Site Plan Review

Nottingham Business Park, LLC
145 Old Turnpike Road
Nottingham, NH

March 2023

Prepared For:
Nottingham Business Park, LLC
5 Merrill Industrial Drive
Hampton, NH

Prepared By:
GM2 Associates, Inc.
6 Chestnut Street – Suite 110
Amesbury, MA 01913

JOB: # 40683

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Project Narritive

145 Old County Road

Nottingham, NH

Date: 03-27-2023

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Prepared By
GM2 Associates
6 Chestnut Street - Amesbury, MA

SITE DESCRIPTION

GENERAL

The 78.2± acre project site is located off of Route 4 in Nottingham, New Hampshire. All of the proposed development is situated in Nottingham, NH.

The site was previously approved by the Town of Nottingham for a Water Bottling Facilty in 2005. All the State, Federal, and Local permits were obtained at that time. A 176,000 SF building was partially constructed with the foundation and the steel superstructure installed. The two major stormwater basins were constructed along with the base gravel for the access drive from Rte. 4. A wetland replication area was also excavted and graded. Wetland vegetaion has since established itself in the area and seems to be a functional weland. The remaining portion of the site is wooded. There was a barn onsite which has been burned that was to be re-purposed, but no longer exists.

Slopes on the Site vary, ranging from 1/2% to 16%. A High Intensity Soil Survey was conducted by James Long of NH Soil Consultants, Inc. for the above mentioned property on June 30, 2000 for the previously approvedd project in 2005. As part of this application, the Soil Survey has been re-done in 2021 by James Long of GZA. See the accompanying plan sheets V2.10 and V2.11 of the plan set. See the Soils Report in the Stormwater Analyses for a more detailed description of topography and soil conditions. The wetland delineation was also re-done in 2021 by Jennifer Riordon of GM2 Associates. See the accompampanying plan sheets V1.20 and V1.21 of the plan set.

There is an existing cemetery on the site to the rear of the builing near the Zone line. There are grave stones within the cemetery limits. A minimum of a 25 foot no dig zone is required for the cemetery. A temporary construction fencing will be placed at he 25 foot zone to protect it.

PROJECT DESCRIPTION

GENERAL

The proposed development includes completing the construction of a 176,000 SF Building, paved access drives and parking areas, stormwater management systems, an existing onsite well for domestic watrer supply and fire suppression, and an onsite septic system. The proposed use of the building and site will be a warehouse with some light industrial manufacturing. There is currently 26 loading docks for tractor trailer loading and unloading. There are 119 paved parking spaces including 8 handicapped spaces of wich two are Van accessible. The end of the parking area drive stops at the property line of the abutting property which is currently owned by Nottingham Business Park, LLC. An esasement across that property is planned to connect to a proposed subdivision road to provide a second means of egress in an emergency. That access will not be open for general traffic.

A Permit from NHDES Subsurface Division will be required for the Septice system. The water supply will be from an existing well that was drilled for the previous water bottling facility an located to the rear of the property. The design of the domestic water system and fire suppression system will require a Permit from NHDES.

The building and lighting system will be powered by the local Utility Company. The power lines were installed from Old Turnpike Road to a set of utility poles along the westerly property boundary as part of the previous development. A trnsformewr was installed on the last pole near the building. The power and communication lines will be underground from the pole to the building.

Above ground propane tanks will provide the fuel for heating systems in the building. Access to the site will be from a paved dirve, 24 feet in width, entering from Old Turnpike Road, Rte. 4. A Highway Entrance Permit fron NHDOT will be required for this project which will be similar to the approved plans from 2005. A Traffic study will most likely be required by NHDOT and will be provided at that time to the Planing Board.

See the accompanying Site Development Plans for a detailed description of the proposed development.

STORMWATER MANAGEMENT SYSTEM

The stormwater management system includes, a closed drainage system, 2 detention basins with sediment forebays, an underground storage and infiltration basin for ½ the roof runoff. . The closed drainage system is made up of catchbasins, drain manholes, , flared end sections and culverts. The closed drainage system directs the flow from the proposed building, parking and access drives into the stormwater management systems. The stormwater management systems outlets flow to various wetlands to approximate the same discharges under existing conditions. The rainfall data used is from the Extreme Precipitations Tables by Northeast Regional Climate Center.

PRE-DEVELOPMENT DRAINAGE CONDITIONS

The site consists of fivel drainage subcatchments E-1 through E-5). The site has been broken into these subcatchments to accurately represent flow to different offsite locations. The stormwater runnoff from E-1, E-2, and E-3 flows overland to different culverts under Route 4 and analized and Design Points "A", "B", and "C" respectivley. E-4 consists of woods and wooded wetlands that flow overland to the southeastern property boundary in an existing drainage swale at Design Point "D". E-5 consist of woods and wooded wetlands that flow overland to the easterly property boundary in and existing drainage swale at Design Point "E". See *Pre-Development Drainage Zones* on Sheet C6.10 of the Site Development Plans and the calculation data in Appendix A for a detailed description of subcatchment data. Note: the existing conditions have been modeled as the site existed prior the any construction on the property. This will alow for the use of the stormwater systems that were constructed for the previously approved project in 2005.

POST-DEVELOPMENT DRAINAGE CONDITIONS

Drainage patterns resulting from the proposed development are delineated on *Post-Development Drainage Zones on* Sheet C6.11 of the Site Development Plans. D-1 thru D-5, represent the bypass flows off the site. D41-B is one quarter of the building roof and discharges into a subsurface infiltration/detention basin. 4P. This in turn discharges into a wetland that flows to Deign point "A". D41-A is on quarter of the building roof and dscharges into a subsurface infiltration/detention basin 3P. This in turn discharges to a wetland that flows to Design Point "D". D7 thru D19 along with one half of the building roof D42, and D22 thru D30 discharge to the Sediment Forebay pond 2A via a series of catch basin, drian manholes, and HDPE pipes. D6-1 is the area that flows overland to pond 2A. Pond 2A flows into Pond 2B. D6-2 is the area that flows overland to Pond 2B. Pond 2B flows into Pond 2C. D6-3 is the area that flows overland to Pond 2C. Pond 2C discharges into a wetland that flows to Deisgn Point "D". D31 thru D34 along with D35-1,D37, and D38 discharge into Pond 1B thru a series of catch basins, drain manholes and HDPE pipes. Pond

1A discharges into a wetland that flows to Design Point "C". Design Points A, B, C, D and E correspond to the same Design Points for the Pre-Development Conditions.
See *Post-Development Drainage Zones on Sheet* C6.11 on the Site Development Plans and the calculation data in the Stormwater Amalysis for a detailed description of subcatchment data.

DESIGN OBJECTIVES / METHODOLOGY

STORMWATER MANAGEMENT SYSTEM

The design objectives for the on-site storm water drainage system were to safely control stormwater runoff from the proposed development and to maintain the overall stormwater runoff conditions of the Site. The drainage system was designed to accommodate runoff resulting from a 2, 10, 25, and 100 year frequency design storms. The general drainage patterns of the Site will remain essentially unaltered; the stormwater management system outlets flow to various wetlands to approximate stormwater discharges under existing conditions.

RUNOFF QUANTIFICATION

A drainage analysis was performed using pre- and post-development site criteria to estimate the effects of the proposed development on stormwater runoff conditions. Stormwater runoff rates were calculated for the 2, 10, 25, and 100 year design storm events. The analysis was performed using HydroCAD™, a computerized stormwater modeling system that combines SCS hydrology techniques with standard hydraulic equations.

Total site runoff figures were obtained by summing hydrographs and not by direct addition of peak flows from individual subcatchments. Since peak flows from the individual subcatchments occur at different times, the total runoff figure listed may not equal the sum of the individual peak flows from the various subcatchments. This method provides a more realistic total flow figure than that obtained by direct addition of peak flows.

RESULTS

STORMWATER RUNOFF COMPARISON

The following tables summarize and compares the hydrologic and hydraulic conditions resulting from pre and post-development peak storm water runoff events.

There are 5 Design Points of analysis for this site, A thru E.

DRAINAGE SUMMARY

Post-Development	**A**	**B**	**C**	**D**	**E**
Pre-Development	**A**	**B**	**C**	**D**	**E**
Pre-Dev. 2 Year Storm	8.09	3.62	2.33	8.17	8.80
Post-Dev. 2 Year Storm	7.98	2.66	2.26	7.01	8.45
Pre-Dev. 10 Year Storm	21.03	9.09	5.87	21.19	22.72
Post-Dev. 10 Year Storm	19.61	6.31	5.67	17.96	19.96
Pre-Dev. 25 Year Storm	32.74	14.00	9.04	32.97	35.33
Post-Dev. 25 Year Storm	29.40	9.53	8.93	27.28	33.93
Pre-Dev. 100 Year Storm	58.61	24.76	15.97	59.02	63.21
Post-Dev. 100 Year Storm	50.83	16.52	15.08	50.88	60.70

SUMMARY

Existing stormwater runoff drainage patterns will remain essentially unchanged under post-development conditions. The stormwater management system outlets flow to various wetlands to approximate stormwater discharges under existing conditions. Stormwater flows for the 2,10, 25, and 100 year storm events will decrease under proposed conditions.

The increased areas of impervious cover will be offset by the improved cover conditions over the remainder of the site and the stormwater management systems. It is our opinion no negative downstream impacts would be expected. Proper construction and operation of the drainage mitigation structures will provide adequate protection of downstream properties from any stormwater runoff impacts.

Town of Nottingham
P.O. Box 114, 139 Stage Road, Nottingham NH 03290 Office 603-734-4881, Fax 603-679-1013
Web: http://www.nottingham-nh.gov Email: plan.zone@nottingham-nh.gov

SITE PLAN REVIEW APPLICATION – PLANNING BOARD

Site Plan Review Type: Commercial/Industrial X Multi-family ___ Mixed Use ___

Concurrent- Subdivision / Site Plan Review: Y/N? N

Change of Use Only: Y/N? N **Amendment to Approval:** Y/N? N

Total Area of Lot(s): 1	Existing Use(s) of Property: Vacant Parcel	Proposed Use(s) of Property: Light Instrial / Warehouse
Property Address: 145 Old Turpike Road		
Zoning District(s): Commercial / Industrial Rte. 4		
Overlay District(s):	Map(s): 003	Lot (s): 0010
Project Narrative: (***Please attach a separate sheet with the project description of pre- and post-conditions***)		

DOCUMENTS TO SUBMIT: (All documents shall be provided in Adobe PDF format as well**)**

Y-N/A
(X) ( ) Project Narrative
(X) ( ) Form A "Abutters List" (filed no earlier than 5 days within submittal of this application with 3 labels per address on address labels - same size as Avery 5160/8160)
(X) ( ) Form B "Authorization to Enter Upon Subject Property"
(X) ( ) Form C "Owner's Authorization for Representation"
(X) ( ) Form D "Request For Waiver(s)"
(X) ( ) Form E "Certification of Monument Installation"
(X) ( ) Form F "Application Checklist"
(X) ( ) Two (2) sets of 24"x36" plans
(X) ( ) Ten (10) sets of 11"x17" plans
Note: Applicant must submit fee at time of submission – see "Application Fee Schedule" form
Note: All documents shall be provided in Adobe PDF format as well

INTERNAL USE ONLY:

Case#:	Project Name:	Date Received:

Case# Project Name Date

SITE PLAN REVIEW APPLICATION – Continued

The property owner shall designate an agent for the project. This person (the applicant) shall attend pre-application conferences and public hearings, will receive the agenda, recommendations, and case reports, and will communicate all case information to other parties as required.

All contacts for this project will be made through the *Applicant* listed below.

Owner 1: Tom Moulton		
Company: Nottinghasm Business Park, LLC		
Phone: 603-926-6700	Fax:	E-mail: tmoulton@sleepnetcorp.com
Address: 5 Merrill Industrail Drive, Hampton,NH 03842		

Owner 1 Signature *Date* 3/28/23

Owner 2:		
Company:		
Phone:	Fax:	E-mail:
Address:		

Owner 2 Signature *Date*

Owner 3:		
Company:		
Phone:	Fax:	E-mail:
Address:		

Owner 3 Signature *Date*

Applicant (if different from owner): Denis Hamel		
Company: GM2 Associates, Inc.		
Phone: 978-572-6429	Fax:	E-mail: dhamel@gm2inc.com
Address: 6 Chestnut Street, Suite 110, Amesbury, MA 01913		

Developer:		
Company:		
Phone:	Fax:	E-mail:
Address:		

Surveyor/Engineer: David Giangrande, PE		
Company: GM2 Asociates Inc.		
Phone: 617-776-3350	Fax: 617-776-7710	E-mail: dgiangrande@gm2inc.com
Address: 10 Cabot Road, Suite 101B, Medford, MA 02155		

Case# Project Name Date

ABUTTERS LIST

APPLICANT MUST PRINT THREE (3) ADDRESS LABELS PER ABUTTER INCLUDING THE APPLICANT, OWNER, AND PROFESSIONAL(S)

1. OWNER 1 INFORMATION:

Printed Name: Tom Moulton Telephone: 603-926-6700

Address: 5 Merrill Industrial Drive, Hampton, NH 03842

2. APPLICANT INFORMATION:

Printed Name: Denis Hamel Telephone: 978-572-6429

Address: 6 Chestnut Street, Suite 110, Amesbury, MA. 01913

3. PROFESSIONAL(S) INFORMATION:

Printed Name: Multiple - See attaced list Telephone:

Address:

Abutter Information					
	Map:	Lot:	Sub lot:	Name:	Address:
1.				See attached list and maps	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					

I, Denis Hamel, the undersigned, certify that to the best of my knowledge, the above is an accurate and complete abutters list and that the information was obtained from the Nottingham Assessing Office no more than five (5) days prior to the date of this application.

Denis M. Hamel List obtained on Feb. 6, 2023 03-27-2023

Applicant's Signature Date

Please attach a separate sheet with additional abutters, if necessary

Town of Nottingham
P.O. Box 114, 139 Stage Road, Nottingham NH 03290 Office 603-734-4881, Fax 603-679-1013
Web: http://www.nottingham-nh.gov Email: plan.zone@nottingham-nh.gov

AUTHORIZATION TO ENTER UPON SUBJECT PROPERTY

The property owner(s), by the filing of this application, hereby give permission for the members of the Nottingham Planning Board and such agents or employees of the Town as the Nottingham Planning Board may authorize, to enter upon the property which is the subject of this application at any reasonable time for the purpose of such examinations, surveys, tests and/or inspections as may be appropriate to enable this application to be processed.

I/We hereby waive and release any claim or right I/we may now or hereafter possess against any of the above individuals as a result of any examinations, surveys, tests, and/or inspections conducted on my/our property in connection with this application. This authorization expires in one year from date of signature.

Property Owner 1

Signature _____ Date 3/29/3

Property Owner 2

Signature _____ Date _____

Property Owner 3

Signature _____ Date _____

Property Owner 4

Signature _____ Date _____

Case# Project Name Date

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OWNER'S AUTHORIZATION FOR REPRESENTATION

I, the undersigned owner(s) of the property listed above, hereby verify that I have authorized:
Tom Moulton authorizes Denis Hamel, GM2 Inc. to represent me/us and apply for the required approval(s) from the Planning Board in the Town of Nottingham, New Hampshire for the following:

Property Address: 145 Old Turnpike Road, Nottingham, NH

Property Map/Lot: 003/0010

Name of Owner 1	Tom Moulton of Nottingham Business Park, LLC	
Address	5 Merrill Industrial Drive, Hampton, NH 03842	
Signature		Date 3/29/23

Name of Owner 2		
Address		
Signature		Date

Name of Owner 3		
Address		
Signature		Date

Name of Owner 4		
Address		
Signature		Date

REQUEST FOR WAIVER(S)

If there is more than one waiver requested, each waiver request is to be individually listed and described, as each waiver is considered individually by the Town of Nottingham Planning Board. A petition for waiver shall be submitted in writing by the applicant with the application for review. The request shall fully state the grounds for which the waiver is requested and all facts supporting this request with reference to the applicable Nottingham Subdivision Regulations article, section and paragraph. **Each waiver granted shall be listed on the approved subdivision plan which is to be recorded at the Rockingham County Registry of Deeds.**

OWNER		
Tax Map: 003	Lot: 0010	Sub-Lot:
Property Address: 145 Old Turnpike Road, Nottingham, NH		
Zoning District(s): Commercial Industrial Rte. 4 / Residential Agricultural		
Name of Owner 1: Ton Moulton of Nottinham Business Park, LLC		
Address of Owner 1: 5 Merrill Industrial Drive, Hampton, NH 03.842		
APPLICANT		
Name (if different from owner): Denis Hamel of GM2 Associated Inc.		
Phone Number: 978-572-6429	Email: dhamel@gm2inc.com	

I, _____, request the following waiver(s) to the Town of Nottingham Site Plan Review Regulations for the above application:

REQUEST FOR WAIVER(S)			
Article	**Section**	**Title/Heading**	**Reason for Waiver**

_____

Applicant Signature Date

Please attach a separate sheet with additional waiver requests, if necessary

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CERTIFICATE OF MONUMENT INSTALLATION

Property Owner 1: Tom Moulton of Nottingham Business Park, LLC
5 Merrill Industrial Drive, Hampton, NH 03842

Tax Map: 003 Lot: 0010

Property Address: 145 Old Turpike Road, Nottingham, NH

Name of Surveyor: _____

Company: _____

Number of Granite Bounds: _____

Iron Stakes/Pins/Rods: _____

Drill Hole w/ Aluminum surveyor's disk: _____

"I hereby certify that the monumentation required on the above referenced subdivision plat has been accurately installed under my supervision and said monumentation complies with the Nottingham Subdivision Regulations."

Name of Surveyor: _____

Signature: _____ Date: _____

Seal of Surveyor:

Town of Nottingham
P.O. Box 114, 139 Stage Road, Nottingham NH 03290 Office 603-734-4881, Fax 603-679-1013
Web: http://www.nottingham-nh.gov Email: plan.zone@nottingham-nh.gov

APPLICATION CHECKLIST

This checklist is intended to assist applicants in preparing a complete application as required by the Nottingham Site Plan Review Regulations and must be submitted along with all application documents. Applicant shall be responsible for all requirements specified in the Nottingham Site Plan Regulations even if said requirements are omitted from this checklist.

Applicant shall be responsible for providing all the information listed in the column entitled "Site Plan Review". Applicant should place an "x" in each box to indicate that this information has been provided. If an item is considered not applicable, the "N/A" box should be marked.

Application Requirements	Site Plan Review		Office Use	
	Provided	N/A	Provided	N/A
Section I. General Requirements				
1. Completed application form	X			
2. Completed abutters list	X			
3. Payment of all required fees	X			
4. Two (2) sets of plans 24"x36" and ten (10) sets of plans 11"x 17" submitted with all required information in accordance with the regulations and this checklist	X			
5. Copies of any proposed easement deeds, protective covenants, or other legal documents	X			
6. Project narrative on a separate sheet	X			
7. Any requested waiver(s) submitted with reason in writing	X			
8. Technical reports and supporting documents (see Section IX & X of this checklist)	X			
9. Completed application checklist	X			
Section II. General Plan Information				
1. Size and presentation of sheet(s) per registry requirements and the subdivision regulations	X			
2. Title block information:				
a) Drawing title	X			
b) Name of subdivision Site Plan	X			
c) Location of subdivision Site Plan	X			

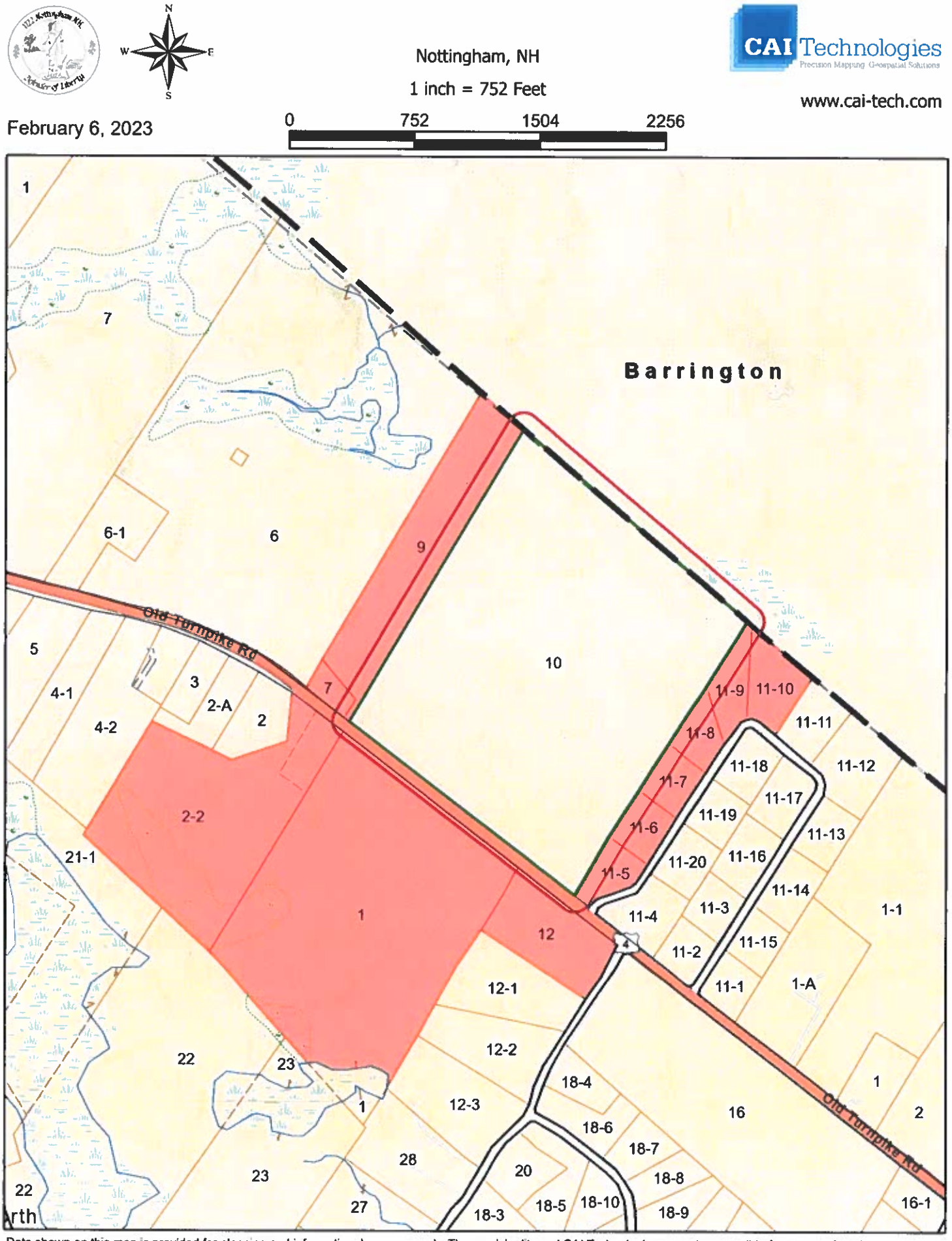
d)	Tax map & lot numbers of subject parcel(s)	X			
e)	Name & address of owner(s)	X			
f)	Date of plan	X			
g)	Scale of plan	X			
h)	Sheet number	X			
i)	Name, address, & telephone number of design firm	X			
j)	Name & address of applicant	X			
3.	Revision block with provision for amendment dates	X			
4.	Planning Board approval block provided on each sheet to be recorded	X			
5.	Certification block (for engineer or surveyor)				
6.	Match lines (if any)	X			
7.	Zoning designation of subject parcel(s) including overlay districts	X			
8.	Minimum lot area, frontages & setback dimensions	X			
9.	List Federal Emergency Management Agency (FEMA) sheet(s) used to identify 100-year flood elevation, locate the elevation	X			
10.	Note the following: "If, during construction, it becomes apparent that deficiencies exist in the approved design drawings, the Contractor shall be required to correct the deficiencies to meet the requirements of the regulations at no expense to the Town."	X			
11.	Note the following: "Required erosion control measures shall be installed prior to any disturbance of the site's surface area and shall be maintained through the completion of all construction activities, If, during construction, it becomes apparent that additional erosion control measures are required to stop any erosion on the construction site due to actual site conditions, the Owner shall be required to install the necessary erosion protection at no expense to the Town.	X			
12.	Note identifying which plans are to be recorded and which are on file at the Town.	X			
13.	Note the following: "All materials and methods of construction shall conform to Town of Nottingham Site Plan Review Regulations and the latest edition of New Hampshire Department of Transportation's Standard Specifications for Road & Bridge Construction."	X			
14.	North arrow	X			
15.	Location & elevation(s) of 100-year flood zone per FEMA Flood Insurance Study		X		
16.	Plan and deed references	X			
17.	The following notes shall be provided:				
a)	Purpose of plan	X			
b)	Existing and proposed use	X			
c)	Water supply source (name of provider (company) if offsite)	X			
d)	Zoning variances/special exceptions with conditions		X		
e)	List of required permits and permit approval numbers				
f)	Vicinity sketch showing 1,000 feet surrounding the site	X			
g)	Plan index indicating all sheets	X			
18.	Boundary of entire property to be subdivided	X			
19.	Boundary monuments				
a)	Monuments found	X			
b)	Map number and lot number, name, addresses, and zoning of all abutting land owners	X			
c)	Monuments to be set		X		
20.	Existing streets:				
a)	Name labeled	X			
b)	Status noted or labeled	X			
c)	Right-of-way dimensioned		X		
d)	Pavement width dimensioned	X			
21.	Municipal boundaries (if any)	X			

22. Existing easements (identified by type)				
A. Drainage easement(s)		X		
B. Slope easement(s)		X		
C. Utility easement(s)		X		
D. Temporary easement(s) (Such as temporary turnaround)		X		
E. No-cut zone(s) along streams & wetlands (as may be requested by the Conservation Commission)		X		
F. Vehicular & pedestrian access easement(s)		X		
G. Visibility easement(s)		X		
H. Fire pond/cistern(s)		X		
I. Roadway widening easement(s)		X		
J. Walking trail easement(S)		X		
K. Other easement(s) Note type(s) Environmental restrictions	X			
23. Designation of each proposed lot (by map & lot numbers as provided by the assessor)		X		
24. Area of each lot (in acres & square feet):		X		
a) Existing lot(s)	X			
b) Contiguous upland(s)	X			
25. Wetland delineation (including Prime Wetlands):				
a) Limits of wetlands	X			
b) Wetland delineation criteria	X			
c) Wetland Scientist certification	X			
26. Owner(s) signature(s)	X			
27. All required setbacks	X			
28. Physical features				
a) Buildings	X			
b) Wells	X			
c) Septic systems		X		
d) Stone walls	X			
e) Paved drives	X			
f) Gravel drives	X			
29. Location & name (if any) of any streams or water bodies		X		
30. Location of existing overhead utility lines, poles, towers, etc.	X			
31. Two-foot contour interval topography shown over all subject parcels	X			
32. Map & lot numbers, name, addresses, and zoning of all abutting land owners	X			
Section III. Proposed Site Conditions Plan (Use Sections I General Requirements & Section II General Plan Information)				
1. Surveyor's stamp and signature by Licensed Land Surveyor				
2. Proposed lot configuration defined by metes & bounds		X		
3. Proposed easements defined by metes & bounds. Check each type of proposed easement applicable to this application:		X		
a) Drainage easement(s)		X		
b) Slope easement(S)		X		
c) Utility easement(s)		X		
d) Temporary easement(s) (such as temporary turnaround)		X		
e) Roadway widening easement(s)		X		
f) Walking trail easement(s)		X		
g) Other easement(s) Note type(s)		X		
4. Area of each lot (in acres & square feet):		X		

a) Total upland(s)	X			
b) Contiguous upland(s)	X			
5) Proposed streets:				
a) Name(s) labeled		X		
b) Width of right-of-way dimensioned		X		
c) Pavement width dimensioned	X			
6. Source and datum of topographic information (USGS required)	X			
7. Show at least one benchmark per sheet (min.) and per 5 acres (min.) of total site area	X			
8. Soil Conservation Service (SCS) soil survey information		X		
9. Location, type, size & inverts of the following (as applicable):				
a) Existing water systems		X		
b) Existing drainage systems	X			
c) Existing utilities	X			
10. 4K affluent areas with 2 test pit locations shown with suitable leaching areas		X		
11. Location of all water wells with protective radii as required by the NH Department of Environmental Services (meeting Town and NHDES setback requirements)	X			
12. Existing tree lines	X			
13. Existing ledge outcroppings & other significant natural features	X			
14. Drainage, Erosion and Sediment Control Plan(s) containing all of the requirements specified in Article 15 of the regulations	X			
Section IV. Construction Detail Drawings				
Note: Construction details to conform with NHDOT Standards & Specifications for Roads & Bridges, Town of Nottingham Highway Department requirements, and Article 14 of the Site Plan Review Regulations				
1. Typical cross-section of roadway	X			
2. Typical driveway apron detail	X			
3. Curbing detail	X			
4. Guardrail detail	X			
5. Sidewalk detail	X			
6. Traffic signs and pavement markings	X			
7. Drainage structure(s)	X			
8. Outlet protection riprap apron	X			
9. Level spreader	X			
10. Treatments swale	X			
11. Typical section at detention basin	X			
12. Typical pipe trench	X			
13. Fire protection details				
14. Erosion control details	X			
15. Construction Notes				
a) Construction sequence	X			
b) Erosion control notes	X			
c) Landscaping notes				
d) Water system construction notes	X			
e) Sewage system construction notes		X		
f) Existing & finish centerline grades	X			
g) Proposed pavement – Typical cross-section	X			
h) Right-of-way and easement limits		X		
i) Embankment slopes	X			
j) Utilities	X			

Section V. **Supporting Documentation If Required**				
1. Stormwater management report	X			
2. Traffic impact analysis				
3. Environmental impact assessment	X			
4. Hydrogeological study	X			
5. Fiscal impact. study provided	X			

Note: This checklist shall be completed and returned as part of the original application packet.



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

100 feet Abutters List Report

Nottingham, NH
February 06, 2023

Subject Property:

Parcel Number:	003-0010-000	Mailing Address:	NOTTINGHAM BUSINESS PARK LLC
CAMA Number:	003-0010-000		5 MERRILL INDUSTRIAL DRIVE
Property Address:	145 OLD TURNPIKE ROAD		HAMPTON, NH 03842

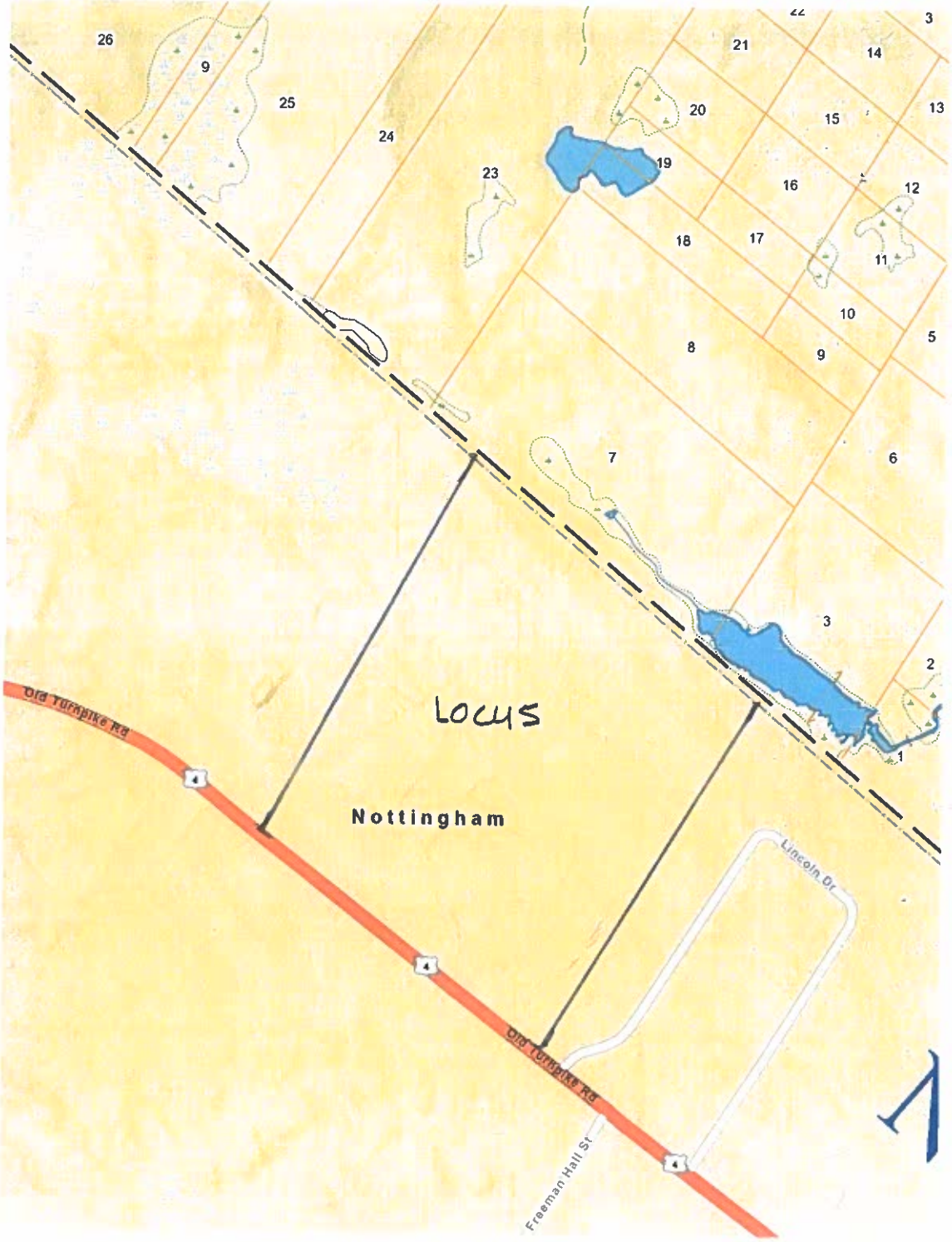
Abutters:

Parcel Number:	003-0001-000	Mailing Address:	CONCRETE PRODUCTS OF LONDONDER
CAMA Number:	003-0001-000		87 HAVERHILL ROAD
Property Address:	OLD TURNPIKE ROAD		AMESBURY, MA 01913
Parcel Number:	003-0002-002	Mailing Address:	CONCRETE PRODUCTS OF LONDONDER
CAMA Number:	003-0002-002		87 HAVERHILL ROAD
Property Address:	160 OLD TURNPIKE ROAD		AMESBURY, MA 01913
Parcel Number:	003-0007-000	Mailing Address:	CURRIER, PAMELA J
CAMA Number:	003-0007-000		157 OLD TURNPIKE ROAD
Property Address:	157 OLD TURNPIKE ROAD		NOTTINGHAM, NH 03290
Parcel Number:	003-0009-000	Mailing Address:	NOTTINGHAM BUSINESS PARK LLC
CAMA Number:	003-0009-000		5 MERRILL INDUSTRIAL DRIVE
Property Address:	155 OLD TURNPIKE ROAD		NORTH HAMPTON, NH 03842
Parcel Number:	003-0011-005	Mailing Address:	PHELPS, CARL WADE PHELPS, ELIZABETH A
CAMA Number:	003-0011-005		27 LINCOLN DRIVE
Property Address:	27 LINCOLN DRIVE		NOTTINGHAM, NH 03290
Parcel Number:	003-0011-006	Mailing Address:	DUBOIS, JENNIFER
CAMA Number:	003-0011-006		25 LINCOLN DRIVE
Property Address:	25 LINCOLN DRIVE		NOTTINGHAM, NH 03290
Parcel Number:	003-0011-007	Mailing Address:	JONES, AMY C. LANDER, KARL D.
CAMA Number:	003-0011-007		23 LINCOLN DRIVE
Property Address:	23 LINCOLN DRIVE		NOTTINGHAM, NH 03290
Parcel Number:	003-0011-008	Mailing Address:	BOOTH, JENNIFER L
CAMA Number:	003-0011-008		21 LINCOLN DRIVE
Property Address:	21 LINCOLN DRIVE		NOTTINGHAM, NH 03290
Parcel Number:	003-0011-009	Mailing Address:	MACKINNON, EWEN MACKINNON, MEGHAN
CAMA Number:	003-0011-009		19 LINCOLN DRIVE
Property Address:	19 LINCOLN DRIVE		NOTTINGHAM, NH 03290
Parcel Number:	003-0011-010	Mailing Address:	DIJKSTRA, SEMME J DIJKSTRA, JENNIFER A
CAMA Number:	003-0011-010		17 LINCOLN DRIVE
Property Address:	17 LINCOLN DRIVE		NOTTINGHAM, NH 03290

100 feet Abutters List Report

Nottingham, NH
February 06, 2023

Parcel Number:	003-0012-000	Mailing Address:	BUNCE, JOHN E DASCOMB, DAWN D
CAMA Number:	003-0012-000		88 FREEMAN HALL RD
Property Address:	88 FREEMAN HALL ROAD		NOTTINGHAM, NH 03290



BARRINGTON ASSESSORS MAP

Map: 000259 Lot: 000003 Sub: 000000 Card: 1 of 1 MERRY HILL RD BARRINGTON Printed: 09/28/2022

OWNER INFORMATION

BARRINGTON TOWN OF

PO BOX 660

BARRINGTON, NH 03825

SALES HISTORY

Date	Book	Page	Type	Price	Grantor
08/30/2021	4947	823	U V 35		ROTONDO FRANCESCO
05/05/1998	2003	726	U V 82		PULCINELLA ROBERT C

PICTURE

LISTING HISTORY

04/26/22	CWCL
07/30/19	CWRR
03/15/17	CWCL
08/04/14	MWRR
08/20/13	BHCL

NOTES

OLD MAP & LOT #: 004-0072-000A / LAND=BORDERS NOTTINGHAM: NO KNOWN ACCESS;. 4/22- PER GIS WATER MAKES UP ONE THIRD OF PARCEL/VACANT WOODED WET BACKLAND.

EXTRA FEATURES VALUATION

Feature Type	Units	Lngth x Width	Size Adj	Rate	Cond	Market Value	Notes

MUNICIPAL SOFTWARE BY AVITAR

BARRINGTON ASSESSING OFFICE

PARCEL TOTAL TAXABLE VALUE

Year	Building	Features	Land
2020	$ 0	$ 0	$ 20,700
		Parcel Total:	$ 20,700
2021	$ 0	$ 0	$ 20,700
		Parcel Total:	$ 20,700
2022	**$ 0**	**$ 0**	**$ 20,700**
		Parcel Total:	**$ 20,700**

LAND VALUATION

LAST REVALUATION: 2021

Zone: RURAL **Minimum Acreage:** 2.00 **Minimum Frontage:** 200 **Site:** **Driveway:** **Road:**

Land Type	Units	Base Rate	NC	Adj	Site	Road	DWay	Topography	Cond	Ad Valorem	SPI	R	Tax Value	Notes
EXEMPT-MUNIC	18.000 ac	x 2,500	X	92	100	100	100		50	20,700	0	N	20,700	WET
	18.000 ac									20,700			**20,700**	

Map: 000258 Lot: 000007 Sub: 000000 Card: 1 of 1 MERRY HILL RD BARRINGTON Printed: 09/28/2022

OWNER INFORMATION

SOUTHEAST LAND TRUST OF NEW HAMP
STONEHOUSE FOREST
6 CENTER ST
PO BOX 675
EXETER, NH 03833

SALES HISTORY

Date	Book	Page	Type	Price	Grantor
12/11/2017	4533	425	U V 90		GOLDEN PONDS HUNTING &

PICTURE

LISTING HISTORY

07/30/19	CWRR
04/26/17	MWCU
03/15/17	CWCL
07/17/14	MWRR
08/06/13	BHCL
06/23/10	ABTE

NOTES

(IN CONSERVATION) OLD MAP & LOT #: 004-0073-0000 / LAND=BORDERS NOTTINGHAM. 2017-PUT IN CU (F/K/A RT 202; CLOSER TO MERRY HILL RD) NO KNOWN ACCESS; 7/19- PER GIS MAP VACANT WOODED W/LOTS OF WET 2017-INVLSALSEEPSTIT

EXTRA FEATURES VALUATION

Feature Type	Units	Lngth x Width	Size Adj	Rate	Cond	Market Value	Notes

MUNICIPAL SOFTWARE BY AVITAR

BARRINGTON ASSESSING OFFICE

PARCEL TOTAL TAXABLE VALUE

Year	Building	Features	Land
2020	$ 0	$ 0	$ 2,874
		Parcel Total:	$ 2,874
2021	$ 0	$ 0	$ 3,080
		Parcel Total:	$ 3,080
2022	**$ 0**	**$ 0**	**$ 3,080**
		Parcel Total:	**$ 3,080**

LAND VALUATION

LAST REVALUATION: 2021

Zone: RURAL **Minimum Acreage:** 2.00 **Minimum Frontage:** 200 **Site:** **Driveway:** **Road:**

Land Type	Units	Base Rate	NC	Adj	Site	Road	DWay	Topography	Cond	Ad Valorem	SPI	R	Tax Value	Notes
UNMNGD PINE	16.000 ac	x 2,500	X	87	100	100	100		50	17,400	60	N	2,445	WET
UNMNGD OTHER	11.000 ac	x 2,500	X	87					100	23,900	60	N	543	
WETLANDS	4.000 ac	x 2,500	X	87					100	8,700	100	N	92	
	31.000 ac									50,000			**3,080**	

Nottigham Business Park, LLC
5 Merrill Industrial Drive
Hampton, NH 03842

Concrete Products of Londoner
87 Haverhill Road
Amesbury, MA 01913

Pamela J. Currier
157 Old Turnpike Road
Nottingham, NH

Carl Wade Phelps
Elizabeth A. Phelps
27 Lincoln Drive
Nottingham, NH 03290

Karl D. Jones
Amy C. Lander
23 Lincoln Drive
Nottingham, NH 03290

Jennifer Dubois
25 Lincoln Drive
Nottingham, NH 03290

Jennifer Booth
21 Lincoln Drive
Nottingham, NH 03290

Ewen Mackinnon
Meghan Mackinnon
19 Lincoln Drive
Nottingham, NH 03290

Semme J. Dijkstra
Jennifer A. Dijkstra
17 Lincoln Drive
Nottingham, NH 03290

John E. Dascomb
Dawn D. Bunce
88 Freeman Hall Road
Nottingham, NH 03290

Town of Barrington
PO Box 660
Barrington, NH 03825

Southeast Land Trust of NH
6 Center Street
PO Box 675
Exeter, NH 03833

David Ginagrande, PE
C/o GM2 Associates Inc.
10 Cabot Road Suite 101B
Medford, MA 02155

James Long, Soil Scientist
C/o GZA GeoEnvironmental Inc.
5 Commerce Park North, Suite 201
Bedford, NH 03110

Jennifer Riordan, Wetland Scientist
C/o GM2 Associates, Inc.
197 Loudon Road, Suite 310
Concord, NH 03301

Mitch Cummings, LLS
C/o GM2 Associates, Inc.
197 Loudon Road, Suite 310
Concord, NH 03301

Environmental Impact Statement

145 Old County Road

Nottingham, NH

Date: 03-27-2023

LAND EROSION:

The original undeveloped site was a naturally vegetated and gently sloping landscape that has developed on glacial till deposits. Erosion and sedimentation (E/S) is generally not a concern on such landscapes that are maintained in their natural state. Observations made on this site confirm this to be the case for its past uses. E/S becomes a concern when site activities occur that disturb and expose the soil surface. Some of these activities have occurred on the site associated with providing access to and installation of the wells to support the proposed facility, the partial construction of a building along with stormwater mitigation areas and access drives. The proposed site plan improvements specify restoration of these areas that are being further modified for the proposed project.

This project proposes further site disturbances that result in a change in the stormwater runoff characteristics of the developed portions of the property. A comprehensive stormwater management plan has been designed to treat stormwater generated from the impervious surface areas of the proposed facilities. The stormwater management system includes, a closed drainage system, 2 stormwater mitigation basins with sediment forebays, grass treatment swales and a subsurface infiltration/detention basin. The closed drainage system collects runoff from all impervious surfaces and provided treatment of the stormwater while striving to maintain existing stormwater discharge patterns into the surrounding wetland systems. The stormwater management system is designed to handle up to a 100-year storm event. Siltation/erosion controls will be installed and maintained prior to and during construction and will remain in place until the disturbed areas have been properly stabilized. All areas that have been disturbed will be loamed and seeded with an appropriate seed mix upon completion of construction.

DISTURBANCE TO OTHER ASPECTS OF THE NATURAL ECOLOGY:

Wetlands and their associated wildlife habitat values are the components of Natural Ecology that are subject to this discussion. A Functional Evaluation of all of the wetland systems on the property that assesses the functions each of the wetlands are serving as well as the potential impacts from the proposed project has been completed by GZA Inc. A complete copy of the report text is contained in Stormwater Analysis document.

Completion of this project will require no new wetland impacts. The site was approved for water bottling facility in 2005and site was partially constructed. The original 2005 approval had 17,290 square feet of wetland impacts. A 35,000 SF wetland replication area was constructed in 2006 to compensate for the lost wetlands. A significant portion of the site will be left in a natural vegetated state as protection for the natural environmental. The proposed improvements for this

project have been located on the property in the configuration that results in the avoidance of the highest value resources and the least amount of impact to the remaining wetland systems.

The highest value resources associated with the site are a vernal pool and the Prime Wetland system designated by the Town of Barrington easterly of the Barrington/Nottingham town line. Protection of the vernal pool has been accomplished through the of the access road to the project, providing sufficient undisturbed upland area adjacent to the pool for species habitat. No direct impacts are proposed for the designated Prime Wetland area. Potential Turtle Habitat areas and a strip of land along the rear property and Town line with Barrington and the abutting neighbors on Lincoln Ave., have been preserved by a Conservation Restriction and will run with the land in perpetuity.

Community Impact Statement

145 Old County Road
Nottingham, NH
Date: 03-27-2023

Proposed Project's Use

The proposed use will be a warehouse for storage of gods and materials to stored or held for transportation and distribution. In addition, light industrial use will utilize another portion of the existing building. The warehouse portion of the building will store product manufactured onsite and be distributed to clients in other parts of the country as well as locally.

Scope of Operation

The site will operate 7 days per week. Pickup and deliveries of product will occur between the hours of 8 AM and 5PM Monday through Saturday – six days per week. The loading process will consist of forklift trucks moving product into either containers or enclosed trailers from the loading dock. Once filled, the trailers will be delivered to their designate location. No movement of trailers will occur on Sunday.

Attendance at Public Schools

Public school impact from the operation is expected to be minimal, since the approximately eighty (80) employees anticipated to work at the plant will either be from Nottingham or the immediate surrounding communities. USA Springs does not expect any large-scale importation of workers with school-age children from other jurisdictions that would require relocation to Nottingham.

Changes in Local Population

USA Springs intends to staff the bottling facility from either Nottingham, or communities which are in commuting distance from the plant for workers. As such, no changes in local population are anticipated at this time.

Increases in Municipal Costs

The project anticipates that the increases in municipal costs will be minimal. Private contractors paid for by the company will remove waste discharge, both solid and liquid. The company will perform snow removal at the company's expense. Demands on the police force will be minimal. Demands on the fire department are also expected to be minimal – since the building will have a sprinkler system, and the company will provide for its own storage tank for fire fighting purposes.

In summary, we anticipate only minor increases in municipal costs for police patrols and the like – such costs are anticipated to be easily offset by the tax assessment on the building and the land.

Changes in Tax Revenue

This subject must be addressed as two separate and distinct topics – the economic benefit from a single, "non-polluting" use, and the specific increase in tax revenues anticipated to ensue from constructing the bottling facility.

Economic - The 200 foot natural buffer from the closest point on which there will be any vehicular use of the site, with landscaped enhancements as described elsewhere in this document, ensure that there will be no adverse economic impact on neighboring property values. Conversely, the business purpose of the proposed facility will eliminate the unknown future development potential variable on such a large tract of undeveloped land, which would otherwise loom as a risk factor adversely affecting neighboring properties and their respective fair market values. The clean, concentrated use of space and resources is the best way to remove such unknown risk from the property valuation method, while drawing minimal incremental services from the Town and greatly adding to the Town's tax base. This major economic boost to the Town's finances can be achieved with no burden on the educational system which would otherwise need to be provided, and with minimal or no impact to Police and Fire resources. All of this helps the Town ensure orderly growth.

Tax Revenue - Nottingham will experience a net increase in tax revenues upon completion of the facility. The current parcel of land and buildings is assessed at $1,049,900 – resulting in an annual tax payment of $20,063. Using an example of a building valuation of $10 million, the tax payments by the company would increase by $171,037 – bring the total taxes paid to $191,100.

Stormwater Analysis

145 Old County Road

Nottingham, NH

Date: 03-24-2023

Project #40683

- Site Description
- Project Description
- Design Objectives/Methodology
- Results
- Summary
- Rainfall Precipitation Table
- Soil Survey Report
- Pre-Development Runoff Calcs
- Post-Development Runoff Calcs

GM2 Associates
6 Chestnut Street - Amesbury, MA

SITE DESCRIPTION

GENERAL

The 78.2± acre project site is located off of Route 4 in Nottingham, New Hampshire. All of the proposed development is situated in Nottingham, NH.

The site was previously approved by the Town of Nottingham for a Water Bottling Facilty in 2005. All the State, Federal, and Local permits were obtained at that time. A 176,000 SF building was partially constructed with foundation and the steel superstructure installed. The two major stormwater basins were constructed along with the base for the access drive from Rte. 4. A wetland replication area was also excavted and graded. Wetland vegetaion has since established itself in the area and seems to be a functional weland. The remaining portion of the site is wooded. There was a barn onsite which has been burned that was to be re-purposed.

Slopes on the Site vary, ranging from 1/2% to 16%. A High Intensity Soil Survey was conducted by NH Soil Consultants, Inc. for the above mentioned property on June 30, 2000. As part of this application, the Soil Survey has been re-done in 2021 by James Long of GZA. See the accompanying plan sheets V2.10 and V2.11 of the plan set. See the attached Soils Report, for a more detailed description of topography and soil conditions. The wetland delineation was also re-done in 2021 by Jennifer Rioron of GM2 Associates. See the accompampanying plan sheets V1.20 and V1.21 of the plan set. See attached Delineation Report.

PROJECT DESCRIPTION

GENERAL

The proposed development includes the construction of a 176,000 SF Building, paved access drives and parking areas, and a stormwater management system, an existing onsite well for domestic watrer supply and fire suppression, and an onsite septic system. The building and lighting system will be powered by the local Utility Company. The power lines were installed from Old Turnpike Road to a set of utility poles along the westerly property boundary as part of the previous development. See the accompanying design plans for a detailed description of the proposed development.

STORMWATER MANAGEMENT SYSTEM

The stormwater management system includes, a closed drainage system, 2 detention basins with sediment forebays, an underground storage and infiltration basin for ½ the roof runoff. . The closed drainage system is made up of catchbasins, drain manholes, , flared end sections and culverts. The closed drainage system directs the flow from the proposed building, parking and access drives into the stormwater management systems. The stormwater management systems outlets flow to various wetlands to approximate the same discharges under existing conditions. The rainfall data used is from the Extreme Precipitations Tables by Northeast Regional Climate Center. See Rainfall Preciptaion Table below.

PRE-DEVELOPMENT DRAINAGE CONDITIONS

The site consists of several drainage subcatchments E-1 through E-5). The site has been broken into these subcatchments to accurately represent flow to different offsite locations. The stormwater runnoff from E-1, E-2, and E-3 flows overland to different culverts under Route 4 and analized and Design Points “A”, “B”, and “C” respectivley. E-4 consists of woods and wooded wetlands that flow overland to the southeastern property boundary in an existing drainage swale at Design Point “D”. E-5 consist of woods and wooded wetlands that flow overland to the easterly property boundary in and existing drainage swale at Design Point “E”. See *Pre-Development Drainage Zones* on Sheet C6.10 of the Site Development Plans and the calculation data in Appendix A for a detailed description of subcatchment data.

POST-DEVELOPMENT DRAINAGE CONDITIONS

Drainage patterns resulting from the proposed development are delineated on *Post-Development Drainage Zones on* Sheet C6.11 of the Site Development Plans. D-1 thru D-5, represent the bypass flows off the site. D41-B is one quarter of the building roof and discharges into a subsurface infiltration/detention basin. 4P. This in turn discharges into a

wetland that flows to Deign point “A”. D41-A is on quarter of the building roof and dscharges into a subsurface infiltration/detention basin 3P. This in turn discharges to a wetland that flows to Design Point “D”. D7 thru D19 along with one half of the building roof D42, and D22 thru D30 discharge to the Sediment Forebay pond 2A via a series of catch basin, drian manholes, and HDPE pipes. D6-1 is the area that flows overland to pond 2A. Pond 2A flows into Pond 2B. D6-2 is the area that flows overland to Pond 2B. Pond 2B flows into Pond 2C. D6-3 is the area that flows overland to Pond 2C. Pond 2C discharges into a wetland that flows to Deisgn Point “D”. D31 thru D34 along with D35-1,D37, and D38 discharge into Pond 1B thru a series of catch basins, drain manholes and HDPE pipes. Pond 1A discharges into a wetland that flows to Design Point “C”. Design Points A, B, C, D and E correspond to the same Design Points for the Pre-Development Conditions.
See *Post-Development Drainage Zones on Sheet* C6.11 on the Site Development Plans and the calculation data in Appendix A for a detailed description of subcatchment data.

DESIGN OBJECTIVES / METHODOLOGY

STORMWATER MANAGEMENT SYSTEM

The design objectives for the on-site storm water drainage system were to safely control stormwater runoff from the proposed development and to maintain the overall stormwater runoff conditions of the Site. The drainage system was designed to accommodate runoff resulting from a 2, 10, 25, and 100 year frequency design storms. The general drainage patterns of the Site will remain essentially unaltered; the stormwater management system outlets flow to various wetlands to approximate stormwater discharges under existing conditions.

RUNOFF QUANTIFICATION

A drainage analysis was performed using pre- and post-development site criteria to estimate the effects of the proposed development on stormwater runoff conditions. Stormwater runoff rates were calculated for the 2, 10, 25, and 100 year design storm events. The analysis was performed using HydroCAD™, a computerized stormwater modeling system that combines SCS hydrology techniques with standard hydraulic equations.

Total site runoff figures were obtained by summing hydrographs and not by direct addition of peak flows from individual subcatchments. Since peak flows from the individual subcatchments occur at different times, the total runoff figure listed may not equal the sum of the individual peak flows from the various subcatchments. This method provides a more realistic total flow figure than that obtained by direct addition of peak flows.

RESULTS

STORMWATER RUNOFF COMPARISON

The following tables summarize and compares the hydrologic and hydraulic conditions resulting from pre and post-development peak storm water runoff events.

There are 5 points of analysis for this site, A thru E.

DRAINAGE SUMMARY

Post-Development	**A**	**B**	**C**	**D**	**E**
Pre-Development	**A**	**B**	**C**	**D**	**E**
Pre-Dev. 2 Year Storm	8.09	3.62	2.33	8.17	8.80
Post-Dev. 2 Year Storm	7.98	2.66	2.26	7.01	8.45
Pre-Dev. 10 Year Storm	21.03	9.09	5.87	21.19	22.72
Post-Dev. 10 Year Storm	19.61	6.31	5.67	17.96	19.96
Pre-Dev. 25 Year Storm	32.74	14.00	9.04	32.97	35.33
Post-Dev. 25 Year Storm	29.40	9.53	8.93	27.28	33.93
Pre-Dev. 100 Year Storm	58.61	24.76	15.97	59.02	63.21
Post-Dev. 100 Year Storm	50.83	16.52	15.08	50.88	60.70

SUMMARY

Existing stormwater runoff drainage patterns will remain essentially unchanged under post-development conditions. The stormwater management system outlets flow to various wetlands to approximate stormwater discharges under existing conditions. Stormwater flows for the 2,10, 25, 50 and 100 year storm events will decrease under proposed conditions.

The increased areas of impervious cover will be offset by the improved cover conditions over the remainder of the site and the stormwater management systems. It is our opinion no negative downstream impacts would be expected. Proper construction and operation of the drainage mitigation structures will provide adequate protection of downstream properties from any stormwater runoff impacts.

RAINFALL PRECIPITATION TABLE

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.971 degrees West
Latitude	42.999 degrees North
Elevation	0 feet
Date/Time	Sat, 17 Jun 2017 12:04:55 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.04	**1yr**	0.71	0.99	1.22	1.57	2.04	2.66	2.87	**1yr**	2.36	2.76	3.17	3.88	4.50	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.51	1.93	2.48	3.19	3.54	**2yr**	2.83	3.40	3.91	4.64	5.29	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.06	4.55	**5yr**	3.59	4.38	5.00	5.93	6.70	**5yr**
10yr	0.41	0.65	0.82	1.12	1.46	1.90	**10yr**	1.26	1.73	2.24	2.90	3.76	4.87	5.51	**10yr**	4.31	5.30	6.03	7.14	8.01	**10yr**
25yr	0.48	0.77	0.98	1.35	1.79	2.36	**25yr**	1.54	2.15	2.80	3.65	4.76	6.20	7.09	**25yr**	5.48	6.82	7.71	9.13	10.16	**25yr**
50yr	0.54	0.87	1.11	1.55	2.09	2.78	**50yr**	1.81	2.53	3.32	4.36	5.71	7.44	8.59	**50yr**	6.58	8.26	9.29	11.00	12.17	**50yr**
100yr	0.60	0.98	1.26	1.79	2.45	3.29	**100yr**	2.11	2.99	3.95	5.21	6.84	8.93	10.41	**100yr**	7.91	10.01	11.21	13.27	14.59	**100yr**
200yr	0.69	1.12	1.45	2.08	2.87	3.89	**200yr**	2.47	3.54	4.68	6.21	8.18	10.73	12.62	**200yr**	9.50	12.14	13.51	16.01	17.49	**200yr**
500yr	0.82	1.34	1.75	2.53	3.54	4.85	**500yr**	3.06	4.41	5.86	7.83	10.38	13.68	16.28	**500yr**	12.11	15.65	17.32	20.54	22.25	**500yr**

Supplemental Symbols
The five components of the Disturbed Soil Mapping Unit Supplement are as follows:

Symbol 1: Drainage Class
a - Excessively Drained
b - Somewhat Excessively Drained
c - Well Drained
d - Moderately Well Drained
e - Somewhat Poorly Drained
f - Poorly Drained
g - Very Poorly Drained
h - Not Determined

Symbol 2: Parent Material (of naturally formed soil only, if present)
a - No natural soil within 60"
b - Glaciofluvial Deposits (outwash/terraces of sand or sand and gravel)
c - Glacial Till Material (active ice)
d - Glaciolacustrine very fine sand and silt deposits (glacial lakes)
e - Loamy/sandy over Silt/Clay deposits
f - Marine Silt and Clay deposits (ocean waters)
g - Alluvial Deposits (floodplains)
h - Organic Materials-Fresh water Bogs, etc.
j - Organic Materials-Tidal Marsh

Symbol 3: Restrictive/Impervious Layers
a - None
b - Bouldery surface with more than 15% of the surface covered with boulders
c - Mineral restrictive layer(s) are present in the soil profile less than 40 inches below the soil surface such as hard pan, platy structure or clayey texture with consistence of at least firm (i.e. more than 20 newtons). For other examples of soil characteristics that qualify for restrictive layers, see "Soil Manual for Site evaluations in NH" 2nd Ed., (page 3-17, figure 3-14)
d - Bedrock in the soil profile; 0-20 inches
e - Bedrock in the soil profile; 20-60 inches
f - Areas where depth to bedrock is so variable that a single soil type cannot be applied, will be mapped as a complex of soil types
g - Subject to Flooding
h – Man-made impervious surface including pavement, concrete, or built-up surfaces (i.e. buildings) with no morphological restrictive layer within control section

Symbol 4: Estimated Ksat* (most limiting layer excluding symbol 3h above).
a - High.
b - Moderate
c - Low
d - Not determined
*See "Guidelines for Ksat Class Placement" in Chapter 3 of the Soil Survey Manual, USDA

Symbol 5: Hydrologic Soil Group*
a - Group A
b - Group B
c - Group C
d - Group D
e - Not determined
*excluding man-made surface impervious/restrictive layers

3.3 HYDROLOGIC SOIL GROUP CORRELATION

In order to correlate the soil map units identified as part of this soil survey to the appropriate hydrologic soil group, we referenced the Society of Soil Scientists of Northern New England "Ksat Values for New Hampshire Soils, Special Publication No. 5, September 2009."[3] Table 2 – Hydrologic Soil Group Correlation provides the correlation of the identified soil map units to the appropriate hydrologic soil group. Identification of correlating hydrologic soil group provides context for infiltration rates for stormwater management planning.

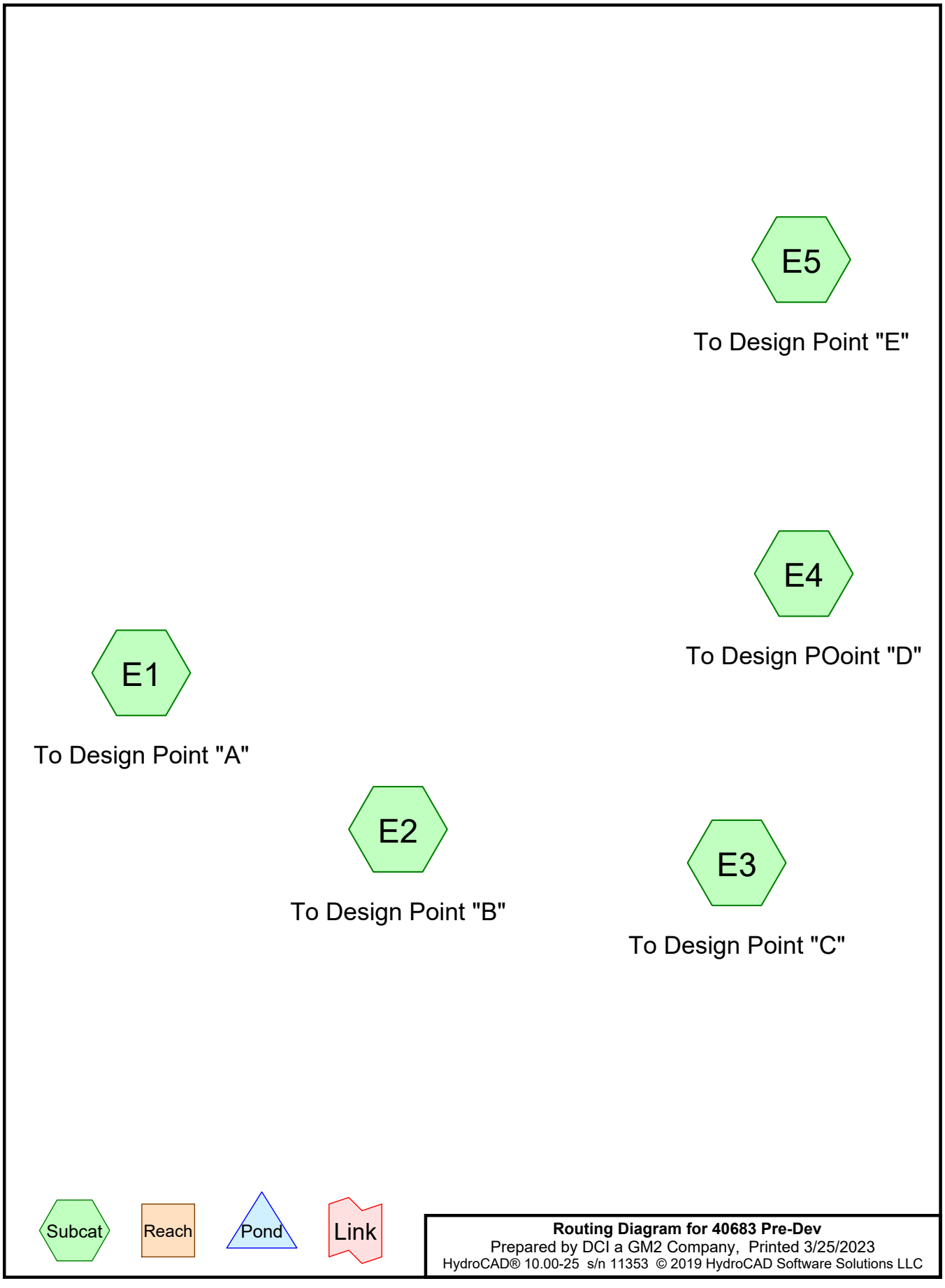
Soil ID (SSSM)	Soil Type	Soil ID (HISS)	Hydrologic Soil Group	Ksat Value (low C) Inch/Hour
45	Montauk, very stony	223	C	0.06
49	Whitman, very stony	623	D	0.00
97	Greenwood3 and Ossipee soils, ponded	681	N/A	0.2
199/haade	Dumps, bark chips, and organic materials	766	N/A	N/A
343	Canton, extremely bouldery	221	B	6.0
350/ecccd	Udipsamments, wet substratum	563	D	0.00
449	Scituate, very stony	323	C	0.06
600/fcccd	Endoaquents, Loamy	563	C	0.00
357	Ridgebury, (poorly drained) very stony	523	D	0.00

4.0 FINDINGS AND CONCLUSIONS

GZA has completed Site-Specific Soil Mapping of the Site in support of the proposed commercial/industrial subdivision project. The following is a summary of our findings and conclusions:

- The Site consists of a mix of primarily moderately well drained sandy till in the undeveloped forested portions of the Site.
- Very poorly drained soils (Greenwood and Ossipee) were identified in the eastern portion of the Site, and are bordered by poorly drained soils (Ridgebury). GZA understands these wetlands are not proposed to be impacted as part of the Site development project.
- Human disturbed soils mapped as soil unit 199 are located near and around the central portion of the Site containing existing buildings and some development.
- Hand tools limited the profile assessment that soils could be observed. If requested by Nottingham Business Park, LLC, GZA will review the soil map once test pits have been completed.

[3] www.sssnne.org/publications.html



Routing Diagram for 40683 Pre-Dev
Prepared by DCI a GM2 Company, Printed 3/25/2023

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.431	98	Paved parking, HSG C (E1, E2, E3, E4)
54.239	70	Woods, Good, HSG C (E1, E2, E3, E4, E5)
54.670	**70**	**TOTAL AREA**

Time span=1.00-23.00 hrs, dt=0.05 hrs, 441 points
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 E1: To Design Point "A" Runoff Area=599,827 sf 0.82% Impervious Runoff Depth>0.80"
Flow Length=1,498' Tc=18.9 min CN=70 Runoff=8.09 cfs 0.919 af

Subcatchment E2: To Design Point "B" Runoff Area=239,260 sf 2.42% Impervious Runoff Depth>0.85"
Flow Length=1,197' Tc=17.2 min CN=71 Runoff=3.62 cfs 0.389 af

Subcatchment E3: To Design Point "C" Runoff Area=132,084 sf 4.25% Impervious Runoff Depth>0.85"
Flow Length=397' Tc=11.3 min CN=71 Runoff=2.33 cfs 0.215 af

Subcatchment E4: To Design POoint "D" Runoff Area=639,768 sf 0.38% Impervious Runoff Depth>0.80"
Flow Length=1,617' Tc=21.7 min CN=70 Runoff=8.17 cfs 0.979 af

Subcatchment E5: To Design Point "E" Runoff Area=770,491 sf 0.00% Impervious Runoff Depth>0.80"
Flow Length=1,880' Tc=28.5 min CN=70 Runoff=8.80 cfs 1.176 af

Total Runoff Area = 54.670 ac Runoff Volume = 3.679 af Average Runoff Depth = 0.81"
99.21% Pervious = 54.239 ac 0.79% Impervious = 0.431 ac

Summary for Subcatchment E1: To Design Point "A"

Runoff = 8.09 cfs @ 12.30 hrs, Volume= 0.919 af, Depth> 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Storm Rainfall=3.19"

Area (sf)	CN	Description
4,915	98	Paved parking, HSG C
594,912	70	Woods, Good, HSG C
599,827	70	Weighted Average
594,912		99.18% Pervious Area
4,915		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.5	518	0.0230	2.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	955	0.0270	2.65		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	1,498	Total			

Summary for Subcatchment E2: To Design Point "B"

Runoff = 3.62 cfs @ 12.27 hrs, Volume= 0.389 af, Depth> 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Storm Rainfall=3.19"

Area (sf)	CN	Description
5,780	98	Paved parking, HSG C
233,480	70	Woods, Good, HSG C
239,260	71	Weighted Average
233,480		97.58% Pervious Area
5,780		2.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.8	435	0.0140	1.90		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	156	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.4	581	0.0310	2.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.2	1,197	Total			

Summary for Subcatchment E3: To Design Point "C"

Runoff = 2.33 cfs @ 12.17 hrs, Volume= 0.215 af, Depth> 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Storm Rainfall=3.19"

Area (sf)	CN	Description
5,612	98	Paved parking, HSG C
126,472	70	Woods, Good, HSG C
132,084	71	Weighted Average
126,472		95.75% Pervious Area
5,612		4.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.9	228	0.0640	4.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	144	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.3	397	Total			

Summary for Subcatchment E4: To Design POoint "D"

Runoff = 8.17 cfs @ 12.34 hrs, Volume= 0.979 af, Depth> 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Storm Rainfall=3.19"

Area (sf)	CN	Description
2,455	98	Paved parking, HSG C
637,313	70	Woods, Good, HSG C
639,768	70	Weighted Average
637,313		99.62% Pervious Area
2,455		0.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.6	605	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	470	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4	517	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
21.7	1,617	Total			

Summary for Subcatchment E5: To Design Point "E"

Runoff = 8.80 cfs @ 12.45 hrs, Volume= 1.176 af, Depth> 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Storm Rainfall=3.19"

Area (sf)	CN	Description
770,491	70	Woods, Good, HSG C
770,491		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	25	0.0060	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.3	250	0.0060	1.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	580	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.7	1,025	0.0190	2.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
28.5	1,880	Total			

Time span=1.00-23.00 hrs, dt=0.05 hrs, 441 points
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 E1: To Design Point "A" Runoff Area=599,827 sf 0.82% Impervious Runoff Depth>1.90"
Flow Length=1,498' Tc=18.9 min CN=70 Runoff=21.03 cfs 2.179 af

Subcatchment E2: To Design Point "B" Runoff Area=239,260 sf 2.42% Impervious Runoff Depth>1.98"
Flow Length=1,197' Tc=17.2 min CN=71 Runoff=9.09 cfs 0.905 af

Subcatchment E3: To Design Point "C" Runoff Area=132,084 sf 4.25% Impervious Runoff Depth>1.98"
Flow Length=397' Tc=11.3 min CN=71 Runoff=5.87 cfs 0.500 af

Subcatchment E4: To Design POoint "D" Runoff Area=639,768 sf 0.38% Impervious Runoff Depth>1.90"
Flow Length=1,617' Tc=21.7 min CN=70 Runoff=21.19 cfs 2.322 af

Subcatchment E5: To Design Point "E" Runoff Area=770,491 sf 0.00% Impervious Runoff Depth>1.89"
Flow Length=1,880' Tc=28.5 min CN=70 Runoff=22.72 cfs 2.791 af

Total Runoff Area = 54.670 ac Runoff Volume = 8.698 af Average Runoff Depth = 1.91"
99.21% Pervious = 54.239 ac 0.79% Impervious = 0.431 ac

Summary for Subcatchment E1: To Design Point "A"

Runoff = 21.03 cfs @ 12.27 hrs, Volume= 2.179 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Storm Rainfall=4.87"

Area (sf)	CN	Description
4,915	98	Paved parking, HSG C
594,912	70	Woods, Good, HSG C
599,827	70	Weighted Average
594,912		99.18% Pervious Area
4,915		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.5	518	0.0230	2.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	955	0.0270	2.65		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	1,498	Total			

Summary for Subcatchment E2: To Design Point "B"

Runoff = 9.09 cfs @ 12.25 hrs, Volume= 0.905 af, Depth> 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Storm Rainfall=4.87"

Area (sf)	CN	Description
5,780	98	Paved parking, HSG C
233,480	70	Woods, Good, HSG C
239,260	71	Weighted Average
233,480		97.58% Pervious Area
5,780		2.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.8	435	0.0140	1.90		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	156	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.4	581	0.0310	2.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.2	1,197	Total			

Summary for Subcatchment E3: To Design Point "C"

Runoff = 5.87 cfs @ 12.17 hrs, Volume= 0.500 af, Depth> 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Storm Rainfall=4.87"

Area (sf)	CN	Description
5,612	98	Paved parking, HSG C
126,472	70	Woods, Good, HSG C
132,084	71	Weighted Average
126,472		95.75% Pervious Area
5,612		4.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.9	228	0.0640	4.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	144	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.3	397	Total			

Summary for Subcatchment E4: To Design POoint "D"

Runoff = 21.19 cfs @ 12.32 hrs, Volume= 2.322 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Storm Rainfall=4.87"

Area (sf)	CN	Description
2,455	98	Paved parking, HSG C
637,313	70	Woods, Good, HSG C
639,768	70	Weighted Average
637,313		99.62% Pervious Area
2,455		0.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.6	605	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	470	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4	517	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
21.7	1,617	Total			

Summary for Subcatchment E5: To Design Point "E"

Runoff = 22.72 cfs @ 12.42 hrs, Volume= 2.791 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Storm Rainfall=4.87"

Area (sf)	CN	Description
770,491	70	Woods, Good, HSG C
770,491		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	25	0.0060	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.3	250	0.0060	1.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	580	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.7	1,025	0.0190	2.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
28.5	1,880	Total			

Time span=1.00-23.00 hrs, dt=0.05 hrs, 441 points
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 E1: To Design Point "A" Runoff Area=599,827 sf 0.82% Impervious Runoff Depth>2.91"
Flow Length=1,498' Tc=18.9 min CN=70 Runoff=32.74 cfs 3.336 af

Subcatchment E2: To Design Point "B" Runoff Area=239,260 sf 2.42% Impervious Runoff Depth>3.00"
Flow Length=1,197' Tc=17.2 min CN=71 Runoff=14.00 cfs 1.375 af

Subcatchment E3: To Design Point "C" Runoff Area=132,084 sf 4.25% Impervious Runoff Depth>3.01"
Flow Length=397' Tc=11.3 min CN=71 Runoff=9.04 cfs 0.760 af

Subcatchment E4: To Design POoint "D" Runoff Area=639,768 sf 0.38% Impervious Runoff Depth>2.90"
Flow Length=1,617' Tc=21.7 min CN=70 Runoff=32.97 cfs 3.555 af

Subcatchment E5: To Design Point "E" Runoff Area=770,491 sf 0.00% Impervious Runoff Depth>2.90"
Flow Length=1,880' Tc=28.5 min CN=70 Runoff=35.33 cfs 4.274 af

Total Runoff Area = 54.670 ac Runoff Volume = 13.299 af Average Runoff Depth = 2.92"
99.21% Pervious = 54.239 ac 0.79% Impervious = 0.431 ac

Summary for Subcatchment E1: To Design Point "A"

Runoff = 32.74 cfs @ 12.27 hrs, Volume= 3.336 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Storm Rainfall=6.20"

Area (sf)	CN	Description
4,915	98	Paved parking, HSG C
594,912	70	Woods, Good, HSG C
599,827	70	Weighted Average
594,912		99.18% Pervious Area
4,915		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.5	518	0.0230	2.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	955	0.0270	2.65		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	1,498	Total			

Summary for Subcatchment E2: To Design Point "B"

Runoff = 14.00 cfs @ 12.24 hrs, Volume= 1.375 af, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Storm Rainfall=6.20"

Area (sf)	CN	Description
5,780	98	Paved parking, HSG C
233,480	70	Woods, Good, HSG C
239,260	71	Weighted Average
233,480		97.58% Pervious Area
5,780		2.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.8	435	0.0140	1.90		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	156	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.4	581	0.0310	2.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.2	1,197	Total			

Summary for Subcatchment E3: To Design Point "C"

Runoff = 9.04 cfs @ 12.16 hrs, Volume= 0.760 af, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Storm Rainfall=6.20"

Area (sf)	CN	Description
5,612	98	Paved parking, HSG C
126,472	70	Woods, Good, HSG C
132,084	71	Weighted Average
126,472		95.75% Pervious Area
5,612		4.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.9	228	0.0640	4.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	144	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.3	397	Total			

Summary for Subcatchment E4: To Design POoint "D"

Runoff = 32.97 cfs @ 12.31 hrs, Volume= 3.555 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Storm Rainfall=6.20"

Area (sf)	CN	Description
2,455	98	Paved parking, HSG C
637,313	70	Woods, Good, HSG C
639,768	70	Weighted Average
637,313		99.62% Pervious Area
2,455		0.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.6	605	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	470	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4	517	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
21.7	1,617	Total			

Summary for Subcatchment E5: To Design Point "E"

Runoff = 35.33 cfs @ 12.41 hrs, Volume= 4.274 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Storm Rainfall=6.20"

Area (sf)	CN	Description
770,491	70	Woods, Good, HSG C
770,491		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	25	0.0060	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.3	250	0.0060	1.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	580	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.7	1,025	0.0190	2.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
28.5	1,880	Total			

Time span=1.00-23.00 hrs, dt=0.05 hrs, 441 points
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 E1: To Design Point "A" Runoff Area=599,827 sf 0.82% Impervious Runoff Depth>5.18"
Flow Length=1,498' Tc=18.9 min CN=70 Runoff=58.61 cfs 5.946 af

Subcatchment E2: To Design Point "B" Runoff Area=239,260 sf 2.42% Impervious Runoff Depth>5.31"
Flow Length=1,197' Tc=17.2 min CN=71 Runoff=24.76 cfs 2.429 af

Subcatchment E3: To Design Point "C" Runoff Area=132,084 sf 4.25% Impervious Runoff Depth>5.31"
Flow Length=397' Tc=11.3 min CN=71 Runoff=15.97 cfs 1.343 af

Subcatchment E4: To Design POoint "D" Runoff Area=639,768 sf 0.38% Impervious Runoff Depth>5.18"
Flow Length=1,617' Tc=21.7 min CN=70 Runoff=59.02 cfs 6.338 af

Subcatchment E5: To Design Point "E" Runoff Area=770,491 sf 0.00% Impervious Runoff Depth>5.17"
Flow Length=1,880' Tc=28.5 min CN=70 Runoff=63.21 cfs 7.620 af

Total Runoff Area = 54.670 ac Runoff Volume = 23.675 af Average Runoff Depth = 5.20"
99.21% Pervious = 54.239 ac 0.79% Impervious = 0.431 ac

Summary for Subcatchment E1: To Design Point "A"

Runoff = 58.61 cfs @ 12.26 hrs, Volume= 5.946 af, Depth> 5.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Storm Rainfall=8.93"

Area (sf)	CN	Description
4,915	98	Paved parking, HSG C
594,912	70	Woods, Good, HSG C
599,827	70	Weighted Average
594,912		99.18% Pervious Area
4,915		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.5	518	0.0230	2.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	955	0.0270	2.65		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	1,498	Total			

Summary for Subcatchment E2: To Design Point "B"

Runoff = 24.76 cfs @ 12.24 hrs, Volume= 2.429 af, Depth> 5.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Storm Rainfall=8.93"

Area (sf)	CN	Description
5,780	98	Paved parking, HSG C
233,480	70	Woods, Good, HSG C
239,260	71	Weighted Average
233,480		97.58% Pervious Area
5,780		2.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.8	435	0.0140	1.90		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	156	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.4	581	0.0310	2.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.2	1,197	Total			

Summary for Subcatchment E3: To Design Point "C"

Runoff = 15.97 cfs @ 12.16 hrs, Volume= 1.343 af, Depth> 5.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Storm Rainfall=8.93"

Area (sf)	CN	Description
5,612	98	Paved parking, HSG C
126,472	70	Woods, Good, HSG C
132,084	71	Weighted Average
126,472		95.75% Pervious Area
5,612		4.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.9	228	0.0640	4.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	144	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.3	397	Total			

Summary for Subcatchment E4: To Design POoint "D"

Runoff = 59.02 cfs @ 12.30 hrs, Volume= 6.338 af, Depth> 5.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Storm Rainfall=8.93"

Area (sf)	CN	Description
2,455	98	Paved parking, HSG C
637,313	70	Woods, Good, HSG C
639,768	70	Weighted Average
637,313		99.62% Pervious Area
2,455		0.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.6	605	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	470	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4	517	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
21.7	1,617	Total			

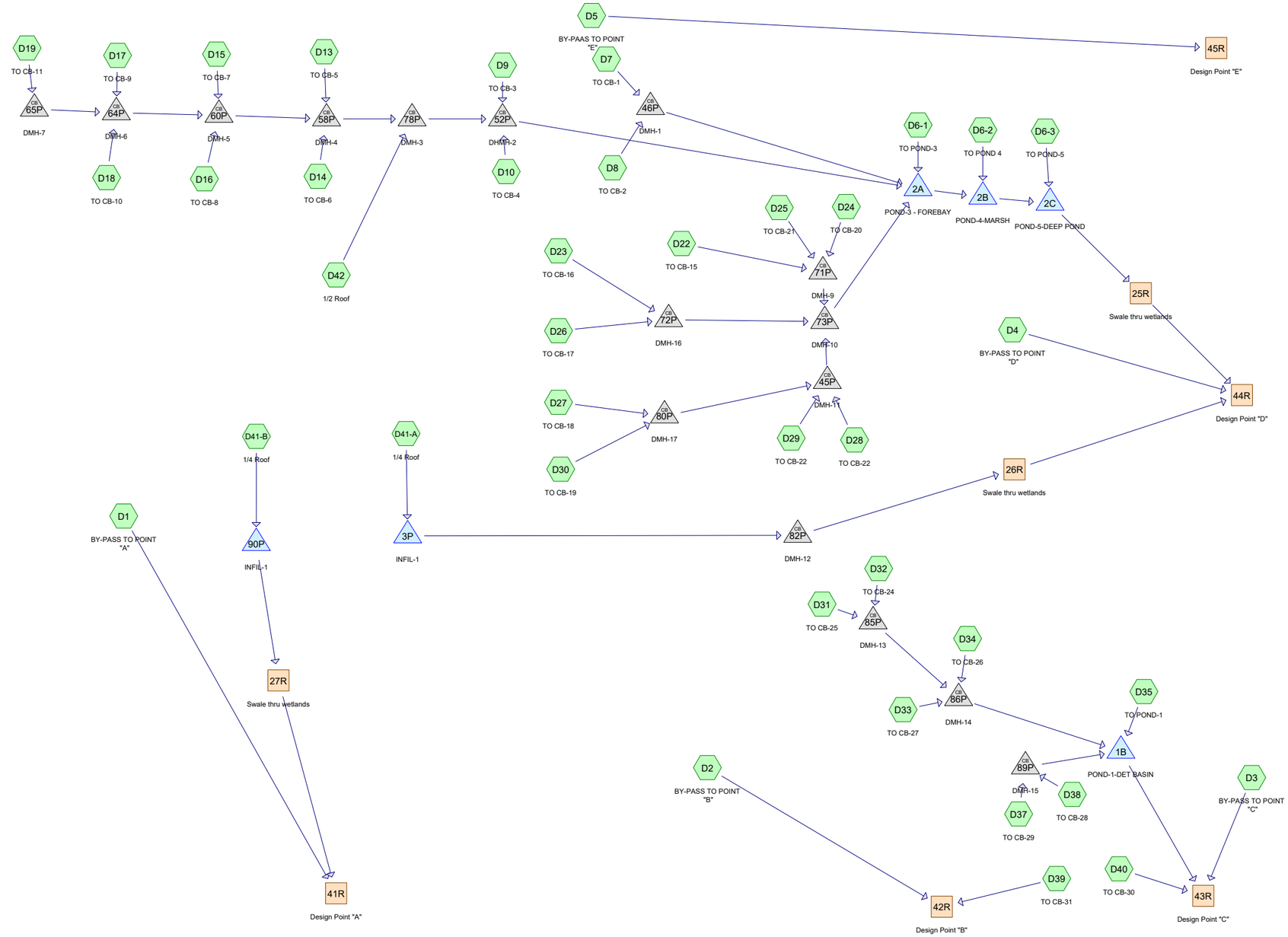
Summary for Subcatchment E5: To Design Point "E"

Runoff = 63.21 cfs @ 12.40 hrs, Volume= 7.620 af, Depth> 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Storm Rainfall=8.93"

Area (sf)	CN	Description
770,491	70	Woods, Good, HSG C
770,491		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	25	0.0060	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.3	250	0.0060	1.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	580	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.7	1,025	0.0190	2.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
28.5	1,880	Total			



Subcat Reach Pond Link

Routing Diagram for 40683 Post-Dev

Prepared by GM2 Asociates Inc., Printed 3/25/2023

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.424	74	>75% Grass cover, Good, HSG C (D1, D10, D13, D14, D15, D16, D17, D18, D19, D2, D22, D23, D24, D25, D26, D27, D28, D29, D3, D30, D32, D33, D35, D37, D4, D5, D6-1, D6-2, D6-3, D7, D8, D9)
0.220	74	Farmsteads, HSG B (D19)
0.100	96	Gravel surface, HSG C (D19, D5, D7)
0.062	98	Paved parking, HSG B (D38)
3.856	98	Paved parking, HSG C (D1, D10, D13, D14, D15, D16, D17, D18, D19, D2, D22, D23, D24, D25, D26, D27, D28, D29, D3, D30, D31, D32, D33, D34, D37, D39, D40, D7, D8, D9)
4.040	98	Roofs, HSG C (D41-A, D41-B, D42)
0.453	98	Water Surface, HSG C (D4, D6-1, D6-2, D6-3)
41.515	70	Woods, Good, HSG C (D1, D13, D15, D17, D2, D3, D35, D4, D5, D6-1, D6-2, D6-3, D9)
54.670	**75**	**TOTAL AREA**

Time span=1.00-23.00 hrs, dt=0.05 hrs, 441 points
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 D1: BY-PASS TO POINT "A" Runoff Area=446,408 sf 2.00% Impervious Runoff Depth>0.85"
Flow Length=1,498' Tc=18.9 min CN=71 Runoff=6.49 cfs 0.726 af

Subcatchment D10: TO CB-4 Runoff Area=9,185 sf 82.43% Impervious Runoff Depth>2.50"
Tc=6.0 min CN=94 Runoff=0.59 cfs 0.044 af

Subcatchment D13: TO CB-5 Runoff Area=15,356 sf 25.74% Impervious Runoff Depth>1.24"
Flow Length=260' Tc=11.0 min CN=78 Runoff=0.43 cfs 0.036 af

Subcatchment D14: TO CB-6 Runoff Area=6,290 sf 90.46% Impervious Runoff Depth>2.71"
Tc=6.0 min CN=96 Runoff=0.42 cfs 0.033 af

Subcatchment D15: TO CB-7 Runoff Area=11,907 sf 26.37% Impervious Runoff Depth>1.24"
Tc=6.0 min CN=78 Runoff=0.39 cfs 0.028 af

Subcatchment D16: TO CB-8 Runoff Area=5,506 sf 70.94% Impervious Runoff Depth>2.22"
Tc=6.0 min CN=91 Runoff=0.32 cfs 0.023 af

Subcatchment D17: TO CB-9 Runoff Area=4,822 sf 35.11% Impervious Runoff Depth>1.44"
Tc=6.0 min CN=81 Runoff=0.18 cfs 0.013 af

Subcatchment D18: TO CB-10 Runoff Area=8,463 sf 73.85% Impervious Runoff Depth>2.31"
Tc=6.0 min CN=92 Runoff=0.51 cfs 0.037 af

Subcatchment D19: TO CB-11 Runoff Area=30,419 sf 40.26% Impervious Runoff Depth>1.65"
Tc=6.0 min CN=84 Runoff=1.34 cfs 0.096 af

Subcatchment D2: BY-PASS TO POINT "B" Runoff Area=135,192 sf 6.17% Impervious Runoff Depth>0.90"
Flow Length=675' Tc=13.1 min CN=72 Runoff=2.43 cfs 0.233 af

Subcatchment D22: TO CB-15 Runoff Area=6,190 sf 43.47% Impervious Runoff Depth>1.65"
Tc=6.0 min CN=84 Runoff=0.27 cfs 0.020 af

Subcatchment D23: TO CB-16 Runoff Area=9,832 sf 53.52% Impervious Runoff Depth>1.88"
Tc=6.0 min CN=87 Runoff=0.49 cfs 0.035 af

Subcatchment D24: TO CB-20 Runoff Area=2,917 sf 67.88% Impervious Runoff Depth>2.13"
Tc=6.0 min CN=90 Runoff=0.16 cfs 0.012 af

Subcatchment D25: TO CB-21 Runoff Area=3,083 sf 64.22% Impervious Runoff Depth>2.04"
Tc=6.0 min CN=89 Runoff=0.17 cfs 0.012 af

Subcatchment D26: TO CB-17 Runoff Area=12,509 sf 95.40% Impervious Runoff Depth>2.82"
Tc=6.0 min CN=97 Runoff=0.86 cfs 0.067 af

Subcatchment D27: TO CB-18 Runoff Area=14,565 sf 95.78% Impervious Runoff Depth>2.82"
Tc=6.0 min CN=97 Runoff=1.00 cfs 0.078 af

Subcatchment D28: TO CB-22 Runoff Area=4,284 sf 68.86% Impervious Runoff Depth>2.22"
Tc=6.0 min CN=91 Runoff=0.25 cfs 0.018 af

Subcatchment D29: TO CB-22 Runoff Area=4,581 sf 64.40% Impervious Runoff Depth>2.04"
Tc=6.0 min CN=89 Runoff=0.25 cfs 0.018 af

Subcatchment D3: BY-PASS TO POINT "C" Runoff Area=100,307 sf 9.94% Impervious Runoff Depth>0.95"
Flow Length=506' Tc=13.6 min CN=73 Runoff=1.91 cfs 0.183 af

Subcatchment D30: TO CB-19 Runoff Area=21,531 sf 89.82% Impervious Runoff Depth>2.71"
Tc=6.0 min CN=96 Runoff=1.44 cfs 0.112 af

Subcatchment D31: TO CB-25 Runoff Area=1,866 sf 100.00% Impervious Runoff Depth>2.93"
Tc=6.0 min CN=98 Runoff=0.13 cfs 0.010 af

Subcatchment D32: TO CB-24 Runoff Area=2,386 sf 85.58% Impervious Runoff Depth>2.60"
Tc=6.0 min CN=95 Runoff=0.16 cfs 0.012 af

Subcatchment D33: TO CB-27 Runoff Area=2,784 sf 82.61% Impervious Runoff Depth>2.50"
Tc=6.0 min CN=94 Runoff=0.18 cfs 0.013 af

Subcatchment D34: TO CB-26 Runoff Area=2,300 sf 100.00% Impervious Runoff Depth>2.93"
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment D35: TO POND-1 Runoff Area=81,252 sf 0.00% Impervious Runoff Depth>0.85"
Tc=6.0 min CN=71 Runoff=1.71 cfs 0.133 af

Subcatchment D37: TO CB-29 Runoff Area=2,968 sf 91.21% Impervious Runoff Depth>2.71"
Tc=6.0 min CN=96 Runoff=0.20 cfs 0.015 af

Subcatchment D38: TO CB-28 Runoff Area=2,707 sf 100.00% Impervious Runoff Depth>2.93"
Tc=6.0 min CN=98 Runoff=0.19 cfs 0.015 af

Subcatchment D39: TO CB-31 Runoff Area=5,688 sf 100.00% Impervious Runoff Depth>2.93"
Tc=6.0 min CN=98 Runoff=0.39 cfs 0.032 af

Subcatchment D4: BY-PASS TO POINT "D" Runoff Area=419,440 sf 1.03% Impervious Runoff Depth>0.80"
Flow Length=1,033' Tc=18.1 min CN=70 Runoff=5.74 cfs 0.643 af

Subcatchment D40: TO CB-30 Runoff Area=5,005 sf 100.00% Impervious Runoff Depth>2.93"
Tc=6.0 min CN=98 Runoff=0.35 cfs 0.028 af

Subcatchment D41-A: 1/4 Roof Runoff Area=44,000 sf 100.00% Impervious Runoff Depth>2.93"
Tc=6.0 min CN=98 Runoff=3.05 cfs 0.246 af

Subcatchment D41-B: 1/4 Roof Runoff Area=44,000 sf 100.00% Impervious Runoff Depth>2.93"
Tc=6.0 min CN=98 Runoff=3.05 cfs 0.246 af

Subcatchment D42: 1/2 Roof Runoff Area=88,000 sf 100.00% Impervious Runoff Depth>2.93"
Tc=6.0 min CN=98 Runoff=6.11 cfs 0.493 af

Subcatchment D5: BY-PAAS TO POINT "E" Runoff Area=739,914 sf 0.00% Impervious Runoff Depth>0.80"
Flow Length=1,880' Tc=28.5 min CN=70 Runoff=8.45 cfs 1.130 af

Subcatchment D6-1: TO POND-3 Runoff Area=13,182 sf 27.96% Impervious Runoff Depth>1.37"
Tc=6.0 min CN=80 Runoff=0.48 cfs 0.035 af

Subcatchment D6-2: TO POND 4 Runoff Area=33,904 sf 13.65% Impervious Runoff Depth>1.18"
Tc=6.0 min CN=77 Runoff=1.05 cfs 0.077 af

Subcatchment D6-3: TO POND-5 Runoff Area=19,994 sf 35.56% Impervious Runoff Depth>1.51"
Tc=6.0 min CN=82 Runoff=0.80 cfs 0.058 af

Subcatchment D7: TO CB-1 Runoff Area=4,582 sf 53.16% Impervious Runoff Depth>1.96"
Tc=6.0 min CN=88 Runoff=0.24 cfs 0.017 af

Subcatchment D8: TO CB-2 Runoff Area=2,786 sf 81.12% Impervious Runoff Depth>2.41"
Tc=6.0 min CN=93 Runoff=0.17 cfs 0.013 af

Subcatchment D9: TO CB-3 Runoff Area=11,325 sf 58.72% Impervious Runoff Depth>1.88"
Tc=6.0 min CN=87 Runoff=0.57 cfs 0.041 af

Reach 25R: Swale thru wetlands Avg. Flow Depth=0.18' Max Vel=1.00 fps Inflow=1.27 cfs 0.753 af
n=0.050 L=600.0' S=0.0150 '/' Capacity=194.34 cfs Outflow=1.27 cfs 0.743 af

Reach 26R: Swale thru wetlands Avg. Flow Depth=0.19' Max Vel=0.99 fps Inflow=2.59 cfs 0.150 af
n=0.050 L=994.0' S=0.0141 '/' Capacity=188.63 cfs Outflow=1.30 cfs 0.148 af

Reach 27R: Swale thru wetlands Avg. Flow Depth=0.16' Max Vel=1.41 fps Inflow=1.96 cfs 0.136 af
n=0.050 L=580.0' S=0.0345 '/' Capacity=295.15 cfs Outflow=1.49 cfs 0.135 af

Reach 41R: Design Point "A" Inflow=7.98 cfs 0.860 af
Outflow=7.98 cfs 0.860 af

Reach 42R: Design Point "B" Inflow=2.66 cfs 0.265 af
Outflow=2.66 cfs 0.265 af

Reach 43R: Design Point "C" Inflow=2.26 cfs 0.361 af
Outflow=2.26 cfs 0.361 af

Reach 44R: Design Point "D" Inflow=7.01 cfs 1.533 af
Outflow=7.01 cfs 1.533 af

Reach 45R: Design Point "E" Inflow=8.45 cfs 1.130 af
Outflow=8.45 cfs 1.130 af

Pond 1B: POND-1-DET BASIN Peak Elev=394.10' Storage=4,416 cf Inflow=2.71 cfs 0.212 af
Outflow=0.37 cfs 0.149 af

Pond 2A: POND-3 - FOREBAY Peak Elev=415.83' Storage=12,588 cf Inflow=16.56 cfs 1.282 af
Outflow=16.38 cfs 1.149 af

Pond 2B: POND-4-MARSH Peak Elev=414.18' Storage=23,907 cf Inflow=17.43 cfs 1.226 af
Outflow=2.01 cfs 1.044 af

Pond 2C: POND-5-DEEP POND Peak Elev=413.07' Storage=19,759 cf Inflow=2.09 cfs 1.102 af
Outflow=1.27 cfs 0.753 af

Pond 3P: INFIL-1 Peak Elev=420.88' Storage=4,689 cf Inflow=3.05 cfs 0.246 af
Discarded=0.00 cfs 0.004 af Primary=2.59 cfs 0.150 af Outflow=2.59 cfs 0.154 af

Pond 45P: DMH-11 Peak Elev=417.46' Inflow=2.94 cfs 0.226 af
18.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=2.94 cfs 0.226 af

Pond 46P: DMH-1 Peak Elev=416.12' Inflow=0.41 cfs 0.030 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0200 '/' Outflow=0.41 cfs 0.030 af

Pond 52P: DHMH-2 Peak Elev=417.74' Inflow=10.78 cfs 0.845 af
30.0" Round Culvert n=0.013 L=138.0' S=0.0100 '/' Outflow=10.78 cfs 0.845 af

Pond 58P: DMH-4 Peak Elev=419.54' Inflow=3.53 cfs 0.267 af
24.0" Round Culvert n=0.013 L=138.0' S=0.0050 '/' Outflow=3.53 cfs 0.267 af

Pond 60P: DMH-5 Peak Elev=420.33' Inflow=2.75 cfs 0.198 af
24.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=2.75 cfs 0.198 af

Pond 64P: DMH-6 Peak Elev=422.01' Inflow=2.04 cfs 0.147 af
18.0" Round Culvert n=0.013 L=134.0' S=0.0100 '/' Outflow=2.04 cfs 0.147 af

Pond 65P: DMH-7 Peak Elev=423.83' Inflow=1.34 cfs 0.096 af
12.0" Round Culvert n=0.013 L=68.0' S=0.0200 '/' Outflow=1.34 cfs 0.096 af

Pond 71P: DMH-9 Peak Elev=416.93' Inflow=0.60 cfs 0.043 af
12.0" Round Culvert n=0.020 L=26.0' S=0.0050 '/' Outflow=0.60 cfs 0.043 af

Pond 72P: DMH-16 Peak Elev=417.39' Inflow=1.35 cfs 0.103 af
12.0" Round Culvert n=0.013 L=80.0' S=0.0050 '/' Outflow=1.35 cfs 0.103 af

Pond 73P: DMH-10 Peak Elev=416.31' Inflow=4.89 cfs 0.372 af
30.0" Round Culvert n=0.013 L=55.0' S=0.0049 '/' Outflow=4.89 cfs 0.372 af

Pond 78P: DMH-3 Peak Elev=418.78' Inflow=9.62 cfs 0.760 af
30.0" Round Culvert n=0.013 L=97.0' S=0.0100 '/' Outflow=9.62 cfs 0.760 af

Pond 80P: DMH-17 Peak Elev=417.84' Inflow=2.44 cfs 0.190 af
18.0" Round Culvert n=0.013 L=60.0' S=0.0050 '/' Outflow=2.44 cfs 0.190 af

Pond 82P: DMH-12 Peak Elev=415.28' Inflow=2.59 cfs 0.150 af
18.0" Round Culvert n=0.013 L=83.0' S=0.0049 '/' Outflow=2.59 cfs 0.150 af

Pond 85P: DMH-13 Peak Elev=412.76' Inflow=0.29 cfs 0.022 af
12.0" Round Culvert n=0.013 L=188.0' S=0.0553 '/' Outflow=0.29 cfs 0.022 af

Pond 86P: DMH-14 Peak Elev=402.40' Inflow=0.62 cfs 0.049 af
12.0" Round Culvert n=0.013 L=114.0' S=0.1930 '/' Outflow=0.62 cfs 0.049 af

Pond 89P: DMH-15 Peak Elev=396.83' Inflow=0.39 cfs 0.031 af
12.0" Round Culvert n=0.013 L=26.0' S=0.0200 '/' Outflow=0.39 cfs 0.031 af

Pond 90P: INFIL-1 Peak Elev=420.82' Storage=5,277 cf Inflow=3.05 cfs 0.246 af
Discarded=0.00 cfs 0.004 af Primary=1.96 cfs 0.136 af Outflow=1.96 cfs 0.140 af

Total Runoff Area = 54.670 ac Runoff Volume = 5.095 af Average Runoff Depth = 1.12"
84.61% Pervious = 46.259 ac 15.39% Impervious = 8.411 ac

Summary for Subcatchment D1: BY-PASS TO POINT "A"

Runoff = 6.49 cfs @ 12.29 hrs, Volume= 0.726 af, Depth> 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
8,916	98	Paved parking, HSG C
398,936	70	Woods, Good, HSG C
38,556	74	>75% Grass cover, Good, HSG C
446,408	71	Weighted Average
437,492		98.00% Pervious Area
8,916		2.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.5	518	0.0230	2.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	955	0.0270	2.65		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	1,498	Total			

Summary for Subcatchment D10: TO CB-4

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.044 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
7,571	98	Paved parking, HSG C
1,614	74	>75% Grass cover, Good, HSG C
9,185	94	Weighted Average
1,614		17.57% Pervious Area
7,571		82.43% Impervious Area

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

Summary for Subcatchment D13: TO CB-5

Runoff = 0.43 cfs @ 12.16 hrs, Volume= 0.036 af, Depth> 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
3,952	98	Paved parking, HSG C
1,174	74	>75% Grass cover, Good, HSG C
10,230	70	Woods, Good, HSG C
15,356	78	Weighted Average
11,404		74.26% Pervious Area
3,952		25.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.8	123	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	32	0.1880	6.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	36	0.0220	2.39		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	44	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
11.0	260	Total			

Summary for Subcatchment D14: TO CB-6

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.033 af, Depth> 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
5,690	98	Paved parking, HSG C
600	74	>75% Grass cover, Good, HSG C
6,290	96	Weighted Average
600		9.54% Pervious Area
5,690		90.46% Impervious Area

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

Summary for Subcatchment D15: TO CB-7

Runoff = 0.39 cfs @ 12.10 hrs, Volume= 0.028 af, Depth> 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
3,140	98	Paved parking, HSG C
2,323	74	>75% Grass cover, Good, HSG C
6,444	70	Woods, Good, HSG C
11,907	78	Weighted Average
8,767		73.63% Pervious Area
3,140		26.37% Impervious Area

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

Summary for Subcatchment D16: TO CB-8

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
3,906	98	Paved parking, HSG C
1,600	74	>75% Grass cover, Good, HSG C
5,506	91	Weighted Average
1,600		29.06% Pervious Area
3,906		70.94% Impervious Area

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

Summary for Subcatchment D17: TO CB-9

Runoff = 0.18 cfs @ 12.10 hrs, Volume= 0.013 af, Depth> 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
1,693	98	Paved parking, HSG C
1,361	74	>75% Grass cover, Good, HSG C
1,768	70	Woods, Good, HSG C
4,822	81	Weighted Average
3,129		64.89% Pervious Area
1,693		35.11% Impervious Area

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

Summary for Subcatchment D18: TO CB-10

Runoff = 0.51 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
6,250	98	Paved parking, HSG C
2,213	74	>75% Grass cover, Good, HSG C
8,463	92	Weighted Average
2,213		26.15% Pervious Area
6,250		73.85% Impervious Area

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

Summary for Subcatchment D19: TO CB-11

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.096 af, Depth> 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
12,246	98	Paved parking, HSG C
7,968	74	>75% Grass cover, Good, HSG C
9,575	74	Farmsteads, HSG B
630	96	Gravel surface, HSG C
30,419	84	Weighted Average
18,173		59.74% Pervious Area
12,246		40.26% Impervious Area

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

Summary for Subcatchment D2: BY-PASS TO POINT "B"

Runoff = 2.43 cfs @ 12.20 hrs, Volume= 0.233 af, Depth> 0.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
8,340	98	Paved parking, HSG C
103,760	70	Woods, Good, HSG C
23,092	74	>75% Grass cover, Good, HSG C
135,192	72	Weighted Average
126,852		93.83% Pervious Area
8,340		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.3	69	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.4	581	0.0310	2.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.1	675	Total			

Summary for Subcatchment D22: TO CB-15

Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.020 af, Depth> 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,691	98	Paved parking, HSG C
3,499	74	>75% Grass cover, Good, HSG C
6,190	84	Weighted Average
3,499		56.53% Pervious Area
2,691		43.47% Impervious Area

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

Summary for Subcatchment D23: TO CB-16

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.035 af, Depth> 1.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
5,262	98	Paved parking, HSG C
4,570	74	>75% Grass cover, Good, HSG C
9,832	87	Weighted Average
4,570		46.48% Pervious Area
5,262		53.52% Impervious Area

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

Summary for Subcatchment D24: TO CB-20

Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
1,980	98	Paved parking, HSG C
937	74	>75% Grass cover, Good, HSG C
2,917	90	Weighted Average
937		32.12% Pervious Area
1,980		67.88% Impervious Area

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

Summary for Subcatchment D25: TO CB-21

Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
1,980	98	Paved parking, HSG C
1,103	74	>75% Grass cover, Good, HSG C
3,083	89	Weighted Average
1,103		35.78% Pervious Area
1,980		64.22% Impervious Area

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

Summary for Subcatchment D26: TO CB-17

Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.067 af, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
11,933	98	Paved parking, HSG C
576	74	>75% Grass cover, Good, HSG C
12,509	97	Weighted Average
576		4.60% Pervious Area
11,933		95.40% Impervious Area

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

Summary for Subcatchment D27: TO CB-18

Runoff = 1.00 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
13,950	98	Paved parking, HSG C
615	74	>75% Grass cover, Good, HSG C
14,565	97	Weighted Average
615		4.22% Pervious Area
13,950		95.78% Impervious Area

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

Summary for Subcatchment D28: TO CB-22

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,950	98	Paved parking, HSG C
1,334	74	>75% Grass cover, Good, HSG C
4,284	91	Weighted Average
1,334		31.14% Pervious Area
2,950		68.86% Impervious Area

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

Summary for Subcatchment D29: TO CB-22

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,950	98	Paved parking, HSG C
1,631	74	>75% Grass cover, Good, HSG C
4,581	89	Weighted Average
1,631		35.60% Pervious Area
2,950		64.40% Impervious Area

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

Summary for Subcatchment D3: BY-PASS TO POINT "C"

Runoff = 1.91 cfs @ 12.21 hrs, Volume= 0.183 af, Depth> 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
9,970	98	Paved parking, HSG C
84,712	70	Woods, Good, HSG C
5,625	74	>75% Grass cover, Good, HSG C
100,307	73	Weighted Average
90,337		90.06% Pervious Area
9,970		9.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.3	90	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	15	0.3330	9.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.8	232	0.0170	2.10		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	144	0.0050	1.14		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.6	506	Total			

Summary for Subcatchment D30: TO CB-19

Runoff = 1.44 cfs @ 12.09 hrs, Volume= 0.112 af, Depth> 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
19,340	98	Paved parking, HSG C
2,191	74	>75% Grass cover, Good, HSG C
21,531	96	Weighted Average
2,191		10.18% Pervious Area
19,340		89.82% Impervious Area

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

Summary for Subcatchment D31: TO CB-25

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.010 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
1,866	98	Paved parking, HSG C
1,866		100.00% Impervious Area

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

Summary for Subcatchment D32: TO CB-24

Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 2.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,042	98	Paved parking, HSG C
344	74	>75% Grass cover, Good, HSG C
2,386	95	Weighted Average
344		14.42% Pervious Area
2,042		85.58% Impervious Area

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

Summary for Subcatchment D33: TO CB-27

Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,300	98	Paved parking, HSG C
484	74	>75% Grass cover, Good, HSG C
2,784	94	Weighted Average
484		17.39% Pervious Area
2,300		82.61% Impervious Area

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

Summary for Subcatchment D34: TO CB-26

Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,300	98	Paved parking, HSG C
2,300		100.00% Impervious Area

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

Summary for Subcatchment D35: TO POND-1

Runoff = 1.71 cfs @ 12.10 hrs, Volume= 0.133 af, Depth> 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
28,906	74	>75% Grass cover, Good, HSG C
52,346	70	Woods, Good, HSG C
81,252	71	Weighted Average
81,252		100.00% Pervious Area

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

Summary for Subcatchment D37: TO CB-29

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Depth> 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,707	98	Paved parking, HSG C
261	74	>75% Grass cover, Good, HSG C
2,968	96	Weighted Average
261		8.79% Pervious Area
2,707		91.21% Impervious Area

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

Summary for Subcatchment D38: TO CB-28

Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.015 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,707	98	Paved parking, HSG B
2,707		100.00% Impervious Area

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

Summary for Subcatchment D39: TO CB-31

Runoff = 0.39 cfs @ 12.09 hrs, Volume= 0.032 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
5,688	98	Paved parking, HSG C
5,688		100.00% Impervious Area

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

Summary for Subcatchment D4: BY-PASS TO POINT "D"

Runoff = 5.74 cfs @ 12.29 hrs, Volume= 0.643 af, Depth> 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
4,300	98	Water Surface, HSG C
405,563	70	Woods, Good, HSG C
9,577	74	>75% Grass cover, Good, HSG C
419,440	70	Weighted Average
415,140		98.97% Pervious Area
4,300		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.0	21	0.3330	9.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	470	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4	517	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.1	1,033	Total			

Summary for Subcatchment D40: TO CB-30

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
5,005	98	Paved parking, HSG C
5,005		100.00% Impervious Area

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

Summary for Subcatchment D41-A: 1/4 Roof

Runoff = 3.05 cfs @ 12.09 hrs, Volume= 0.246 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
44,000	98	Roofs, HSG C
44,000		100.00% Impervious Area

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

Summary for Subcatchment D41-B: 1/4 Roof

Runoff = 3.05 cfs @ 12.09 hrs, Volume= 0.246 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
44,000	98	Roofs, HSG C
44,000		100.00% Impervious Area

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

Summary for Subcatchment D42: 1/2 Roof

Runoff = 6.11 cfs @ 12.09 hrs, Volume= 0.493 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
88,000	98	Roofs, HSG C
88,000		100.00% Impervious Area

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

Summary for Subcatchment D5: BY-PAAS TO POINT "E"

Runoff = 8.45 cfs @ 12.45 hrs, Volume= 1.130 af, Depth> 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
733,014	70	Woods, Good, HSG C
3,480	74	>75% Grass cover, Good, HSG C
3,420	96	Gravel surface, HSG C
739,914	70	Weighted Average
739,914		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	25	0.0060	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.3	250	0.0060	1.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	580	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.7	1,025	0.0190	2.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
28.5	1,880	Total			

Summary for Subcatchment D6-1: TO POND-3

Runoff = 0.48 cfs @ 12.10 hrs, Volume= 0.035 af, Depth> 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
3,132	70	Woods, Good, HSG C
6,364	74	>75% Grass cover, Good, HSG C
3,686	98	Water Surface, HSG C
13,182	80	Weighted Average
9,496		72.04% Pervious Area
3,686		27.96% Impervious Area

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

Summary for Subcatchment D6-2: TO POND 4

Runoff = 1.05 cfs @ 12.10 hrs, Volume= 0.077 af, Depth> 1.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
3,340	70	Woods, Good, HSG C
25,936	74	>75% Grass cover, Good, HSG C
4,628	98	Water Surface, HSG C
33,904	77	Weighted Average
29,276		86.35% Pervious Area
4,628		13.65% Impervious Area

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

Summary for Subcatchment D6-3: TO POND-5

Runoff = 0.80 cfs @ 12.09 hrs, Volume= 0.058 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,635	70	Woods, Good, HSG C
10,249	74	>75% Grass cover, Good, HSG C
7,110	98	Water Surface, HSG C
19,994	82	Weighted Average
12,884		64.44% Pervious Area
7,110		35.56% Impervious Area

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

Summary for Subcatchment D7: TO CB-1

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 1.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,436	98	Paved parking, HSG C
300	96	Gravel surface, HSG C
1,846	74	>75% Grass cover, Good, HSG C
4,582	88	Weighted Average
2,146		46.84% Pervious Area
2,436		53.16% Impervious Area

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

Summary for Subcatchment D8: TO CB-2

Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
2,260	98	Paved parking, HSG C
526	74	>75% Grass cover, Good, HSG C
2,786	93	Weighted Average
526		18.88% Pervious Area
2,260		81.12% Impervious Area

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

Summary for Subcatchment D9: TO CB-3

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.041 af, Depth> 1.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year storm Rainfall=3.19"

Area (sf)	CN	Description
6,650	98	Paved parking, HSG C
2,140	74	>75% Grass cover, Good, HSG C
2,535	70	Woods, Good, HSG C
11,325	87	Weighted Average
4,675		41.28% Pervious Area
6,650		58.72% Impervious Area

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

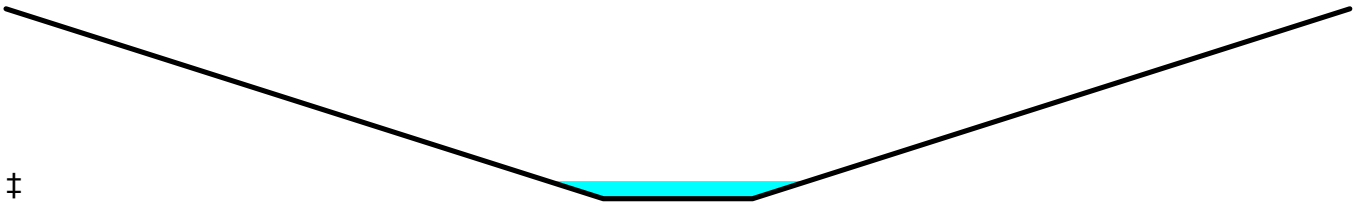
Summary for Reach 25R: Swale thru wetlands

Inflow Area = 7.925 ac, 64.38% Impervious, Inflow Depth > 1.14" for 2 year storm event
Inflow = 1.27 cfs @ 16.56 hrs, Volume= 0.753 af
Outflow = 1.27 cfs @ 16.68 hrs, Volume= 0.743 af, Atten= 0%, Lag= 7.2 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.00 fps, Min. Travel Time= 10.0 min
Avg. Velocity = 0.89 fps, Avg. Travel Time= 11.2 min

Peak Storage= 759 cf @ 16.68 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 194.34 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 600.0' Slope= 0.0150 '/'
Inlet Invert= 410.97', Outlet Invert= 402.00'



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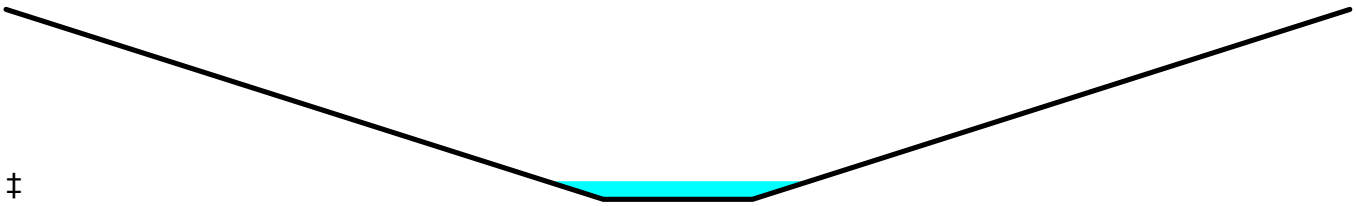
Summary for Reach 26R: Swale thru wetlands

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 1.78" for 2 year storm event
Inflow = 2.59 cfs @ 12.15 hrs, Volume= 0.150 af
Outflow = 1.30 cfs @ 12.35 hrs, Volume= 0.148 af, Atten= 50%, Lag= 12.1 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.99 fps, Min. Travel Time= 16.7 min
Avg. Velocity = 0.43 fps, Avg. Travel Time= 38.4 min

Peak Storage= 1,307 cf @ 12.35 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 188.63 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 994.0' Slope= 0.0141 '/'
Inlet Invert= 414.00', Outlet Invert= 400.00'



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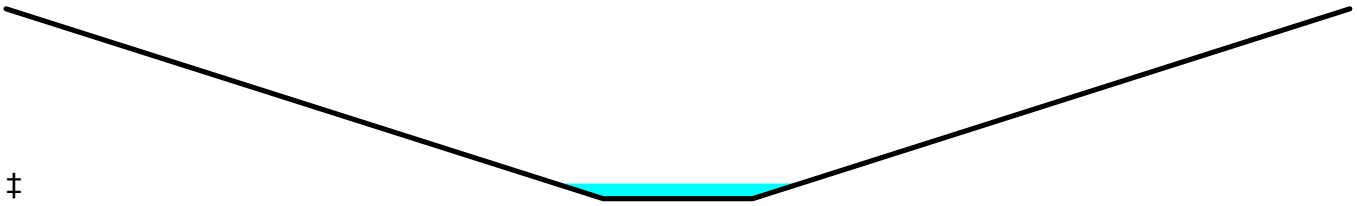
Summary for Reach 27R: Swale thru wetlands

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 1.61" for 2 year storm event
Inflow = 1.96 cfs @ 12.20 hrs, Volume= 0.136 af
Outflow = 1.49 cfs @ 12.31 hrs, Volume= 0.135 af, Atten= 24%, Lag= 6.9 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.41 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 0.56 fps, Avg. Travel Time= 17.2 min

Peak Storage= 615 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 295.15 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 580.0' Slope= 0.0345 '/'
Inlet Invert= 415.00', Outlet Invert= 395.00'



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Summary for Reach 41R: Design Point "A"

Inflow Area = 11.258 ac, 10.79% Impervious, Inflow Depth > 0.92" for 2 year storm event
Inflow = 7.98 cfs @ 12.30 hrs, Volume= 0.860 af
Outflow = 7.98 cfs @ 12.30 hrs, Volume= 0.860 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 42R: Design Point "B"

Inflow Area = 3.234 ac, 9.96% Impervious, Inflow Depth > 0.98" for 2 year storm event
Inflow = 2.66 cfs @ 12.19 hrs, Volume= 0.265 af
Outflow = 2.66 cfs @ 12.19 hrs, Volume= 0.265 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 43R: Design Point "C"

Inflow Area = 4.628 ac, 14.34% Impervious, Inflow Depth > 0.93" for 2 year storm event
Inflow = 2.26 cfs @ 12.21 hrs, Volume= 0.361 af
Outflow = 2.26 cfs @ 12.21 hrs, Volume= 0.361 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 44R: Design Point "D"

Inflow Area = 18.564 ac, 33.46% Impervious, Inflow Depth > 0.99" for 2 year storm event
Inflow = 7.01 cfs @ 12.30 hrs, Volume= 1.533 af
Outflow = 7.01 cfs @ 12.30 hrs, Volume= 1.533 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 45R: Design Point "E"

Inflow Area = 16.986 ac, 0.00% Impervious, Inflow Depth > 0.80" for 2 year storm event
Inflow = 8.45 cfs @ 12.45 hrs, Volume= 1.130 af
Outflow = 8.45 cfs @ 12.45 hrs, Volume= 1.130 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Pond 1B: POND-1-DET BASIN

Inflow Area = 2.210 ac, 14.46% Impervious, Inflow Depth > 1.15" for 2 year storm event
Inflow = 2.71 cfs @ 12.10 hrs, Volume= 0.212 af
Outflow = 0.37 cfs @ 12.86 hrs, Volume= 0.149 af, Atten= 87%, Lag= 46.0 min
Primary = 0.37 cfs @ 12.86 hrs, Volume= 0.149 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 394.10' @ 12.86 hrs Surf.Area= 6,769 sf Storage= 4,416 cf

Plug-Flow detention time= 221.7 min calculated for 0.149 af (71% of inflow)
Center-of-Mass det. time= 126.0 min (949.7 - 823.7)

Volume	Invert	Avail.Storage	Storage Description
#1	393.18'	25,025 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.18	2,800	0	0
393.68	4,950	1,938	1,938
394.18	7,100	3,013	4,950
394.68	8,550	3,913	8,863
395.18	10,000	4,638	13,500
395.68	11,525	5,381	18,881
396.18	13,050	6,144	25,025

Device	Routing	Invert	Outlet Devices
#1	Primary	393.68'	**6.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 393.68' / 393.31' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Primary	395.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

#3 Primary 394.20' **8.0" Round Culvert**
L= 37.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 394.20' / 393.33' S= 0.0235 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.37 cfs @ 12.86 hrs HW=394.10' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Barrel Controls 0.37 cfs @ 2.78 fps)
- **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Culvert** (Controls 0.00 cfs)

Summary for Pond 2A: POND-3 - FOREBAY

Inflow Area = 6.688 ac, 72.26% Impervious, Inflow Depth > 2.30" for 2 year storm event
Inflow = 16.56 cfs @ 12.09 hrs, Volume= 1.282 af
Outflow = 16.38 cfs @ 12.10 hrs, Volume= 1.149 af, Atten= 1%, Lag= 0.7 min
Primary = 16.38 cfs @ 12.10 hrs, Volume= 1.149 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.83' @ 12.10 hrs Surf.Area= 5,841 sf Storage= 12,588 cf

Plug-Flow detention time= 103.2 min calculated for 1.146 af (89% of inflow)
Center-of-Mass det. time= 57.5 min (834.3 - 776.8)

Volume	Invert	Avail.Storage	Storage Description
#1	412.68'	14,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
412.68	0	0	0
413.18	3,283	821	821
413.68	3,709	1,748	2,569
414.18	4,136	1,961	4,530
414.68	4,562	2,175	6,705
415.18	4,988	2,388	9,092
415.68	5,649	2,659	11,751
416.18	6,309	2,990	14,741

Device	Routing	Invert	Outlet Devices
#1	Primary	415.68'	**98.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	414.18'	**0.5' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=16.31 cfs @ 12.10 hrs HW=415.83' TW=413.58' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 12.84 cfs @ 0.90 fps)
2=Broad-Crested Rectangular Weir (Weir Controls 3.47 cfs @ 4.22 fps)

Summary for Pond 2B: POND-4-MARSH

Inflow Area = 7.466 ac, 66.15% Impervious, Inflow Depth > 1.97" for 2 year storm event
Inflow = 17.43 cfs @ 12.10 hrs, Volume= 1.226 af
Outflow = 2.01 cfs @ 13.30 hrs, Volume= 1.044 af, Atten= 88%, Lag= 71.8 min
Primary = 2.01 cfs @ 13.30 hrs, Volume= 1.044 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 414.18' @ 13.30 hrs Surf.Area= 23,592 sf Storage= 23,907 cf

Plug-Flow detention time= 190.6 min calculated for 1.042 af (85% of inflow)
Center-of-Mass det. time= 133.6 min (968.4 - 834.8)

Volume	Invert	Avail.Storage	Storage Description
#1	412.98'	77,130 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
412.98	0	0	0
413.18	20,331	2,033	2,033
413.68	21,968	10,575	12,608
414.18	23,605	11,393	24,001
414.68	25,242	12,212	36,213
415.18	26,879	13,030	49,243
415.68	27,881	13,690	62,933
416.18	28,905	14,197	77,130

Device	Routing	Invert	Outlet Devices
#1	Primary	415.38'	**111.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	412.98'	**0.5' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=2.01 cfs @ 13.30 hrs HW=414.18' TW=411.65' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Broad-Crested Rectangular Weir (Weir Controls 2.01 cfs @ 3.37 fps)

Summary for Pond 2C: POND-5-DEEP POND

Inflow Area = 7.925 ac, 64.38% Impervious, Inflow Depth > 1.67" for 2 year storm event
Inflow = 2.09 cfs @ 13.26 hrs, Volume= 1.102 af
Outflow = 1.27 cfs @ 16.56 hrs, Volume= 0.753 af, Atten= 39%, Lag= 198.1 min
Primary = 1.27 cfs @ 16.56 hrs, Volume= 0.753 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 413.07' @ 16.56 hrs Surf.Area= 8,727 sf Storage= 19,759 cf

Plug-Flow detention time= 229.5 min calculated for 0.752 af (68% of inflow)
Center-of-Mass det. time= 127.7 min (1,088.7 - 961.0)

Volume	Invert	Avail.Storage	Storage Description
#1	408.68'	71,950 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
408.68	0	0	0
409.18	2,710	678	678
409.68	3,080	1,448	2,125
410.18	3,449	1,632	3,757
410.68	3,819	1,817	5,574
411.18	4,188	2,002	7,576
411.68	5,391	2,395	9,971
412.18	6,594	2,996	12,967
412.68	7,797	3,598	16,565
413.18	9,000	4,199	20,764
413.68	9,669	4,667	25,431
414.18	10,338	5,002	30,433
414.68	11,006	5,336	35,769
415.18	11,675	5,670	41,439
415.68	30,511	10,547	51,986
416.18	49,346	19,964	71,950

Device	Routing	Invert	Outlet Devices
#1	Primary	411.72'	**18.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 411.72' / 410.97' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	412.18'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#3	Device 1	412.43'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#4	Device 1	408.68'	**2.0" Vert. 412.68 X 4.00** C= 0.600
#5	Device 1	412.93'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#6	Device 1	413.18'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#7	Device 1	413.68'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#8	Device 1	415.18'	**18.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.27 cfs @ 16.56 hrs HW=413.07' TW=411.15' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.27 cfs of 6.55 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.38 cfs @ 4.32 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.31 cfs @ 3.58 fps)
  ├─**4=412.68** (Orifice Controls 0.49 cfs @ 5.59 fps)
  ├─**5=Orifice/Grate** (Orifice Controls 0.10 cfs @ 1.26 fps)
  ├─**6=Orifice/Grate** (Controls 0.00 cfs)
  ├─**7=Orifice/Grate** (Controls 0.00 cfs)
  └─**8=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 3P: INFIL-1

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 2.93" for 2 year storm event
Inflow = 3.05 cfs @ 12.09 hrs, Volume= 0.246 af
Outflow = 2.59 cfs @ 12.15 hrs, Volume= 0.154 af, Atten= 15%, Lag= 3.6 min
Discarded = 0.00 cfs @ 3.25 hrs, Volume= 0.004 af
Primary = 2.59 cfs @ 12.15 hrs, Volume= 0.150 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 420.88' @ 12.15 hrs Surf.Area= 2,885 sf Storage= 4,689 cf

Plug-Flow detention time= 191.1 min calculated for 0.153 af (62% of inflow)
Center-of-Mass det. time= 93.4 min (842.9 - 749.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	418.50'	2,606 cf	**30.00'W x 96.18'L x 3.50'H Field A** 10,099 cf Overall - 3,583 cf Embedded = 6,515 cf x 40.0% Voids
#2A	419.00'	3,583 cf	**ADS_StormTech SC-740 +Cap** x 78 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 78 Chambers in 6 Rows
		6,189 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	418.50'	**0.030 in/hr Exfiltration over Surface area**
#2	Primary	420.50'	**8.0" Vert. Orifice/Grate X 6.00** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 3.25 hrs HW=418.54' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=2.57 cfs @ 12.15 hrs HW=420.88' TW=415.27' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Orifice Controls 2.57 cfs @ 2.09 fps)

Summary for Pond 45P: DMH-11

Inflow Area = 1.032 ac, 87.16% Impervious, Inflow Depth > 2.63" for 2 year storm event
Inflow = 2.94 cfs @ 12.09 hrs, Volume= 0.226 af
Outflow = 2.94 cfs @ 12.09 hrs, Volume= 0.226 af, Atten= 0%, Lag= 0.0 min
Primary = 2.94 cfs @ 12.09 hrs, Volume= 0.226 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.46' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.55'	**18.0" Round Culvert** L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.55' / 415.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.86 cfs @ 12.09 hrs HW=417.45' TW=416.29' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.86 cfs @ 3.74 fps)

Summary for Pond 46P: DMH-1

Inflow Area = 0.169 ac, 63.74% Impervious, Inflow Depth > 2.13" for 2 year storm event
Inflow = 0.41 cfs @ 12.09 hrs, Volume= 0.030 af
Outflow = 0.41 cfs @ 12.09 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.41 cfs @ 12.09 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.12' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	415.76'	**12.0" Round Culvert** L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 415.76' / 415.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.39 cfs @ 12.09 hrs HW=416.12' TW=415.82' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.39 cfs @ 2.27 fps)

Summary for Pond 52P: DHMH-2

Inflow Area = 4.391 ac, 72.72% Impervious, Inflow Depth > 2.31" for 2 year storm event
Inflow = 10.78 cfs @ 12.09 hrs, Volume= 0.845 af
Outflow = 10.78 cfs @ 12.09 hrs, Volume= 0.845 af, Atten= 0%, Lag= 0.0 min
Primary = 10.78 cfs @ 12.09 hrs, Volume= 0.845 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.74' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.38'	**30.0" Round Culvert** L= 138.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 416.38' / 415.00' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=10.54 cfs @ 12.09 hrs HW=417.72' TW=415.82' (Dynamic Tailwater)
1=Culvert (Inlet Controls 10.54 cfs @ 3.94 fps)

Summary for Pond 58P: DMH-4

Inflow Area = 1.900 ac, 44.56% Impervious, Inflow Depth > 1.69" for 2 year storm event
Inflow = 3.53 cfs @ 12.10 hrs, Volume= 0.267 af
Outflow = 3.53 cfs @ 12.10 hrs, Volume= 0.267 af, Atten= 0%, Lag= 0.0 min
Primary = 3.53 cfs @ 12.10 hrs, Volume= 0.267 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 419.54' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	418.64'	**24.0" Round Culvert**
			L= 138.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 418.64' / 417.95' S= 0.0050 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.27 cfs @ 12.10 hrs HW=419.54' TW=418.77' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.27 cfs @ 3.51 fps)

Summary for Pond 60P: DMH-5

Inflow Area = 1.403 ac, 44.56% Impervious, Inflow Depth > 1.70" for 2 year storm event
Inflow = 2.75 cfs @ 12.09 hrs, Volume= 0.198 af
Outflow = 2.75 cfs @ 12.09 hrs, Volume= 0.198 af, Atten= 0%, Lag= 0.0 min
Primary = 2.75 cfs @ 12.09 hrs, Volume= 0.198 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 420.33' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	419.52'	**24.0" Round Culvert**
			L= 155.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 419.52' / 418.74' S= 0.0050 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.57 cfs @ 12.09 hrs HW=420.32' TW=419.53' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.57 cfs @ 3.27 fps)

Summary for Pond 64P: DMH-6

Inflow Area = 1.003 ac, 46.19% Impervious, Inflow Depth > 1.75" for 2 year storm event
Inflow = 2.04 cfs @ 12.09 hrs, Volume= 0.147 af
Outflow = 2.04 cfs @ 12.09 hrs, Volume= 0.147 af, Atten= 0%, Lag= 0.0 min
Primary = 2.04 cfs @ 12.09 hrs, Volume= 0.147 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 422.01' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	421.36'	**18.0" Round Culvert** L= 134.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 421.36' / 420.02' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.00 cfs @ 12.09 hrs HW=422.01' TW=420.32' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.00 cfs @ 2.74 fps)

Summary for Pond 65P: DMH-7

Inflow Area = 0.698 ac, 40.26% Impervious, Inflow Depth > 1.65" for 2 year storm event
Inflow = 1.34 cfs @ 12.09 hrs, Volume= 0.096 af
Outflow = 1.34 cfs @ 12.09 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min
Primary = 1.34 cfs @ 12.09 hrs, Volume= 0.096 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 423.83' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	423.22'	**12.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 423.22' / 421.86' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.32 cfs @ 12.09 hrs HW=423.83' TW=422.01' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.32 cfs @ 2.65 fps)

Summary for Pond 71P: DMH-9

Inflow Area = 0.280 ac, 54.56% Impervious, Inflow Depth > 1.86" for 2 year storm event
Inflow = 0.60 cfs @ 12.09 hrs, Volume= 0.043 af
Outflow = 0.60 cfs @ 12.09 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min
Primary = 0.60 cfs @ 12.09 hrs, Volume= 0.043 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.93' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.40'	**12.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.40' / 416.27' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.59 cfs @ 12.09 hrs HW=416.92' TW=416.30' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.59 cfs @ 2.07 fps)

Summary for Pond 72P: DMH-16

Inflow Area = 0.513 ac, 76.97% Impervious, Inflow Depth > 2.40" for 2 year storm event
Inflow = 1.35 cfs @ 12.09 hrs, Volume= 0.103 af
Outflow = 1.35 cfs @ 12.09 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min
Primary = 1.35 cfs @ 12.09 hrs, Volume= 0.103 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.39' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.67'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.67' / 416.27' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.32 cfs @ 12.09 hrs HW=417.38' TW=416.30' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.32 cfs @ 3.09 fps)

Summary for Pond 73P: DMH-10

Inflow Area = 1.825 ac, 79.30% Impervious, Inflow Depth > 2.45" for 2 year storm event
Inflow = 4.89 cfs @ 12.09 hrs, Volume= 0.372 af
Outflow = 4.89 cfs @ 12.09 hrs, Volume= 0.372 af, Atten= 0%, Lag= 0.0 min
Primary = 4.89 cfs @ 12.09 hrs, Volume= 0.372 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.31' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	415.27'	**30.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 415.27' / 415.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=4.65 cfs @ 12.09 hrs HW=416.30' TW=415.82' (Dynamic Tailwater)
1=Culvert (Outlet Controls 4.65 cfs @ 3.62 fps)

Summary for Pond 78P: DMH-3

Inflow Area = 3.920 ac, 73.13% Impervious, Inflow Depth > 2.33" for 2 year storm event
Inflow = 9.62 cfs @ 12.09 hrs, Volume= 0.760 af
Outflow = 9.62 cfs @ 12.09 hrs, Volume= 0.760 af, Atten= 0%, Lag= 0.0 min
Primary = 9.62 cfs @ 12.09 hrs, Volume= 0.760 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 418.78' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	417.45'	**30.0" Round Culvert** L= 97.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 417.45' / 416.48' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=9.00 cfs @ 12.09 hrs HW=418.76' TW=417.72' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 9.00 cfs @ 5.05 fps)

Summary for Pond 80P: DMH-17

Inflow Area = 0.829 ac, 92.23% Impervious, Inflow Depth > 2.75" for 2 year storm event
Inflow = 2.44 cfs @ 12.09 hrs, Volume= 0.190 af
Outflow = 2.44 cfs @ 12.09 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.0 min
Primary = 2.44 cfs @ 12.09 hrs, Volume= 0.190 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.84' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.95'	**18.0" Round Culvert**
			L= 60.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 416.95' / 416.65' S= 0.0050 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.19 cfs @ 12.09 hrs HW=417.82' TW=417.44' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.19 cfs @ 2.97 fps)

Summary for Pond 82P: DMH-12

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 1.78" for 2 year storm event
Inflow = 2.59 cfs @ 12.15 hrs, Volume= 0.150 af
Outflow = 2.59 cfs @ 12.15 hrs, Volume= 0.150 af, Atten= 0%, Lag= 0.0 min
Primary = 2.59 cfs @ 12.15 hrs, Volume= 0.150 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.28' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	414.41'	**18.0" Round Culvert**
			L= 83.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 414.41' / 414.00' S= 0.0049 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.57 cfs @ 12.15 hrs HW=415.27' TW=414.12' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 2.57 cfs @ 3.53 fps)

Summary for Pond 85P: DMH-13

Inflow Area = 0.098 ac, 91.91% Impervious, Inflow Depth > 2.75" for 2 year storm event
Inflow = 0.29 cfs @ 12.09 hrs, Volume= 0.022 af
Outflow = 0.29 cfs @ 12.09 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min
Primary = 0.29 cfs @ 12.09 hrs, Volume= 0.022 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 412.76' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	412.50'	**12.0" Round Culvert** L= 188.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 412.50' / 402.10' S= 0.0553 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.28 cfs @ 12.09 hrs HW=412.76' TW=402.39' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.28 cfs @ 1.73 fps)

Summary for Pond 86P: DMH-14

Inflow Area = 0.214 ac, 91.13% Impervious, Inflow Depth > 2.72" for 2 year storm event
Inflow = 0.62 cfs @ 12.09 hrs, Volume= 0.049 af
Outflow = 0.62 cfs @ 12.09 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.09 hrs, Volume= 0.049 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 402.40' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	402.00'	**12.0" Round Culvert** L= 114.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 402.00' / 380.00' S= 0.1930 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.61 cfs @ 12.09 hrs HW=402.39' TW=393.76' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.61 cfs @ 2.13 fps)

Summary for Pond 89P: DMH-15

Inflow Area = 0.130 ac, 95.40% Impervious, Inflow Depth > 2.81" for 2 year storm event
Inflow = 0.39 cfs @ 12.09 hrs, Volume= 0.031 af
Outflow = 0.39 cfs @ 12.09 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min
Primary = 0.39 cfs @ 12.09 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 396.83' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	396.52'	**12.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 396.52' / 396.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.38 cfs @ 12.09 hrs HW=396.82' TW=393.76' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.38 cfs @ 1.87 fps)

Summary for Pond 90P: INFIL-1

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 2.93" for 2 year storm event
Inflow = 3.05 cfs @ 12.09 hrs, Volume= 0.246 af
Outflow = 1.96 cfs @ 12.20 hrs, Volume= 0.140 af, Atten= 36%, Lag= 6.6 min
Discarded = 0.00 cfs @ 3.40 hrs, Volume= 0.004 af
Primary = 1.96 cfs @ 12.20 hrs, Volume= 0.136 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 420.82' @ 12.20 hrs Surf.Area= 3,313 sf Storage= 5,277 cf

Plug-Flow detention time= 212.7 min calculated for 0.140 af (57% of inflow)
Center-of-Mass det. time= 105.6 min (855.1 - 749.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	418.50'	2,984 cf	**30.00'W x 110.42'L x 3.50'H Field A** 11,594 cf Overall - 4,135 cf Embedded = 7,459 cf x 40.0% Voids
#2A	419.00'	4,135 cf	**ADS_StormTech SC-740 +Cap** x 90 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 90 Chambers in 6 Rows
		7,118 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	418.50'	**0.030 in/hr Exfiltration over Surface area**
#2	Primary	420.50'	**8.0" Vert. Orifice/Grate X 6.00** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 3.40 hrs HW=418.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=1.95 cfs @ 12.20 hrs HW=420.82' TW=415.12' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 1.95 cfs @ 1.94 fps)

Time span=1.00-23.00 hrs, dt=0.05 hrs, 441 points
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 D1: BY-PASS TO POINT "A" Runoff Area=446,408 sf 2.00% Impervious Runoff Depth>1.98"
Flow Length=1,498' Tc=18.9 min CN=71 Runoff=16.36 cfs 1.688 af

Subcatchment D10: TO CB-4 Runoff Area=9,185 sf 82.43% Impervious Runoff Depth>4.13"
Tc=6.0 min CN=94 Runoff=0.94 cfs 0.073 af

Subcatchment D13: TO CB-5 Runoff Area=15,356 sf 25.74% Impervious Runoff Depth>2.56"
Flow Length=260' Tc=11.0 min CN=78 Runoff=0.90 cfs 0.075 af

Subcatchment D14: TO CB-6 Runoff Area=6,290 sf 90.46% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=96 Runoff=0.66 cfs 0.052 af

Subcatchment D15: TO CB-7 Runoff Area=11,907 sf 26.37% Impervious Runoff Depth>2.56"
Tc=6.0 min CN=78 Runoff=0.82 cfs 0.058 af

Subcatchment D16: TO CB-8 Runoff Area=5,506 sf 70.94% Impervious Runoff Depth>3.81"
Tc=6.0 min CN=91 Runoff=0.54 cfs 0.040 af

Subcatchment D17: TO CB-9 Runoff Area=4,822 sf 35.11% Impervious Runoff Depth>2.83"
Tc=6.0 min CN=81 Runoff=0.36 cfs 0.026 af

Subcatchment D18: TO CB-10 Runoff Area=8,463 sf 73.85% Impervious Runoff Depth>3.92"
Tc=6.0 min CN=92 Runoff=0.84 cfs 0.063 af

Subcatchment D19: TO CB-11 Runoff Area=30,419 sf 40.26% Impervious Runoff Depth>3.11"
Tc=6.0 min CN=84 Runoff=2.51 cfs 0.181 af

Subcatchment D2: BY-PASS TO POINT "B" Runoff Area=135,192 sf 6.17% Impervious Runoff Depth>2.06"
Flow Length=675' Tc=13.1 min CN=72 Runoff=5.93 cfs 0.532 af

Subcatchment D22: TO CB-15 Runoff Area=6,190 sf 43.47% Impervious Runoff Depth>3.11"
Tc=6.0 min CN=84 Runoff=0.51 cfs 0.037 af

Subcatchment D23: TO CB-16 Runoff Area=9,832 sf 53.52% Impervious Runoff Depth>3.40"
Tc=6.0 min CN=87 Runoff=0.88 cfs 0.064 af

Subcatchment D24: TO CB-20 Runoff Area=2,917 sf 67.88% Impervious Runoff Depth>3.71"
Tc=6.0 min CN=90 Runoff=0.28 cfs 0.021 af

Subcatchment D25: TO CB-21 Runoff Area=3,083 sf 64.22% Impervious Runoff Depth>3.60"
Tc=6.0 min CN=89 Runoff=0.29 cfs 0.021 af

Subcatchment D26: TO CB-17 Runoff Area=12,509 sf 95.40% Impervious Runoff Depth>4.47"
Tc=6.0 min CN=97 Runoff=1.33 cfs 0.107 af

Subcatchment D27: TO CB-18 Runoff Area=14,565 sf 95.78% Impervious Runoff Depth>4.47"
Tc=6.0 min CN=97 Runoff=1.54 cfs 0.125 af

Subcatchment D28: TO CB-22 Runoff Area=4,284 sf 68.86% Impervious Runoff Depth>3.81"
Tc=6.0 min CN=91 Runoff=0.42 cfs 0.031 af

Subcatchment D29: TO CB-22 Runoff Area=4,581 sf 64.40% Impervious Runoff Depth>3.60"
Tc=6.0 min CN=89 Runoff=0.43 cfs 0.032 af

Subcatchment D3: BY-PASS TO POINT "C" Runoff Area=100,307 sf 9.94% Impervious Runoff Depth>2.14"
Flow Length=506' Tc=13.6 min CN=73 Runoff=4.53 cfs 0.410 af

Subcatchment D30: TO CB-19 Runoff Area=21,531 sf 89.82% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=96 Runoff=2.26 cfs 0.179 af

Subcatchment D31: TO CB-25 Runoff Area=1,866 sf 100.00% Impervious Runoff Depth>4.59"
Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af

Subcatchment D32: TO CB-24 Runoff Area=2,386 sf 85.58% Impervious Runoff Depth>4.24"
Tc=6.0 min CN=95 Runoff=0.25 cfs 0.019 af

Subcatchment D33: TO CB-27 Runoff Area=2,784 sf 82.61% Impervious Runoff Depth>4.13"
Tc=6.0 min CN=94 Runoff=0.28 cfs 0.022 af

Subcatchment D34: TO CB-26 Runoff Area=2,300 sf 100.00% Impervious Runoff Depth>4.59"
Tc=6.0 min CN=98 Runoff=0.25 cfs 0.020 af

Subcatchment D35: TO POND-1 Runoff Area=81,252 sf 0.00% Impervious Runoff Depth>1.98"
Tc=6.0 min CN=71 Runoff=4.27 cfs 0.308 af

Subcatchment D37: TO CB-29 Runoff Area=2,968 sf 91.21% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=96 Runoff=0.31 cfs 0.025 af

Subcatchment D38: TO CB-28 Runoff Area=2,707 sf 100.00% Impervious Runoff Depth>4.59"
Tc=6.0 min CN=98 Runoff=0.29 cfs 0.024 af

Subcatchment D39: TO CB-31 Runoff Area=5,688 sf 100.00% Impervious Runoff Depth>4.59"
Tc=6.0 min CN=98 Runoff=0.61 cfs 0.050 af

Subcatchment D4: BY-PASS TO POINT "D" Runoff Area=419,440 sf 1.03% Impervious Runoff Depth>1.90"
Flow Length=1,033' Tc=18.1 min CN=70 Runoff=14.96 cfs 1.524 af

Subcatchment D40: TO CB-30 Runoff Area=5,005 sf 100.00% Impervious Runoff Depth>4.59"
Tc=6.0 min CN=98 Runoff=0.53 cfs 0.044 af

Subcatchment D41-A: 1/4 Roof Runoff Area=44,000 sf 100.00% Impervious Runoff Depth>4.59"
Tc=6.0 min CN=98 Runoff=4.70 cfs 0.386 af

Subcatchment D41-B: 1/4 Roof Runoff Area=44,000 sf 100.00% Impervious Runoff Depth>4.59"
Tc=6.0 min CN=98 Runoff=4.70 cfs 0.386 af

Subcatchment D42: 1/2 Roof Runoff Area=88,000 sf 100.00% Impervious Runoff Depth>4.59"
Tc=6.0 min CN=98 Runoff=9.40 cfs 0.772 af

Subcatchment D5: BY-PAAS TO POINT "E" Runoff Area=739,914 sf 0.00% Impervious Runoff Depth>1.89"
Flow Length=1,880' Tc=28.5 min CN=70 Runoff=21.82 cfs 2.680 af

Subcatchment D6-1: TO POND-3 Runoff Area=13,182 sf 27.96% Impervious Runoff Depth>2.74"
Tc=6.0 min CN=80 Runoff=0.97 cfs 0.069 af

Subcatchment D6-2: TO POND 4 Runoff Area=33,904 sf 13.65% Impervious Runoff Depth>2.48"
Tc=6.0 min CN=77 Runoff=2.25 cfs 0.161 af

Subcatchment D6-3: TO POND-5 Runoff Area=19,994 sf 35.56% Impervious Runoff Depth>2.92"
Tc=6.0 min CN=82 Runoff=1.56 cfs 0.112 af

Subcatchment D7: TO CB-1 Runoff Area=4,582 sf 53.16% Impervious Runoff Depth>3.50"
Tc=6.0 min CN=88 Runoff=0.42 cfs 0.031 af

Subcatchment D8: TO CB-2 Runoff Area=2,786 sf 81.12% Impervious Runoff Depth>4.02"
Tc=6.0 min CN=93 Runoff=0.28 cfs 0.021 af

Subcatchment D9: TO CB-3 Runoff Area=11,325 sf 58.72% Impervious Runoff Depth>3.40"
Tc=6.0 min CN=87 Runoff=1.01 cfs 0.074 af

Reach 25R: Swale thru wetlands Avg. Flow Depth=0.27' Max Vel=1.24 fps Inflow=2.59 cfs 1.594 af
n=0.050 L=600.0' S=0.0150 '/' Capacity=194.34 cfs Outflow=2.59 cfs 1.579 af

Reach 26R: Swale thru wetlands Avg. Flow Depth=0.30' Max Vel=1.27 fps Inflow=4.34 cfs 0.289 af
n=0.050 L=994.0' S=0.0141 '/' Capacity=188.63 cfs Outflow=3.04 cfs 0.286 af

Reach 27R: Swale thru wetlands Avg. Flow Depth=0.26' Max Vel=1.86 fps Inflow=4.24 cfs 0.275 af
n=0.050 L=580.0' S=0.0345 '/' Capacity=295.15 cfs Outflow=3.77 cfs 0.273 af

Reach 41R: Design Point "A" Inflow=19.61 cfs 1.961 af
Outflow=19.61 cfs 1.961 af

Reach 42R: Design Point "B" Inflow=6.31 cfs 0.582 af
Outflow=6.31 cfs 0.582 af

Reach 43R: Design Point "C" Inflow=5.67 cfs 0.820 af
Outflow=5.67 cfs 0.820 af

Reach 44R: Design Point "D" Inflow=17.96 cfs 3.389 af
Outflow=17.96 cfs 3.389 af

Reach 45R: Design Point "E" Inflow=21.82 cfs 2.680 af
Outflow=21.82 cfs 2.680 af

Pond 1B: POND-1-DET BASIN Peak Elev=394.64' Storage=8,529 cf Inflow=5.84 cfs 0.435 af
Outflow=1.24 cfs 0.366 af

Pond 2A: POND-3 - FOREBAY Peak Elev=415.90' Storage=13,012 cf Inflow=27.42 cfs 2.153 af
Outflow=27.42 cfs 2.009 af

Pond 2B: POND-4-MARSH Peak Elev=414.94' Storage=42,988 cf Inflow=29.67 cfs 2.170 af
Outflow=4.54 cfs 1.901 af

Pond 2C: POND-5-DEEP POND Peak Elev=413.94' Storage=27,943 cf Inflow=4.85 cfs 2.013 af
Outflow=2.59 cfs 1.594 af

Pond 3P: INFIL-1 Peak Elev=421.02' Storage=4,940 cf Inflow=4.70 cfs 0.386 af
Discarded=0.00 cfs 0.004 af Primary=4.34 cfs 0.289 af Outflow=4.34 cfs 0.293 af

Pond 45P: DMH-11 Peak Elev=417.75' Inflow=4.65 cfs 0.367 af
18.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=4.65 cfs 0.367 af

Pond 46P: DMH-1 Peak Elev=416.24' Inflow=0.70 cfs 0.052 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0200 '/' Outflow=0.70 cfs 0.052 af

Pond 52P: DHMH-2 Peak Elev=418.22' Inflow=17.83 cfs 1.415 af
30.0" Round Culvert n=0.013 L=138.0' S=0.0100 '/' Outflow=17.83 cfs 1.415 af

Pond 58P: DMH-4 Peak Elev=419.98' Inflow=6.50 cfs 0.496 af
24.0" Round Culvert n=0.013 L=138.0' S=0.0050 '/' Outflow=6.50 cfs 0.496 af

Pond 60P: DMH-5 Peak Elev=420.68' Inflow=5.07 cfs 0.369 af
24.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=5.07 cfs 0.369 af

Pond 64P: DMH-6 Peak Elev=422.28' Inflow=3.71 cfs 0.270 af
18.0" Round Culvert n=0.013 L=134.0' S=0.0100 '/' Outflow=3.71 cfs 0.270 af

Pond 65P: DMH-7 Peak Elev=424.15' Inflow=2.51 cfs 0.181 af
12.0" Round Culvert n=0.013 L=68.0' S=0.0200 '/' Outflow=2.51 cfs 0.181 af

Pond 71P: DMH-9 Peak Elev=417.13' Inflow=1.08 cfs 0.079 af
12.0" Round Culvert n=0.020 L=26.0' S=0.0050 '/' Outflow=1.08 cfs 0.079 af

Pond 72P: DMH-16 Peak Elev=417.67' Inflow=2.20 cfs 0.171 af
12.0" Round Culvert n=0.013 L=80.0' S=0.0050 '/' Outflow=2.20 cfs 0.171 af

Pond 73P: DMH-10 Peak Elev=416.61' Inflow=7.93 cfs 0.616 af
30.0" Round Culvert n=0.013 L=55.0' S=0.0049 '/' Outflow=7.93 cfs 0.616 af

Pond 78P: DMH-3 Peak Elev=419.29' Inflow=15.88 cfs 1.269 af
30.0" Round Culvert n=0.013 L=97.0' S=0.0100 '/' Outflow=15.88 cfs 1.269 af

Pond 80P: DMH-17 Peak Elev=418.14' Inflow=3.80 cfs 0.304 af
18.0" Round Culvert n=0.013 L=60.0' S=0.0050 '/' Outflow=3.80 cfs 0.304 af

Pond 82P: DMH-12 Peak Elev=415.59' Inflow=4.34 cfs 0.289 af
18.0" Round Culvert n=0.013 L=83.0' S=0.0049 '/' Outflow=4.34 cfs 0.289 af

Pond 85P: DMH-13 Peak Elev=412.83' Inflow=0.45 cfs 0.036 af
12.0" Round Culvert n=0.013 L=188.0' S=0.0553 '/' Outflow=0.45 cfs 0.036 af

Pond 86P: DMH-14 Peak Elev=402.51' Inflow=0.98 cfs 0.078 af
12.0" Round Culvert n=0.013 L=114.0' S=0.1930 '/' Outflow=0.98 cfs 0.078 af

Pond 89P: DMH-15 Peak Elev=396.91' Inflow=0.60 cfs 0.048 af
12.0" Round Culvert n=0.013 L=26.0' S=0.0200 '/' Outflow=0.60 cfs 0.048 af

Pond 90P: INFIL-1 Peak Elev=421.01' Storage=5,667 cf Inflow=4.70 cfs 0.386 af
Discarded=0.00 cfs 0.004 af Primary=4.24 cfs 0.275 af Outflow=4.24 cfs 0.279 af

Total Runoff Area = 54.670 ac Runoff Volume = 10.560 af Average Runoff Depth = 2.32"
84.61% Pervious = 46.259 ac 15.39% Impervious = 8.411 ac

Summary for Subcatchment D1: BY-PASS TO POINT "A"

Runoff = 16.36 cfs @ 12.27 hrs, Volume= 1.688 af, Depth> 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
8,916	98	Paved parking, HSG C
398,936	70	Woods, Good, HSG C
38,556	74	>75% Grass cover, Good, HSG C
446,408	71	Weighted Average
437,492		98.00% Pervious Area
8,916		2.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.5	518	0.0230	2.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	955	0.0270	2.65		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	1,498	Total			

Summary for Subcatchment D10: TO CB-4

Runoff = 0.94 cfs @ 12.09 hrs, Volume= 0.073 af, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
7,571	98	Paved parking, HSG C
1,614	74	>75% Grass cover, Good, HSG C
9,185	94	Weighted Average
1,614		17.57% Pervious Area
7,571		82.43% Impervious Area

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

Summary for Subcatchment D13: TO CB-5

Runoff = 0.90 cfs @ 12.16 hrs, Volume= 0.075 af, Depth> 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
3,952	98	Paved parking, HSG C
1,174	74	>75% Grass cover, Good, HSG C
10,230	70	Woods, Good, HSG C
15,356	78	Weighted Average
11,404		74.26% Pervious Area
3,952		25.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.8	123	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	32	0.1880	6.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	36	0.0220	2.39		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	44	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
11.0	260	Total			

Summary for Subcatchment D14: TO CB-6

Runoff = 0.66 cfs @ 12.09 hrs, Volume= 0.052 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
5,690	98	Paved parking, HSG C
600	74	>75% Grass cover, Good, HSG C
6,290	96	Weighted Average
600		9.54% Pervious Area
5,690		90.46% Impervious Area

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

Summary for Subcatchment D15: TO CB-7

Runoff = 0.82 cfs @ 12.09 hrs, Volume= 0.058 af, Depth> 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
3,140	98	Paved parking, HSG C
2,323	74	>75% Grass cover, Good, HSG C
6,444	70	Woods, Good, HSG C
11,907	78	Weighted Average
8,767		73.63% Pervious Area
3,140		26.37% Impervious Area

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

Summary for Subcatchment D16: TO CB-8

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.040 af, Depth> 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
3,906	98	Paved parking, HSG C
1,600	74	>75% Grass cover, Good, HSG C
5,506	91	Weighted Average
1,600		29.06% Pervious Area
3,906		70.94% Impervious Area

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

Summary for Subcatchment D17: TO CB-9

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af, Depth> 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
1,693	98	Paved parking, HSG C
1,361	74	>75% Grass cover, Good, HSG C
1,768	70	Woods, Good, HSG C
4,822	81	Weighted Average
3,129		64.89% Pervious Area
1,693		35.11% Impervious Area

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

Summary for Subcatchment D18: TO CB-10

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.063 af, Depth> 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
6,250	98	Paved parking, HSG C
2,213	74	>75% Grass cover, Good, HSG C
8,463	92	Weighted Average
2,213		26.15% Pervious Area
6,250		73.85% Impervious Area

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

Summary for Subcatchment D19: TO CB-11

Runoff = 2.51 cfs @ 12.09 hrs, Volume= 0.181 af, Depth> 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
12,246	98	Paved parking, HSG C
7,968	74	>75% Grass cover, Good, HSG C
9,575	74	Farmsteads, HSG B
630	96	Gravel surface, HSG C
30,419	84	Weighted Average
18,173		59.74% Pervious Area
12,246		40.26% Impervious Area

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

Summary for Subcatchment D2: BY-PASS TO POINT "B"

Runoff = 5.93 cfs @ 12.19 hrs, Volume= 0.532 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
8,340	98	Paved parking, HSG C
103,760	70	Woods, Good, HSG C
23,092	74	>75% Grass cover, Good, HSG C
135,192	72	Weighted Average
126,852		93.83% Pervious Area
8,340		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.3	69	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.4	581	0.0310	2.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.1	675	Total			

Summary for Subcatchment D22: TO CB-15

Runoff = 0.51 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,691	98	Paved parking, HSG C
3,499	74	>75% Grass cover, Good, HSG C
6,190	84	Weighted Average
3,499		56.53% Pervious Area
2,691		43.47% Impervious Area

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

Summary for Subcatchment D23: TO CB-16

Runoff = 0.88 cfs @ 12.09 hrs, Volume= 0.064 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
5,262	98	Paved parking, HSG C
4,570	74	>75% Grass cover, Good, HSG C
9,832	87	Weighted Average
4,570		46.48% Pervious Area
5,262		53.52% Impervious Area

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

Summary for Subcatchment D24: TO CB-20

Runoff = 0.28 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
1,980	98	Paved parking, HSG C
937	74	>75% Grass cover, Good, HSG C
2,917	90	Weighted Average
937		32.12% Pervious Area
1,980		67.88% Impervious Area

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

Summary for Subcatchment D25: TO CB-21

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
1,980	98	Paved parking, HSG C
1,103	74	>75% Grass cover, Good, HSG C
3,083	89	Weighted Average
1,103		35.78% Pervious Area
1,980		64.22% Impervious Area

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

Summary for Subcatchment D26: TO CB-17

Runoff = 1.33 cfs @ 12.09 hrs, Volume= 0.107 af, Depth> 4.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
11,933	98	Paved parking, HSG C
576	74	>75% Grass cover, Good, HSG C
12,509	97	Weighted Average
576		4.60% Pervious Area
11,933		95.40% Impervious Area

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

Summary for Subcatchment D27: TO CB-18

Runoff = 1.54 cfs @ 12.09 hrs, Volume= 0.125 af, Depth> 4.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
13,950	98	Paved parking, HSG C
615	74	>75% Grass cover, Good, HSG C
14,565	97	Weighted Average
615		4.22% Pervious Area
13,950		95.78% Impervious Area

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

Summary for Subcatchment D28: TO CB-22

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,950	98	Paved parking, HSG C
1,334	74	>75% Grass cover, Good, HSG C
4,284	91	Weighted Average
1,334		31.14% Pervious Area
2,950		68.86% Impervious Area

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

Summary for Subcatchment D29: TO CB-22

Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.032 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,950	98	Paved parking, HSG C
1,631	74	>75% Grass cover, Good, HSG C
4,581	89	Weighted Average
1,631		35.60% Pervious Area
2,950		64.40% Impervious Area

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

Summary for Subcatchment D3: BY-PASS TO POINT "C"

Runoff = 4.53 cfs @ 12.20 hrs, Volume= 0.410 af, Depth> 2.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
9,970	98	Paved parking, HSG C
84,712	70	Woods, Good, HSG C
5,625	74	>75% Grass cover, Good, HSG C
100,307	73	Weighted Average
90,337		90.06% Pervious Area
9,970		9.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.3	90	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	15	0.3330	9.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.8	232	0.0170	2.10		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	144	0.0050	1.14		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.6	506	Total			

Summary for Subcatchment D30: TO CB-19

Runoff = 2.26 cfs @ 12.09 hrs, Volume= 0.179 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
19,340	98	Paved parking, HSG C
2,191	74	>75% Grass cover, Good, HSG C
21,531	96	Weighted Average
2,191		10.18% Pervious Area
19,340		89.82% Impervious Area

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

Summary for Subcatchment D31: TO CB-25

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.016 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
1,866	98	Paved parking, HSG C
1,866		100.00% Impervious Area

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

Summary for Subcatchment D32: TO CB-24

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.019 af, Depth> 4.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,042	98	Paved parking, HSG C
344	74	>75% Grass cover, Good, HSG C
2,386	95	Weighted Average
344		14.42% Pervious Area
2,042		85.58% Impervious Area

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

Summary for Subcatchment D33: TO CB-27

Runoff = 0.28 cfs @ 12.09 hrs, Volume= 0.022 af, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,300	98	Paved parking, HSG C
484	74	>75% Grass cover, Good, HSG C
2,784	94	Weighted Average
484		17.39% Pervious Area
2,300		82.61% Impervious Area

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

Summary for Subcatchment D34: TO CB-26

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.020 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,300	98	Paved parking, HSG C
2,300		100.00% Impervious Area

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

Summary for Subcatchment D35: TO POND-1

Runoff = 4.27 cfs @ 12.10 hrs, Volume= 0.308 af, Depth> 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
28,906	74	>75% Grass cover, Good, HSG C
52,346	70	Woods, Good, HSG C
81,252	71	Weighted Average
81,252		100.00% Pervious Area

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

Summary for Subcatchment D37: TO CB-29

Runoff = 0.31 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,707	98	Paved parking, HSG C
261	74	>75% Grass cover, Good, HSG C
2,968	96	Weighted Average
261		8.79% Pervious Area
2,707		91.21% Impervious Area

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

Summary for Subcatchment D38: TO CB-28

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.024 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,707	98	Paved parking, HSG B
2,707		100.00% Impervious Area

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

Summary for Subcatchment D39: TO CB-31

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
5,688	98	Paved parking, HSG C
5,688		100.00% Impervious Area

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

Summary for Subcatchment D4: BY-PASS TO POINT "D"

Runoff = 14.96 cfs @ 12.26 hrs, Volume= 1.524 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
4,300	98	Water Surface, HSG C
405,563	70	Woods, Good, HSG C
9,577	74	>75% Grass cover, Good, HSG C
419,440	70	Weighted Average
415,140		98.97% Pervious Area
4,300		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.0	21	0.3330	9.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	470	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4	517	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.1	1,033	Total			

Summary for Subcatchment D40: TO CB-30

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.044 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
5,005	98	Paved parking, HSG C
5,005		100.00% Impervious Area

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

Summary for Subcatchment D41-A: 1/4 Roof

Runoff = 4.70 cfs @ 12.09 hrs, Volume= 0.386 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
44,000	98	Roofs, HSG C
44,000		100.00% Impervious Area

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

Summary for Subcatchment D41-B: 1/4 Roof

Runoff = 4.70 cfs @ 12.09 hrs, Volume= 0.386 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
44,000	98	Roofs, HSG C
44,000		100.00% Impervious Area

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

Summary for Subcatchment D42: 1/2 Roof

Runoff = 9.40 cfs @ 12.09 hrs, Volume= 0.772 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
88,000	98	Roofs, HSG C
88,000		100.00% Impervious Area

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

Summary for Subcatchment D5: BY-PAAS TO POINT "E"

Runoff = 21.82 cfs @ 12.42 hrs, Volume= 2.680 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
733,014	70	Woods, Good, HSG C
3,480	74	>75% Grass cover, Good, HSG C
3,420	96	Gravel surface, HSG C
739,914	70	Weighted Average
739,914		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	25	0.0060	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.3	250	0.0060	1.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	580	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.7	1,025	0.0190	2.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
28.5	1,880	Total			

Summary for Subcatchment D6-1: TO POND-3

Runoff = 0.97 cfs @ 12.09 hrs, Volume= 0.069 af, Depth> 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
3,132	70	Woods, Good, HSG C
6,364	74	>75% Grass cover, Good, HSG C
3,686	98	Water Surface, HSG C
13,182	80	Weighted Average
9,496		72.04% Pervious Area
3,686		27.96% Impervious Area

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

Summary for Subcatchment D6-2: TO POND 4

Runoff = 2.25 cfs @ 12.09 hrs, Volume= 0.161 af, Depth> 2.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
3,340	70	Woods, Good, HSG C
25,936	74	>75% Grass cover, Good, HSG C
4,628	98	Water Surface, HSG C
33,904	77	Weighted Average
29,276		86.35% Pervious Area
4,628		13.65% Impervious Area

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

Summary for Subcatchment D6-3: TO POND-5

Runoff = 1.56 cfs @ 12.09 hrs, Volume= 0.112 af, Depth> 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,635	70	Woods, Good, HSG C
10,249	74	>75% Grass cover, Good, HSG C
7,110	98	Water Surface, HSG C
19,994	82	Weighted Average
12,884		64.44% Pervious Area
7,110		35.56% Impervious Area

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

Summary for Subcatchment D7: TO CB-1

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,436	98	Paved parking, HSG C
300	96	Gravel surface, HSG C
1,846	74	>75% Grass cover, Good, HSG C
4,582	88	Weighted Average
2,146		46.84% Pervious Area
2,436		53.16% Impervious Area

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

Summary for Subcatchment D8: TO CB-2

Runoff = 0.28 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
2,260	98	Paved parking, HSG C
526	74	>75% Grass cover, Good, HSG C
2,786	93	Weighted Average
526		18.88% Pervious Area
2,260		81.12% Impervious Area

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

Summary for Subcatchment D9: TO CB-3

Runoff = 1.01 cfs @ 12.09 hrs, Volume= 0.074 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year storm Rainfall=4.87"

Area (sf)	CN	Description
6,650	98	Paved parking, HSG C
2,140	74	>75% Grass cover, Good, HSG C
2,535	70	Woods, Good, HSG C
11,325	87	Weighted Average
4,675		41.28% Pervious Area
6,650		58.72% Impervious Area

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

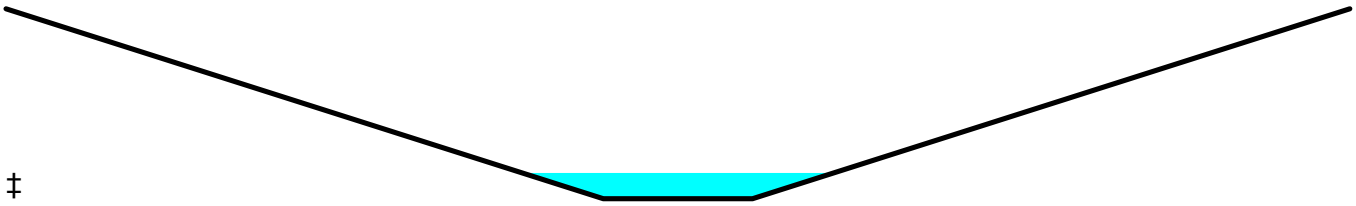
Summary for Reach 25R: Swale thru wetlands

Inflow Area = 7.925 ac, 64.38% Impervious, Inflow Depth > 2.41" for 10 year storm event
Inflow = 2.59 cfs @ 15.04 hrs, Volume= 1.594 af
Outflow = 2.59 cfs @ 15.15 hrs, Volume= 1.579 af, Atten= 0%, Lag= 6.1 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.24 fps, Min. Travel Time= 8.0 min
Avg. Velocity = 1.09 fps, Avg. Travel Time= 9.2 min

Peak Storage= 1,251 cf @ 15.15 hrs
Average Depth at Peak Storage= 0.27'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 194.34 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 600.0' Slope= 0.0150 '/'
Inlet Invert= 410.97', Outlet Invert= 402.00'



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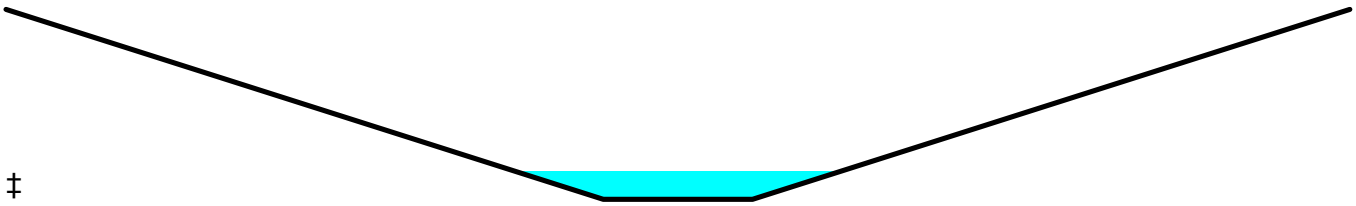
Summary for Reach 26R: Swale thru wetlands

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 3.44" for 10 year storm event
Inflow = 4.34 cfs @ 12.12 hrs, Volume= 0.289 af
Outflow = 3.04 cfs @ 12.23 hrs, Volume= 0.286 af, Atten= 30%, Lag= 6.3 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.27 fps, Min. Travel Time= 13.0 min
Avg. Velocity = 0.51 fps, Avg. Travel Time= 32.5 min

Peak Storage= 2,372 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 188.63 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 994.0' Slope= 0.0141 '/'
Inlet Invert= 414.00', Outlet Invert= 400.00'



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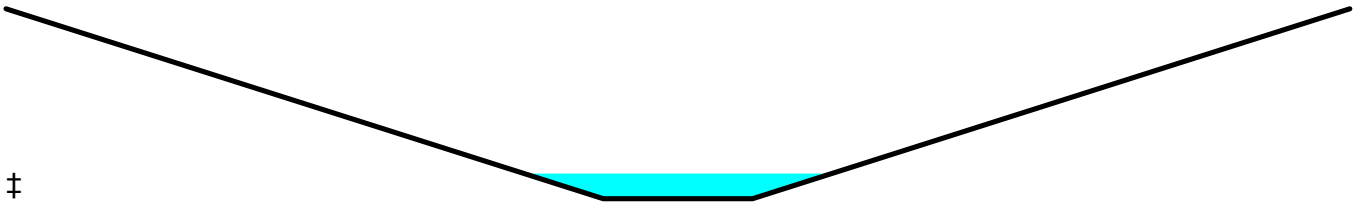
Summary for Reach 27R: Swale thru wetlands

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 3.27" for 10 year storm event
Inflow = 4.24 cfs @ 12.13 hrs, Volume= 0.275 af
Outflow = 3.77 cfs @ 12.18 hrs, Volume= 0.273 af, Atten= 11%, Lag= 3.5 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.86 fps, Min. Travel Time= 5.2 min
Avg. Velocity = 0.67 fps, Avg. Travel Time= 14.3 min

Peak Storage= 1,174 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 295.15 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 580.0' Slope= 0.0345 '/'
Inlet Invert= 415.00', Outlet Invert= 395.00'



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Summary for Reach 41R: Design Point "A"

Inflow Area = 11.258 ac, 10.79% Impervious, Inflow Depth > 2.09" for 10 year storm event
Inflow = 19.61 cfs @ 12.26 hrs, Volume= 1.961 af
Outflow = 19.61 cfs @ 12.26 hrs, Volume= 1.961 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 42R: Design Point "B"

Inflow Area = 3.234 ac, 9.96% Impervious, Inflow Depth > 2.16" for 10 year storm event
Inflow = 6.31 cfs @ 12.18 hrs, Volume= 0.582 af
Outflow = 6.31 cfs @ 12.18 hrs, Volume= 0.582 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 43R: Design Point "C"

Inflow Area = 4.628 ac, 14.34% Impervious, Inflow Depth > 2.13" for 10 year storm event
Inflow = 5.67 cfs @ 12.20 hrs, Volume= 0.820 af
Outflow = 5.67 cfs @ 12.20 hrs, Volume= 0.820 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 44R: Design Point "D"

Inflow Area = 18.564 ac, 33.46% Impervious, Inflow Depth > 2.19" for 10 year storm event
Inflow = 17.96 cfs @ 12.26 hrs, Volume= 3.389 af
Outflow = 17.96 cfs @ 12.26 hrs, Volume= 3.389 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 45R: Design Point "E"

Inflow Area = 16.986 ac, 0.00% Impervious, Inflow Depth > 1.89" for 10 year storm event
Inflow = 21.82 cfs @ 12.42 hrs, Volume= 2.680 af
Outflow = 21.82 cfs @ 12.42 hrs, Volume= 2.680 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Pond 1B: POND-1-DET BASIN

Inflow Area = 2.210 ac, 14.46% Impervious, Inflow Depth > 2.36" for 10 year storm event
Inflow = 5.84 cfs @ 12.09 hrs, Volume= 0.435 af
Outflow = 1.24 cfs @ 12.54 hrs, Volume= 0.366 af, Atten= 79%, Lag= 26.9 min
Primary = 1.24 cfs @ 12.54 hrs, Volume= 0.366 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 394.64' @ 12.54 hrs Surf.Area= 8,436 sf Storage= 8,529 cf

Plug-Flow detention time= 165.4 min calculated for 0.365 af (84% of inflow)
Center-of-Mass det. time= 102.1 min (914.0 - 811.8)

Volume	Invert	Avail.Storage	Storage Description
#1	393.18'	25,025 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.18	2,800	0	0
393.68	4,950	1,938	1,938
394.18	7,100	3,013	4,950
394.68	8,550	3,913	8,863
395.18	10,000	4,638	13,500
395.68	11,525	5,381	18,881
396.18	13,050	6,144	25,025

Device	Routing	Invert	Outlet Devices
#1	Primary	393.68'	**6.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 393.68' / 393.31' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Primary	395.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

#3 Primary 394.20' **8.0" Round Culvert**
L= 37.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 394.20' / 393.33' S= 0.0235 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.24 cfs @ 12.54 hrs HW=394.64' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Barrel Controls 0.68 cfs @ 3.48 fps)
- **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Culvert** (Inlet Controls 0.55 cfs @ 2.26 fps)

Summary for Pond 2A: POND-3 - FOREBAY

Inflow Area = 6.688 ac, 72.26% Impervious, Inflow Depth > 3.86" for 10 year storm event
Inflow = 27.42 cfs @ 12.09 hrs, Volume= 2.153 af
Outflow = 27.42 cfs @ 12.10 hrs, Volume= 2.009 af, Atten= 0%, Lag= 0.6 min
Primary = 27.42 cfs @ 12.10 hrs, Volume= 2.009 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.90' @ 12.10 hrs Surf.Area= 5,936 sf Storage= 13,012 cf

Plug-Flow detention time= 78.7 min calculated for 2.005 af (93% of inflow)
Center-of-Mass det. time= 45.7 min (813.1 - 767.4)

Volume	Invert	Avail.Storage	Storage Description
#1	412.68'	14,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
412.68	0	0	0
413.18	3,283	821	821
413.68	3,709	1,748	2,569
414.18	4,136	1,961	4,530
414.68	4,562	2,175	6,705
415.18	4,988	2,388	9,092
415.68	5,649	2,659	11,751
416.18	6,309	2,990	14,741

Device	Routing	Invert	Outlet Devices
#1	Primary	415.68'	**98.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	414.18'	**0.5' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=27.40 cfs @ 12.10 hrs HW=415.90' TW=414.27' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 23.70 cfs @ 1.11 fps)
2=Broad-Crested Rectangular Weir (Weir Controls 3.69 cfs @ 4.30 fps)

Summary for Pond 2B: POND-4-MARSH

Inflow Area = 7.466 ac, 66.15% Impervious, Inflow Depth > 3.49" for 10 year storm event
Inflow = 29.67 cfs @ 12.10 hrs, Volume= 2.170 af
Outflow = 4.54 cfs @ 12.62 hrs, Volume= 1.901 af, Atten= 85%, Lag= 31.1 min
Primary = 4.54 cfs @ 12.62 hrs, Volume= 1.901 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 414.94' @ 12.62 hrs Surf.Area= 26,106 sf Storage= 42,988 cf

Plug-Flow detention time= 183.0 min calculated for 1.901 af (88% of inflow)
Center-of-Mass det. time= 131.9 min (945.6 - 813.8)

Volume	Invert	Avail.Storage	Storage Description
#1	412.98'	77,130 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
412.98	0	0	0
413.18	20,331	2,033	2,033
413.68	21,968	10,575	12,608
414.18	23,605	11,393	24,001
414.68	25,242	12,212	36,213
415.18	26,879	13,030	49,243
415.68	27,881	13,690	62,933
416.18	28,905	14,197	77,130

Device	Routing	Invert	Outlet Devices
#1	Primary	415.38'	**111.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	412.98'	**0.5' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=4.54 cfs @ 12.62 hrs HW=414.94' TW=412.27' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Broad-Crested Rectangular Weir (Weir Controls 4.54 cfs @ 4.63 fps)

Summary for Pond 2C: POND-5-DEEP POND

Inflow Area = 7.925 ac, 64.38% Impervious, Inflow Depth > 3.05" for 10 year storm event
Inflow = 4.85 cfs @ 12.48 hrs, Volume= 2.013 af
Outflow = 2.59 cfs @ 15.04 hrs, Volume= 1.594 af, Atten= 47%, Lag= 154.0 min
Primary = 2.59 cfs @ 15.04 hrs, Volume= 1.594 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 413.94' @ 15.04 hrs Surf.Area= 10,010 sf Storage= 27,943 cf

Plug-Flow detention time= 176.5 min calculated for 1.594 af (79% of inflow)
Center-of-Mass det. time= 100.6 min (1,038.7 - 938.0)

Volume	Invert	Avail.Storage	Storage Description
#1	408.68'	71,950 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
408.68	0	0	0
409.18	2,710	678	678
409.68	3,080	1,448	2,125
410.18	3,449	1,632	3,757
410.68	3,819	1,817	5,574
411.18	4,188	2,002	7,576
411.68	5,391	2,395	9,971
412.18	6,594	2,996	12,967
412.68	7,797	3,598	16,565
413.18	9,000	4,199	20,764
413.68	9,669	4,667	25,431
414.18	10,338	5,002	30,433
414.68	11,006	5,336	35,769
415.18	11,675	5,670	41,439
415.68	30,511	10,547	51,986
416.18	49,346	19,964	71,950

Device	Routing	Invert	Outlet Devices
#1	Primary	411.72'	**18.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 411.72' / 410.97' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	412.18'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#3	Device 1	412.43'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#4	Device 1	408.68'	**2.0" Vert. 412.68 X 4.00** C= 0.600
#5	Device 1	412.93'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#6	Device 1	413.18'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#7	Device 1	413.68'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#8	Device 1	415.18'	**18.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.59 cfs @ 15.04 hrs HW=413.94' TW=411.24' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.59 cfs of 10.13 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.54 cfs @ 6.23 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.50 cfs @ 5.74 fps)
  ├─**4=412.68** (Orifice Controls 0.63 cfs @ 7.17 fps)
  ├─**5=Orifice/Grate** (Orifice Controls 0.40 cfs @ 4.62 fps)
  ├─**6=Orifice/Grate** (Orifice Controls 0.34 cfs @ 3.95 fps)
  ├─**7=Orifice/Grate** (Orifice Controls 0.17 cfs @ 2.00 fps)
  └─**8=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 3P: INFIL-1

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 4.59" for 10 year storm event
Inflow = 4.70 cfs @ 12.09 hrs, Volume= 0.386 af
Outflow = 4.34 cfs @ 12.12 hrs, Volume= 0.293 af, Atten= 8%, Lag= 2.1 min
Discarded = 0.00 cfs @ 2.15 hrs, Volume= 0.004 af
Primary = 4.34 cfs @ 12.12 hrs, Volume= 0.289 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 421.02' @ 12.12 hrs Surf.Area= 2,885 sf Storage= 4,940 cf

Plug-Flow detention time= 154.1 min calculated for 0.292 af (76% of inflow)
Center-of-Mass det. time= 75.3 min (816.9 - 741.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	418.50'	2,606 cf	**30.00'W x 96.18'L x 3.50'H Field A** 10,099 cf Overall - 3,583 cf Embedded = 6,515 cf x 40.0% Voids
#2A	419.00'	3,583 cf	**ADS_StormTech SC-740 +Cap** x 78 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 78 Chambers in 6 Rows
		6,189 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	418.50'	**0.030 in/hr Exfiltration over Surface area**
#2	Primary	420.50'	**8.0" Vert. Orifice/Grate X 6.00** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 2.15 hrs HW=418.54' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=4.22 cfs @ 12.12 hrs HW=421.01' TW=415.57' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Orifice Controls 4.22 cfs @ 2.44 fps)

Summary for Pond 45P: DMH-11

Inflow Area = 1.032 ac, 87.16% Impervious, Inflow Depth > 4.26" for 10 year storm event
Inflow = 4.65 cfs @ 12.09 hrs, Volume= 0.367 af
Outflow = 4.65 cfs @ 12.09 hrs, Volume= 0.367 af, Atten= 0%, Lag= 0.0 min
Primary = 4.65 cfs @ 12.09 hrs, Volume= 0.367 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.75' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.55'	**18.0" Round Culvert** L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.55' / 415.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.53 cfs @ 12.09 hrs HW=417.73' TW=416.59' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.53 cfs @ 4.17 fps)

Summary for Pond 46P: DMH-1

Inflow Area = 0.169 ac, 63.74% Impervious, Inflow Depth > 3.70" for 10 year storm event
Inflow = 0.70 cfs @ 12.09 hrs, Volume= 0.052 af
Outflow = 0.70 cfs @ 12.09 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.09 hrs, Volume= 0.052 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.24' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	415.76'	**12.0" Round Culvert** L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 415.76' / 415.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.65 cfs @ 12.09 hrs HW=416.23' TW=415.89' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.65 cfs @ 2.63 fps)

Summary for Pond 52P: DHMH-2

Inflow Area = 4.391 ac, 72.72% Impervious, Inflow Depth > 3.87" for 10 year storm event
Inflow = 17.83 cfs @ 12.09 hrs, Volume= 1.415 af
Outflow = 17.83 cfs @ 12.09 hrs, Volume= 1.415 af, Atten= 0%, Lag= 0.0 min
Primary = 17.83 cfs @ 12.09 hrs, Volume= 1.415 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 418.22' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.38'	**30.0" Round Culvert** L= 138.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 416.38' / 415.00' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=17.43 cfs @ 12.09 hrs HW=418.19' TW=415.89' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 17.43 cfs @ 4.58 fps)

Summary for Pond 58P: DMH-4

Inflow Area = 1.900 ac, 44.56% Impervious, Inflow Depth > 3.14" for 10 year storm event
Inflow = 6.50 cfs @ 12.10 hrs, Volume= 0.496 af
Outflow = 6.50 cfs @ 12.10 hrs, Volume= 0.496 af, Atten= 0%, Lag= 0.0 min
Primary = 6.50 cfs @ 12.10 hrs, Volume= 0.496 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 419.98' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	418.64'	**24.0" Round Culvert** L= 138.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 418.64' / 417.95' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.69 cfs @ 12.10 hrs HW=419.95' TW=419.27' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 5.69 cfs @ 3.69 fps)

Summary for Pond 60P: DMH-5

Inflow Area = 1.403 ac, 44.56% Impervious, Inflow Depth > 3.16" for 10 year storm event
Inflow = 5.07 cfs @ 12.09 hrs, Volume= 0.369 af
Outflow = 5.07 cfs @ 12.09 hrs, Volume= 0.369 af, Atten= 0%, Lag= 0.0 min
Primary = 5.07 cfs @ 12.09 hrs, Volume= 0.369 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 420.68' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	419.52'	**24.0" Round Culvert** L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 419.52' / 418.74' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.48 cfs @ 12.09 hrs HW=420.66' TW=419.94' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 4.48 cfs @ 3.51 fps)

Summary for Pond 64P: DMH-6

Inflow Area = 1.003 ac, 46.19% Impervious, Inflow Depth > 3.23" for 10 year storm event
Inflow = 3.71 cfs @ 12.09 hrs, Volume= 0.270 af
Outflow = 3.71 cfs @ 12.09 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 3.71 cfs @ 12.09 hrs, Volume= 0.270 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 422.28' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	421.36'	**18.0" Round Culvert** L= 134.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 421.36' / 420.02' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.63 cfs @ 12.09 hrs HW=422.27' TW=420.66' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.63 cfs @ 3.24 fps)

Summary for Pond 65P: DMH-7

Inflow Area = 0.698 ac, 40.26% Impervious, Inflow Depth > 3.11" for 10 year storm event
Inflow = 2.51 cfs @ 12.09 hrs, Volume= 0.181 af
Outflow = 2.51 cfs @ 12.09 hrs, Volume= 0.181 af, Atten= 0%, Lag= 0.0 min
Primary = 2.51 cfs @ 12.09 hrs, Volume= 0.181 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 424.15' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	423.22'	**12.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 423.22' / 421.86' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.46 cfs @ 12.09 hrs HW=424.14' TW=422.27' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.46 cfs @ 3.26 fps)

Summary for Pond 71P: DMH-9

Inflow Area = 0.280 ac, 54.56% Impervious, Inflow Depth > 3.38" for 10 year storm event
Inflow = 1.08 cfs @ 12.09 hrs, Volume= 0.079 af
Outflow = 1.08 cfs @ 12.09 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min
Primary = 1.08 cfs @ 12.09 hrs, Volume= 0.079 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.13' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.40'	**12.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.40' / 416.27' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.05 cfs @ 12.09 hrs HW=417.12' TW=416.59' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.05 cfs @ 2.45 fps)

Summary for Pond 72P: DMH-16

Inflow Area = 0.513 ac, 76.97% Impervious, Inflow Depth > 4.00" for 10 year storm event
Inflow = 2.20 cfs @ 12.09 hrs, Volume= 0.171 af
Outflow = 2.20 cfs @ 12.09 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min
Primary = 2.20 cfs @ 12.09 hrs, Volume= 0.171 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.67' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.67'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.67' / 416.27' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.15 cfs @ 12.09 hrs HW=417.65' TW=416.59' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.15 cfs @ 3.46 fps)

Summary for Pond 73P: DMH-10

Inflow Area = 1.825 ac, 79.30% Impervious, Inflow Depth > 4.05" for 10 year storm event
Inflow = 7.93 cfs @ 12.09 hrs, Volume= 0.616 af
Outflow = 7.93 cfs @ 12.09 hrs, Volume= 0.616 af, Atten= 0%, Lag= 0.0 min
Primary = 7.93 cfs @ 12.09 hrs, Volume= 0.616 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.61' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	415.27'	**30.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 415.27' / 415.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=7.72 cfs @ 12.09 hrs HW=416.59' TW=415.89' (Dynamic Tailwater)
1=Culvert (Barrel Controls 7.72 cfs @ 4.26 fps)

Summary for Pond 78P: DMH-3

Inflow Area = 3.920 ac, 73.13% Impervious, Inflow Depth > 3.88" for 10 year storm event
Inflow = 15.88 cfs @ 12.09 hrs, Volume= 1.269 af
Outflow = 15.88 cfs @ 12.09 hrs, Volume= 1.269 af, Atten= 0%, Lag= 0.0 min
Primary = 15.88 cfs @ 12.09 hrs, Volume= 1.269 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 419.29' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	417.45'	**30.0" Round Culvert** L= 97.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 417.45' / 416.48' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=14.60 cfs @ 12.09 hrs HW=419.25' TW=418.19' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 14.60 cfs @ 5.40 fps)

Summary for Pond 80P: DMH-17

Inflow Area = 0.829 ac, 92.23% Impervious, Inflow Depth > 4.40" for 10 year storm event
Inflow = 3.80 cfs @ 12.09 hrs, Volume= 0.304 af
Outflow = 3.80 cfs @ 12.09 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min
Primary = 3.80 cfs @ 12.09 hrs, Volume= 0.304 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 418.14' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.95'	**18.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.95' / 416.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.31 cfs @ 12.09 hrs HW=418.11' TW=417.73' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 3.31 cfs @ 3.13 fps)

Summary for Pond 82P: DMH-12

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 3.44" for 10 year storm event
Inflow = 4.34 cfs @ 12.12 hrs, Volume= 0.289 af
Outflow = 4.34 cfs @ 12.12 hrs, Volume= 0.289 af, Atten= 0%, Lag= 0.0 min
Primary = 4.34 cfs @ 12.12 hrs, Volume= 0.289 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.59' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	414.41'	**18.0" Round Culvert** L= 83.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 414.41' / 414.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.22 cfs @ 12.12 hrs HW=415.57' TW=414.26' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 4.22 cfs @ 3.98 fps)

Summary for Pond 85P: DMH-13

Inflow Area = 0.098 ac, 91.91% Impervious, Inflow Depth > 4.39" for 10 year storm event
Inflow = 0.45 cfs @ 12.09 hrs, Volume= 0.036 af
Outflow = 0.45 cfs @ 12.09 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min
Primary = 0.45 cfs @ 12.09 hrs, Volume= 0.036 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 412.83' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	412.50'	**12.0" Round Culvert** L= 188.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 412.50' / 402.10' S= 0.0553 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.43 cfs @ 12.09 hrs HW=412.83' TW=402.50' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.43 cfs @ 1.95 fps)

Summary for Pond 86P: DMH-14

Inflow Area = 0.214 ac, 91.13% Impervious, Inflow Depth > 4.36" for 10 year storm event
Inflow = 0.98 cfs @ 12.09 hrs, Volume= 0.078 af
Outflow = 0.98 cfs @ 12.09 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.09 hrs, Volume= 0.078 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 402.51' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	402.00'	**12.0" Round Culvert** L= 114.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 402.00' / 380.00' S= 0.1930 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.95 cfs @ 12.09 hrs HW=402.50' TW=394.24' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.95 cfs @ 2.41 fps)

Summary for Pond 89P: DMH-15

Inflow Area = 0.130 ac, 95.40% Impervious, Inflow Depth > 4.47" for 10 year storm event
Inflow = 0.60 cfs @ 12.09 hrs, Volume= 0.048 af
Outflow = 0.60 cfs @ 12.09 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.60 cfs @ 12.09 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 396.91' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	396.52'	**12.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 396.52' / 396.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.58 cfs @ 12.09 hrs HW=396.90' TW=394.24' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.58 cfs @ 2.11 fps)

Summary for Pond 90P: INFIL-1

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 4.59" for 10 year storm event
Inflow = 4.70 cfs @ 12.09 hrs, Volume= 0.386 af
Outflow = 4.24 cfs @ 12.13 hrs, Volume= 0.279 af, Atten= 10%, Lag= 2.3 min
Discarded = 0.00 cfs @ 2.30 hrs, Volume= 0.004 af
Primary = 4.24 cfs @ 12.13 hrs, Volume= 0.275 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 421.01' @ 12.13 hrs Surf.Area= 3,313 sf Storage= 5,667 cf

Plug-Flow detention time= 166.6 min calculated for 0.278 af (72% of inflow)
Center-of-Mass det. time= 81.7 min (823.3 - 741.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	418.50'	2,984 cf	**30.00'W x 110.42'L x 3.50'H Field A** 11,594 cf Overall - 4,135 cf Embedded = 7,459 cf x 40.0% Voids
#2A	419.00'	4,135 cf	**ADS_StormTech SC-740 +Cap** x 90 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 90 Chambers in 6 Rows
		7,118 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	418.50'	**0.030 in/hr Exfiltration over Surface area**
#2	Primary	420.50'	**8.0" Vert. Orifice/Grate X 6.00** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 2.30 hrs HW=418.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=4.15 cfs @ 12.13 hrs HW=421.01' TW=415.25' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 4.15 cfs @ 2.43 fps)

Time span=1.00-23.00 hrs, dt=0.05 hrs, 441 points
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 D1: BY-PASS TO POINT "A" Runoff Area=446,408 sf 2.00% Impervious Runoff Depth>3.00"
Flow Length=1,498' Tc=18.9 min CN=71 Runoff=25.21 cfs 2.564 af

Subcatchment D10: TO CB-4 Runoff Area=9,185 sf 82.43% Impervious Runoff Depth>5.44"
Tc=6.0 min CN=94 Runoff=1.22 cfs 0.096 af

Subcatchment D13: TO CB-5 Runoff Area=15,356 sf 25.74% Impervious Runoff Depth>3.70"
Flow Length=260' Tc=11.0 min CN=78 Runoff=1.30 cfs 0.109 af

Subcatchment D14: TO CB-6 Runoff Area=6,290 sf 90.46% Impervious Runoff Depth>5.67"
Tc=6.0 min CN=96 Runoff=0.85 cfs 0.068 af

Subcatchment D15: TO CB-7 Runoff Area=11,907 sf 26.37% Impervious Runoff Depth>3.70"
Tc=6.0 min CN=78 Runoff=1.18 cfs 0.084 af

Subcatchment D16: TO CB-8 Runoff Area=5,506 sf 70.94% Impervious Runoff Depth>5.09"
Tc=6.0 min CN=91 Runoff=0.70 cfs 0.054 af

Subcatchment D17: TO CB-9 Runoff Area=4,822 sf 35.11% Impervious Runoff Depth>4.01"
Tc=6.0 min CN=81 Runoff=0.51 cfs 0.037 af

Subcatchment D18: TO CB-10 Runoff Area=8,463 sf 73.85% Impervious Runoff Depth>5.21"
Tc=6.0 min CN=92 Runoff=1.10 cfs 0.084 af

Subcatchment D19: TO CB-11 Runoff Area=30,419 sf 40.26% Impervious Runoff Depth>4.33"
Tc=6.0 min CN=84 Runoff=3.45 cfs 0.252 af

Subcatchment D2: BY-PASS TO POINT "B" Runoff Area=135,192 sf 6.17% Impervious Runoff Depth>3.10"
Flow Length=675' Tc=13.1 min CN=72 Runoff=9.04 cfs 0.802 af

Subcatchment D22: TO CB-15 Runoff Area=6,190 sf 43.47% Impervious Runoff Depth>4.33"
Tc=6.0 min CN=84 Runoff=0.70 cfs 0.051 af

Subcatchment D23: TO CB-16 Runoff Area=9,832 sf 53.52% Impervious Runoff Depth>4.65"
Tc=6.0 min CN=87 Runoff=1.18 cfs 0.087 af

Subcatchment D24: TO CB-20 Runoff Area=2,917 sf 67.88% Impervious Runoff Depth>4.98"
Tc=6.0 min CN=90 Runoff=0.37 cfs 0.028 af

Subcatchment D25: TO CB-21 Runoff Area=3,083 sf 64.22% Impervious Runoff Depth>4.87"
Tc=6.0 min CN=89 Runoff=0.38 cfs 0.029 af

Subcatchment D26: TO CB-17 Runoff Area=12,509 sf 95.40% Impervious Runoff Depth>5.78"
Tc=6.0 min CN=97 Runoff=1.70 cfs 0.138 af

Subcatchment D27: TO CB-18 Runoff Area=14,565 sf 95.78% Impervious Runoff Depth>5.78"
Tc=6.0 min CN=97 Runoff=1.98 cfs 0.161 af

Subcatchment D28: TO CB-22 Runoff Area=4,284 sf 68.86% Impervious Runoff Depth>5.09"
Tc=6.0 min CN=91 Runoff=0.55 cfs 0.042 af

Subcatchment D29: TO CB-22 Runoff Area=4,581 sf 64.40% Impervious Runoff Depth>4.87"
Tc=6.0 min CN=89 Runoff=0.57 cfs 0.043 af

Subcatchment D3: BY-PASS TO POINT "C" Runoff Area=100,307 sf 9.94% Impervious Runoff Depth>3.20"
Flow Length=506' Tc=13.6 min CN=73 Runoff=6.84 cfs 0.614 af

Subcatchment D30: TO CB-19 Runoff Area=21,531 sf 89.82% Impervious Runoff Depth>5.67"
Tc=6.0 min CN=96 Runoff=2.90 cfs 0.233 af

Subcatchment D31: TO CB-25 Runoff Area=1,866 sf 100.00% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=98 Runoff=0.25 cfs 0.021 af

Subcatchment D32: TO CB-24 Runoff Area=2,386 sf 85.58% Impervious Runoff Depth>5.55"
Tc=6.0 min CN=95 Runoff=0.32 cfs 0.025 af

Subcatchment D33: TO CB-27 Runoff Area=2,784 sf 82.61% Impervious Runoff Depth>5.44"
Tc=6.0 min CN=94 Runoff=0.37 cfs 0.029 af

Subcatchment D34: TO CB-26 Runoff Area=2,300 sf 100.00% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=98 Runoff=0.31 cfs 0.026 af

Subcatchment D35: TO POND-1 Runoff Area=81,252 sf 0.00% Impervious Runoff Depth>3.01"
Tc=6.0 min CN=71 Runoff=6.55 cfs 0.468 af

Subcatchment D37: TO CB-29 Runoff Area=2,968 sf 91.21% Impervious Runoff Depth>5.67"
Tc=6.0 min CN=96 Runoff=0.40 cfs 0.032 af

Subcatchment D38: TO CB-28 Runoff Area=2,707 sf 100.00% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=98 Runoff=0.37 cfs 0.031 af

Subcatchment D39: TO CB-31 Runoff Area=5,688 sf 100.00% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=98 Runoff=0.77 cfs 0.064 af

Subcatchment D4: BY-PASS TO POINT "D" Runoff Area=419,440 sf 1.03% Impervious Runoff Depth>2.91"
Flow Length=1,033' Tc=18.1 min CN=70 Runoff=23.28 cfs 2.333 af

Subcatchment D40: TO CB-30 Runoff Area=5,005 sf 100.00% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=98 Runoff=0.68 cfs 0.056 af

Subcatchment D41-A: 1/4 Roof Runoff Area=44,000 sf 100.00% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=98 Runoff=5.99 cfs 0.497 af

Subcatchment D41-B: 1/4 Roof Runoff Area=44,000 sf 100.00% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=98 Runoff=5.99 cfs 0.497 af

Subcatchment D42: 1/2 Roof Runoff Area=88,000 sf 100.00% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=98 Runoff=11.99 cfs 0.993 af

Subcatchment D5: BY-PAAS TO POINT "E" Runoff Area=739,914 sf 0.00% Impervious Runoff Depth>2.90"
Flow Length=1,880' Tc=28.5 min CN=70 Runoff=33.93 cfs 4.104 af

Subcatchment D6-1: TO POND-3 Runoff Area=13,182 sf 27.96% Impervious Runoff Depth>3.91"
Tc=6.0 min CN=80 Runoff=1.37 cfs 0.099 af

Subcatchment D6-2: TO POND 4 Runoff Area=33,904 sf 13.65% Impervious Runoff Depth>3.60"
Tc=6.0 min CN=77 Runoff=3.26 cfs 0.234 af

Subcatchment D6-3: TO POND-5 Runoff Area=19,994 sf 35.56% Impervious Runoff Depth>4.12"
Tc=6.0 min CN=82 Runoff=2.17 cfs 0.157 af

Subcatchment D7: TO CB-1 Runoff Area=4,582 sf 53.16% Impervious Runoff Depth>4.76"
Tc=6.0 min CN=88 Runoff=0.56 cfs 0.042 af

Subcatchment D8: TO CB-2 Runoff Area=2,786 sf 81.12% Impervious Runoff Depth>5.32"
Tc=6.0 min CN=93 Runoff=0.37 cfs 0.028 af

Subcatchment D9: TO CB-3 Runoff Area=11,325 sf 58.72% Impervious Runoff Depth>4.65"
Tc=6.0 min CN=87 Runoff=1.36 cfs 0.101 af

Reach 25R: Swale thru wetlands Avg. Flow Depth=0.31' Max Vel=1.34 fps Inflow=3.34 cfs 2.264 af
n=0.050 L=600.0' S=0.0150 '/' Capacity=194.34 cfs Outflow=3.34 cfs 2.245 af

Reach 26R: Swale thru wetlands Avg. Flow Depth=0.35' Max Vel=1.38 fps Inflow=5.52 cfs 0.400 af
n=0.050 L=994.0' S=0.0141 '/' Capacity=188.63 cfs Outflow=4.06 cfs 0.396 af

Reach 27R: Swale thru wetlands Avg. Flow Depth=0.30' Max Vel=2.00 fps Inflow=5.44 cfs 0.385 af
n=0.050 L=580.0' S=0.0345 '/' Capacity=295.15 cfs Outflow=4.89 cfs 0.383 af

Reach 41R: Design Point "A" Inflow=29.40 cfs 2.947 af
Outflow=29.40 cfs 2.947 af

Reach 42R: Design Point "B" Inflow=9.53 cfs 0.867 af
Outflow=9.53 cfs 0.867 af

Reach 43R: Design Point "C" Inflow=8.93 cfs 1.229 af
Outflow=8.93 cfs 1.229 af

Reach 44R: Design Point "D" Inflow=27.28 cfs 4.974 af
Outflow=27.28 cfs 4.974 af

Reach 45R: Design Point "E" Inflow=33.93 cfs 4.104 af
Outflow=33.93 cfs 4.104 af

Pond 1B: POND-1-DET BASIN Peak Elev=395.02' Storage=11,961 cf Inflow=8.57 cfs 0.632 af
Outflow=2.00 cfs 0.558 af

Pond 2A: POND-3 - FOREBAY Peak Elev=415.95' Storage=13,296 cf Inflow=36.07 cfs 2.859 af
Outflow=36.10 cfs 2.709 af

Pond 2B: POND-4-MARSH Peak Elev=415.45' Storage=56,562 cf Inflow=39.35 cfs 2.942 af
Outflow=11.25 cfs 2.581 af

Pond 2C: POND-5-DEEP POND Peak Elev=414.58' Storage=34,707 cf Inflow=11.84 cfs 2.739 af
Outflow=3.34 cfs 2.264 af

Pond 3P: INFIL-1 Peak Elev=421.13' Storage=5,112 cf Inflow=5.99 cfs 0.497 af
Discarded=0.00 cfs 0.004 af Primary=5.52 cfs 0.400 af Outflow=5.52 cfs 0.403 af

Pond 45P: DMH-11 Peak Elev=417.98' Inflow=5.99 cfs 0.479 af
18.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=5.99 cfs 0.479 af

Pond 46P: DMH-1 Peak Elev=416.32' Inflow=0.93 cfs 0.070 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0200 '/' Outflow=0.93 cfs 0.070 af

Pond 52P: DHMH-2 Peak Elev=418.61' Inflow=23.46 cfs 1.878 af
30.0" Round Culvert n=0.013 L=138.0' S=0.0100 '/' Outflow=23.46 cfs 1.878 af

Pond 58P: DMH-4 Peak Elev=420.32' Inflow=8.91 cfs 0.688 af
24.0" Round Culvert n=0.013 L=138.0' S=0.0050 '/' Outflow=8.91 cfs 0.688 af

Pond 60P: DMH-5 Peak Elev=420.94' Inflow=6.94 cfs 0.511 af
24.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=6.94 cfs 0.511 af

Pond 64P: DMH-6 Peak Elev=422.47' Inflow=5.06 cfs 0.373 af
18.0" Round Culvert n=0.013 L=134.0' S=0.0100 '/' Outflow=5.06 cfs 0.373 af

Pond 65P: DMH-7 Peak Elev=424.55' Inflow=3.45 cfs 0.252 af
12.0" Round Culvert n=0.013 L=68.0' S=0.0200 '/' Outflow=3.45 cfs 0.252 af

Pond 71P: DMH-9 Peak Elev=417.27' Inflow=1.45 cfs 0.108 af
12.0" Round Culvert n=0.020 L=26.0' S=0.0050 '/' Outflow=1.45 cfs 0.108 af

Pond 72P: DMH-16 Peak Elev=418.10' Inflow=2.88 cfs 0.226 af
12.0" Round Culvert n=0.013 L=80.0' S=0.0050 '/' Outflow=2.88 cfs 0.226 af

Pond 73P: DMH-10 Peak Elev=416.83' Inflow=10.32 cfs 0.813 af
30.0" Round Culvert n=0.013 L=55.0' S=0.0049 '/' Outflow=10.32 cfs 0.813 af

Pond 78P: DMH-3 Peak Elev=419.69' Inflow=20.88 cfs 1.681 af
30.0" Round Culvert n=0.013 L=97.0' S=0.0100 '/' Outflow=20.88 cfs 1.681 af

Pond 80P: DMH-17 Peak Elev=418.38' Inflow=4.88 cfs 0.395 af
18.0" Round Culvert n=0.013 L=60.0' S=0.0050 '/' Outflow=4.88 cfs 0.395 af

Pond 82P: DMH-12 Peak Elev=415.79' Inflow=5.52 cfs 0.400 af
18.0" Round Culvert n=0.013 L=83.0' S=0.0049 '/' Outflow=5.52 cfs 0.400 af

Pond 85P: DMH-13 Peak Elev=412.88' Inflow=0.57 cfs 0.046 af
12.0" Round Culvert n=0.013 L=188.0' S=0.0553 '/' Outflow=0.57 cfs 0.046 af

Pond 86P: DMH-14 Peak Elev=402.59' Inflow=1.26 cfs 0.101 af
12.0" Round Culvert n=0.013 L=114.0' S=0.1930 '/' Outflow=1.26 cfs 0.101 af

Pond 89P: DMH-15 Peak Elev=396.97' Inflow=0.77 cfs 0.063 af
12.0" Round Culvert n=0.013 L=26.0' S=0.0200 '/' Outflow=0.77 cfs 0.063 af

Pond 90P: INFIL-1 Peak Elev=421.12' Storage=5,864 cf Inflow=5.99 cfs 0.497 af
Discarded=0.00 cfs 0.004 af Primary=5.44 cfs 0.385 af Outflow=5.44 cfs 0.389 af

Total Runoff Area = 54.670 ac Runoff Volume = 15.413 af Average Runoff Depth = 3.38"
84.61% Pervious = 46.259 ac 15.39% Impervious = 8.411 ac

Summary for Subcatchment D1: BY-PASS TO POINT "A"

Runoff = 25.21 cfs @ 12.27 hrs, Volume= 2.564 af, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
8,916	98	Paved parking, HSG C
398,936	70	Woods, Good, HSG C
38,556	74	>75% Grass cover, Good, HSG C
446,408	71	Weighted Average
437,492		98.00% Pervious Area
8,916		2.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.5	518	0.0230	2.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	955	0.0270	2.65		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	1,498	Total			

Summary for Subcatchment D10: TO CB-4

Runoff = 1.22 cfs @ 12.09 hrs, Volume= 0.096 af, Depth> 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
7,571	98	Paved parking, HSG C
1,614	74	>75% Grass cover, Good, HSG C
9,185	94	Weighted Average
1,614		17.57% Pervious Area
7,571		82.43% Impervious Area

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

Summary for Subcatchment D13: TO CB-5

Runoff = 1.30 cfs @ 12.15 hrs, Volume= 0.109 af, Depth> 3.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
3,952	98	Paved parking, HSG C
1,174	74	>75% Grass cover, Good, HSG C
10,230	70	Woods, Good, HSG C
15,356	78	Weighted Average
11,404		74.26% Pervious Area
3,952		25.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.8	123	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	32	0.1880	6.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	36	0.0220	2.39		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	44	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
11.0	260	Total			

Summary for Subcatchment D14: TO CB-6

Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.068 af, Depth> 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
5,690	98	Paved parking, HSG C
600	74	>75% Grass cover, Good, HSG C
6,290	96	Weighted Average
600		9.54% Pervious Area
5,690		90.46% Impervious Area

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

Summary for Subcatchment D15: TO CB-7

Runoff = 1.18 cfs @ 12.09 hrs, Volume= 0.084 af, Depth> 3.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
3,140	98	Paved parking, HSG C
2,323	74	>75% Grass cover, Good, HSG C
6,444	70	Woods, Good, HSG C
11,907	78	Weighted Average
8,767		73.63% Pervious Area
3,140		26.37% Impervious Area

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

Summary for Subcatchment D16: TO CB-8

Runoff = 0.70 cfs @ 12.09 hrs, Volume= 0.054 af, Depth> 5.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
3,906	98	Paved parking, HSG C
1,600	74	>75% Grass cover, Good, HSG C
5,506	91	Weighted Average
1,600		29.06% Pervious Area
3,906		70.94% Impervious Area

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

Summary for Subcatchment D17: TO CB-9

Runoff = 0.51 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
1,693	98	Paved parking, HSG C
1,361	74	>75% Grass cover, Good, HSG C
1,768	70	Woods, Good, HSG C
4,822	81	Weighted Average
3,129		64.89% Pervious Area
1,693		35.11% Impervious Area

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

Summary for Subcatchment D18: TO CB-10

Runoff = 1.10 cfs @ 12.09 hrs, Volume= 0.084 af, Depth> 5.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
6,250	98	Paved parking, HSG C
2,213	74	>75% Grass cover, Good, HSG C
8,463	92	Weighted Average
2,213		26.15% Pervious Area
6,250		73.85% Impervious Area

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

Summary for Subcatchment D19: TO CB-11

Runoff = 3.45 cfs @ 12.09 hrs, Volume= 0.252 af, Depth> 4.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
12,246	98	Paved parking, HSG C
7,968	74	>75% Grass cover, Good, HSG C
9,575	74	Farmsteads, HSG B
630	96	Gravel surface, HSG C
30,419	84	Weighted Average
18,173		59.74% Pervious Area
12,246		40.26% Impervious Area

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

Summary for Subcatchment D2: BY-PASS TO POINT "B"

Runoff = 9.04 cfs @ 12.19 hrs, Volume= 0.802 af, Depth> 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
8,340	98	Paved parking, HSG C
103,760	70	Woods, Good, HSG C
23,092	74	>75% Grass cover, Good, HSG C
135,192	72	Weighted Average
126,852		93.83% Pervious Area
8,340		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.3	69	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.4	581	0.0310	2.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.1	675	Total			

Summary for Subcatchment D22: TO CB-15

Runoff = 0.70 cfs @ 12.09 hrs, Volume= 0.051 af, Depth> 4.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,691	98	Paved parking, HSG C
3,499	74	>75% Grass cover, Good, HSG C
6,190	84	Weighted Average
3,499		56.53% Pervious Area
2,691		43.47% Impervious Area

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

Summary for Subcatchment D23: TO CB-16

Runoff = 1.18 cfs @ 12.09 hrs, Volume= 0.087 af, Depth> 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
5,262	98	Paved parking, HSG C
4,570	74	>75% Grass cover, Good, HSG C
9,832	87	Weighted Average
4,570		46.48% Pervious Area
5,262		53.52% Impervious Area

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

Summary for Subcatchment D24: TO CB-20

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 4.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
1,980	98	Paved parking, HSG C
937	74	>75% Grass cover, Good, HSG C
2,917	90	Weighted Average
937		32.12% Pervious Area
1,980		67.88% Impervious Area

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

Summary for Subcatchment D25: TO CB-21

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
1,980	98	Paved parking, HSG C
1,103	74	>75% Grass cover, Good, HSG C
3,083	89	Weighted Average
1,103		35.78% Pervious Area
1,980		64.22% Impervious Area

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

Summary for Subcatchment D26: TO CB-17

Runoff = 1.70 cfs @ 12.09 hrs, Volume= 0.138 af, Depth> 5.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
11,933	98	Paved parking, HSG C
576	74	>75% Grass cover, Good, HSG C
12,509	97	Weighted Average
576		4.60% Pervious Area
11,933		95.40% Impervious Area

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

Summary for Subcatchment D27: TO CB-18

Runoff = 1.98 cfs @ 12.09 hrs, Volume= 0.161 af, Depth> 5.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
13,950	98	Paved parking, HSG C
615	74	>75% Grass cover, Good, HSG C
14,565	97	Weighted Average
615		4.22% Pervious Area
13,950		95.78% Impervious Area

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

Summary for Subcatchment D28: TO CB-22

Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.042 af, Depth> 5.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,950	98	Paved parking, HSG C
1,334	74	>75% Grass cover, Good, HSG C
4,284	91	Weighted Average
1,334		31.14% Pervious Area
2,950		68.86% Impervious Area

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

Summary for Subcatchment D29: TO CB-22

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.043 af, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,950	98	Paved parking, HSG C
1,631	74	>75% Grass cover, Good, HSG C
4,581	89	Weighted Average
1,631		35.60% Pervious Area
2,950		64.40% Impervious Area

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

Summary for Subcatchment D3: BY-PASS TO POINT "C"

Runoff = 6.84 cfs @ 12.19 hrs, Volume= 0.614 af, Depth> 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
9,970	98	Paved parking, HSG C
84,712	70	Woods, Good, HSG C
5,625	74	>75% Grass cover, Good, HSG C
100,307	73	Weighted Average
90,337		90.06% Pervious Area
9,970		9.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.3	90	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	15	0.3330	9.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.8	232	0.0170	2.10		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	144	0.0050	1.14		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.6	506	Total			

Summary for Subcatchment D30: TO CB-19

Runoff = 2.90 cfs @ 12.09 hrs, Volume= 0.233 af, Depth> 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
19,340	98	Paved parking, HSG C
2,191	74	>75% Grass cover, Good, HSG C
21,531	96	Weighted Average
2,191		10.18% Pervious Area
19,340		89.82% Impervious Area

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

Summary for Subcatchment D31: TO CB-25

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
1,866	98	Paved parking, HSG C
1,866		100.00% Impervious Area

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

Summary for Subcatchment D32: TO CB-24

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 5.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,042	98	Paved parking, HSG C
344	74	>75% Grass cover, Good, HSG C
2,386	95	Weighted Average
344		14.42% Pervious Area
2,042		85.58% Impervious Area

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

Summary for Subcatchment D33: TO CB-27

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,300	98	Paved parking, HSG C
484	74	>75% Grass cover, Good, HSG C
2,784	94	Weighted Average
484		17.39% Pervious Area
2,300		82.61% Impervious Area

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

Summary for Subcatchment D34: TO CB-26

Runoff = 0.31 cfs @ 12.09 hrs, Volume= 0.026 af, Depth> 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,300	98	Paved parking, HSG C
2,300		100.00% Impervious Area

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

Summary for Subcatchment D35: TO POND-1

Runoff = 6.55 cfs @ 12.09 hrs, Volume= 0.468 af, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
28,906	74	>75% Grass cover, Good, HSG C
52,346	70	Woods, Good, HSG C
81,252	71	Weighted Average
81,252		100.00% Pervious Area

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

Summary for Subcatchment D37: TO CB-29

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.032 af, Depth> 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,707	98	Paved parking, HSG C
261	74	>75% Grass cover, Good, HSG C
2,968	96	Weighted Average
261		8.79% Pervious Area
2,707		91.21% Impervious Area

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

Summary for Subcatchment D38: TO CB-28

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,707	98	Paved parking, HSG B
2,707		100.00% Impervious Area

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

Summary for Subcatchment D39: TO CB-31

Runoff = 0.77 cfs @ 12.09 hrs, Volume= 0.064 af, Depth> 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
5,688	98	Paved parking, HSG C
5,688		100.00% Impervious Area

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

Summary for Subcatchment D4: BY-PASS TO POINT "D"

Runoff = 23.28 cfs @ 12.26 hrs, Volume= 2.333 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
4,300	98	Water Surface, HSG C
405,563	70	Woods, Good, HSG C
9,577	74	>75% Grass cover, Good, HSG C
419,440	70	Weighted Average
415,140		98.97% Pervious Area
4,300		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.0	21	0.3330	9.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	470	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4	517	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.1	1,033	Total			

Summary for Subcatchment D40: TO CB-30

Runoff = 0.68 cfs @ 12.09 hrs, Volume= 0.056 af, Depth> 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
5,005	98	Paved parking, HSG C
5,005		100.00% Impervious Area

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

Summary for Subcatchment D41-A: 1/4 Roof

Runoff = 5.99 cfs @ 12.09 hrs, Volume= 0.497 af, Depth> 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
44,000	98	Roofs, HSG C
44,000		100.00% Impervious Area

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

Summary for Subcatchment D41-B: 1/4 Roof

Runoff = 5.99 cfs @ 12.09 hrs, Volume= 0.497 af, Depth> 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
44,000	98	Roofs, HSG C
44,000		100.00% Impervious Area

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

Summary for Subcatchment D42: 1/2 Roof

Runoff = 11.99 cfs @ 12.09 hrs, Volume= 0.993 af, Depth> 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
88,000	98	Roofs, HSG C
88,000		100.00% Impervious Area

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

Summary for Subcatchment D5: BY-PAAS TO POINT "E"

Runoff = 33.93 cfs @ 12.41 hrs, Volume= 4.104 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
733,014	70	Woods, Good, HSG C
3,480	74	>75% Grass cover, Good, HSG C
3,420	96	Gravel surface, HSG C
739,914	70	Weighted Average
739,914		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	25	0.0060	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.3	250	0.0060	1.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	580	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.7	1,025	0.0190	2.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
28.5	1,880	Total			

Summary for Subcatchment D6-1: TO POND-3

Runoff = 1.37 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
3,132	70	Woods, Good, HSG C
6,364	74	>75% Grass cover, Good, HSG C
3,686	98	Water Surface, HSG C
13,182	80	Weighted Average
9,496		72.04% Pervious Area
3,686		27.96% Impervious Area

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

Summary for Subcatchment D6-2: TO POND 4

Runoff = 3.26 cfs @ 12.09 hrs, Volume= 0.234 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
3,340	70	Woods, Good, HSG C
25,936	74	>75% Grass cover, Good, HSG C
4,628	98	Water Surface, HSG C
33,904	77	Weighted Average
29,276		86.35% Pervious Area
4,628		13.65% Impervious Area

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

Summary for Subcatchment D6-3: TO POND-5

Runoff = 2.17 cfs @ 12.09 hrs, Volume= 0.157 af, Depth> 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,635	70	Woods, Good, HSG C
10,249	74	>75% Grass cover, Good, HSG C
7,110	98	Water Surface, HSG C
19,994	82	Weighted Average
12,884		64.44% Pervious Area
7,110		35.56% Impervious Area

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

Summary for Subcatchment D7: TO CB-1

Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.042 af, Depth> 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,436	98	Paved parking, HSG C
300	96	Gravel surface, HSG C
1,846	74	>75% Grass cover, Good, HSG C
4,582	88	Weighted Average
2,146		46.84% Pervious Area
2,436		53.16% Impervious Area

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

Summary for Subcatchment D8: TO CB-2

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
2,260	98	Paved parking, HSG C
526	74	>75% Grass cover, Good, HSG C
2,786	93	Weighted Average
526		18.88% Pervious Area
2,260		81.12% Impervious Area

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

Summary for Subcatchment D9: TO CB-3

Runoff = 1.36 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year storm Rainfall=6.20"

Area (sf)	CN	Description
6,650	98	Paved parking, HSG C
2,140	74	>75% Grass cover, Good, HSG C
2,535	70	Woods, Good, HSG C
11,325	87	Weighted Average
4,675		41.28% Pervious Area
6,650		58.72% Impervious Area

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

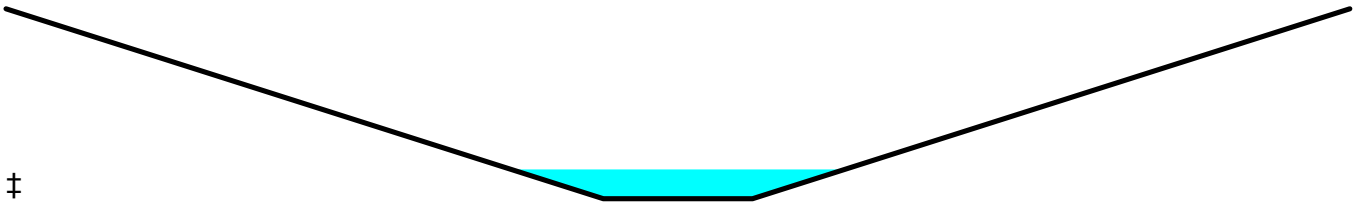
Summary for Reach 25R: Swale thru wetlands

Inflow Area = 7.925 ac, 64.38% Impervious, Inflow Depth > 3.43" for 25 year storm event
Inflow = 3.34 cfs @ 14.52 hrs, Volume= 2.264 af
Outflow = 3.34 cfs @ 14.62 hrs, Volume= 2.245 af, Atten= 0%, Lag= 5.7 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.34 fps, Min. Travel Time= 7.5 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 8.3 min

Peak Storage= 1,501 cf @ 14.62 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 194.34 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 600.0' Slope= 0.0150 '/'
Inlet Invert= 410.97', Outlet Invert= 402.00'



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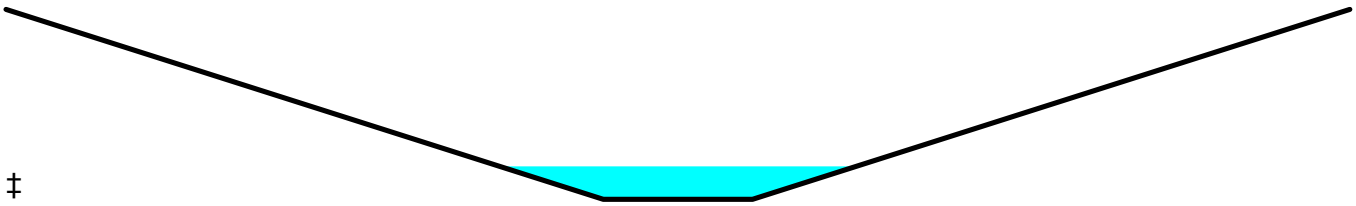
Summary for Reach 26R: Swale thru wetlands

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 4.75" for 25 year storm event
Inflow = 5.52 cfs @ 12.12 hrs, Volume= 0.400 af
Outflow = 4.06 cfs @ 12.22 hrs, Volume= 0.396 af, Atten= 26%, Lag= 5.8 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.38 fps, Min. Travel Time= 12.0 min
Avg. Velocity = 0.56 fps, Avg. Travel Time= 29.7 min

Peak Storage= 2,919 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 188.63 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 994.0' Slope= 0.0141 '/'
Inlet Invert= 414.00', Outlet Invert= 400.00'



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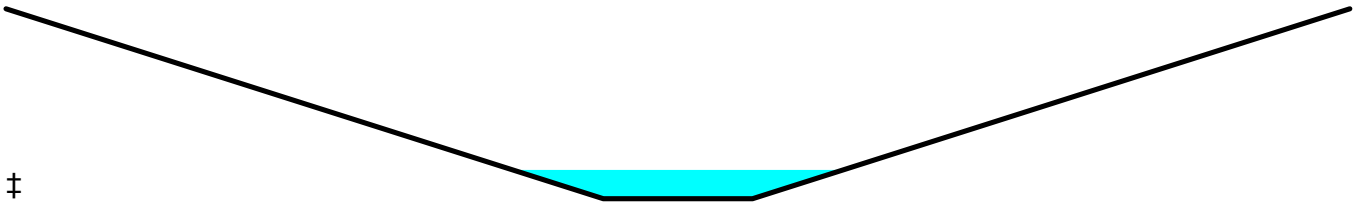
Summary for Reach 27R: Swale thru wetlands

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 4.58" for 25 year storm event
Inflow = 5.44 cfs @ 12.12 hrs, Volume= 0.385 af
Outflow = 4.89 cfs @ 12.18 hrs, Volume= 0.383 af, Atten= 10%, Lag= 3.2 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.00 fps, Min. Travel Time= 4.8 min
Avg. Velocity = 0.75 fps, Avg. Travel Time= 13.0 min

Peak Storage= 1,413 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 295.15 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 580.0' Slope= 0.0345 '/'
Inlet Invert= 415.00', Outlet Invert= 395.00'



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Summary for Reach 41R: Design Point "A"

Inflow Area = 11.258 ac, 10.79% Impervious, Inflow Depth > 3.14" for 25 year storm event
Inflow = 29.40 cfs @ 12.25 hrs, Volume= 2.947 af
Outflow = 29.40 cfs @ 12.25 hrs, Volume= 2.947 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 42R: Design Point "B"

Inflow Area = 3.234 ac, 9.96% Impervious, Inflow Depth > 3.22" for 25 year storm event
Inflow = 9.53 cfs @ 12.18 hrs, Volume= 0.867 af
Outflow = 9.53 cfs @ 12.18 hrs, Volume= 0.867 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 43R: Design Point "C"

Inflow Area = 4.628 ac, 14.34% Impervious, Inflow Depth > 3.19" for 25 year storm event
Inflow = 8.93 cfs @ 12.20 hrs, Volume= 1.229 af
Outflow = 8.93 cfs @ 12.20 hrs, Volume= 1.229 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 44R: Design Point "D"

Inflow Area = 18.564 ac, 33.46% Impervious, Inflow Depth > 3.22" for 25 year storm event
Inflow = 27.28 cfs @ 12.25 hrs, Volume= 4.974 af
Outflow = 27.28 cfs @ 12.25 hrs, Volume= 4.974 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 45R: Design Point "E"

Inflow Area = 16.986 ac, 0.00% Impervious, Inflow Depth > 2.90" for 25 year storm event
Inflow = 33.93 cfs @ 12.41 hrs, Volume= 4.104 af
Outflow = 33.93 cfs @ 12.41 hrs, Volume= 4.104 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Pond 1B: POND-1-DET BASIN

Inflow Area = 2.210 ac, 14.46% Impervious, Inflow Depth > 3.43" for 25 year storm event
Inflow = 8.57 cfs @ 12.09 hrs, Volume= 0.632 af
Outflow = 2.00 cfs @ 12.51 hrs, Volume= 0.558 af, Atten= 77%, Lag= 25.0 min
Primary = 2.00 cfs @ 12.51 hrs, Volume= 0.558 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 395.02' @ 12.51 hrs Surf.Area= 9,543 sf Storage= 11,961 cf

Plug-Flow detention time= 143.2 min calculated for 0.557 af (88% of inflow)
Center-of-Mass det. time= 92.8 min (897.5 - 804.7)

Volume	Invert	Avail.Storage	Storage Description
#1	393.18'	25,025 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.18	2,800	0	0
393.68	4,950	1,938	1,938
394.18	7,100	3,013	4,950
394.68	8,550	3,913	8,863
395.18	10,000	4,638	13,500
395.68	11,525	5,381	18,881
396.18	13,050	6,144	25,025

Device	Routing	Invert	Outlet Devices
#1	Primary	393.68'	**6.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 393.68' / 393.31' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Primary	395.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Primary	394.20'	**8.0" Round Culvert**
			L= 37.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 394.20' / 393.33' S= 0.0235 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=2.00 cfs @ 12.51 hrs HW=395.02' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Barrel Controls 0.82 cfs @ 4.20 fps)
- **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Culvert** (Inlet Controls 1.17 cfs @ 3.37 fps)

Summary for Pond 2A: POND-3 - FOREBAY

Inflow Area = 6.688 ac, 72.26% Impervious, Inflow Depth > 5.13" for 25 year storm event
Inflow = 36.07 cfs @ 12.09 hrs, Volume= 2.859 af
Outflow = 36.10 cfs @ 12.10 hrs, Volume= 2.709 af, Atten= 0%, Lag= 0.6 min
Primary = 36.10 cfs @ 12.10 hrs, Volume= 2.709 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.95' @ 12.10 hrs Surf.Area= 5,999 sf Storage= 13,296 cf

Plug-Flow detention time= 68.6 min calculated for 2.709 af (95% of inflow)
Center-of-Mass det. time= 40.9 min (803.2 - 762.4)

Volume	Invert	Avail.Storage	Storage Description
#1	412.68'	14,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
412.68	0	0	0
413.18	3,283	821	821
413.68	3,709	1,748	2,569
414.18	4,136	1,961	4,530
414.68	4,562	2,175	6,705
415.18	4,988	2,388	9,092
415.68	5,649	2,659	11,751
416.18	6,309	2,990	14,741

Device	Routing	Invert	Outlet Devices
#1	Primary	415.68'	**98.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	414.18'	**0.5' long x 1.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=35.78 cfs @ 12.10 hrs HW=415.94' TW=414.76' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 32.20 cfs @ 1.24 fps)
2=Broad-Crested Rectangular Weir (Weir Controls 3.58 cfs @ 4.05 fps)

Summary for Pond 2B: POND-4-MARSH

Inflow Area = 7.466 ac, 66.15% Impervious, Inflow Depth > 4.73" for 25 year storm event
Inflow = 39.35 cfs @ 12.10 hrs, Volume= 2.942 af
Outflow = 11.25 cfs @ 12.46 hrs, Volume= 2.581 af, Atten= 71%, Lag= 21.5 min
Primary = 11.25 cfs @ 12.46 hrs, Volume= 2.581 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.45' @ 12.46 hrs Surf.Area= 27,419 sf Storage= 56,562 cf

Plug-Flow detention time= 185.6 min calculated for 2.576 af (88% of inflow)
Center-of-Mass det. time= 134.6 min (938.4 - 803.9)

Volume	Invert	Avail.Storage	Storage Description
#1	412.98'	77,130 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
412.98	0	0	0
413.18	20,331	2,033	2,033
413.68	21,968	10,575	12,608
414.18	23,605	11,393	24,001
414.68	25,242	12,212	36,213
415.18	26,879	13,030	49,243
415.68	27,881	13,690	62,933
416.18	28,905	14,197	77,130

Device	Routing	Invert	Outlet Devices
#1	Primary	415.38'	**111.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	412.98'	**0.5' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=11.16 cfs @ 12.46 hrs HW=415.45' TW=412.99' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 4.74 cfs @ 0.62 fps)
2=Broad-Crested Rectangular Weir (Weir Controls 6.42 cfs @ 5.20 fps)

Summary for Pond 2C: POND-5-DEEP POND

Inflow Area = 7.925 ac, 64.38% Impervious, Inflow Depth > 4.15" for 25 year storm event
Inflow = 11.84 cfs @ 12.45 hrs, Volume= 2.739 af
Outflow = 3.34 cfs @ 14.52 hrs, Volume= 2.264 af, Atten= 72%, Lag= 124.1 min
Primary = 3.34 cfs @ 14.52 hrs, Volume= 2.264 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 414.58' @ 14.52 hrs Surf.Area= 10,876 sf Storage= 34,707 cf

Plug-Flow detention time= 163.6 min calculated for 2.259 af (82% of inflow)
Center-of-Mass det. time= 96.7 min (1,027.1 - 930.5)

Volume	Invert	Avail.Storage	Storage Description
#1	408.68'	71,950 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
408.68	0	0	0
409.18	2,710	678	678
409.68	3,080	1,448	2,125
410.18	3,449	1,632	3,757
410.68	3,819	1,817	5,574
411.18	4,188	2,002	7,576
411.68	5,391	2,395	9,971
412.18	6,594	2,996	12,967
412.68	7,797	3,598	16,565
413.18	9,000	4,199	20,764
413.68	9,669	4,667	25,431
414.18	10,338	5,002	30,433
414.68	11,006	5,336	35,769
415.18	11,675	5,670	41,439
415.68	30,511	10,547	51,986
416.18	49,346	19,964	71,950

Device	Routing	Invert	Outlet Devices
#1	Primary	411.72'	**18.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 411.72' / 410.97' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	412.18'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#3	Device 1	412.43'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#4	Device 1	408.68'	**2.0" Vert. 412.68 X 4.00** C= 0.600
#5	Device 1	412.93'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#6	Device 1	413.18'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#7	Device 1	413.68'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#8	Device 1	415.18'	**18.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.34 cfs @ 14.52 hrs HW=414.58' TW=411.28' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.34 cfs of 12.16 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.64 cfs @ 7.33 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.60 cfs @ 6.93 fps)
  ├─**4=412.68** (Orifice Controls 0.71 cfs @ 8.15 fps)
  ├─**5=Orifice/Grate** (Orifice Controls 0.53 cfs @ 6.03 fps)
  ├─**6=Orifice/Grate** (Orifice Controls 0.48 cfs @ 5.53 fps)
  ├─**7=Orifice/Grate** (Orifice Controls 0.38 cfs @ 4.36 fps)
  └─**8=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 3P: INFIL-1

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 5.90" for 25 year storm event
Inflow = 5.99 cfs @ 12.09 hrs, Volume= 0.497 af
Outflow = 5.52 cfs @ 12.12 hrs, Volume= 0.403 af, Atten= 8%, Lag= 2.1 min
Discarded = 0.00 cfs @ 1.75 hrs, Volume= 0.004 af
Primary = 5.52 cfs @ 12.12 hrs, Volume= 0.400 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 421.13' @ 12.12 hrs Surf.Area= 2,885 sf Storage= 5,112 cf

Plug-Flow detention time= 136.7 min calculated for 0.402 af (81% of inflow)
Center-of-Mass det. time= 67.8 min (805.7 - 738.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	418.50'	2,606 cf	**30.00'W x 96.18'L x 3.50'H Field A** 10,099 cf Overall - 3,583 cf Embedded = 6,515 cf x 40.0% Voids
#2A	419.00'	3,583 cf	**ADS_StormTech SC-740 +Cap** x 78 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 78 Chambers in 6 Rows
		6,189 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	418.50'	**0.030 in/hr Exfiltration over Surface area**
#2	Primary	420.50'	**8.0" Vert. Orifice/Grate X 6.00** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 1.75 hrs HW=418.54' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=5.39 cfs @ 12.12 hrs HW=421.11' TW=415.77' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Orifice Controls 5.39 cfs @ 2.67 fps)

Summary for Pond 45P: DMH-11

Inflow Area = 1.032 ac, 87.16% Impervious, Inflow Depth > 5.57" for 25 year storm event
Inflow = 5.99 cfs @ 12.09 hrs, Volume= 0.479 af
Outflow = 5.99 cfs @ 12.09 hrs, Volume= 0.479 af, Atten= 0%, Lag= 0.0 min
Primary = 5.99 cfs @ 12.09 hrs, Volume= 0.479 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.98' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.55'	**18.0" Round Culvert** L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.55' / 415.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.83 cfs @ 12.09 hrs HW=417.95' TW=416.81' (Dynamic Tailwater)
1=Culvert (Barrel Controls 5.83 cfs @ 4.40 fps)

Summary for Pond 46P: DMH-1

Inflow Area = 0.169 ac, 63.74% Impervious, Inflow Depth > 4.97" for 25 year storm event
Inflow = 0.93 cfs @ 12.09 hrs, Volume= 0.070 af
Outflow = 0.93 cfs @ 12.09 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min
Primary = 0.93 cfs @ 12.09 hrs, Volume= 0.070 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.32' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	415.76'	**12.0" Round Culvert** L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 415.76' / 415.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.86 cfs @ 12.09 hrs HW=416.31' TW=415.94' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.86 cfs @ 2.84 fps)

Summary for Pond 52P: DHMH-2

Inflow Area = 4.391 ac, 72.72% Impervious, Inflow Depth > 5.13" for 25 year storm event
Inflow = 23.46 cfs @ 12.09 hrs, Volume= 1.878 af
Outflow = 23.46 cfs @ 12.09 hrs, Volume= 1.878 af, Atten= 0%, Lag= 0.0 min
Primary = 23.46 cfs @ 12.09 hrs, Volume= 1.878 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 418.61' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.38'	**30.0" Round Culvert** L= 138.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 416.38' / 415.00' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=22.95 cfs @ 12.09 hrs HW=418.57' TW=415.94' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 22.95 cfs @ 5.04 fps)

Summary for Pond 58P: DMH-4

Inflow Area = 1.900 ac, 44.56% Impervious, Inflow Depth > 4.35" for 25 year storm event
Inflow = 8.91 cfs @ 12.09 hrs, Volume= 0.688 af
Outflow = 8.91 cfs @ 12.09 hrs, Volume= 0.688 af, Atten= 0%, Lag= 0.0 min
Primary = 8.91 cfs @ 12.09 hrs, Volume= 0.688 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 420.32' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	418.64'	**24.0" Round Culvert** L= 138.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 418.64' / 417.95' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.35 cfs @ 12.09 hrs HW=420.27' TW=419.66' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 7.35 cfs @ 3.65 fps)

Summary for Pond 60P: DMH-5

Inflow Area = 1.403 ac, 44.56% Impervious, Inflow Depth > 4.37" for 25 year storm event
Inflow = 6.94 cfs @ 12.09 hrs, Volume= 0.511 af
Outflow = 6.94 cfs @ 12.09 hrs, Volume= 0.511 af, Atten= 0%, Lag= 0.0 min
Primary = 6.94 cfs @ 12.09 hrs, Volume= 0.511 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 420.94' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	419.52'	**24.0" Round Culvert** L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 419.52' / 418.74' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.82 cfs @ 12.09 hrs HW=420.90' TW=420.25' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 5.82 cfs @ 3.54 fps)

Summary for Pond 64P: DMH-6

Inflow Area = 1.003 ac, 46.19% Impervious, Inflow Depth > 4.46" for 25 year storm event
Inflow = 5.06 cfs @ 12.09 hrs, Volume= 0.373 af
Outflow = 5.06 cfs @ 12.09 hrs, Volume= 0.373 af, Atten= 0%, Lag= 0.0 min
Primary = 5.06 cfs @ 12.09 hrs, Volume= 0.373 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 422.47' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	421.36'	**18.0" Round Culvert** L= 134.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 421.36' / 420.02' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.94 cfs @ 12.09 hrs HW=422.46' TW=420.90' (Dynamic Tailwater)
1=Culvert (Inlet Controls 4.94 cfs @ 3.57 fps)

Summary for Pond 65P: DMH-7

Inflow Area = 0.698 ac, 40.26% Impervious, Inflow Depth > 4.33" for 25 year storm event
Inflow = 3.45 cfs @ 12.09 hrs, Volume= 0.252 af
Outflow = 3.45 cfs @ 12.09 hrs, Volume= 0.252 af, Atten= 0%, Lag= 0.0 min
Primary = 3.45 cfs @ 12.09 hrs, Volume= 0.252 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 424.55' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	423.22'	**12.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 423.22' / 421.86' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.37 cfs @ 12.09 hrs HW=424.52' TW=422.46' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.37 cfs @ 4.30 fps)

Summary for Pond 71P: DMH-9

Inflow Area = 0.280 ac, 54.56% Impervious, Inflow Depth > 4.62" for 25 year storm event
Inflow = 1.45 cfs @ 12.09 hrs, Volume= 0.108 af
Outflow = 1.45 cfs @ 12.09 hrs, Volume= 0.108 af, Atten= 0%, Lag= 0.0 min
Primary = 1.45 cfs @ 12.09 hrs, Volume= 0.108 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.27' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.40'	**12.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.40' / 416.27' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.42 cfs @ 12.09 hrs HW=417.25' TW=416.81' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.42 cfs @ 2.67 fps)

Summary for Pond 72P: DMH-16

Inflow Area = 0.513 ac, 76.97% Impervious, Inflow Depth > 5.29" for 25 year storm event
Inflow = 2.88 cfs @ 12.09 hrs, Volume= 0.226 af
Outflow = 2.88 cfs @ 12.09 hrs, Volume= 0.226 af, Atten= 0%, Lag= 0.0 min
Primary = 2.88 cfs @ 12.09 hrs, Volume= 0.226 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 418.10' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.67'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.67' / 416.27' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.75 cfs @ 12.09 hrs HW=418.03' TW=416.81' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.75 cfs @ 3.50 fps)

Summary for Pond 73P: DMH-10

Inflow Area = 1.825 ac, 79.30% Impervious, Inflow Depth > 5.34" for 25 year storm event
Inflow = 10.32 cfs @ 12.09 hrs, Volume= 0.813 af
Outflow = 10.32 cfs @ 12.09 hrs, Volume= 0.813 af, Atten= 0%, Lag= 0.0 min
Primary = 10.32 cfs @ 12.09 hrs, Volume= 0.813 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.83' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	415.27'	**30.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 415.27' / 415.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=10.05 cfs @ 12.09 hrs HW=416.81' TW=415.94' (Dynamic Tailwater)
1=Culvert (Barrel Controls 10.05 cfs @ 4.54 fps)

Summary for Pond 78P: DMH-3

Inflow Area = 3.920 ac, 73.13% Impervious, Inflow Depth > 5.15" for 25 year storm event
Inflow = 20.88 cfs @ 12.09 hrs, Volume= 1.681 af
Outflow = 20.88 cfs @ 12.09 hrs, Volume= 1.681 af, Atten= 0%, Lag= 0.0 min
Primary = 20.88 cfs @ 12.09 hrs, Volume= 1.681 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 419.69' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	417.45'	**30.0" Round Culvert** L= 97.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 417.45' / 416.48' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=18.83 cfs @ 12.09 hrs HW=419.63' TW=418.57' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 18.83 cfs @ 5.53 fps)

Summary for Pond 80P: DMH-17

Inflow Area = 0.829 ac, 92.23% Impervious, Inflow Depth > 5.71" for 25 year storm event
Inflow = 4.88 cfs @ 12.09 hrs, Volume= 0.395 af
Outflow = 4.88 cfs @ 12.09 hrs, Volume= 0.395 af, Atten= 0%, Lag= 0.0 min
Primary = 4.88 cfs @ 12.09 hrs, Volume= 0.395 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 418.38' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.95'	**18.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.95' / 416.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.13 cfs @ 12.09 hrs HW=418.33' TW=417.95' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 4.13 cfs @ 3.18 fps)

Summary for Pond 82P: DMH-12

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 4.75" for 25 year storm event
Inflow = 5.52 cfs @ 12.12 hrs, Volume= 0.400 af
Outflow = 5.52 cfs @ 12.12 hrs, Volume= 0.400 af, Atten= 0%, Lag= 0.0 min
Primary = 5.52 cfs @ 12.12 hrs, Volume= 0.400 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.79' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	414.41'	**18.0" Round Culvert** L= 83.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 414.41' / 414.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.39 cfs @ 12.12 hrs HW=415.77' TW=414.31' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 5.39 cfs @ 4.21 fps)

Summary for Pond 85P: DMH-13

Inflow Area = 0.098 ac, 91.91% Impervious, Inflow Depth > 5.70" for 25 year storm event
Inflow = 0.57 cfs @ 12.09 hrs, Volume= 0.046 af
Outflow = 0.57 cfs @ 12.09 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 0.57 cfs @ 12.09 hrs, Volume= 0.046 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 412.88' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	412.50'	**12.0" Round Culvert** L= 188.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 412.50' / 402.10' S= 0.0553 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.56 cfs @ 12.09 hrs HW=412.87' TW=402.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.56 cfs @ 2.08 fps)

Summary for Pond 86P: DMH-14

Inflow Area = 0.214 ac, 91.13% Impervious, Inflow Depth > 5.67" for 25 year storm event
Inflow = 1.26 cfs @ 12.09 hrs, Volume= 0.101 af
Outflow = 1.26 cfs @ 12.09 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 1.26 cfs @ 12.09 hrs, Volume= 0.101 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 402.59' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	402.00'	**12.0" Round Culvert** L= 114.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 402.00' / 380.00' S= 0.1930 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.22 cfs @ 12.09 hrs HW=402.58' TW=394.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.22 cfs @ 2.59 fps)

Summary for Pond 89P: DMH-15

Inflow Area = 0.130 ac, 95.40% Impervious, Inflow Depth > 5.78" for 25 year storm event
Inflow = 0.77 cfs @ 12.09 hrs, Volume= 0.063 af
Outflow = 0.77 cfs @ 12.09 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min
Primary = 0.77 cfs @ 12.09 hrs, Volume= 0.063 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 396.97' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	396.52'	**12.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 396.52' / 396.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.75 cfs @ 12.09 hrs HW=396.96' TW=394.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.75 cfs @ 2.26 fps)

Summary for Pond 90P: INFIL-1

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 5.90" for 25 year storm event
Inflow = 5.99 cfs @ 12.09 hrs, Volume= 0.497 af
Outflow = 5.44 cfs @ 12.12 hrs, Volume= 0.389 af, Atten= 9%, Lag= 2.3 min
Discarded = 0.00 cfs @ 1.80 hrs, Volume= 0.004 af
Primary = 5.44 cfs @ 12.12 hrs, Volume= 0.385 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 421.12' @ 12.12 hrs Surf.Area= 3,313 sf Storage= 5,864 cf

Plug-Flow detention time= 148.5 min calculated for 0.388 af (78% of inflow)
Center-of-Mass det. time= 73.7 min (811.7 - 738.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	418.50'	2,984 cf	**30.00'W x 110.42'L x 3.50'H Field A** 11,594 cf Overall - 4,135 cf Embedded = 7,459 cf x 40.0% Voids
#2A	419.00'	4,135 cf	**ADS_StormTech SC-740 +Cap** x 90 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 90 Chambers in 6 Rows
		7,118 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	418.50'	**0.030 in/hr Exfiltration over Surface area**
#2	Primary	420.50'	**8.0" Vert. Orifice/Grate X 6.00** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 1.80 hrs HW=418.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=5.30 cfs @ 12.12 hrs HW=421.11' TW=415.29' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 5.30 cfs @ 2.65 fps)

Time span=1.00-23.00 hrs, dt=0.05 hrs, 441 points
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 D1: BY-PASS TO POINT "A" Runoff Area=446,408 sf 2.00% Impervious Runoff Depth>5.30"
Flow Length=1,498' Tc=18.9 min CN=71 Runoff=44.61 cfs 4.529 af

Subcatchment D10: TO CB-4 Runoff Area=9,185 sf 82.43% Impervious Runoff Depth>8.12"
Tc=6.0 min CN=94 Runoff=1.78 cfs 0.143 af

Subcatchment D13: TO CB-5 Runoff Area=15,356 sf 25.74% Impervious Runoff Depth>6.17"
Flow Length=260' Tc=11.0 min CN=78 Runoff=2.14 cfs 0.181 af

Subcatchment D14: TO CB-6 Runoff Area=6,290 sf 90.46% Impervious Runoff Depth>8.36"
Tc=6.0 min CN=96 Runoff=1.23 cfs 0.101 af

Subcatchment D15: TO CB-7 Runoff Area=11,907 sf 26.37% Impervious Runoff Depth>6.18"
Tc=6.0 min CN=78 Runoff=1.93 cfs 0.141 af

Subcatchment D16: TO CB-8 Runoff Area=5,506 sf 70.94% Impervious Runoff Depth>7.76"
Tc=6.0 min CN=91 Runoff=1.05 cfs 0.082 af

Subcatchment D17: TO CB-9 Runoff Area=4,822 sf 35.11% Impervious Runoff Depth>6.54"
Tc=6.0 min CN=81 Runoff=0.82 cfs 0.060 af

Subcatchment D18: TO CB-10 Runoff Area=8,463 sf 73.85% Impervious Runoff Depth>7.88"
Tc=6.0 min CN=92 Runoff=1.62 cfs 0.128 af

Subcatchment D19: TO CB-11 Runoff Area=30,419 sf 40.26% Impervious Runoff Depth>6.91"
Tc=6.0 min CN=84 Runoff=5.38 cfs 0.402 af

Subcatchment D2: BY-PASS TO POINT "B" Runoff Area=135,192 sf 6.17% Impervious Runoff Depth>5.43"
Flow Length=675' Tc=13.1 min CN=72 Runoff=15.80 cfs 1.405 af

Subcatchment D22: TO CB-15 Runoff Area=6,190 sf 43.47% Impervious Runoff Depth>6.91"
Tc=6.0 min CN=84 Runoff=1.10 cfs 0.082 af

Subcatchment D23: TO CB-16 Runoff Area=9,832 sf 53.52% Impervious Runoff Depth>7.27"
Tc=6.0 min CN=87 Runoff=1.80 cfs 0.137 af

Subcatchment D24: TO CB-20 Runoff Area=2,917 sf 67.88% Impervious Runoff Depth>7.64"
Tc=6.0 min CN=90 Runoff=0.55 cfs 0.043 af

Subcatchment D25: TO CB-21 Runoff Area=3,083 sf 64.22% Impervious Runoff Depth>7.52"
Tc=6.0 min CN=89 Runoff=0.58 cfs 0.044 af

Subcatchment D26: TO CB-17 Runoff Area=12,509 sf 95.40% Impervious Runoff Depth>8.48"
Tc=6.0 min CN=97 Runoff=2.45 cfs 0.203 af

Subcatchment D27: TO CB-18 Runoff Area=14,565 sf 95.78% Impervious Runoff Depth>8.48"
Tc=6.0 min CN=97 Runoff=2.86 cfs 0.236 af

Subcatchment D28: TO CB-22 Runoff Area=4,284 sf 68.86% Impervious Runoff Depth>7.76"
Tc=6.0 min CN=91 Runoff=0.81 cfs 0.064 af

Subcatchment D29: TO CB-22 Runoff Area=4,581 sf 64.40% Impervious Runoff Depth>7.52"
Tc=6.0 min CN=89 Runoff=0.86 cfs 0.066 af

Subcatchment D3: BY-PASS TO POINT "C" Runoff Area=100,307 sf 9.94% Impervious Runoff Depth>5.55"
Flow Length=506' Tc=13.6 min CN=73 Runoff=11.83 cfs 1.066 af

Subcatchment D30: TO CB-19 Runoff Area=21,531 sf 89.82% Impervious Runoff Depth>8.36"
Tc=6.0 min CN=96 Runoff=4.21 cfs 0.344 af

Subcatchment D31: TO CB-25 Runoff Area=1,866 sf 100.00% Impervious Runoff Depth>8.60"
Tc=6.0 min CN=98 Runoff=0.37 cfs 0.031 af

Subcatchment D32: TO CB-24 Runoff Area=2,386 sf 85.58% Impervious Runoff Depth>8.24"
Tc=6.0 min CN=95 Runoff=0.46 cfs 0.038 af

Subcatchment D33: TO CB-27 Runoff Area=2,784 sf 82.61% Impervious Runoff Depth>8.12"
Tc=6.0 min CN=94 Runoff=0.54 cfs 0.043 af

Subcatchment D34: TO CB-26 Runoff Area=2,300 sf 100.00% Impervious Runoff Depth>8.60"
Tc=6.0 min CN=98 Runoff=0.45 cfs 0.038 af

Subcatchment D35: TO POND-1 Runoff Area=81,252 sf 0.00% Impervious Runoff Depth>5.32"
Tc=6.0 min CN=71 Runoff=11.54 cfs 0.827 af

Subcatchment D37: TO CB-29 Runoff Area=2,968 sf 91.21% Impervious Runoff Depth>8.36"
Tc=6.0 min CN=96 Runoff=0.58 cfs 0.047 af

Subcatchment D38: TO CB-28 Runoff Area=2,707 sf 100.00% Impervious Runoff Depth>8.60"
Tc=6.0 min CN=98 Runoff=0.53 cfs 0.045 af

Subcatchment D39: TO CB-31 Runoff Area=5,688 sf 100.00% Impervious Runoff Depth>8.60"
Tc=6.0 min CN=98 Runoff=1.12 cfs 0.094 af

Subcatchment D4: BY-PASS TO POINT "D" Runoff Area=419,440 sf 1.03% Impervious Runoff Depth>5.18"
Flow Length=1,033' Tc=18.1 min CN=70 Runoff=41.67 cfs 4.159 af

Subcatchment D40: TO CB-30 Runoff Area=5,005 sf 100.00% Impervious Runoff Depth>8.60"
Tc=6.0 min CN=98 Runoff=0.98 cfs 0.082 af

Subcatchment D41-A: 1/4 Roof Runoff Area=44,000 sf 100.00% Impervious Runoff Depth>8.60"
Tc=6.0 min CN=98 Runoff=8.65 cfs 0.724 af

Subcatchment D41-B: 1/4 Roof Runoff Area=44,000 sf 100.00% Impervious Runoff Depth>8.60"
Tc=6.0 min CN=98 Runoff=8.65 cfs 0.724 af

Subcatchment D42: 1/2 Roof Runoff Area=88,000 sf 100.00% Impervious Runoff Depth>8.60"
Tc=6.0 min CN=98 Runoff=17.30 cfs 1.447 af

Subcatchment D5: BY-PAAS TO POINT "E" Runoff Area=739,914 sf 0.00% Impervious Runoff Depth>5.17"
Flow Length=1,880' Tc=28.5 min CN=70 Runoff=60.70 cfs 7.318 af

Subcatchment D6-1: TO POND-3 Runoff Area=13,182 sf 27.96% Impervious Runoff Depth>6.42"
Tc=6.0 min CN=80 Runoff=2.21 cfs 0.162 af

Subcatchment D6-2: TO POND 4 Runoff Area=33,904 sf 13.65% Impervious Runoff Depth>6.05"
Tc=6.0 min CN=77 Runoff=5.41 cfs 0.393 af

Subcatchment D6-3: TO POND-5 Runoff Area=19,994 sf 35.56% Impervious Runoff Depth>6.66"
Tc=6.0 min CN=82 Runoff=3.45 cfs 0.255 af

Subcatchment D7: TO CB-1 Runoff Area=4,582 sf 53.16% Impervious Runoff Depth>7.39"
Tc=6.0 min CN=88 Runoff=0.85 cfs 0.065 af

Subcatchment D8: TO CB-2 Runoff Area=2,786 sf 81.12% Impervious Runoff Depth>8.00"
Tc=6.0 min CN=93 Runoff=0.54 cfs 0.043 af

Subcatchment D9: TO CB-3 Runoff Area=11,325 sf 58.72% Impervious Runoff Depth>7.27"
Tc=6.0 min CN=87 Runoff=2.07 cfs 0.158 af

Reach 25R: Swale thru wetlands Avg. Flow Depth=0.54' Max Vel=1.83 fps Inflow=10.62 cfs 3.729 af
n=0.050 L=600.0' S=0.0150 '/' Capacity=194.34 cfs Outflow=10.41 cfs 3.704 af

Reach 26R: Swale thru wetlands Avg. Flow Depth=0.42' Max Vel=1.54 fps Inflow=7.76 cfs 0.626 af
n=0.050 L=994.0' S=0.0141 '/' Capacity=188.63 cfs Outflow=6.03 cfs 0.621 af

Reach 27R: Swale thru wetlands Avg. Flow Depth=0.37' Max Vel=2.22 fps Inflow=7.63 cfs 0.612 af
n=0.050 L=580.0' S=0.0345 '/' Capacity=295.15 cfs Outflow=7.04 cfs 0.609 af

Reach 41R: Design Point "A" Inflow=50.83 cfs 5.139 af
Outflow=50.83 cfs 5.139 af

Reach 42R: Design Point "B" Inflow=16.52 cfs 1.499 af
Outflow=16.52 cfs 1.499 af

Reach 43R: Design Point "C" Inflow=15.08 cfs 2.134 af
Outflow=15.08 cfs 2.134 af

Reach 44R: Design Point "D" Inflow=50.88 cfs 8.484 af
Outflow=50.88 cfs 8.484 af

Reach 45R: Design Point "E" Inflow=60.70 cfs 7.318 af
Outflow=60.70 cfs 7.318 af

Pond 1B: POND-1-DET BASIN Peak Elev=395.68' Storage=18,844 cf Inflow=14.47 cfs 1.068 af
Outflow=4.67 cfs 0.985 af

Pond 2A: POND-3 - FOREBAY Peak Elev=416.03' Storage=13,820 cf Inflow=53.82 cfs 4.330 af
Outflow=53.88 cfs 4.165 af

Pond 2B: POND-4-MARSH Peak Elev=415.73' Storage=64,412 cf Inflow=59.28 cfs 4.558 af
Outflow=50.46 cfs 4.037 af

Pond 2C: POND-5-DEEP POND Peak Elev=415.73' Storage=53,582 cf Inflow=53.01 cfs 4.292 af
Outflow=10.62 cfs 3.729 af

Pond 3P: INFIL-1 Peak Elev=421.42' Storage=5,522 cf Inflow=8.65 cfs 0.724 af
Discarded=0.00 cfs 0.004 af Primary=7.76 cfs 0.626 af Outflow=7.76 cfs 0.630 af

Pond 45P: DMH-11 Peak Elev=418.91' Inflow=8.74 cfs 0.710 af
18.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=8.74 cfs 0.710 af

Pond 46P: DMH-1 Peak Elev=416.45' Inflow=1.38 cfs 0.107 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0200 '/' Outflow=1.38 cfs 0.107 af

Pond 52P: DHMH-2 Peak Elev=419.82' Inflow=35.02 cfs 2.842 af
30.0" Round Culvert n=0.013 L=138.0' S=0.0100 '/' Outflow=35.02 cfs 2.842 af

Pond 58P: DMH-4 Peak Elev=421.89' Inflow=13.89 cfs 1.094 af
24.0" Round Culvert n=0.013 L=138.0' S=0.0050 '/' Outflow=13.89 cfs 1.094 af

Pond 60P: DMH-5 Peak Elev=422.08' Inflow=10.80 cfs 0.812 af
24.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=10.80 cfs 0.812 af

Pond 64P: DMH-6 Peak Elev=422.94' Inflow=7.82 cfs 0.590 af
18.0" Round Culvert n=0.013 L=134.0' S=0.0100 '/' Outflow=7.82 cfs 0.590 af

Pond 65P: DMH-7 Peak Elev=425.74' Inflow=5.38 cfs 0.402 af
12.0" Round Culvert n=0.013 L=68.0' S=0.0200 '/' Outflow=5.38 cfs 0.402 af

Pond 71P: DMH-9 Peak Elev=417.57' Inflow=2.22 cfs 0.169 af
12.0" Round Culvert n=0.020 L=26.0' S=0.0050 '/' Outflow=2.22 cfs 0.169 af

Pond 72P: DMH-16 Peak Elev=419.09' Inflow=4.25 cfs 0.340 af
12.0" Round Culvert n=0.013 L=80.0' S=0.0050 '/' Outflow=4.25 cfs 0.340 af

Pond 73P: DMH-10 Peak Elev=417.24' Inflow=15.21 cfs 1.219 af
30.0" Round Culvert n=0.013 L=55.0' S=0.0049 '/' Outflow=15.21 cfs 1.219 af

Pond 78P: DMH-3 Peak Elev=421.25' Inflow=31.17 cfs 2.541 af
30.0" Round Culvert n=0.013 L=97.0' S=0.0100 '/' Outflow=31.17 cfs 2.541 af

Pond 80P: DMH-17 Peak Elev=419.44' Inflow=7.07 cfs 0.581 af
18.0" Round Culvert n=0.013 L=60.0' S=0.0050 '/' Outflow=7.07 cfs 0.581 af

Pond 82P: DMH-12 Peak Elev=416.25' Inflow=7.76 cfs 0.626 af
18.0" Round Culvert n=0.013 L=83.0' S=0.0049 '/' Outflow=7.76 cfs 0.626 af

Pond 85P: DMH-13 Peak Elev=412.97' Inflow=0.83 cfs 0.068 af
12.0" Round Culvert n=0.013 L=188.0' S=0.0553 '/' Outflow=0.83 cfs 0.068 af

Pond 86P: DMH-14 Peak Elev=402.74' Inflow=1.82 cfs 0.149 af
12.0" Round Culvert n=0.013 L=114.0' S=0.1930 '/' Outflow=1.82 cfs 0.149 af

Pond 89P: DMH-15 Peak Elev=397.07' Inflow=1.11 cfs 0.092 af
12.0" Round Culvert n=0.013 L=26.0' S=0.0200 '/' Outflow=1.11 cfs 0.092 af

Pond 90P: INFIL-1 Peak Elev=421.40' Storage=6,325 cf Inflow=8.65 cfs 0.724 af
Discarded=0.00 cfs 0.004 af Primary=7.63 cfs 0.612 af Outflow=7.63 cfs 0.616 af

Total Runoff Area = 54.670 ac Runoff Volume = 26.146 af Average Runoff Depth = 5.74"
84.61% Pervious = 46.259 ac 15.39% Impervious = 8.411 ac

Summary for Subcatchment D1: BY-PASS TO POINT "A"

Runoff = 44.61 cfs @ 12.26 hrs, Volume= 4.529 af, Depth> 5.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
8,916	98	Paved parking, HSG C
398,936	70	Woods, Good, HSG C
38,556	74	>75% Grass cover, Good, HSG C
446,408	71	Weighted Average
437,492		98.00% Pervious Area
8,916		2.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.5	518	0.0230	2.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	955	0.0270	2.65		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	1,498	Total			

Summary for Subcatchment D10: TO CB-4

Runoff = 1.78 cfs @ 12.09 hrs, Volume= 0.143 af, Depth> 8.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
7,571	98	Paved parking, HSG C
1,614	74	>75% Grass cover, Good, HSG C
9,185	94	Weighted Average
1,614		17.57% Pervious Area
7,571		82.43% Impervious Area

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

Summary for Subcatchment D13: TO CB-5

Runoff = 2.14 cfs @ 12.15 hrs, Volume= 0.181 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
3,952	98	Paved parking, HSG C
1,174	74	>75% Grass cover, Good, HSG C
10,230	70	Woods, Good, HSG C
15,356	78	Weighted Average
11,404		74.26% Pervious Area
3,952		25.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.8	123	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	32	0.1880	6.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	36	0.0220	2.39		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	44	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
11.0	260	Total			

Summary for Subcatchment D14: TO CB-6

Runoff = 1.23 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 8.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
5,690	98	Paved parking, HSG C
600	74	>75% Grass cover, Good, HSG C
6,290	96	Weighted Average
600		9.54% Pervious Area
5,690		90.46% Impervious Area

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

Summary for Subcatchment D15: TO CB-7

Runoff = 1.93 cfs @ 12.09 hrs, Volume= 0.141 af, Depth> 6.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
3,140	98	Paved parking, HSG C
2,323	74	>75% Grass cover, Good, HSG C
6,444	70	Woods, Good, HSG C
11,907	78	Weighted Average
8,767		73.63% Pervious Area
3,140		26.37% Impervious Area

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

Summary for Subcatchment D16: TO CB-8

Runoff = 1.05 cfs @ 12.09 hrs, Volume= 0.082 af, Depth> 7.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
3,906	98	Paved parking, HSG C
1,600	74	>75% Grass cover, Good, HSG C
5,506	91	Weighted Average
1,600		29.06% Pervious Area
3,906		70.94% Impervious Area

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

Summary for Subcatchment D17: TO CB-9

Runoff = 0.82 cfs @ 12.09 hrs, Volume= 0.060 af, Depth> 6.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
1,693	98	Paved parking, HSG C
1,361	74	>75% Grass cover, Good, HSG C
1,768	70	Woods, Good, HSG C
4,822	81	Weighted Average
3,129		64.89% Pervious Area
1,693		35.11% Impervious Area

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

Summary for Subcatchment D18: TO CB-10

Runoff = 1.62 cfs @ 12.09 hrs, Volume= 0.128 af, Depth> 7.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
6,250	98	Paved parking, HSG C
2,213	74	>75% Grass cover, Good, HSG C
8,463	92	Weighted Average
2,213		26.15% Pervious Area
6,250		73.85% Impervious Area

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

Summary for Subcatchment D19: TO CB-11

Runoff = 5.38 cfs @ 12.09 hrs, Volume= 0.402 af, Depth> 6.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
12,246	98	Paved parking, HSG C
7,968	74	>75% Grass cover, Good, HSG C
9,575	74	Farmsteads, HSG B
630	96	Gravel surface, HSG C
30,419	84	Weighted Average
18,173		59.74% Pervious Area
12,246		40.26% Impervious Area

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

Summary for Subcatchment D2: BY-PASS TO POINT "B"

Runoff = 15.80 cfs @ 12.18 hrs, Volume= 1.405 af, Depth> 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
8,340	98	Paved parking, HSG C
103,760	70	Woods, Good, HSG C
23,092	74	>75% Grass cover, Good, HSG C
135,192	72	Weighted Average
126,852		93.83% Pervious Area
8,340		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.3	69	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.4	581	0.0310	2.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.1	675	Total			

Summary for Subcatchment D22: TO CB-15

Runoff = 1.10 cfs @ 12.09 hrs, Volume= 0.082 af, Depth> 6.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,691	98	Paved parking, HSG C
3,499	74	>75% Grass cover, Good, HSG C
6,190	84	Weighted Average
3,499		56.53% Pervious Area
2,691		43.47% Impervious Area

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

Summary for Subcatchment D23: TO CB-16

Runoff = 1.80 cfs @ 12.09 hrs, Volume= 0.137 af, Depth> 7.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
5,262	98	Paved parking, HSG C
4,570	74	>75% Grass cover, Good, HSG C
9,832	87	Weighted Average
4,570		46.48% Pervious Area
5,262		53.52% Impervious Area

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

Summary for Subcatchment D24: TO CB-20

Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.043 af, Depth> 7.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
1,980	98	Paved parking, HSG C
937	74	>75% Grass cover, Good, HSG C
2,917	90	Weighted Average
937		32.12% Pervious Area
1,980		67.88% Impervious Area

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

Summary for Subcatchment D25: TO CB-21

Runoff = 0.58 cfs @ 12.09 hrs, Volume= 0.044 af, Depth> 7.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
1,980	98	Paved parking, HSG C
1,103	74	>75% Grass cover, Good, HSG C
3,083	89	Weighted Average
1,103		35.78% Pervious Area
1,980		64.22% Impervious Area

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

Summary for Subcatchment D26: TO CB-17

Runoff = 2.45 cfs @ 12.09 hrs, Volume= 0.203 af, Depth> 8.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
11,933	98	Paved parking, HSG C
576	74	>75% Grass cover, Good, HSG C
12,509	97	Weighted Average
576		4.60% Pervious Area
11,933		95.40% Impervious Area

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

Summary for Subcatchment D27: TO CB-18

Runoff = 2.86 cfs @ 12.09 hrs, Volume= 0.236 af, Depth> 8.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
13,950	98	Paved parking, HSG C
615	74	>75% Grass cover, Good, HSG C
14,565	97	Weighted Average
615		4.22% Pervious Area
13,950		95.78% Impervious Area

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

Summary for Subcatchment D28: TO CB-22

Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.064 af, Depth> 7.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,950	98	Paved parking, HSG C
1,334	74	>75% Grass cover, Good, HSG C
4,284	91	Weighted Average
1,334		31.14% Pervious Area
2,950		68.86% Impervious Area

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

Summary for Subcatchment D29: TO CB-22

Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.066 af, Depth> 7.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,950	98	Paved parking, HSG C
1,631	74	>75% Grass cover, Good, HSG C
4,581	89	Weighted Average
1,631		35.60% Pervious Area
2,950		64.40% Impervious Area

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

Summary for Subcatchment D3: BY-PASS TO POINT "C"

Runoff = 11.83 cfs @ 12.19 hrs, Volume= 1.066 af, Depth> 5.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
9,970	98	Paved parking, HSG C
84,712	70	Woods, Good, HSG C
5,625	74	>75% Grass cover, Good, HSG C
100,307	73	Weighted Average
90,337		90.06% Pervious Area
9,970		9.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.3	90	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	15	0.3330	9.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.8	232	0.0170	2.10		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	144	0.0050	1.14		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.6	506	Total			

Summary for Subcatchment D30: TO CB-19

Runoff = 4.21 cfs @ 12.09 hrs, Volume= 0.344 af, Depth> 8.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
19,340	98	Paved parking, HSG C
2,191	74	>75% Grass cover, Good, HSG C
21,531	96	Weighted Average
2,191		10.18% Pervious Area
19,340		89.82% Impervious Area

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

Summary for Subcatchment D31: TO CB-25

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 8.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
1,866	98	Paved parking, HSG C
1,866		100.00% Impervious Area

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

Summary for Subcatchment D32: TO CB-24

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.038 af, Depth> 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,042	98	Paved parking, HSG C
344	74	>75% Grass cover, Good, HSG C
2,386	95	Weighted Average
344		14.42% Pervious Area
2,042		85.58% Impervious Area

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

Summary for Subcatchment D33: TO CB-27

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.043 af, Depth> 8.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,300	98	Paved parking, HSG C
484	74	>75% Grass cover, Good, HSG C
2,784	94	Weighted Average
484		17.39% Pervious Area
2,300		82.61% Impervious Area

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

Summary for Subcatchment D34: TO CB-26

Runoff = 0.45 cfs @ 12.09 hrs, Volume= 0.038 af, Depth> 8.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,300	98	Paved parking, HSG C
2,300		100.00% Impervious Area

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

Summary for Subcatchment D35: TO POND-1

Runoff = 11.54 cfs @ 12.09 hrs, Volume= 0.827 af, Depth> 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
28,906	74	>75% Grass cover, Good, HSG C
52,346	70	Woods, Good, HSG C
81,252	71	Weighted Average
81,252		100.00% Pervious Area

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

Summary for Subcatchment D37: TO CB-29

Runoff = 0.58 cfs @ 12.09 hrs, Volume= 0.047 af, Depth> 8.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,707	98	Paved parking, HSG C
261	74	>75% Grass cover, Good, HSG C
2,968	96	Weighted Average
261		8.79% Pervious Area
2,707		91.21% Impervious Area

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

Summary for Subcatchment D38: TO CB-28

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.045 af, Depth> 8.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,707	98	Paved parking, HSG B
2,707		100.00% Impervious Area

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

Summary for Subcatchment D39: TO CB-31

Runoff = 1.12 cfs @ 12.09 hrs, Volume= 0.094 af, Depth> 8.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
5,688	98	Paved parking, HSG C
5,688		100.00% Impervious Area

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

Summary for Subcatchment D4: BY-PASS TO POINT "D"

Runoff = 41.67 cfs @ 12.25 hrs, Volume= 4.159 af, Depth> 5.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
4,300	98	Water Surface, HSG C
405,563	70	Woods, Good, HSG C
9,577	74	>75% Grass cover, Good, HSG C
419,440	70	Weighted Average
415,140		98.97% Pervious Area
4,300		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	25	0.0100	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
0.0	21	0.3330	9.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	470	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4	517	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.1	1,033	Total			

Summary for Subcatchment D40: TO CB-30

Runoff = 0.98 cfs @ 12.09 hrs, Volume= 0.082 af, Depth> 8.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
5,005	98	Paved parking, HSG C
5,005		100.00% Impervious Area

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

Summary for Subcatchment D41-A: 1/4 Roof

Runoff = 8.65 cfs @ 12.09 hrs, Volume= 0.724 af, Depth> 8.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
44,000	98	Roofs, HSG C
44,000		100.00% Impervious Area

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

Summary for Subcatchment D41-B: 1/4 Roof

Runoff = 8.65 cfs @ 12.09 hrs, Volume= 0.724 af, Depth> 8.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
44,000	98	Roofs, HSG C
44,000		100.00% Impervious Area

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

Summary for Subcatchment D42: 1/2 Roof

Runoff = 17.30 cfs @ 12.09 hrs, Volume= 1.447 af, Depth> 8.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
88,000	98	Roofs, HSG C
88,000		100.00% Impervious Area

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

Summary for Subcatchment D5: BY-PAAS TO POINT "E"

Runoff = 60.70 cfs @ 12.40 hrs, Volume= 7.318 af, Depth> 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
733,014	70	Woods, Good, HSG C
3,480	74	>75% Grass cover, Good, HSG C
3,420	96	Gravel surface, HSG C
739,914	70	Weighted Average
739,914		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	25	0.0060	0.04		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.19"
3.3	250	0.0060	1.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.0	580	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.7	1,025	0.0190	2.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
28.5	1,880	Total			

Summary for Subcatchment D6-1: TO POND-3

Runoff = 2.21 cfs @ 12.09 hrs, Volume= 0.162 af, Depth> 6.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
3,132	70	Woods, Good, HSG C
6,364	74	>75% Grass cover, Good, HSG C
3,686	98	Water Surface, HSG C
13,182	80	Weighted Average
9,496		72.04% Pervious Area
3,686		27.96% Impervious Area

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

Summary for Subcatchment D6-2: TO POND 4

Runoff = 5.41 cfs @ 12.09 hrs, Volume= 0.393 af, Depth> 6.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
3,340	70	Woods, Good, HSG C
25,936	74	>75% Grass cover, Good, HSG C
4,628	98	Water Surface, HSG C
33,904	77	Weighted Average
29,276		86.35% Pervious Area
4,628		13.65% Impervious Area

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

Summary for Subcatchment D6-3: TO POND-5

Runoff = 3.45 cfs @ 12.09 hrs, Volume= 0.255 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,635	70	Woods, Good, HSG C
10,249	74	>75% Grass cover, Good, HSG C
7,110	98	Water Surface, HSG C
19,994	82	Weighted Average
12,884		64.44% Pervious Area
7,110		35.56% Impervious Area

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

Summary for Subcatchment D7: TO CB-1

Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.065 af, Depth> 7.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,436	98	Paved parking, HSG C
300	96	Gravel surface, HSG C
1,846	74	>75% Grass cover, Good, HSG C
4,582	88	Weighted Average
2,146		46.84% Pervious Area
2,436		53.16% Impervious Area

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

Summary for Subcatchment D8: TO CB-2

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.043 af, Depth> 8.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
2,260	98	Paved parking, HSG C
526	74	>75% Grass cover, Good, HSG C
2,786	93	Weighted Average
526		18.88% Pervious Area
2,260		81.12% Impervious Area

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

Summary for Subcatchment D9: TO CB-3

Runoff = 2.07 cfs @ 12.09 hrs, Volume= 0.158 af, Depth> 7.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year storm Rainfall=8.93"

Area (sf)	CN	Description
6,650	98	Paved parking, HSG C
2,140	74	>75% Grass cover, Good, HSG C
2,535	70	Woods, Good, HSG C
11,325	87	Weighted Average
4,675		41.28% Pervious Area
6,650		58.72% Impervious Area

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

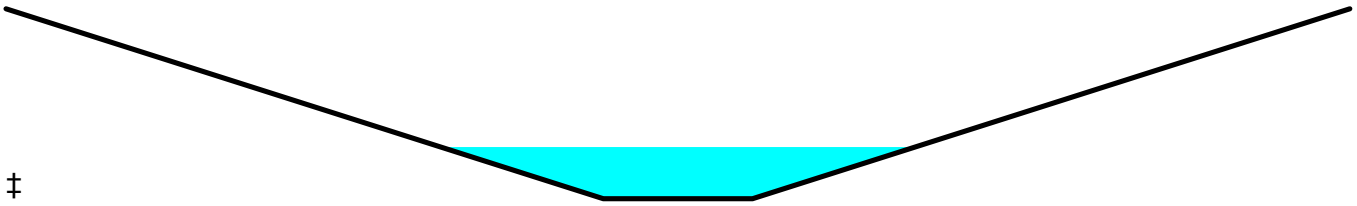
Summary for Reach 25R: Swale thru wetlands

Inflow Area = 7.925 ac, 64.38% Impervious, Inflow Depth > 5.65" for 100 year storm event
Inflow = 10.62 cfs @ 12.51 hrs, Volume= 3.729 af
Outflow = 10.41 cfs @ 12.65 hrs, Volume= 3.704 af, Atten= 2%, Lag= 8.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.83 fps, Min. Travel Time= 5.5 min
Avg. Velocity = 1.33 fps, Avg. Travel Time= 7.5 min

Peak Storage= 3,415 cf @ 12.65 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 194.34 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 600.0' Slope= 0.0150 '/'
Inlet Invert= 410.97', Outlet Invert= 402.00'



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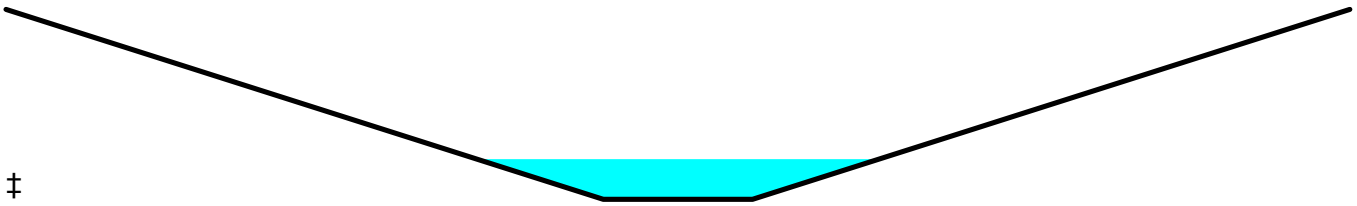
Summary for Reach 26R: Swale thru wetlands

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 7.44" for 100 year storm event
Inflow = 7.76 cfs @ 12.13 hrs, Volume= 0.626 af
Outflow = 6.03 cfs @ 12.22 hrs, Volume= 0.621 af, Atten= 22%, Lag= 5.5 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.54 fps, Min. Travel Time= 10.8 min
Avg. Velocity = 0.63 fps, Avg. Travel Time= 26.1 min

Peak Storage= 3,883 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 188.63 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 994.0' Slope= 0.0141 '/'
Inlet Invert= 414.00', Outlet Invert= 400.00'



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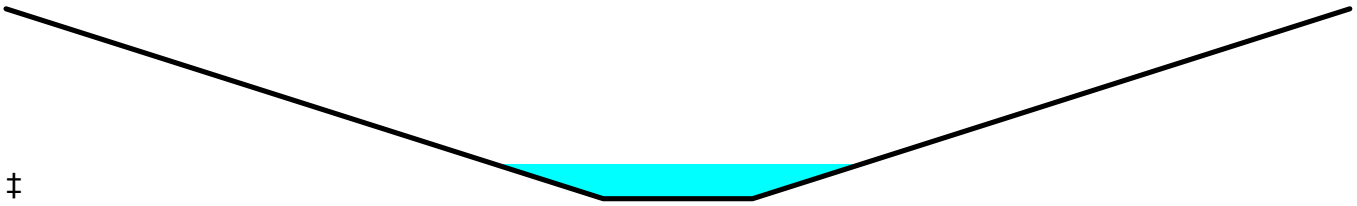
Summary for Reach 27R: Swale thru wetlands

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 7.27" for 100 year storm event
Inflow = 7.63 cfs @ 12.13 hrs, Volume= 0.612 af
Outflow = 7.04 cfs @ 12.18 hrs, Volume= 0.609 af, Atten= 8%, Lag= 3.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.22 fps, Min. Travel Time= 4.4 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 11.3 min

Peak Storage= 1,835 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 2.00' Flow Area= 50.0 sf, Capacity= 295.15 cfs

5.00' x 2.00' deep channel, n= 0.050
Side Slope Z-value= 10.0 '/' Top Width= 45.00'
Length= 580.0' Slope= 0.0345 '/'
Inlet Invert= 415.00', Outlet Invert= 395.00'



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Summary for Reach 41R: Design Point "A"

Inflow Area = 11.258 ac, 10.79% Impervious, Inflow Depth > 5.48" for 100 year storm event
Inflow = 50.83 cfs @ 12.25 hrs, Volume= 5.139 af
Outflow = 50.83 cfs @ 12.25 hrs, Volume= 5.139 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 42R: Design Point "B"

Inflow Area = 3.234 ac, 9.96% Impervious, Inflow Depth > 5.56" for 100 year storm event
Inflow = 16.52 cfs @ 12.18 hrs, Volume= 1.499 af
Outflow = 16.52 cfs @ 12.18 hrs, Volume= 1.499 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 43R: Design Point "C"

Inflow Area = 4.628 ac, 14.34% Impervious, Inflow Depth > 5.53" for 100 year storm event
Inflow = 15.08 cfs @ 12.20 hrs, Volume= 2.134 af
Outflow = 15.08 cfs @ 12.20 hrs, Volume= 2.134 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 44R: Design Point "D"

Inflow Area = 18.564 ac, 33.46% Impervious, Inflow Depth > 5.48" for 100 year storm event
Inflow = 50.88 cfs @ 12.27 hrs, Volume= 8.484 af
Outflow = 50.88 cfs @ 12.27 hrs, Volume= 8.484 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Reach 45R: Design Point "E"

Inflow Area = 16.986 ac, 0.00% Impervious, Inflow Depth > 5.17" for 100 year storm event
Inflow = 60.70 cfs @ 12.40 hrs, Volume= 7.318 af
Outflow = 60.70 cfs @ 12.40 hrs, Volume= 7.318 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs

Summary for Pond 1B: POND-1-DET BASIN

Inflow Area = 2.210 ac, 14.46% Impervious, Inflow Depth > 5.80" for 100 year storm event
Inflow = 14.47 cfs @ 12.09 hrs, Volume= 1.068 af
Outflow = 4.67 cfs @ 12.41 hrs, Volume= 0.985 af, Atten= 68%, Lag= 19.2 min
Primary = 4.67 cfs @ 12.41 hrs, Volume= 0.985 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 395.68' @ 12.41 hrs Surf.Area= 11,515 sf Storage= 18,844 cf

Plug-Flow detention time= 122.3 min calculated for 0.983 af (92% of inflow)
Center-of-Mass det. time= 85.4 min (879.4 - 793.9)

Volume	Invert	Avail.Storage	Storage Description
#1	393.18'	25,025 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.18	2,800	0	0
393.68	4,950	1,938	1,938
394.18	7,100	3,013	4,950
394.68	8,550	3,913	8,863
395.18	10,000	4,638	13,500
395.68	11,525	5,381	18,881
396.18	13,050	6,144	25,025

Device	Routing	Invert	Outlet Devices
#1	Primary	393.68'	**6.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 393.68' / 393.31' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Primary	395.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

#3 Primary 394.20' **8.0" Round Culvert**
L= 37.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 394.20' / 393.33' S= 0.0235 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=4.65 cfs @ 12.41 hrs HW=395.68' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Barrel Controls 1.02 cfs @ 5.21 fps)
- **2=Broad-Crested Rectangular Weir** (Weir Controls 1.84 cfs @ 1.04 fps)
- **3=Culvert** (Inlet Controls 1.80 cfs @ 5.15 fps)

Summary for Pond 2A: POND-3 - FOREBAY

Inflow Area = 6.688 ac, 72.26% Impervious, Inflow Depth > 7.77" for 100 year storm event
Inflow = 53.82 cfs @ 12.09 hrs, Volume= 4.330 af
Outflow = 53.88 cfs @ 12.10 hrs, Volume= 4.165 af, Atten= 0%, Lag= 0.5 min
Primary = 53.88 cfs @ 12.10 hrs, Volume= 4.165 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.03' @ 12.10 hrs Surf.Area= 6,113 sf Storage= 13,820 cf

Plug-Flow detention time= 54.0 min calculated for 4.165 af (96% of inflow)
Center-of-Mass det. time= 33.0 min (788.2 - 755.2)

Volume	Invert	Avail.Storage	Storage Description
#1	412.68'	14,741 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
412.68	0	0	0
413.18	3,283	821	821
413.68	3,709	1,748	2,569
414.18	4,136	1,961	4,530
414.68	4,562	2,175	6,705
415.18	4,988	2,388	9,092
415.68	5,649	2,659	11,751
416.18	6,309	2,990	14,741

Device	Routing	Invert	Outlet Devices
#1	Primary	415.68'	**98.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	414.18'	**0.5' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=52.97 cfs @ 12.10 hrs HW=416.03' TW=415.56' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 50.18 cfs @ 1.46 fps)
2=Broad-Crested Rectangular Weir (Weir Controls 2.79 cfs @ 3.02 fps)

Summary for Pond 2B: POND-4-MARSH

Inflow Area = 7.466 ac, 66.15% Impervious, Inflow Depth > 7.33" for 100 year storm event
Inflow = 59.28 cfs @ 12.10 hrs, Volume= 4.558 af
Outflow = 50.46 cfs @ 12.16 hrs, Volume= 4.037 af, Atten= 15%, Lag= 4.0 min
Primary = 50.46 cfs @ 12.16 hrs, Volume= 4.037 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.73' @ 12.57 hrs Surf.Area= 27,989 sf Storage= 64,412 cf

Plug-Flow detention time= 158.6 min calculated for 4.028 af (88% of inflow)
Center-of-Mass det. time= 108.9 min (897.9 - 789.0)

Volume	Invert	Avail.Storage	Storage Description
#1	412.98'	77,130 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
412.98	0	0	0
413.18	20,331	2,033	2,033
413.68	21,968	10,575	12,608
414.18	23,605	11,393	24,001
414.68	25,242	12,212	36,213
415.18	26,879	13,030	49,243
415.68	27,881	13,690	62,933
416.18	28,905	14,197	77,130

Device	Routing	Invert	Outlet Devices
#1	Primary	415.38'	**111.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	412.98'	**0.5' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=47.15 cfs @ 12.16 hrs HW=415.66' TW=414.30' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 40.96 cfs @ 1.30 fps)
2=Broad-Crested Rectangular Weir (Weir Controls 6.19 cfs @ 4.61 fps)

Summary for Pond 2C: POND-5-DEEP POND

Inflow Area = 7.925 ac, 64.38% Impervious, Inflow Depth > 6.50" for 100 year storm event
Inflow = 53.01 cfs @ 12.16 hrs, Volume= 4.292 af
Outflow = 10.62 cfs @ 12.51 hrs, Volume= 3.729 af, Atten= 80%, Lag= 21.0 min
Primary = 10.62 cfs @ 12.51 hrs, Volume= 3.729 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 415.73' @ 12.51 hrs Surf.Area= 32,422 sf Storage= 53,582 cf

Plug-Flow detention time= 138.6 min calculated for 3.720 af (87% of inflow)
Center-of-Mass det. time= 81.7 min (973.0 - 891.2)

Volume	Invert	Avail.Storage	Storage Description
#1	408.68'	71,950 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
408.68	0	0	0
409.18	2,710	678	678
409.68	3,080	1,448	2,125
410.18	3,449	1,632	3,757
410.68	3,819	1,817	5,574
411.18	4,188	2,002	7,576
411.68	5,391	2,395	9,971
412.18	6,594	2,996	12,967
412.68	7,797	3,598	16,565
413.18	9,000	4,199	20,764
413.68	9,669	4,667	25,431
414.18	10,338	5,002	30,433
414.68	11,006	5,336	35,769
415.18	11,675	5,670	41,439
415.68	30,511	10,547	51,986
416.18	49,346	19,964	71,950

Device	Routing	Invert	Outlet Devices
#1	Primary	411.72'	**18.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 411.72' / 410.97' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	412.18'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#3	Device 1	412.43'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#4	Device 1	408.68'	**2.0" Vert. 412.68 X 4.00** C= 0.600
#5	Device 1	412.93'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#6	Device 1	413.18'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#7	Device 1	413.68'	**2.0" Vert. Orifice/Grate X 4.00** C= 0.600
#8	Device 1	415.18'	**18.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=10.56 cfs @ 12.51 hrs HW=415.73' TW=411.50' (Dynamic Tailwater)
└**1=Culvert** (Passes 10.56 cfs of 15.10 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.78 cfs @ 8.96 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.75 cfs @ 8.63 fps)
  ├**4=412.68** (Orifice Controls 0.84 cfs @ 9.64 fps)
  ├**5=Orifice/Grate** (Orifice Controls 0.69 cfs @ 7.93 fps)
  ├**6=Orifice/Grate** (Orifice Controls 0.66 cfs @ 7.56 fps)
  ├**7=Orifice/Grate** (Orifice Controls 0.59 cfs @ 6.75 fps)
  └**8=Orifice/Grate** (Weir Controls 6.24 cfs @ 2.42 fps)

Summary for Pond 3P: INFIL-1

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 8.60" for 100 year storm event
Inflow = 8.65 cfs @ 12.09 hrs, Volume= 0.724 af
Outflow = 7.76 cfs @ 12.13 hrs, Volume= 0.630 af, Atten= 10%, Lag= 2.4 min
Discarded = 0.00 cfs @ 1.35 hrs, Volume= 0.004 af
Primary = 7.76 cfs @ 12.13 hrs, Volume= 0.626 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 421.42' @ 12.13 hrs Surf.Area= 2,885 sf Storage= 5,522 cf

Plug-Flow detention time= 111.4 min calculated for 0.628 af (87% of inflow)
Center-of-Mass det. time= 56.4 min (790.0 - 733.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	418.50'	2,606 cf	**30.00'W x 96.18'L x 3.50'H Field A** 10,099 cf Overall - 3,583 cf Embedded = 6,515 cf x 40.0% Voids
#2A	419.00'	3,583 cf	**ADS_StormTech SC-740 +Cap** x 78 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 78 Chambers in 6 Rows
		6,189 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	418.50'	**0.030 in/hr Exfiltration over Surface area**
#2	Primary	420.50'	**8.0" Vert. Orifice/Grate X 6.00** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 1.35 hrs HW=418.54' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=7.61 cfs @ 12.13 hrs HW=421.40' TW=416.22' (Dynamic Tailwater)
└**2=Orifice/Grate** (Orifice Controls 7.61 cfs @ 3.63 fps)

Summary for Pond 45P: DMH-11

Inflow Area = 1.032 ac, 87.16% Impervious, Inflow Depth > 8.26" for 100 year storm event
Inflow = 8.74 cfs @ 12.09 hrs, Volume= 0.710 af
Outflow = 8.74 cfs @ 12.09 hrs, Volume= 0.710 af, Atten= 0%, Lag= 0.0 min
Primary = 8.74 cfs @ 12.09 hrs, Volume= 0.710 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 418.91' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.55'	**18.0" Round Culvert** L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.55' / 415.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=8.50 cfs @ 12.09 hrs HW=418.83' TW=417.21' (Dynamic Tailwater)
1=Culvert (Barrel Controls 8.50 cfs @ 4.81 fps)

Summary for Pond 46P: DMH-1

Inflow Area = 0.169 ac, 63.74% Impervious, Inflow Depth > 7.62" for 100 year storm event
Inflow = 1.38 cfs @ 12.09 hrs, Volume= 0.107 af
Outflow = 1.38 cfs @ 12.09 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min
Primary = 1.38 cfs @ 12.09 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.45' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	415.76'	**12.0" Round Culvert** L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 415.76' / 415.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.29 cfs @ 12.09 hrs HW=416.44' TW=416.02' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.29 cfs @ 3.18 fps)

Summary for Pond 52P: DHMH-2

Inflow Area = 4.391 ac, 72.72% Impervious, Inflow Depth > 7.77" for 100 year storm event
Inflow = 35.02 cfs @ 12.09 hrs, Volume= 2.842 af
Outflow = 35.02 cfs @ 12.09 hrs, Volume= 2.842 af, Atten= 0%, Lag= 0.0 min
Primary = 35.02 cfs @ 12.09 hrs, Volume= 2.842 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 419.82' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.38'	**30.0" Round Culvert** L= 138.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 416.38' / 415.00' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=34.25 cfs @ 12.09 hrs HW=419.73' TW=416.02' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 34.25 cfs @ 6.98 fps)

Summary for Pond 58P: DMH-4

Inflow Area = 1.900 ac, 44.56% Impervious, Inflow Depth > 6.91" for 100 year storm event
Inflow = 13.89 cfs @ 12.09 hrs, Volume= 1.094 af
Outflow = 13.89 cfs @ 12.09 hrs, Volume= 1.094 af, Atten= 0%, Lag= 0.0 min
Primary = 13.89 cfs @ 12.09 hrs, Volume= 1.094 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 421.89' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	418.64'	**24.0" Round Culvert** L= 138.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 418.64' / 417.95' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=421.04' TW=421.07' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 60P: DMH-5

Inflow Area = 1.403 ac, 44.56% Impervious, Inflow Depth > 6.95" for 100 year storm event
Inflow = 10.80 cfs @ 12.09 hrs, Volume= 0.812 af
Outflow = 10.80 cfs @ 12.09 hrs, Volume= 0.812 af, Atten= 0%, Lag= 0.0 min
Primary = 10.80 cfs @ 12.09 hrs, Volume= 0.812 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 422.08' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	419.52'	**24.0" Round Culvert** L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 419.52' / 418.74' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.35 cfs @ 12.09 hrs HW=421.43' TW=420.99' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 7.35 cfs @ 3.06 fps)

Summary for Pond 64P: DMH-6

Inflow Area = 1.003 ac, 46.19% Impervious, Inflow Depth > 7.06" for 100 year storm event
Inflow = 7.82 cfs @ 12.09 hrs, Volume= 0.590 af
Outflow = 7.82 cfs @ 12.09 hrs, Volume= 0.590 af, Atten= 0%, Lag= 0.0 min
Primary = 7.82 cfs @ 12.09 hrs, Volume= 0.590 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 422.94' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	421.36'	**18.0" Round Culvert** L= 134.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 421.36' / 420.02' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.62 cfs @ 12.09 hrs HW=422.91' TW=421.43' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 7.62 cfs @ 4.31 fps)

Summary for Pond 65P: DMH-7

Inflow Area = 0.698 ac, 40.26% Impervious, Inflow Depth > 6.91" for 100 year storm event
Inflow = 5.38 cfs @ 12.09 hrs, Volume= 0.402 af
Outflow = 5.38 cfs @ 12.09 hrs, Volume= 0.402 af, Atten= 0%, Lag= 0.0 min
Primary = 5.38 cfs @ 12.09 hrs, Volume= 0.402 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 425.74' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	423.22'	**12.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 423.22' / 421.86' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=5.25 cfs @ 12.09 hrs HW=425.65' TW=422.91' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 5.25 cfs @ 6.69 fps)

Summary for Pond 71P: DMH-9

Inflow Area = 0.280 ac, 54.56% Impervious, Inflow Depth > 7.24" for 100 year storm event
Inflow = 2.22 cfs @ 12.09 hrs, Volume= 0.169 af
Outflow = 2.22 cfs @ 12.09 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.0 min
Primary = 2.22 cfs @ 12.09 hrs, Volume= 0.169 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.57' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.40'	**12.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.40' / 416.27' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.96 cfs @ 12.09 hrs HW=417.56' TW=417.21' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.96 cfs @ 2.71 fps)

Summary for Pond 72P: DMH-16

Inflow Area = 0.513 ac, 76.97% Impervious, Inflow Depth > 7.95" for 100 year storm event
Inflow = 4.25 cfs @ 12.09 hrs, Volume= 0.340 af
Outflow = 4.25 cfs @ 12.09 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.0 min
Primary = 4.25 cfs @ 12.09 hrs, Volume= 0.340 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 419.09' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.67'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 416.67' / 416.27' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.14 cfs @ 12.09 hrs HW=419.00' TW=417.21' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.14 cfs @ 5.28 fps)

Summary for Pond 73P: DMH-10

Inflow Area = 1.825 ac, 79.30% Impervious, Inflow Depth > 8.01" for 100 year storm event
Inflow = 15.21 cfs @ 12.09 hrs, Volume= 1.219 af
Outflow = 15.21 cfs @ 12.09 hrs, Volume= 1.219 af, Atten= 0%, Lag= 0.0 min
Primary = 15.21 cfs @ 12.09 hrs, Volume= 1.219 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 417.24' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	415.27'	**30.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 415.27' / 415.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=14.81 cfs @ 12.09 hrs HW=417.21' TW=416.02' (Dynamic Tailwater)
1=Culvert (Barrel Controls 14.81 cfs @ 4.99 fps)

Summary for Pond 78P: DMH-3

Inflow Area = 3.920 ac, 73.13% Impervious, Inflow Depth > 7.78" for 100 year storm event
Inflow = 31.17 cfs @ 12.09 hrs, Volume= 2.541 af
Outflow = 31.17 cfs @ 12.09 hrs, Volume= 2.541 af, Atten= 0%, Lag= 0.0 min
Primary = 31.17 cfs @ 12.09 hrs, Volume= 2.541 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 421.25' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	417.45'	**30.0" Round Culvert** L= 97.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 417.45' / 416.48' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=26.41 cfs @ 12.09 hrs HW=420.98' TW=419.73' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 26.41 cfs @ 5.38 fps)

Summary for Pond 80P: DMH-17

Inflow Area = 0.829 ac, 92.23% Impervious, Inflow Depth > 8.41" for 100 year storm event
Inflow = 7.07 cfs @ 12.09 hrs, Volume= 0.581 af
Outflow = 7.07 cfs @ 12.09 hrs, Volume= 0.581 af, Atten= 0%, Lag= 0.0 min
Primary = 7.07 cfs @ 12.09 hrs, Volume= 0.581 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 419.44' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	416.95'	**18.0" Round Culvert**
			L= 60.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 416.95' / 416.65' S= 0.0050 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.81 cfs @ 12.09 hrs HW=419.15' TW=418.83' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 4.81 cfs @ 2.72 fps)

Summary for Pond 82P: DMH-12

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 7.44" for 100 year storm event
Inflow = 7.76 cfs @ 12.13 hrs, Volume= 0.626 af
Outflow = 7.76 cfs @ 12.13 hrs, Volume= 0.626 af, Atten= 0%, Lag= 0.0 min
Primary = 7.76 cfs @ 12.13 hrs, Volume= 0.626 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 416.25' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	414.41'	**18.0" Round Culvert**
			L= 83.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 414.41' / 414.00' S= 0.0049 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.61 cfs @ 12.13 hrs HW=416.22' TW=414.39' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 7.61 cfs @ 4.53 fps)

Summary for Pond 85P: DMH-13

Inflow Area = 0.098 ac, 91.91% Impervious, Inflow Depth > 8.40" for 100 year storm event
Inflow = 0.83 cfs @ 12.09 hrs, Volume= 0.068 af
Outflow = 0.83 cfs @ 12.09 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min
Primary = 0.83 cfs @ 12.09 hrs, Volume= 0.068 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 412.97' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	412.50'	**12.0" Round Culvert** L= 188.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 412.50' / 402.10' S= 0.0553 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.81 cfs @ 12.09 hrs HW=412.96' TW=402.73' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.81 cfs @ 2.30 fps)

Summary for Pond 86P: DMH-14

Inflow Area = 0.214 ac, 91.13% Impervious, Inflow Depth > 8.36" for 100 year storm event
Inflow = 1.82 cfs @ 12.09 hrs, Volume= 0.149 af
Outflow = 1.82 cfs @ 12.09 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min
Primary = 1.82 cfs @ 12.09 hrs, Volume= 0.149 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 402.74' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	402.00'	**12.0" Round Culvert** L= 114.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 402.00' / 380.00' S= 0.1930 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.77 cfs @ 12.09 hrs HW=402.73' TW=395.15' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.77 cfs @ 2.90 fps)

Summary for Pond 89P: DMH-15

Inflow Area = 0.130 ac, 95.40% Impervious, Inflow Depth > 8.47" for 100 year storm event
Inflow = 1.11 cfs @ 12.09 hrs, Volume= 0.092 af
Outflow = 1.11 cfs @ 12.09 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min
Primary = 1.11 cfs @ 12.09 hrs, Volume= 0.092 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 397.07' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	396.52'	**12.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 396.52' / 396.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.08 cfs @ 12.09 hrs HW=397.06' TW=395.15' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.08 cfs @ 2.50 fps)

Summary for Pond 90P: INFIL-1

Inflow Area = 1.010 ac,100.00% Impervious, Inflow Depth > 8.60" for 100 year storm event
Inflow = 8.65 cfs @ 12.09 hrs, Volume= 0.724 af
Outflow = 7.63 cfs @ 12.13 hrs, Volume= 0.616 af, Atten= 12%, Lag= 2.7 min
Discarded = 0.00 cfs @ 1.40 hrs, Volume= 0.004 af
Primary = 7.63 cfs @ 12.13 hrs, Volume= 0.612 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 421.40' @ 12.13 hrs Surf.Area= 3,313 sf Storage= 6,325 cf

Plug-Flow detention time= 123.0 min calculated for 0.616 af (85% of inflow)
Center-of-Mass det. time= 61.9 min (795.5 - 733.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	418.50'	2,984 cf	**30.00'W x 110.42'L x 3.50'H Field A** 11,594 cf Overall - 4,135 cf Embedded = 7,459 cf x 40.0% Voids
#2A	419.00'	4,135 cf	**ADS_StormTech SC-740 +Cap** x 90 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 90 Chambers in 6 Rows
		7,118 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	418.50'	**0.030 in/hr Exfiltration over Surface area**
#2	Primary	420.50'	**8.0" Vert. Orifice/Grate X 6.00** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 1.40 hrs HW=418.54' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=7.49 cfs @ 12.13 hrs HW=421.39' TW=415.35' (Dynamic Tailwater)
↑**2=Orifice/Grate** (Orifice Controls 7.49 cfs @ 3.58 fps)