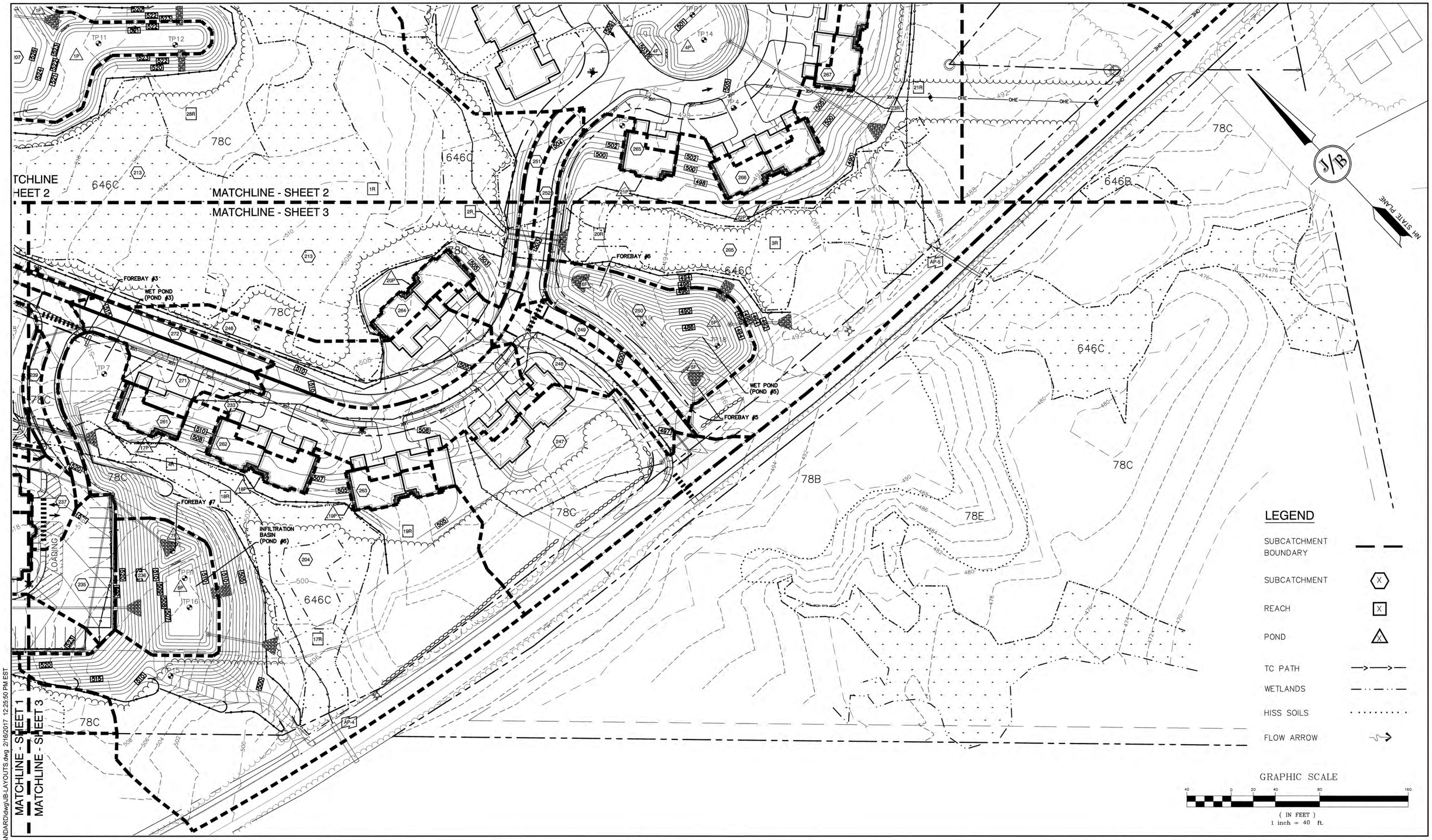
Plan Name: PROPOSED WATERSHED PLAN #1

Project: "NEW LONDON PLACE"
COUNTY RD & PARKSIDE RD, NEW LONDON, NH

Owner of Record: NEW LONDON HOSPITAL ASSOCIATION
273 COUNTY RD, NEW LONDON, NH 03257

DRAWING No.
W2-1
SHEET 3 OF 6
JBE PROJECT NO. 17190



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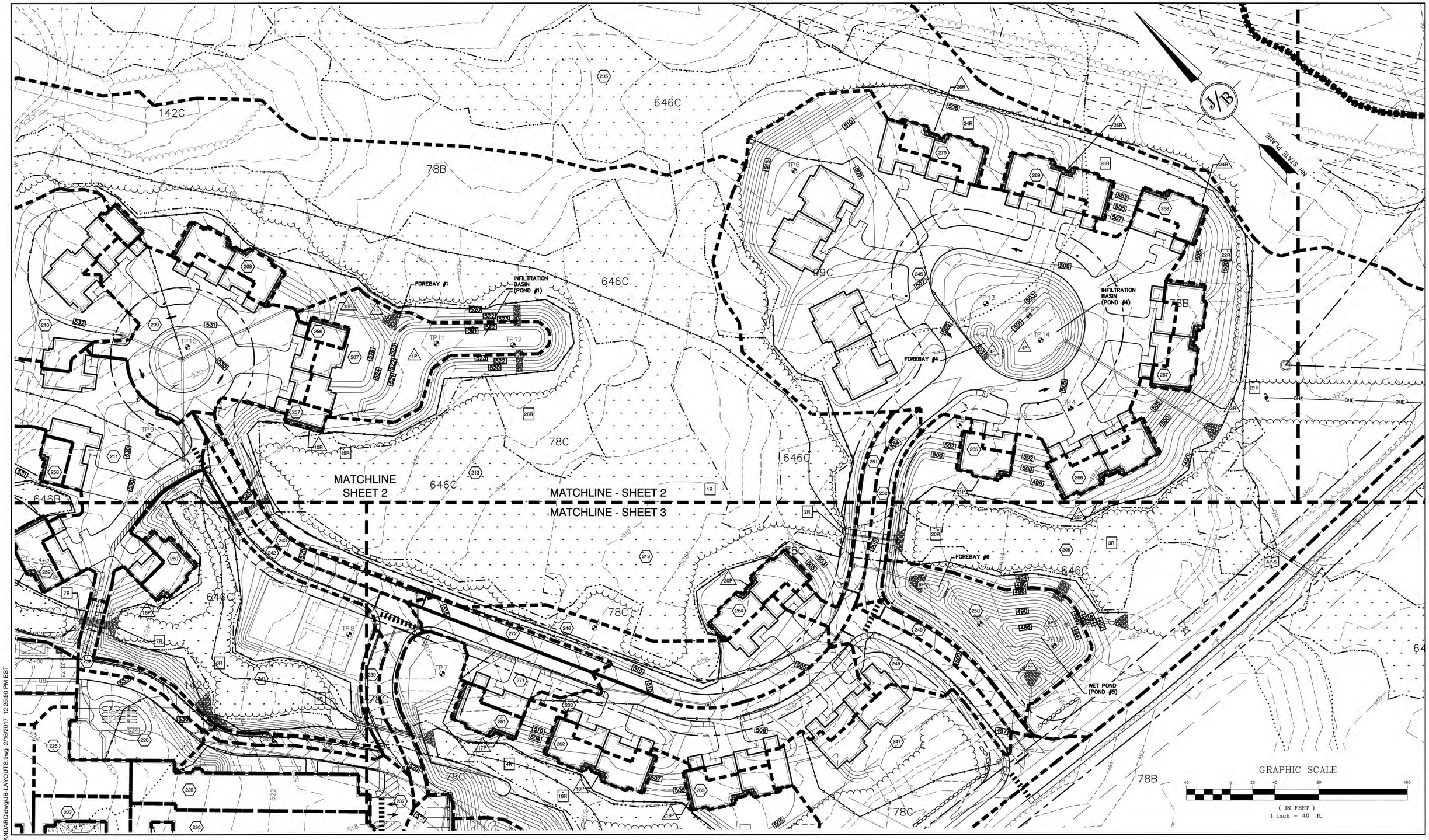
Plan Name: PROPOSED WATERSHED PLAN #2

Project: "NEW LONDON PLACE"
COUNTY RD & PARKSIDE RD, NEW LONDON, NH

Owner of Record: NEW LONDON HOSPITAL ASSOCIATION
273 COUNTY RD, NEW LONDON, NH 03257

DRAWING No.
W2-2
SHEET 4 OF 6
JBE PROJECT NO. 17190



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Checked: BWG	Scale: AS NOTED	Project No.: 17190
Drawing Name: 17190-WATERSHED.DWG		

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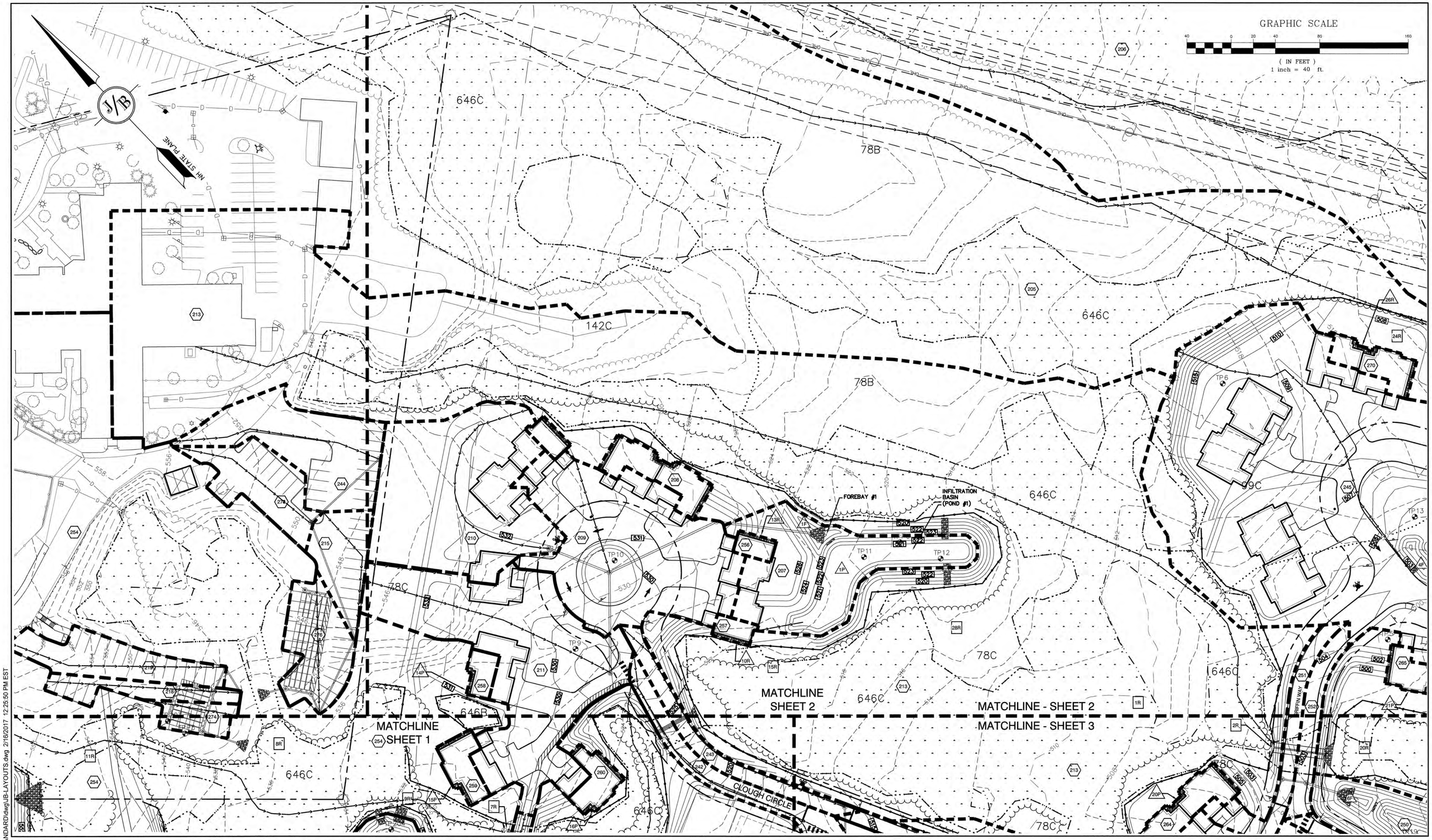
Plan Name: PROPOSED WATERSHED PLAN #3

Project: "NEW LONDON PLACE"
COUNTY RD & PARKSIDE RD, NEW LONDON, NH

Owner of Record: NEW LONDON HOSPITAL ASSOCIATION
273 COUNTY RD, NEW LONDON, NH 03257

DRAWING No.
W2-3
SHEET 5 OF 6
JBE PROJECT NO. 17190



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Drawing Name: 17190-WATERSHED.DWG		

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Plan Name: PROPOSED WATERSHED PLAN #4

Project: "NEW LONDON PLACE"
COUNTY RD & PARKSIDE RD, NEW LONDON, NH

Owner of Record: NEW LONDON HOSPITAL ASSOCIATION
273 COUNTY RD, NEW LONDON, NH 03257

DRAWING No.
W2-4
SHEET 6 OF 6
JBE PROJECT NO. 17190