STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Prepared for:

BTY HOLDINGS
3568 County Rd 16
Canandaigua, NY 14424

"MUST STASH IT"
NEW SELF-STORAGE WAREHOUSE FACILITY
2970 County Road 10
TOWN OF CANANDAIGUA
New York

Date:
April 16, 2020

Revision:

Prepared by:

MarksEngineering

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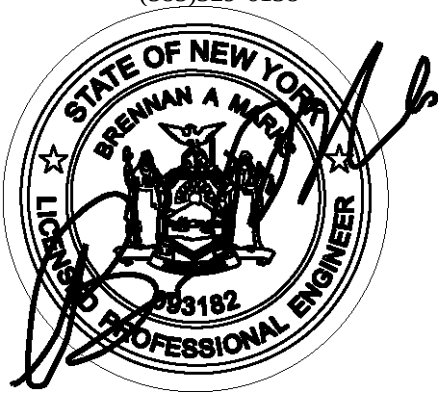
Canandaigua, NY 14424
(585)329-6138



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Erosion & Sediment Control Plan & Details

LIST OF APPENDICES

1. 0 INTRODUCTION

This SWPPP is prepared in accordance with the requirements of Article 17, Titles 7, 8, and Article 70 of the New York State Environmental Conservation Law to obtain coverage by the SPDES General Permit for Stormwater Discharge from Construction Activities (GP-0-15-002). A Construction Notice of Intent (NOI) has been filed with the NYSDEC (APPENDIX D), and the Town of Canandaigua will review the SWPPP and indicate its approval through signature on the MS4 Stormwater Pollution Prevention Plan Acceptance Form (APPENDIX E).

The design standards and practices outlined herein are in accordance with the New York Standards and Specifications for Erosion and Sediment Control and the New York State Stormwater Management Design Manual (SWDM).

The SWPPP includes the following:

- Identification of the SWPPP coordinator with a description of this person's duties.
- Description of the existing site conditions including existing land use of the site (i.e., wooded areas, open grassed areas, pavement, buildings, etc.), soil types at the site, as well as the location of surface waters which are located on or next to the site (wetlands, streams, rivers, lakes, ponds, etc.).
- Identification of the body of water(s) which will receive runoff from the construction site, including the ultimate body of water that receives the stormwater.
- Identification of drainage areas and potential stormwater contaminants.
- Description of construction stormwater management controls necessary to reduce erosion, sediment and pollutants in stormwater discharge.
- Description of the facility's monitoring plan and how controls will be coordinated with construction activities.
- Description of post-construction stormwater management practices for runoff quality and quantity control.

2.0 FACILITIES DESCRIPTION

2.1 Site Location

The proposed project is in the Town of Canandaigua located northwest of the corner of County Road 46 and County Road 10 (FIGURE 1). The site is bounded by neighboring vacant rural, commercial and residential properties.

According to the New York State Historic Preservation Office GIS – Public Access Website, the site is not in the state registry for historical significance or archeological sensitive. A letter of "No Impact"(pending) has been provided by NYS SHPO (Appendix H). The site is not within a 100 year floodplain as mapped by FEMA.

2.2. Project Description

Existing:

The area of the subject property is 7.336 Acres which is lot #2 of the recent West Corners, LLC two lot subdivision. The adjoining parcel to the west (lot #1) is approximately 22 acres which wraps around from the west side to the south side of the subject parcel. Lot #1 is currently occupied by an industrial solar generation facility and a residential house. Lands toward the north are used as agricultural with a former horse track and few barn buildings. This community is a mixture of commercial, industrial and residential uses. The site is not in a NYS DEC Brownfield remediation program and no know contamination is present. Lot#2 as it exists is currently vacant.

Proposed:

The proposed project will include the new development of a self-storage warehouse facility otherwise referred to as a "mini-storage". The facility will include 12 new 4500 square foot metal framed buildings. Each building will have a surrounding paved driveway with a main entrance and exit at the south side of the facility. A new emergency entrance will be placed at the north side of the facility. The entire

facility will be secured with a fence and an automatic gate at the entrance. The remaining lands will be used for stormwater management and/or maintained as lawn.

2.3 Type of Construction

The development construction activities will generally consist of the following:

- Stripping of topsoil
- Earthwork (regrading of earth with cuts and fills)
- Rough grading of site
- Excavations for the installation of underground utilities
- Building construction
- Driveway installation
- Construction of stormwater management facilities
- Final grading
- Landscaping, topsoil, and seeding of disturbed areas

2.4 Existing Site Hydrology

In general, the site drains west toward the rear of the property. Ultimately drainage from this site is collected in a wetland just west of the parent parcel which is tributary to the Canandaigua Lake Outlet. This existing site consists of two main drainage areas which area both tributary to the same wetland however exit property in two different locations.

Drainage Area 1 (DA-1) (FIGURE 5) drains northwest to the property boundary and continue along the north line of the adjacent parent parcel to the wetland. This drainage area currently exists as vacant fallow field land uses.

Drainage Area 2 (DA-2) (FIGURE 5) drains west to the property boundary and continue through the center of the adjacent parent parcel to the wetland. This drainage area also currently exists as vacant fallow field land uses.

The stormwater ultimately discharges into Canandaigua Lake, which is not a TMDL water body or a 303d stream segment.

2.4 Proposed Site Hydrology

The purpose of the Stormwater Management Plan is to safely control and convey all runoff from the site and to effectively reduce post-development runoff flows from new impervious areas. While controlling flow the intent is to also provide treatment of water quality and required detention per SWDM.

The site will remain consistent with the existing drainage patterns with the ultimate discharge in the same drainage patterns. A majority of drainage from newly created impervious areas have been directed towards DA-1. As a result, DA-2 has decreased in area. We have subdivided DA-1 into three areas for the sake of modeling the different management practices. DA-1A, DA-1B1 and DA-1B2 were created (See Figure 6).

DA-1A is the drainage area immediately adjacent to the county road which collects stormwater from two main cross culverts under the road and a new roadside ditch. Flows from DA-1A and off-site areas are direct through the site in a new diversion culvert to the existing outfall at the west property boundary. Stormwater from these offsite areas bypass the management practices that will be developed.

DA-1B1 and DA-1B2 are two different drainage areas within the developed storage facility which consist of impervious driveway and rooftops. DA-1B1 will be tributary to a new infiltration trench along the west side of the storage facility which will collect stormwater runoff and promote treatment and infiltration prior to discharging to the stormwater pond. DA-1B2 will sheet stormwater runoff directly to a vegetative filter strip prior to collection in the proposed stormwater management pond.

A proposed stormwater management pond is designed as a Pocket Pond (P-5) which is a relatively small pond that the bottom is below water table. It is assumed

based on the low-lying nature of the site and the lake water elevation that the water table will be approximately 2-4 feet below the ground surface. The bottom of the pond will be approximately 4 below the water table. This permanent pool provides water quality treatment and stormwater detention is provided above the water table.

The site development provides Green Infrastructure (GI) design as required by chapter 5 of the SWDM. See Appendix C for GI information and design. The first part of GI is consideration low impact planning of the proposed site development. We have considered and applied the following planning principles in this design: reduction of clearing, locating development in less sensitive areas, soil restoration, roadway, sidewalk, parking and driveway reduction. Additionally, we have a provided GI practices before runoff drains to the pocket pond. DA-1B1 flows to an infiltration basin and DA-1B2 flows over a vegetative filter before the pocket pond.

3.0 CONSTRUCTION STORMWATER MANAGEMENT

3.1 Stormwater Management Controls

The purpose of this section is to identify the types of temporary and permanent erosion and sediment controls that will be used on the site. The controls will provide soil stabilization for disturbed areas and structural controls to divert runoff and remove sediment. This section will also address control of other potential stormwater pollutant sources such as epoxy, concrete dust, grease, fuel oil, waste disposal, and sanitary waste disposal.

a. Temporary and Permanent Erosion Control Practices

To limit soil migration, the following measures will be implemented:

- Silt fencing will be placed along the perimeter of the area to be cleared and graded before any work takes place.

- Bare soils shall be seeded within 7 days of exposure, unless construction will begin within 14 days. As sections are completed, or if construction is suspended, the area will be seeded immediately.

The temporary seed mix shall consist of 30 pounds per acre of rye grass (annual or perennial) and 100 pounds per acre winter rye (cereal rye). Use winter rye if seeding occurs in October or November.

- Within 14 days after clearing and grading, ground agricultural limestone, 5-0-10 fertilizer will be applied to each acre to be stabilized by vegetation. The limestone should be at a pH of 6.0, and the fertilizer should be added at a rate of 600 pounds per acre. Phosphorus shall not be applied unless soil test by horticultural lab indicates it is necessary. Such lab paperwork shall be provided to the Town. If required it shall be applied at a minimum.

- After fertilizer, all areas which will not be impacted by further construction shall be permanently seeded. The permanent seed mix shall be 65% Kentucky Blue Grass blend at 85-114 pounds per acre, 20% perennial rye grass at 26-35 pounds per acre, and 15% fine fescue at 19-26 pounds per acre. An alternative seed would be 100% tall fescue, turf type fine leaf at 150-200 pounds per acre.

- After seeding, disturbed areas will be mulched with 4,000 pounds per acre of straw or hydroseeded with an appropriate tackifier.

- Topsoil stockpiles will be stabilized with temporary seed and mulch no later than 7 days from placement of the stockpile. The temporary seed shall be rye (grain) applied at the rate of 120 pounds per acre.

- Areas of the site which are to be paved will be temporarily stabilized by applying geotextile and stone sub-base until asphalt is applied.

- Stabilized construction entrances will be placed at the entrances to the site.

- All catch basins will be will have at least 1.0-foot sumps which will trap sediment from parking lot runoff following completion and stabilizations of the project. During construction, each basin will be protected from sediment laden inflow in accordance with the New York Standards and Specifications for Erosion and Sediment Control.

b. <u>Control Structure Design</u>

All erosion and sediment control structures are designed and shall be installed in accordance with the <u>New York Standards and Specifications for</u>

Erosion and Sediment Control.

c. Construction Practices to Minimize Stormwater Contamination

All waste materials will be collected and stored in a secure metal dumpster supplied by a waste handler which is a licensed solid waste management company. All trash and construction debris from the site shall be deposited in the dumpster. The dumpster will be emptied on an as-needed basis and the trash will be hauled to an approved landfill. No construction materials will be buried on-site. All personnel will be instructed regarding the correct procedure for waste disposal. All sanitary waste will be collected from the portable units by a licensed sanitary sewer waste management contractor. Good housekeeping and spill control practices will be followed during construction to minimize stormwater contamination from petroleum products, fertilizers, paints, and concrete. To prevent stormwater contamination from the site, good housekeeping practices are listed below:

- Fertilizers will be applied only in the minimum amounts recommended by the manufacturer, unless specified otherwise by the engineer and will be worked into the soil to limit exposure to stormwater.
- Fertilizers and hazardous materials/waste shall be stored in a covered shed or a sealable bin to avoid spills.
- All construction vehicles on site shall be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage.
- Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Storage shall comply w/ NYSDEC standard requirements for the material(s) contained.
- Sanitary waste shall be collected from portable units as needed to avoid overfilling.
- All curing compounds shall be tightly sealed and stored when not required for use. Excess compounds shall not be discharged to the storm system, and shall be properly disposed according to the manufacturer's instructions.

- Materials and equipment necessary for spill cleanup shall be kept in the temporary material storage trailer onsite. Equipment shall include, but not be limited to, brooms, dust pans, mops, rags, gloves, goggles, fast absorbent material, sand, saw dust, and plastic and metal trash containers.

- Petroleum spills must be reported to the DEC. Consult NYDEC regulations for spills.

  All reportable petroleum spills and most hazardous spills must be reported to the DEC hotline (1-800-457-7362) and the National Response Center (1-800-424-8802). Report the spill to local authorities, if required. For spills not deemed reportable, facts concerning the incident shall be documented by the spiller and a record maintained for one year.

- Concrete trucks shall only be allowed to wash out or discharge surplus concrete or drum wash water to a correctly installed and maintained concrete wash-out area.

- When testing/cleaning of water supply lines occurs, the discharge from the tested pipe will be collected and conveyed to a completed stormwater collection system for ultimate discharge into the stormwater management facility.

- Stabilized construction entrances shall be constructed to reduce vehicle tracking of sediments onto public roadways.

- The paved roads at the site entrances shall be swept daily to remove excess mud, dirt, or rock tracked from the site.

- Dump trucks hauling fine and dusty material from the construction site shall be covered with a tarpaulin.

- All ruts caused by equipment used for site clearing and grading shall be eliminated by re-grading.

d. <u>Coordination of Stormwater Management Control Structures with Construction Activities</u>

Stormwater Management Control Structures shall be coordinated with construction activities so the control plan is in place before construction begins. The following control structures will be coordinated with

construction activities:

- The temporary perimeter controls (silt fences, stabilized construction entrance, sediment basins and check dams) shall be installed before any work begins.
- Clearing and grading shall not occur in an area until it is necessary for construction to proceed.
- Once construction activity ceases permanently in an area, that area will be immediately stabilized with permanent seed and mulch.
- The proposed detention basin shall initially be constructed as a sediment trap during construction (See Construction Documents).
- The temporary perimeter controls (silt fencing) shall not be removed until all construction activities at the site are complete and soils have been stabilized.

e. Certification of Compliance with Federal, State, and Local Regulation

This SWPPP reflects local, state, and federal requirements for stormwater management and erosion and sediment control, as established in SPDES General Permit for Stormwater Discharge from Construction Activity, Permit No. GP-0-15-002. There are no other applicable State or Federal requirements for sediment and erosion site plans (or permits), or stormwater management site plans (or permits).

3.2 Maintenance/Inspection Procedures

a. Inspections

Visual inspections of all cleared and graded areas of the construction site will be performed weekly as required by the SPDES General Permit for Stormwater Discharge from Construction Activities (GP-0-15-002). Inspection Reports will be submitted to the developer, the construction contractor(s), and the Town of Benton.

The site inspections will be conducted by a qualified professional whom the DEC defines as a person knowledgeable in principals and practice of

erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist. The inspections will verify that the control structures described in Section 3 of this SWPPP are being utilized correctly to control erosion and sedimentation. The inspector shall also have the capacity to require additional controls as required to control erosion and sediment on the site. The inspection will also verify that the procedures used to prevent stormwater contamination from construction materials and petroleum products are effective.

The Inspection Report will be completed after each inspection. A copy of the report form to be completed by the SWPPP coordinator is provided in APPENDIX A of this SWPPP. Completed forms will be maintained on-site during the entire construction project. A copy shall also be submitted to the governing agency. The developer will be responsible for reviewing each report and making all necessary repairs to the stormwater management facilities as indicated in the report. Following construction, the completed forms shall be retained at the owner's office for a minimum of one year.

If construction activities change or design modifications are made to the site plan which could impact stormwater, this SWPPP will be amended appropriately by recommendations and requirements set forth by the inspector. The inspection report shall serve as an amendment to this SWPPP.

b. <u>Maintenance</u>

1. Construction

During construction and until such time as the site is stabilized, all erosion/sediment control measures shall be maintained as specified in the New York Standards and Specifications for Erosion and Sediment Control and as summarized below:

- Silt Fence - Remove accumulated sediment when bulges appear in the fencing or when sediment is one-foot deep.
- Sediment Trap - Remove sediment and restore trap to original dimensions when sediment has accumulated to one-half of the design depth of the trap.
- Stabilized Construction Entrance - Periodic top dressing with stone is required to help prevent tracking of sediment onto public roads.

2. Post-Construction

APPENDIX F includes the recommended Maintenance and Management Inspection Checklists taken from the New York State Stormwater Management Design Manual for the stormwater management facility.

Maintenance of the site by the owner will also include but not be limited to the following:

- Periodic sweeping of the pavement to remove accumulated sediment.
- Periodic mowing of the banks of the pond area and maintenance of the vegetation.

3. 3. Employee Training

An employee training program shall be developed and implemented by the owner(s) and contractors to educate employees about the requirements of the SWPPP. This education program will include background on the components and goals of the SWPPP and hands-on training in erosion controls, spill prevention and response, good housekeeping, proper material handling, disposal and control of waste, equipment fueling, and proper storage, washing, and inspection procedures. All employees shall be trained prior to their first day on the site.

3.4 SWPPP COORDINATOR AND DUTIES

A construction site SWPPP coordinator for the facility shall be appointed by the developer and/or contractor. The duties of the construction site SWPPP coordinator include the following:

- Implement the SWPPP plan with the aid of the SWPPP team; Oversee maintenance practices identified in the SWPPP
- Implement and oversee employee training
- Conduct or provide for inspection and monitoring activities
- Identify other potential pollutant sources and make sure they are added to the plan
- Identify any deficiencies in the SWPPP and make sure they are corrected, and ensure that any changes in construction plans are addressed in the SWPPP
- Ensure that all housekeeping and monitoring procedures are implemented

4.0 POST-CONSTRUCTION STORMWATER MANAGEMENT

4.1 Collection and Conveyance Facilities

Permanent stormwater collection and conveyance facilities are designed to control the developed, post-construction stormwater runoff from the proposed development, employing the following standards:

Facilities	Design Standard
Underground storm sewer and catch basins	- developed 10-year storm
Swales	- developed 10-year storm
Major culverts	- developed 25-year storm
Overland stabilized flood routes	- developed 100-year storm

(1) Pipe velocity <15 fps, rip-rap aprons provided at outlets in accordance with New York Standards and Specifications for Erosion and Sediment Control.

(2) If calculated channel velocity exceeds 6 fps, then erosion protection

(i.e. stone lining, pavement, staked mesh) will be provided in accordance with New York Standards and Specifications for Erosion and Sediment Control.

4.2 Stormwater Peak Runoff Rates and Water Quality Management

Due to the construction of additional impervious surfaces, peak stormwater runoff rates, volumes, and pollutant loads will increase when the new areas are developed. Mitigation of this impact is achieved through employment of stormwater management measures that achieve pollutant removal goals, reduce channel erosion, prevent overbank flooding, and help control extreme floods. This project will meet all NYSDEC Water quality treatment requirements for the improvements. In addition this project will meet the Town of Canandaigua required Enhanced Phosphorous Removal as outlined in Chapter 10 of the SWDM.

Green infrastructure has been implemented (Appendix C) to reduce, infiltrate and treatment the required water quality volume. The proposed pocket pond basin has been designed using the unified stormwater sizing criteria in accordance with the New York State Stormwater Design Manual, Detail P-5("Pocket Pond"). The following is a summary how the design standards have been met.

Water Quality/Runoff Reduction- Green Infrastructure (APPENDIX C).

Channel Protection	-	Provided in the Pocket pond above permanent pool. Use a 3" low flow orifice above permanent pool.
Overbank Flood	-	Provided in the Pocket pond above permanent pool. Use 8" riser above channel protection volume to safely outlet these storms.
Extreme Storm	-	Provided in the Pocket pond above permanent pool. Use 10" wide emergency spillway to convey these flows out of the pond.

Computations for the design are included in APPENDICES B and C. FIGURES 5 and 6 show existing and proposed tributary drainage areas.

5.0 GREEN INFRASTRUCTURE TECHNIQUES

This project has incorporated several of the required practices outlined by the SWDM as "Green Infrastructure Techniques and Practices". The intent of these practices are to preserve natural areas and features as well as promote infiltration and groundwater recharge. Appendix C explains the design and implementation of these practices.

An infiltration basin is applied to receive runoff from DA-1B1. This practice is a 2800 square foot grass channel with a stone lined trench at the base. Runoff will be collected in this basin and allowed to infiltrate into the soil. A small underdrain is provided to dewater the basin overtime and prevent damage from winter condition.

A 100-foot-wide by 75 feet long vegetative filter strip is provided to receive runoff from DA-1B2 and sheet flow this runoff to the pocket pond. The filter strip will promote infiltration into the soil and treatment through the grass area.

DA-1A includes areas of the site adjacent to the road. Runoff from these areas is conveyed to a vegetative swale and then to the diversion culvert.

6.0 NOTICE OF TERMINATION

Following the completion of construction, the owner/operator shall file a Notice of Termination (NOT) with the DEC (APPENDIX H).

Prior to filing the NOT, the operator shall have the qualified professional perform a final site inspection, at which time the qualified professional shall certify that the site has undergone final stabilization. "Final Stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 80% has been established or equivalent stabilization measures (such as the use of mulches or geotextile) have been employed on all unpaved areas and areas not covered by permanent structures.

6.0 Certification

Engineer's Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manages the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law."

_____

Name

Project Engineer

Title

_____

Date

Corporate Certification (Owner)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manages the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law."

_____

Name

_____

Title

_____

Date

The General Contractor shall be responsible for the coordination of the installation and maintenance of all erosion and sediment controls for the project, including the work of all subcontractors. Final stabilization of the site, including removal of temporary controls and placement of permanent stormwater management practices shall also be coordinated by the General Contractor.

Contractor Certification (General Contractor)

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the New York State Pollutant Discharge Eliminate System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect, or inaccurate information is a violation of the referenced permit and the laws of the State of New York and subject me to criminal, civil, and/or administrative proceedings."

_____

Name

_____

Title

_____

Date

The excavation and grading subcontractor shall be responsible for erosion and sediment control during all aspects of general excavation and grading including, but not limited to; clearing and grubbing, installation of temporary stabilization controls (silt fence, sediment traps, diversion swales, temporary seeding, etc.) earthwork, utility installations, paving, and other permanent, non-vegetative cover.

Contractor Certification (Excavations and Grading Subcontractor)

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the New York State Pollutant Discharge Eliminate System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect, or inaccurate information is a violation of the referenced permit and the laws of the State of New York and subject me to criminal, civil, and/or administrative proceedings."

_____

Name

_____

Title

_____

Date

The Landscaping Contractor shall be responsible for erosion and sediment control practices, including permanent vegetative cover, during and directly related to all landscaping for the project.

Contractor Certification (Landscaping Subcontractor)

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the New York State Pollutant Discharge Eliminate System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect, or inaccurate information is a violation of the referenced permit and the laws of the State of New York and subject me to criminal, civil, and/or administrative proceedings."

_____

Name

_____

Title

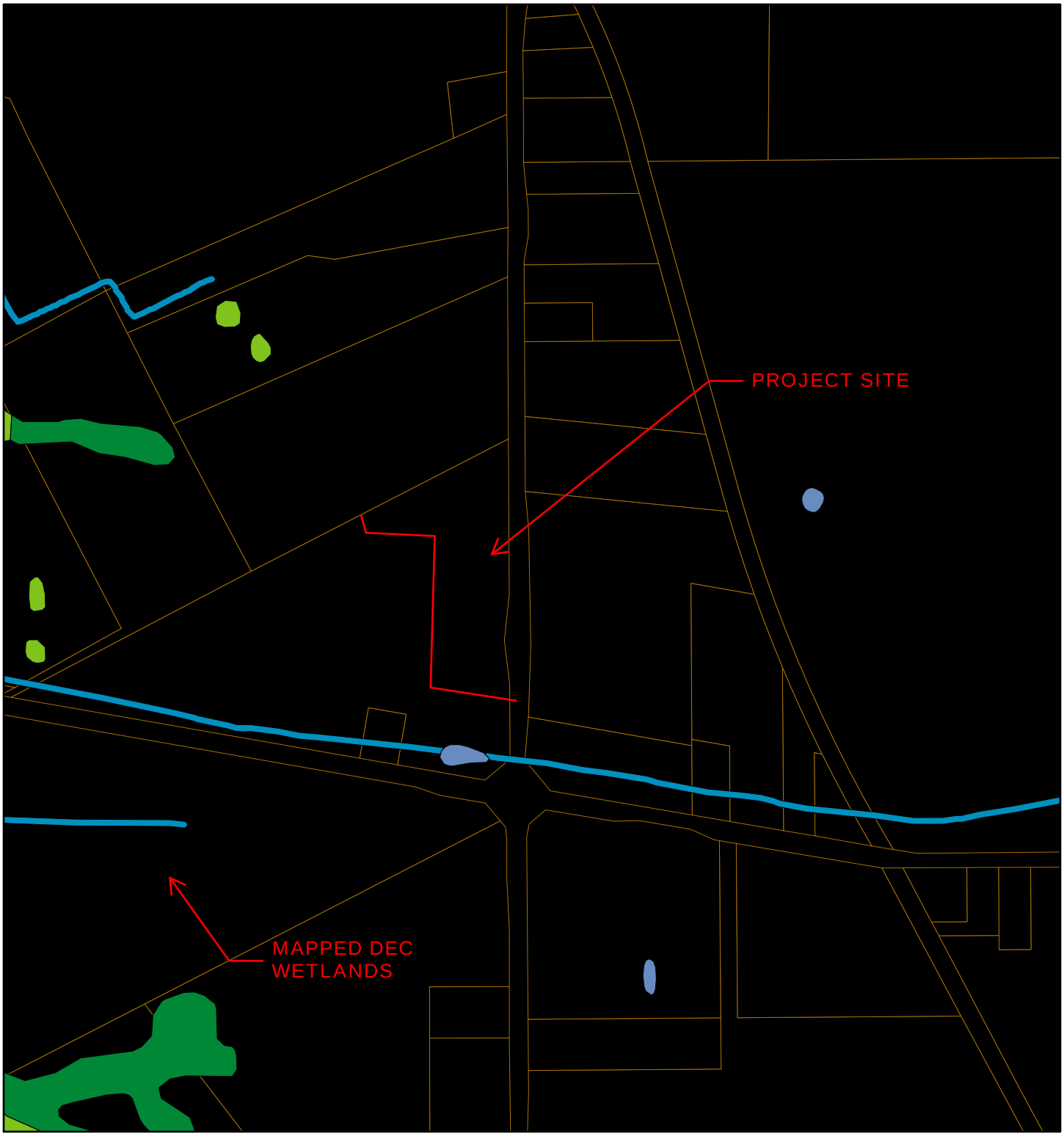
_____

Date

FIGURE 1

LOCATION MAP

FIGURE-1 LOCATION MAP



April 15, 2020

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

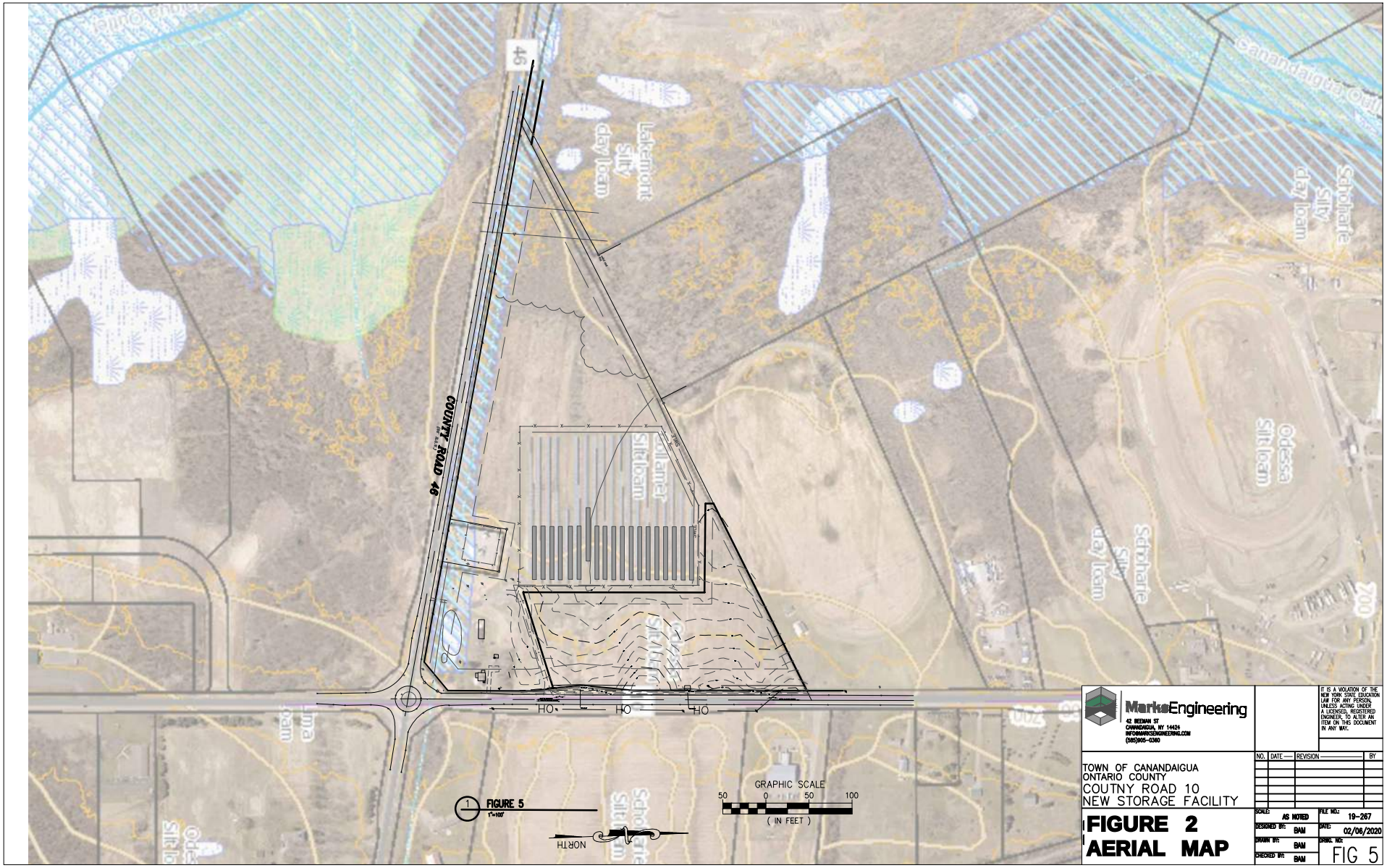
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Author: MARKS ENGINEERING

Not a legal document

FIGURE 2

AERIAL PHOTO



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IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER A LICENSED, REGISTERED ENGINEER, TO ALTER AN ITEM ON THIS DOCUMENT IN ANY WAY.

NO.	DATE	REVISION	BY

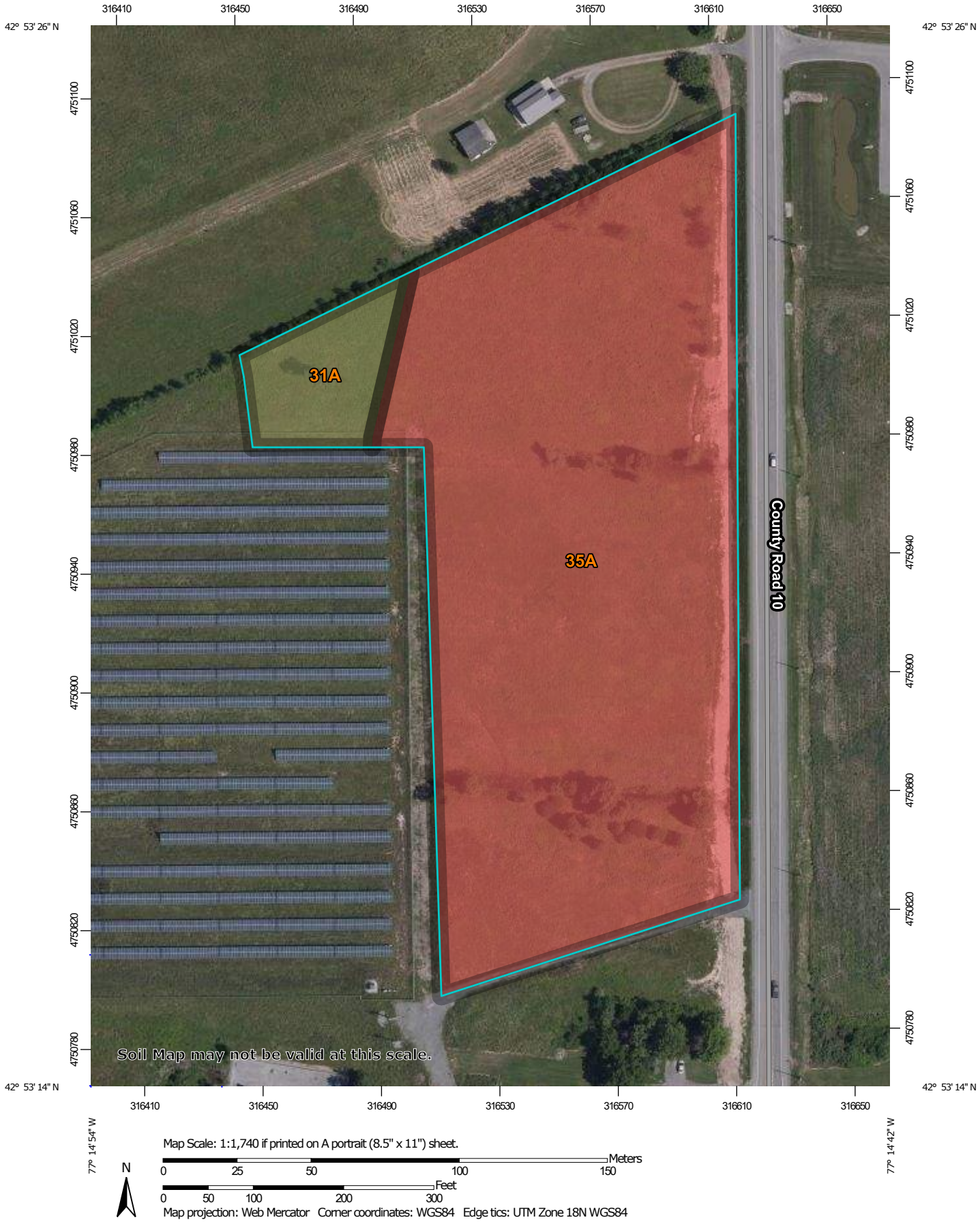
TOWN OF CANANDAIGUA
ONTARIO COUNTY
COUTNY ROAD 10
NEW STORAGE FACILITY

FIGURE 2
AERIAL MAP

SCALE:	AS NOTED
DESIGNED BY:	BAM
DRAWN BY:	BAM
CHECKED BY:	BAM
FILE NO.:	19-267
DATE:	02/06/2020
DRWG. NO.:	FIG 5

FIGURE 3

SOIL MAP



Map Scale: 1:1,740 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Ontario County, New York
Survey Area Data: Version 17, Sep 16, 2019

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

Date(s) aerial images were photographed: Jul 9, 2019—Jul 15, 2019

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
31A	Collamer silt loam, 0 to 3 percent slopes	C/D	0.5	7.2%
35A	Odessa silt loam, 0 to 3 percent slopes	D	6.8	92.8%
Totals for Area of Interest			**7.3**	**100.0%**

Description

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

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

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

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

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

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

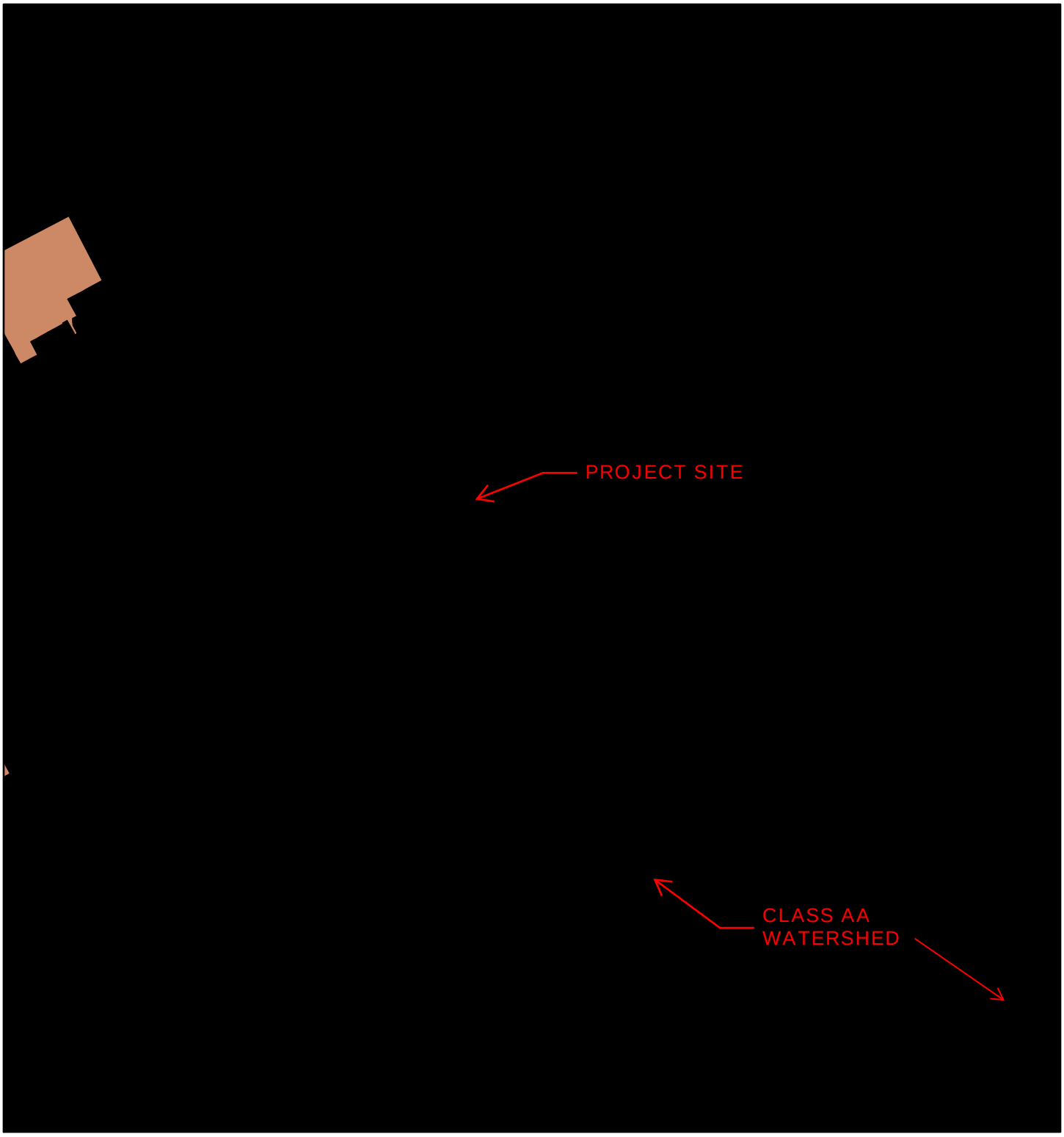
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

FIGURE 4

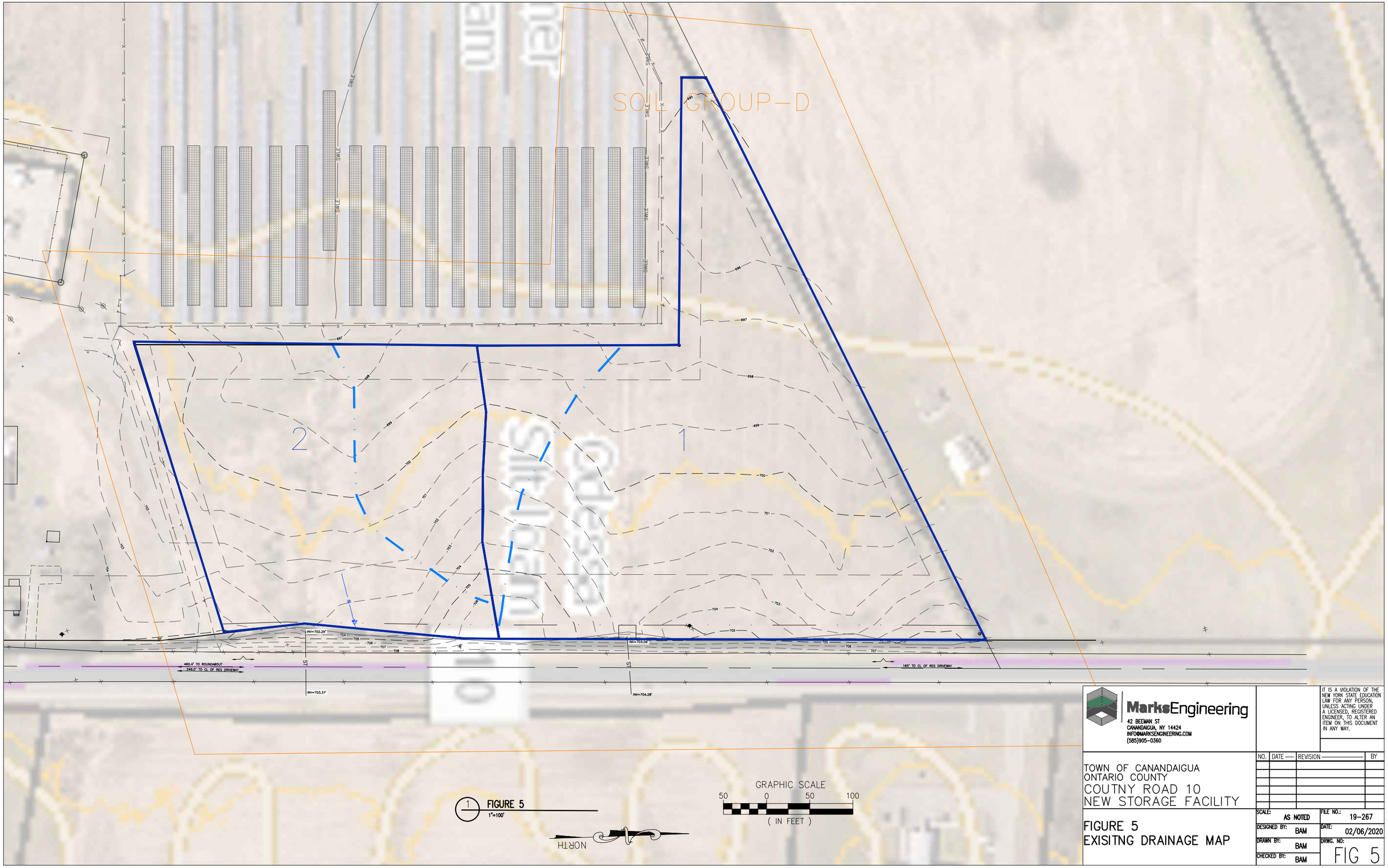
NYS DEC STORMWATER MAPPER MAP



$SULO

FIGURE 5

EXISTING DRAINAGE MAP



1 FIGURE 5
1"=100'

GRAPHIC SCALE
50 0 50 100
(IN FEET)

MarksEngineering
42 BEEMAN ST
CANANDAIGUA, NY 14424
INFO@MARKSENGINEERING.COM
(585)905-0360

TOWN OF CANANDAIGUA
ONTARIO COUNTY
COUTNY ROAD 10
NEW STORAGE FACILITY

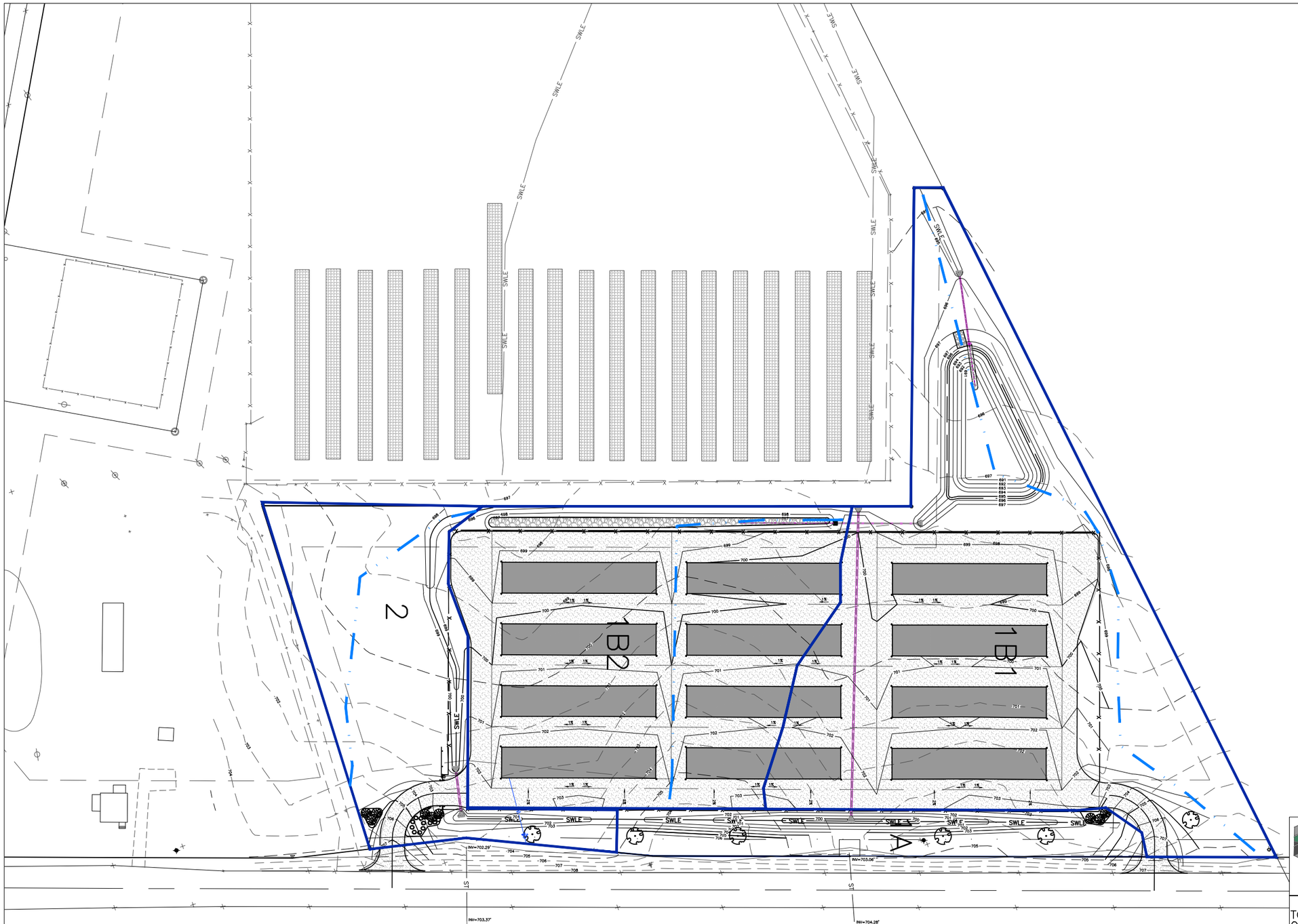
NO.	DATE	REVISION	BY

FIGURE 5
EXISITNG DRAINAGE MAP

SCALE:	AS NOTED
DESIGNED BY:	BAM
DRAWN BY:	BAM
CHECKED BY:	BAM
FILE NO.:	19-267
DATE:	02/06/2020
DRWG. NO:	FIG 5

FIGURE 6

PROPOSED DRAINAGE MAP



MarksEngineering
42 BEEMAN ST
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TOWN OF CANANDAIGUA
ONTARIO COUNTY
COUTNY ROAD 10
NEW STORAGE FACILITY

NO.	DATE	REVISION	BY

FIGURE 6
PROPOSED DRAINAGE MAP

SCALE:	AS NOTED
DESIGNED BY:	BAM
DRAWN BY:	BAM
CHECKED BY:	BAM
FILE NO.:	19-267
DATE:	02/06/2020
DRWG. NO:	FIG 6

APPENDIX A

Inspection Report Form

MARKS ENGINEERING, P.C.

42 BEEMAN STREET, CANANDAIGUA, NY 14424 phone 585.329.6138 fax 585.486.6205

SWPPP INSPECTION REPORT

PROJECT:	**SPDES PERMIT NO. :**
PROJECT NO.:	**WEATHER:**
CONSTRUCTION STAGE:	**LASTSIGNINFICANT PERCIPITATION EVENT:**

	COMPONENT	CONDITION		DEFICIENCIES AND RECOMMENDATIONS
1	GENERAL HOUSEKEEPING	ACCEPT		
		DEFICIENT	N/A	
2	SILT FENCE/ PERIMETER CONTROLS	ACCEPT		
		DEFICIENT	N/A	
3	SEDIMENT BASINS, TRAPS & PONDS	ACCEPT		
		DEFICIENT	N/A	
4	INLET PROTECTION	ACCEPT		
		DEFICIENT	N/A	
5	PAVEMENT/ ROADWAY/ OFF-SITE	ACCEPT		
		DEFICIENT	N/A	
6	CONSTRUCTION ACCESS	ACCEPT		
		DEFICIENT	N/A	
7	STABILIZATION (SEED/MULCH)	ACCEPT		
		DEFICIENT	N/A	
8	CHECK DAMS	ACCEPT		
		DEFICIENT	N/A	
9	SWALES & DIKES	ACCEPT		
		DEFICIENT	N/A	
10	STOCKPILES & MATERIAL MANAGEMENT	ACCEPT		
		DEFICIENT	N/A	
11	STABLIZED OUTLET PROTECTION & LEVEL SPREADERS	ACCEPT		
		DEFICIENT	N/A	
12	DEWATERING	ACCEPT		
		DEFICIENT	N/A	
13	CONCRETE WASH-OUT	ACCEPT		
		DEFICIENT	N/A	
14	RECORD KEEPING & POSTINGS	ACCEPT		
		DEFICIENT	N/A	
	CRITICAL / REPORT			
	SOIL CONDITIONS:	DRY	WET	none

ADDITIONAL COMMENTS:

INSPECTION BY: _____ **TIME:** _____ **DATE OF INSPECTION:** _____

SIGNATURE OF INSPECTOR: _____ **INSPECTIONS FREQUENCY** Weekly

APPENDIX B

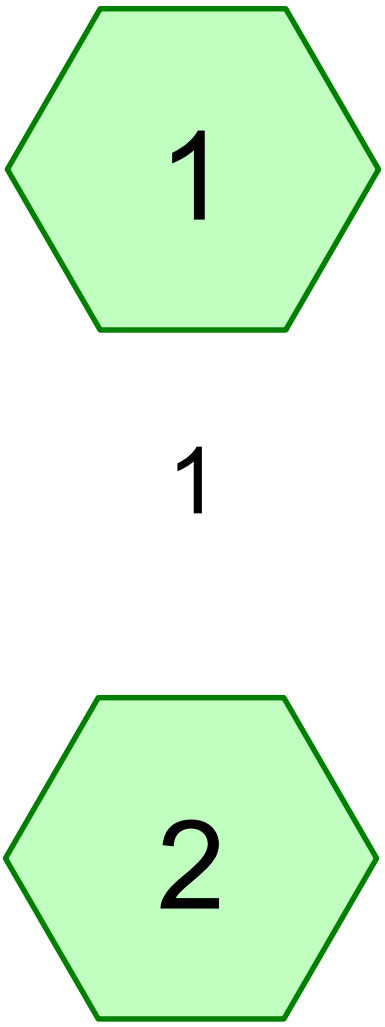
Existing and Proposed Peak Runoff Computations

Events for Subcatchment 1: 1

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1-Year	1.89	1.13	0.105	0.27
2-Year	2.19	1.95	0.157	0.41
10-Year	3.14	5.18	0.364	0.94
100-Year	**5.29**	**14.34**	**0.967**	**2.51**

Events for Subcatchment 2: 2

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1-Year	1.89	0.63	0.061	0.27
2-Year	2.19	1.10	0.092	0.41
10-Year	3.14	2.94	0.213	0.94
100-Year	**5.29**	**8.18**	**0.566**	**2.50**



Subcat Reach Pond Link

Routing Diagram for 19-267 EX Model
Prepared by {enter your company name here}, Printed 2/20/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
7.342	73	Brush, Good HSG D (1, 2)

Summary for Subcatchment 1: 1

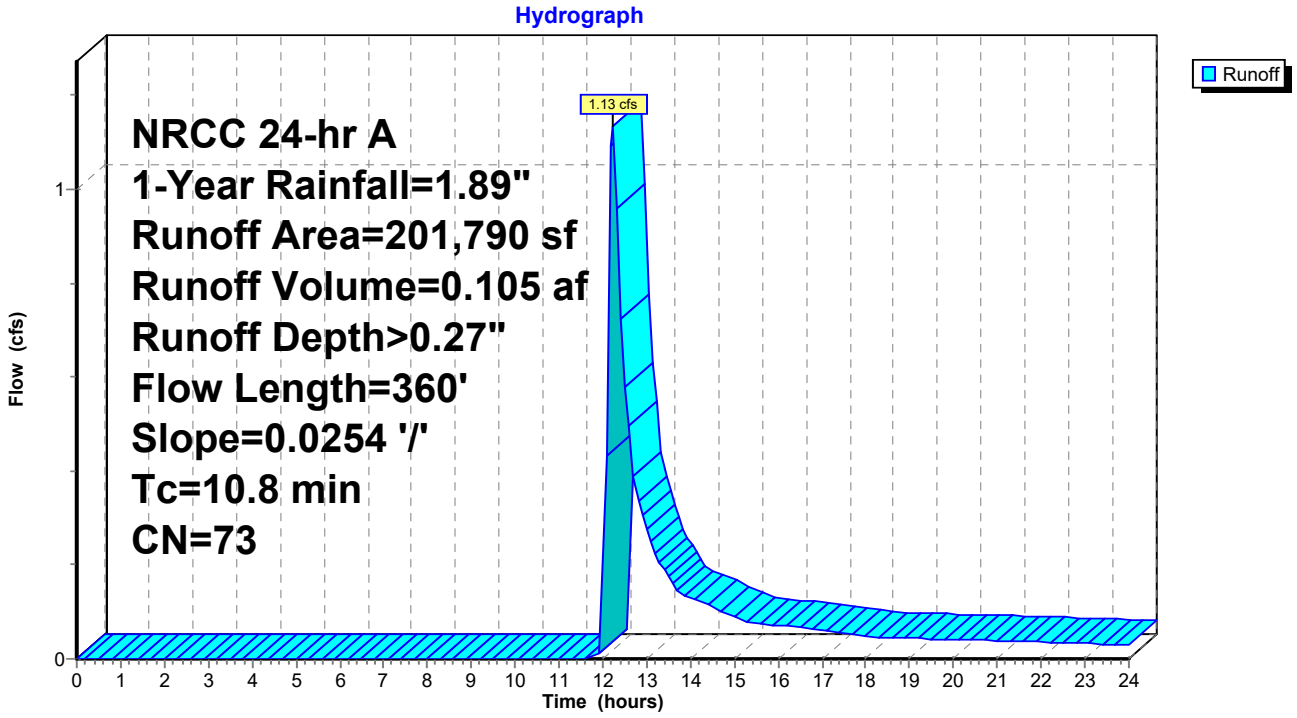
Runoff = 1.13 cfs @ 12.23 hrs, Volume= 0.105 af, Depth> 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-Year Rainfall=1.89"

Area (sf)	CN	Description
201,790	73	Brush, Good HSG D
201,790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	360	0.0254	0.55		**Lag/CN Method,**

Subcatchment 1: 1



Summary for Subcatchment 2: 2

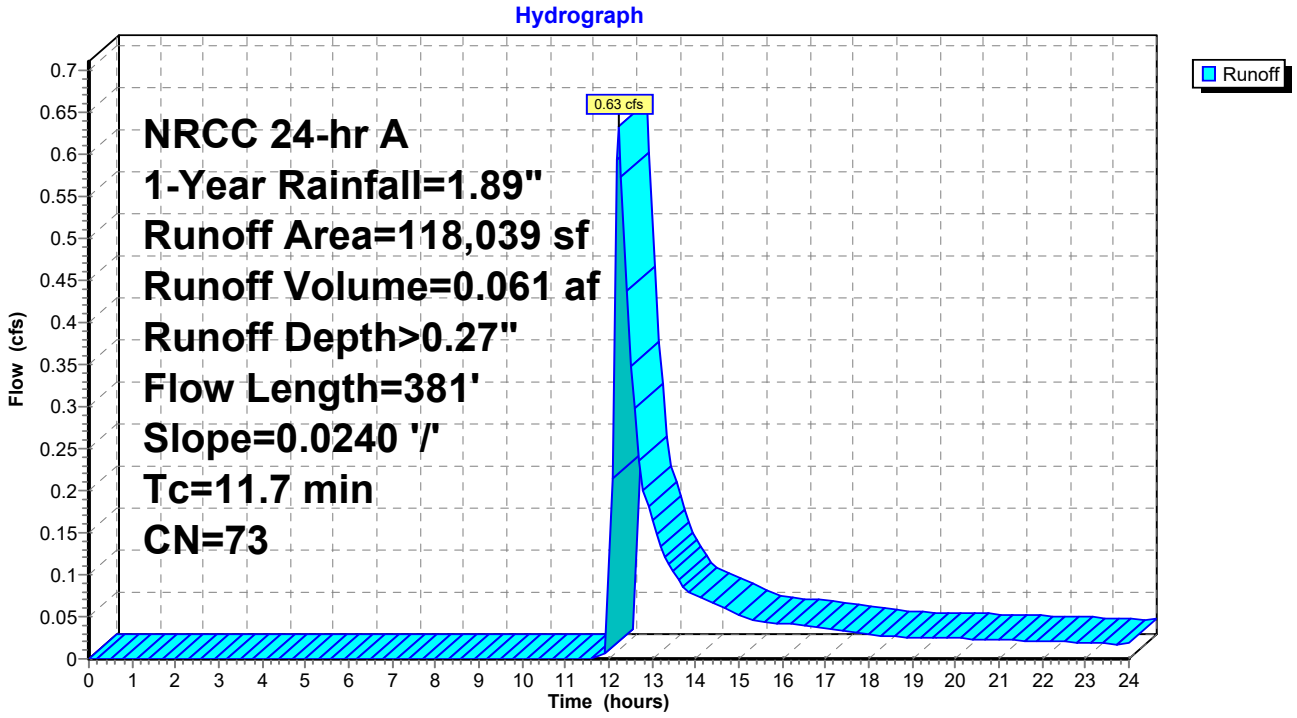
Runoff = 0.63 cfs @ 12.24 hrs, Volume= 0.061 af, Depth> 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-Year Rainfall=1.89"

Area (sf)	CN	Description
118,039	73	Brush, Good HSG D
118,039		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	381	0.0240	0.54		**Lag/CN Method,**

Subcatchment 2: 2



Summary for Subcatchment 1: 1

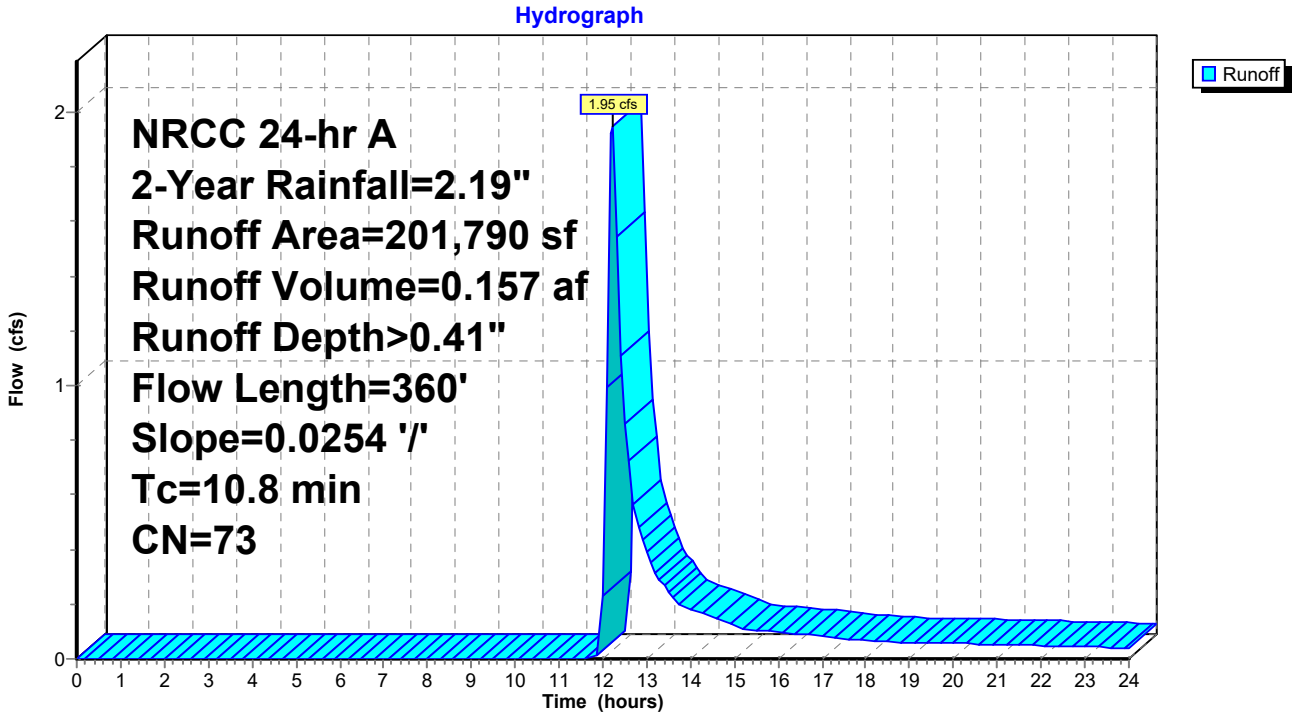
Runoff = 1.95 cfs @ 12.22 hrs, Volume= 0.157 af, Depth> 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 2-Year Rainfall=2.19"

Area (sf)	CN	Description
201,790	73	Brush, Good HSG D
201,790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	360	0.0254	0.55		**Lag/CN Method,**

Subcatchment 1: 1



Summary for Subcatchment 2: 2

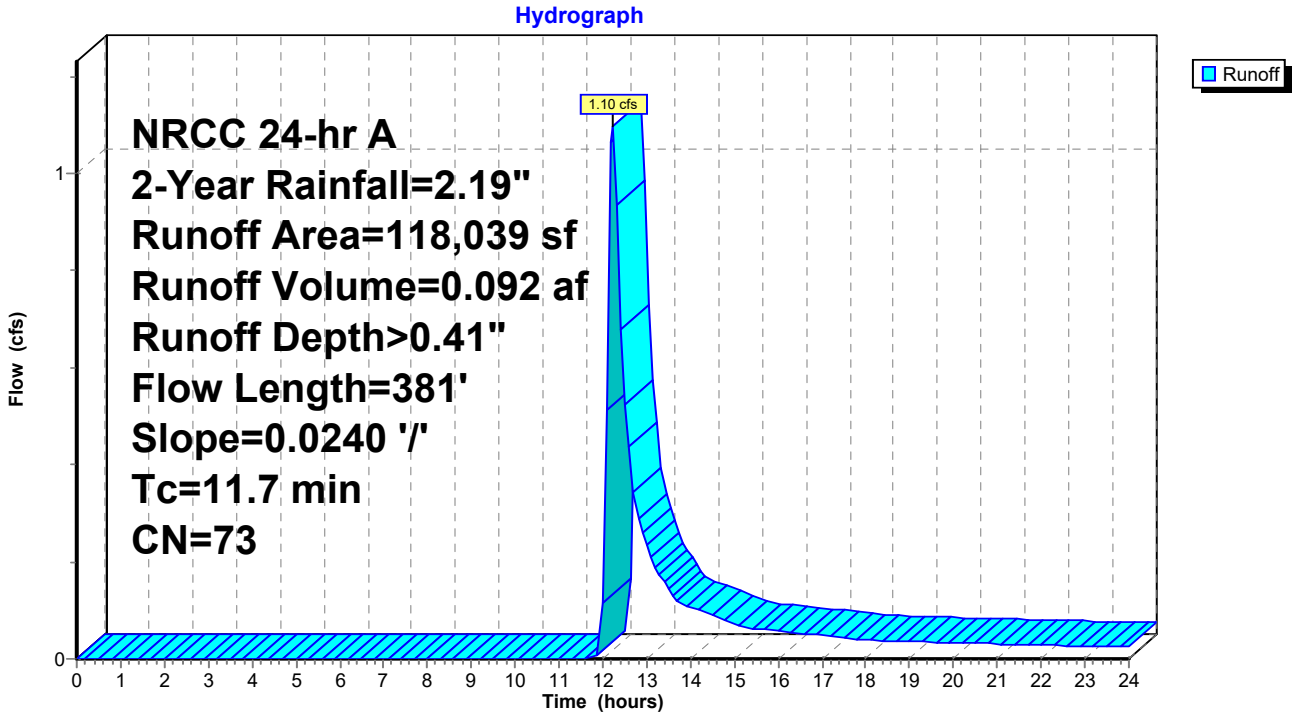
Runoff = 1.10 cfs @ 12.23 hrs, Volume= 0.092 af, Depth> 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 2-Year Rainfall=2.19"

Area (sf)	CN	Description
118,039	73	Brush, Good HSG D
118,039		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	381	0.0240	0.54		**Lag/CN Method,**

Subcatchment 2: 2



Summary for Subcatchment 1: 1

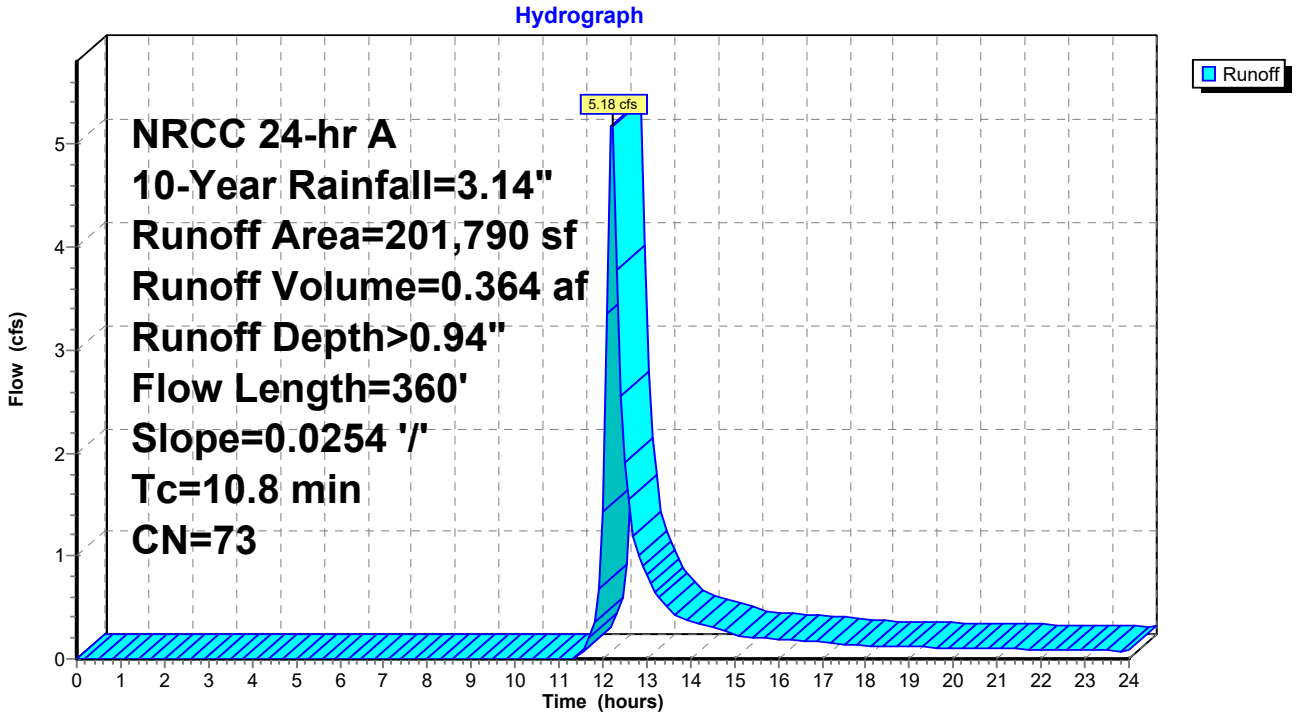
Runoff = 5.18 cfs @ 12.21 hrs, Volume= 0.364 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-Year Rainfall=3.14"

Area (sf)	CN	Description
201,790	73	Brush, Good HSG D
201,790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	360	0.0254	0.55		**Lag/CN Method,**

Subcatchment 1: 1



Summary for Subcatchment 2: 2

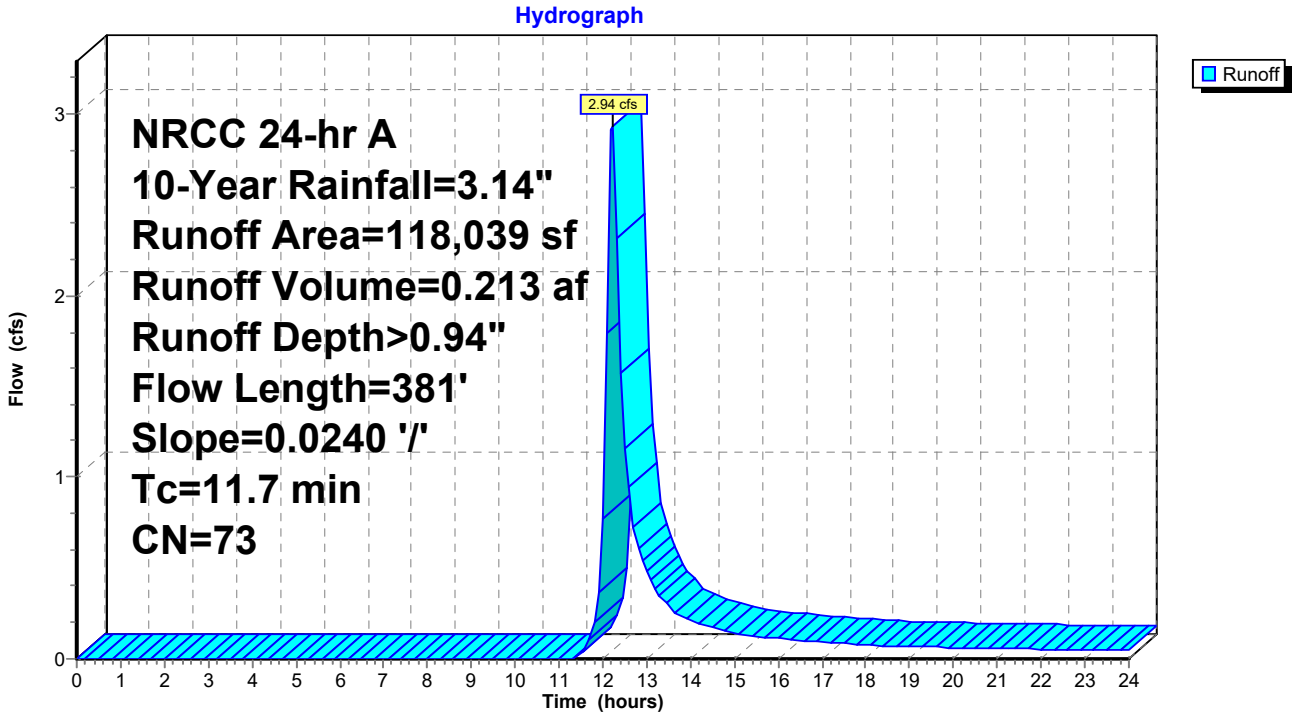
Runoff = 2.94 cfs @ 12.22 hrs, Volume= 0.213 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-Year Rainfall=3.14"

Area (sf)	CN	Description
118,039	73	Brush, Good HSG D
118,039		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	381	0.0240	0.54		**Lag/CN Method,**

Subcatchment 2: 2



Summary for Subcatchment 1: 1

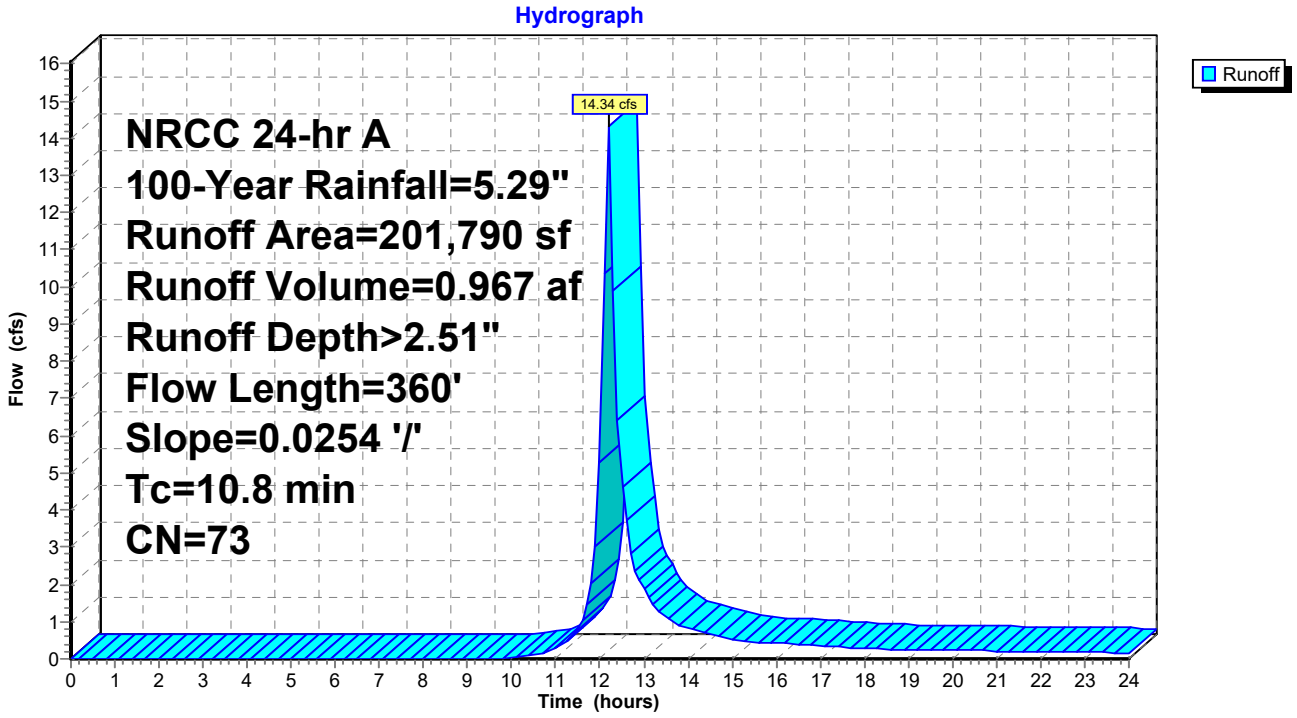
Runoff = 14.34 cfs @ 12.20 hrs, Volume= 0.967 af, Depth> 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-Year Rainfall=5.29"

Area (sf)	CN	Description
201,790	73	Brush, Good HSG D
201,790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	360	0.0254	0.55		**Lag/CN Method,**

Subcatchment 1: 1



Summary for Subcatchment 2: 2

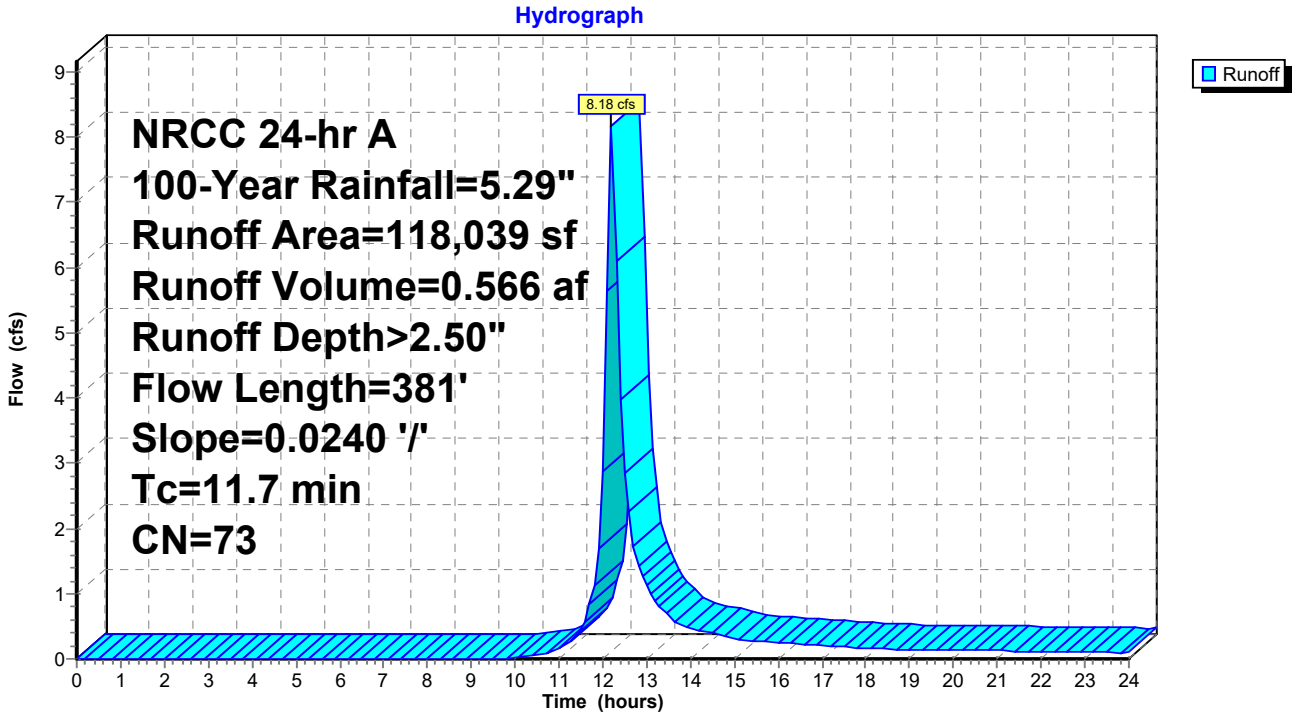
Runoff = 8.18 cfs @ 12.21 hrs, Volume= 0.566 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-Year Rainfall=5.29"

Area (sf)	CN	Description
118,039	73	Brush, Good HSG D
118,039		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	381	0.0240	0.54		**Lag/CN Method,**

Subcatchment 2: 2

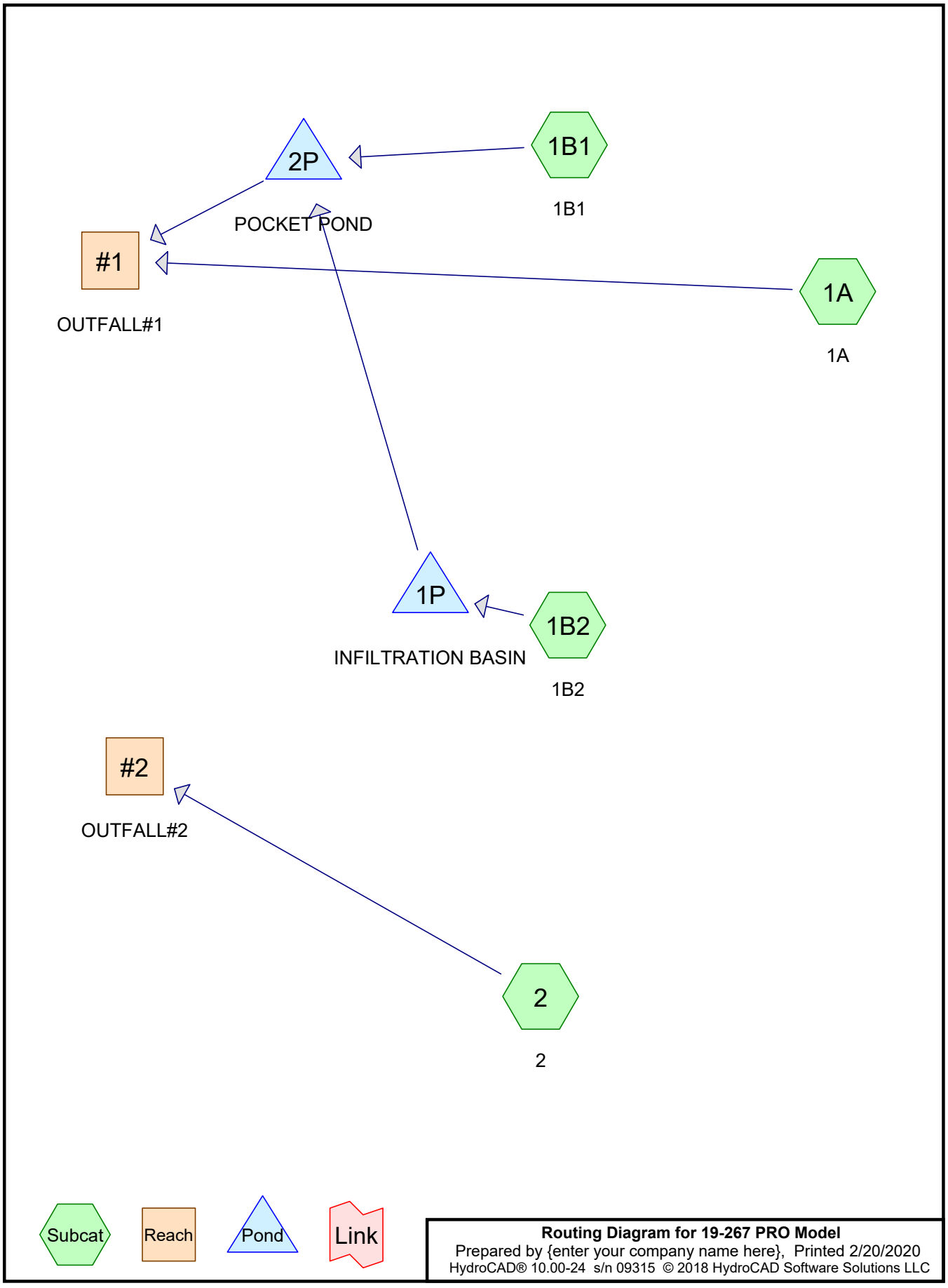


Events for Reach #1: OUTFALL#1

Event	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (cubic-feet)
1-Year	0.39	0.39	**0.00**	**0**
2-Year	0.55	0.55	0.00	0
10-Year	1.31	1.31	0.00	0
100-Year	**13.96**	**13.96**	0.00	0

Events for Reach #2: OUTFALL#2

Event	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (cubic-feet)
1-Year	0.78	0.78	**0.00**	**0**
2-Year	1.09	1.09	0.00	0
10-Year	2.16	2.16	0.00	0
100-Year	**4.86**	**4.86**	0.00	0



Routing Diagram for 19-267 PRO Model
Prepared by {enter your company name here}, Printed 2/20/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.464	80	>75% Grass cover, Good HSG D (1A, 1B1, 1B2, 2)
3.867	98	Paved parking HSG D (1A, 1B1, 1B2, 2)

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	696.35	696.35	77.0	0.0000	0.013	12.0	0.0	0.0
2	2P	694.80	694.80	64.0	0.0000	0.013	8.0	0.0	0.0

Summary for Subcatchment 1A: 1A

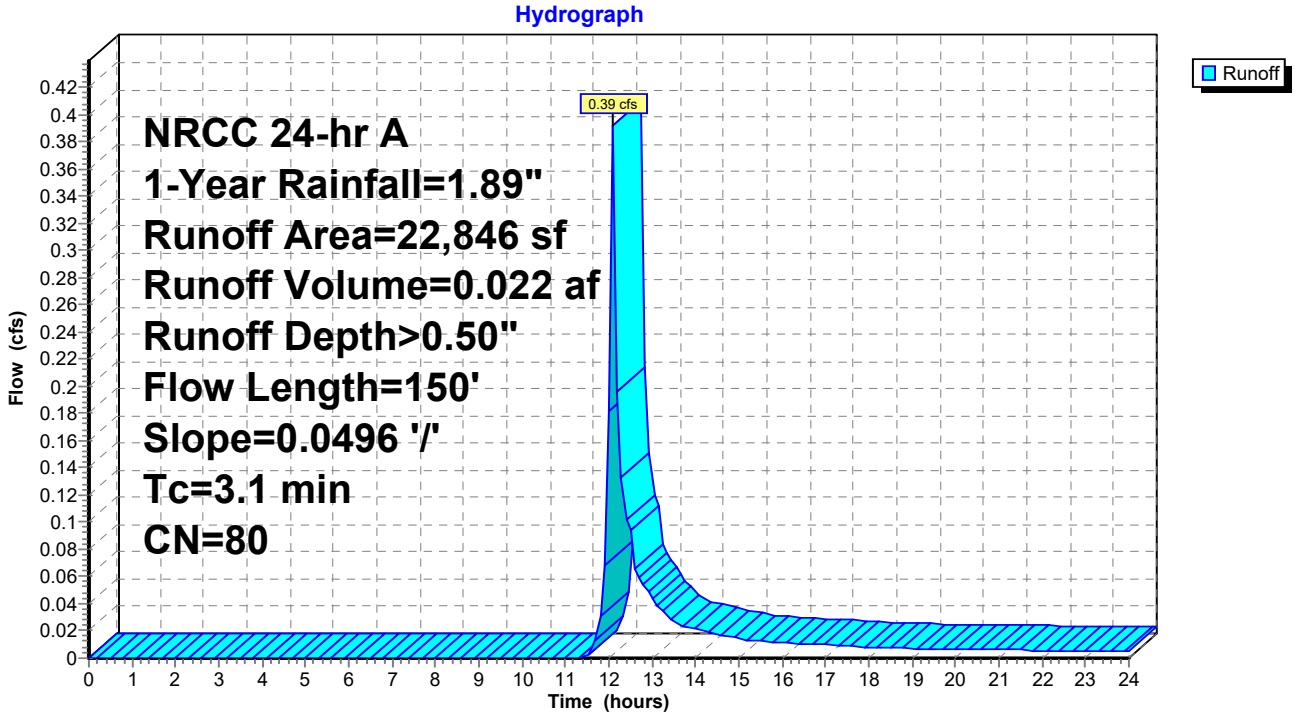
Runoff = 0.39 cfs @ 12.10 hrs, Volume= 0.022 af, Depth> 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-Year Rainfall=1.89"

Area (sf)	CN	Description
54	98	Paved parking HSG D
22,792	80	>75% Grass cover, Good HSG D
22,846	80	Weighted Average
22,792		99.76% Pervious Area
54		0.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	150	0.0496	0.80		**Lag/CN Method,**

Subcatchment 1A: 1A



Summary for Subcatchment 1B1: 1B1

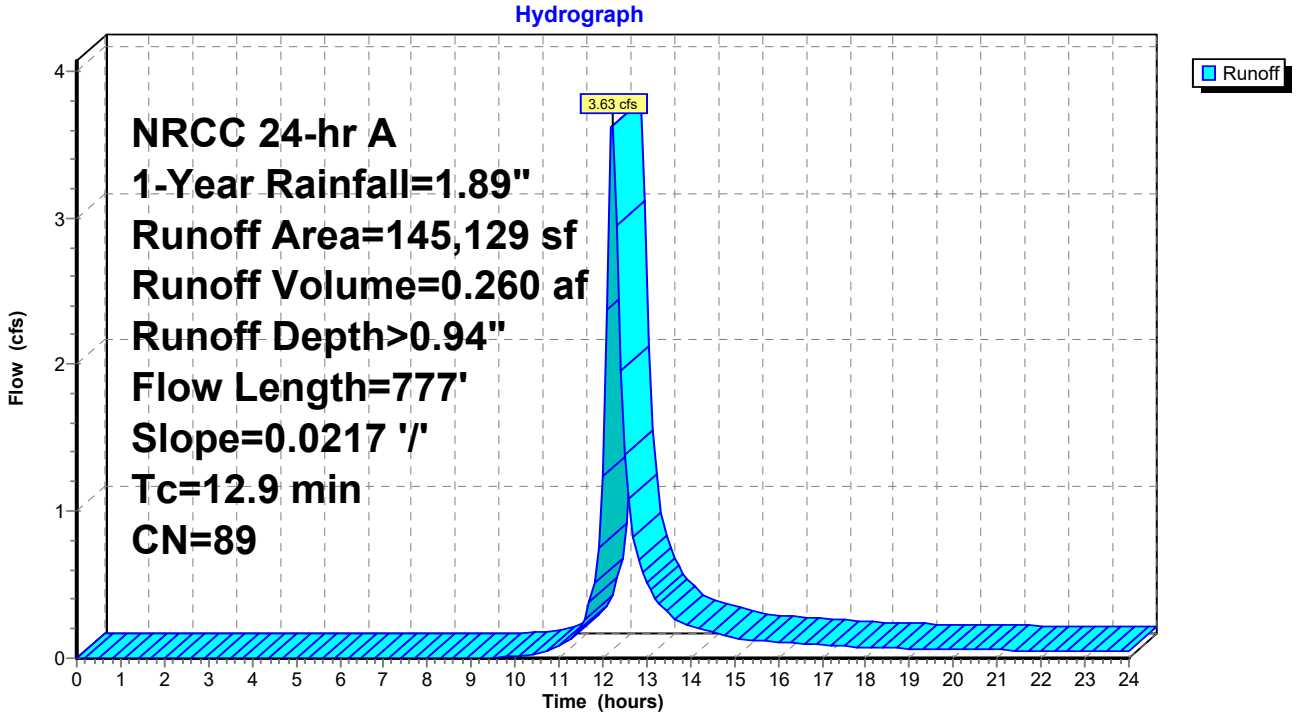
Runoff = 3.63 cfs @ 12.22 hrs, Volume= 0.260 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-Year Rainfall=1.89"

Area (sf)	CN	Description
76,554	98	Paved parking HSG D
68,575	80	>75% Grass cover, Good HSG D
145,129	89	Weighted Average
68,575		47.25% Pervious Area
76,554		52.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9	777	0.0217	1.01		**Lag/CN Method,**

Subcatchment 1B1: 1B1



Summary for Subcatchment 1B2: 1B2

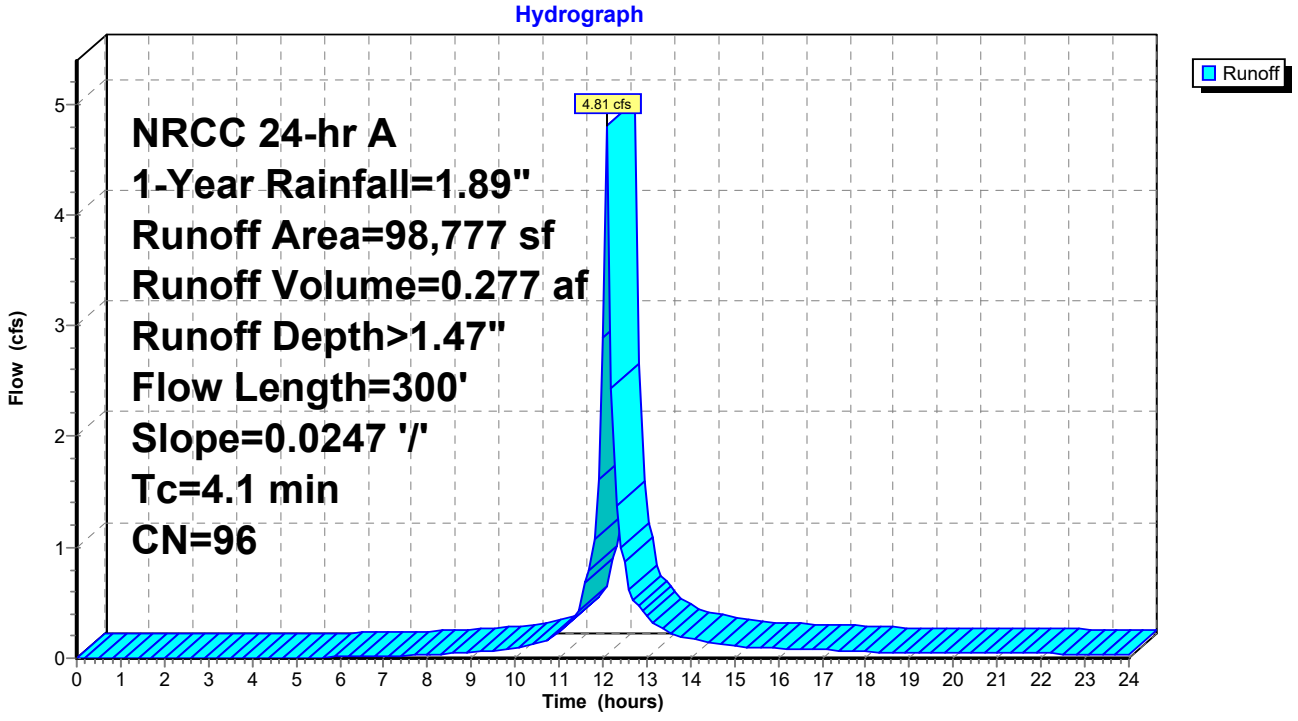
Runoff = 4.81 cfs @ 12.09 hrs, Volume= 0.277 af, Depth> 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-Year Rainfall=1.89"

Area (sf)	CN	Description
89,109	98	Paved parking HSG D
9,668	80	>75% Grass cover, Good HSG D
98,777	96	Weighted Average
9,668		9.79% Pervious Area
89,109		90.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	300	0.0247	1.22		**Lag/CN Method,**

Subcatchment 1B2: 1B2



Summary for Subcatchment 2: 2

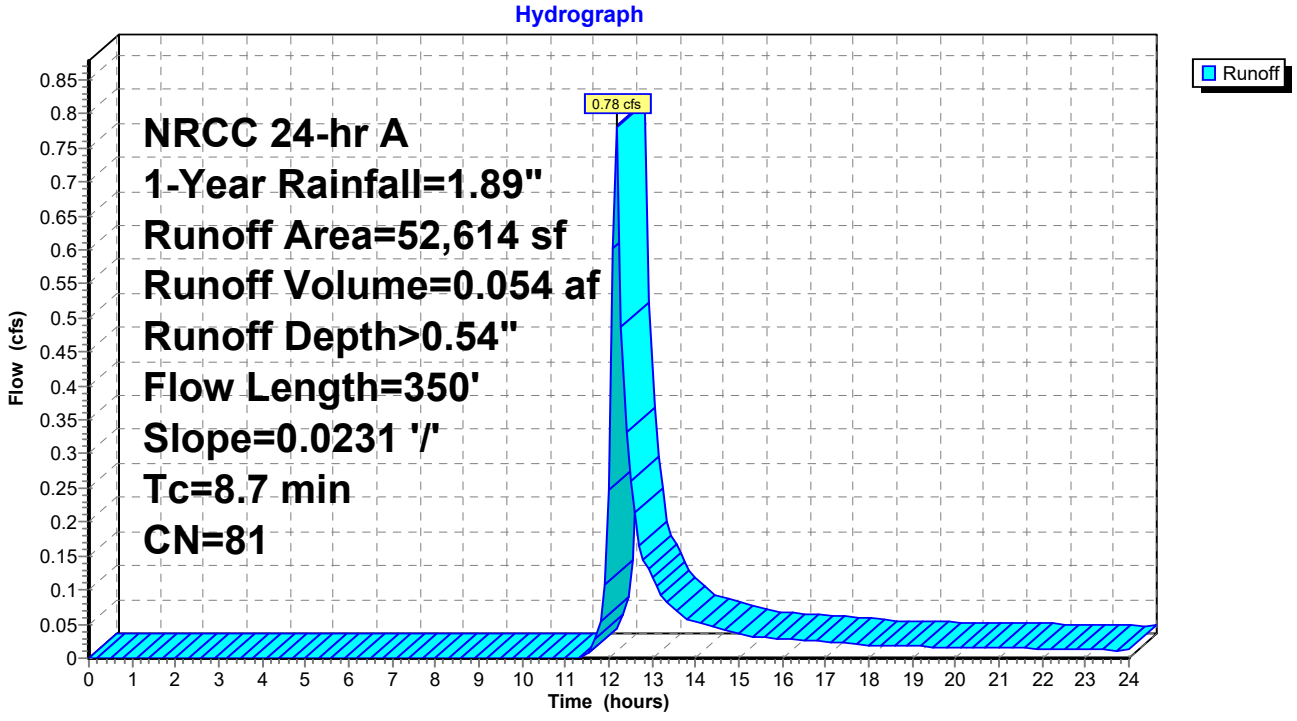
Runoff = 0.78 cfs @ 12.19 hrs, Volume= 0.054 af, Depth> 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-Year Rainfall=1.89"

Area (sf)	CN	Description
2,737	98	Paved parking HSG D
49,877	80	>75% Grass cover, Good HSG D
52,614	81	Weighted Average
49,877		94.80% Pervious Area
2,737		5.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	350	0.0231	0.67		**Lag/CN Method,**

Subcatchment 2: 2

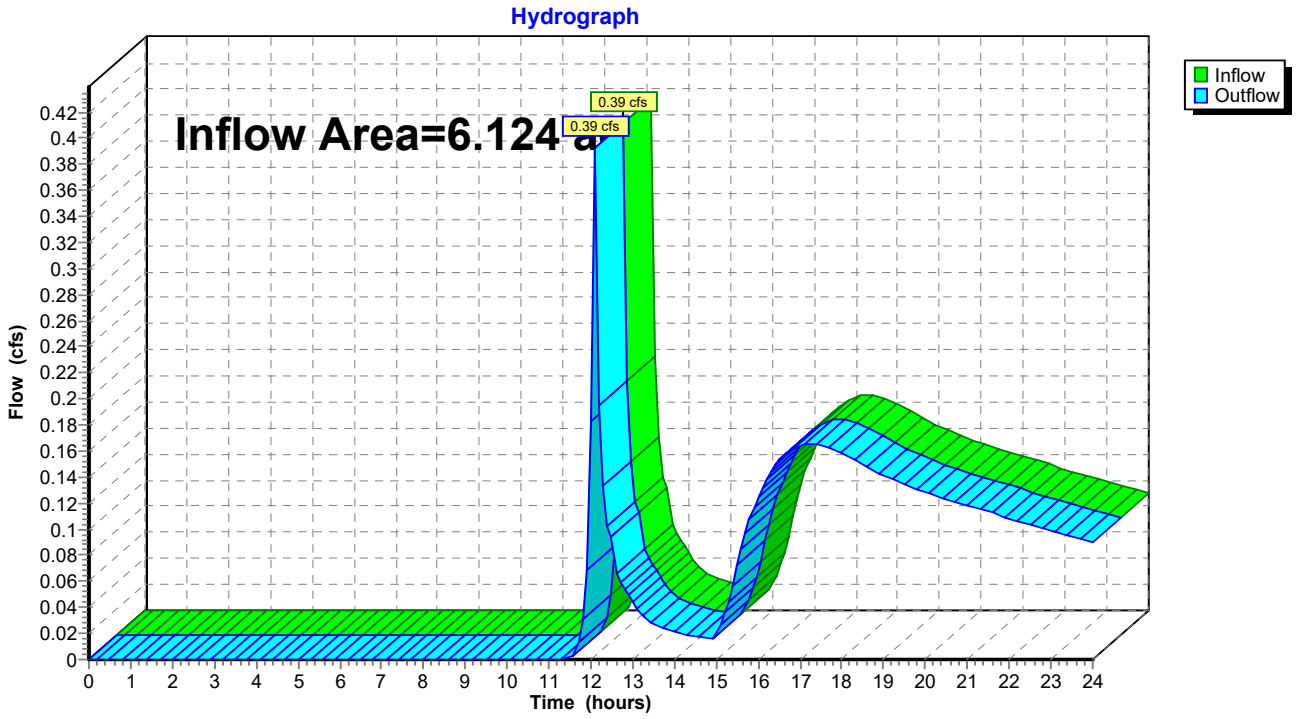


Summary for Reach #1: OUTFALL#1

Inflow Area = 6.124 ac, 62.12% Impervious, Inflow Depth > 0.21" for 1-Year event
Inflow = 0.39 cfs @ 12.10 hrs, Volume= 0.108 af
Outflow = 0.39 cfs @ 12.10 hrs, Volume= 0.108 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Reach #1: OUTFALL#1

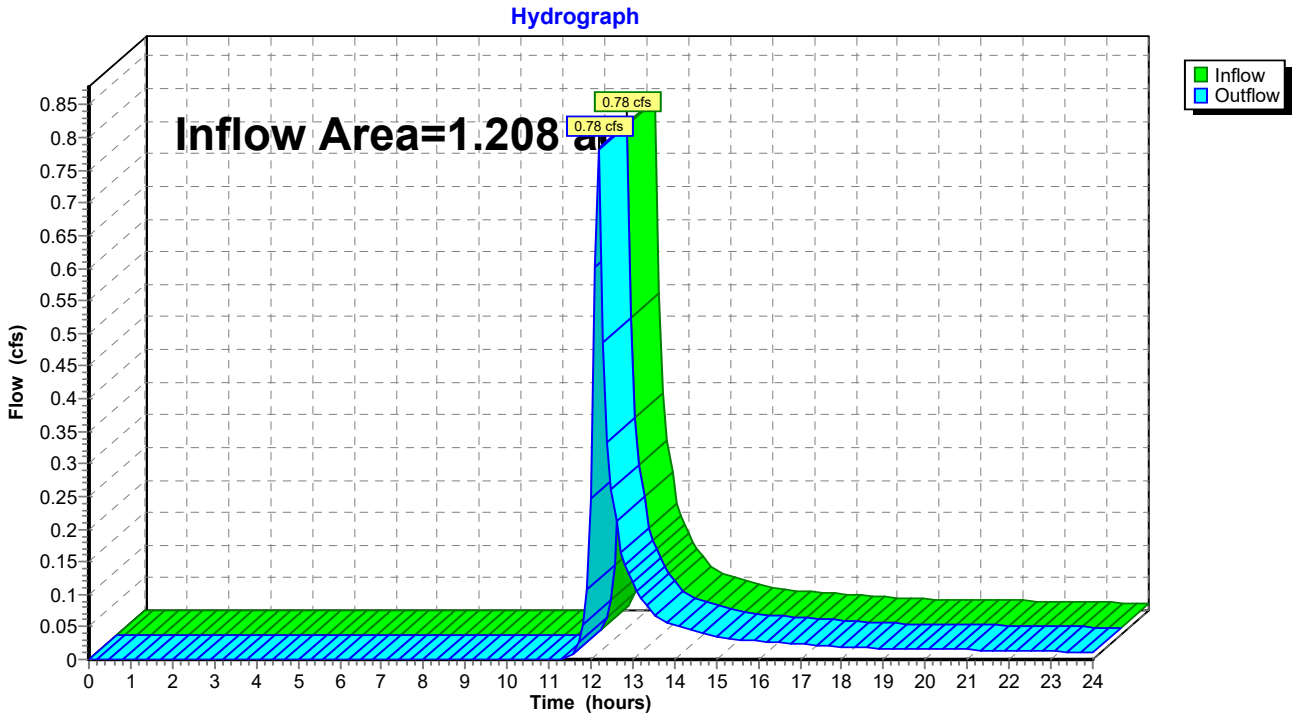


Summary for Reach #2: OUTFALL#2

Inflow Area = 1.208 ac, 5.20% Impervious, Inflow Depth > 0.54" for 1-Year event
Inflow = 0.78 cfs @ 12.19 hrs, Volume= 0.054 af
Outflow = 0.78 cfs @ 12.19 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Reach #2: OUTFALL#2



Summary for Pond 1P: INFILTRATION BASIN

Inflow Area = 2.268 ac, 90.21% Impervious, Inflow Depth > 1.47" for 1-Year event
Inflow = 4.81 cfs @ 12.09 hrs, Volume= 0.277 af
Outflow = 2.88 cfs @ 12.21 hrs, Volume= 0.206 af, Atten= 40%, Lag= 7.0 min
Primary = 2.88 cfs @ 12.21 hrs, Volume= 0.206 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 698.12' @ 12.21 hrs Surf.Area= 5,748 sf Storage= 4,847 cf

Plug-Flow detention time= 127.5 min calculated for 0.205 af (74% of inflow)
Center-of-Mass det. time= 54.1 min (837.5 - 783.4)

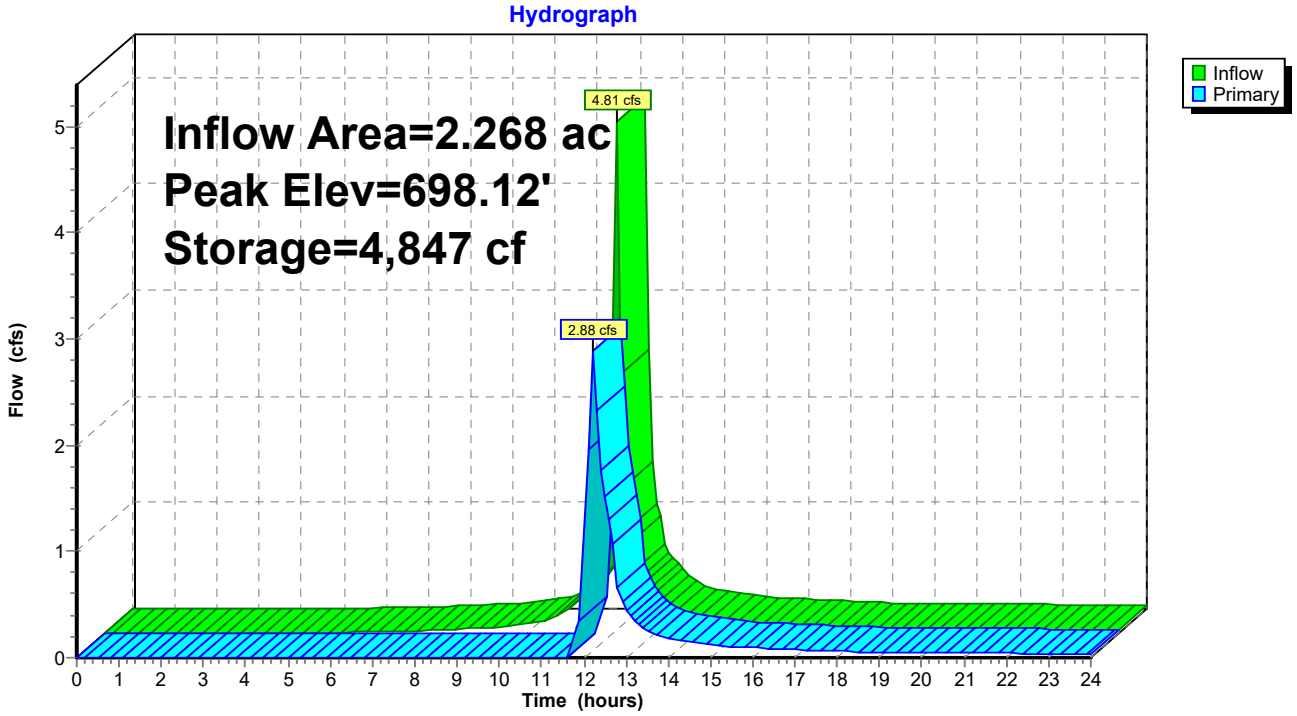
Volume	Invert	Avail.Storage	Storage Description
#1	697.00'	7,291 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
697.00	3,000	0	0
698.00	5,221	4,111	4,111
698.50	7,500	3,180	7,291

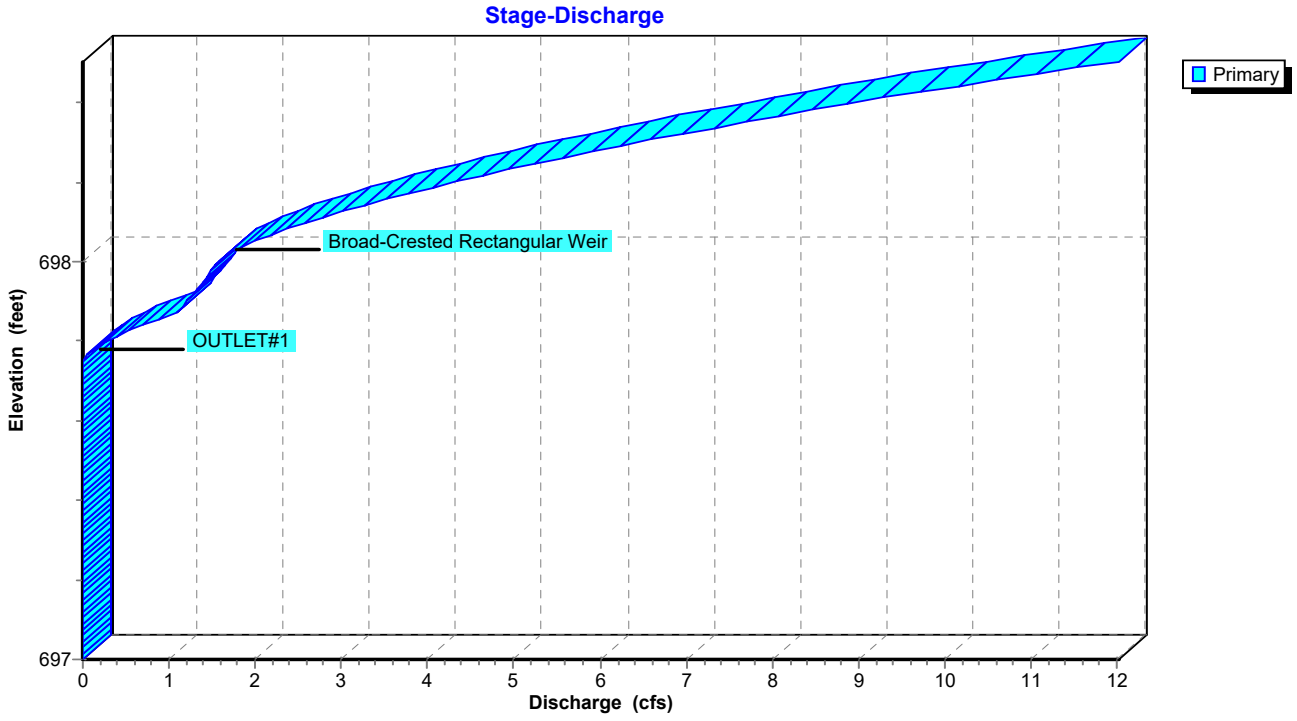
Device	Routing	Invert	Outlet Devices
#1	Primary	697.75'	**24.0" x 24.0" Horiz. OUTLET#1** C= 0.600 Limited to weir flow at low heads
#2	Device 1	696.35'	**12.0" Round OUTLET#1** L= 77.0' Ke= 0.600 Inlet / Outlet Invert= 696.35' / 696.35' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Primary	698.00'	**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

Primary OutFlow Max=2.80 cfs @ 12.21 hrs HW=698.11' (Free Discharge)
- **1=OUTLET#1** (Passes 1.89 cfs of 5.65 cfs potential flow)
  - **2=OUTLET#1** (Outlet Controls 1.89 cfs @ 2.40 fps)
- **3=Broad-Crested Rectangular Weir** (Weir Controls 0.91 cfs @ 0.83 fps)

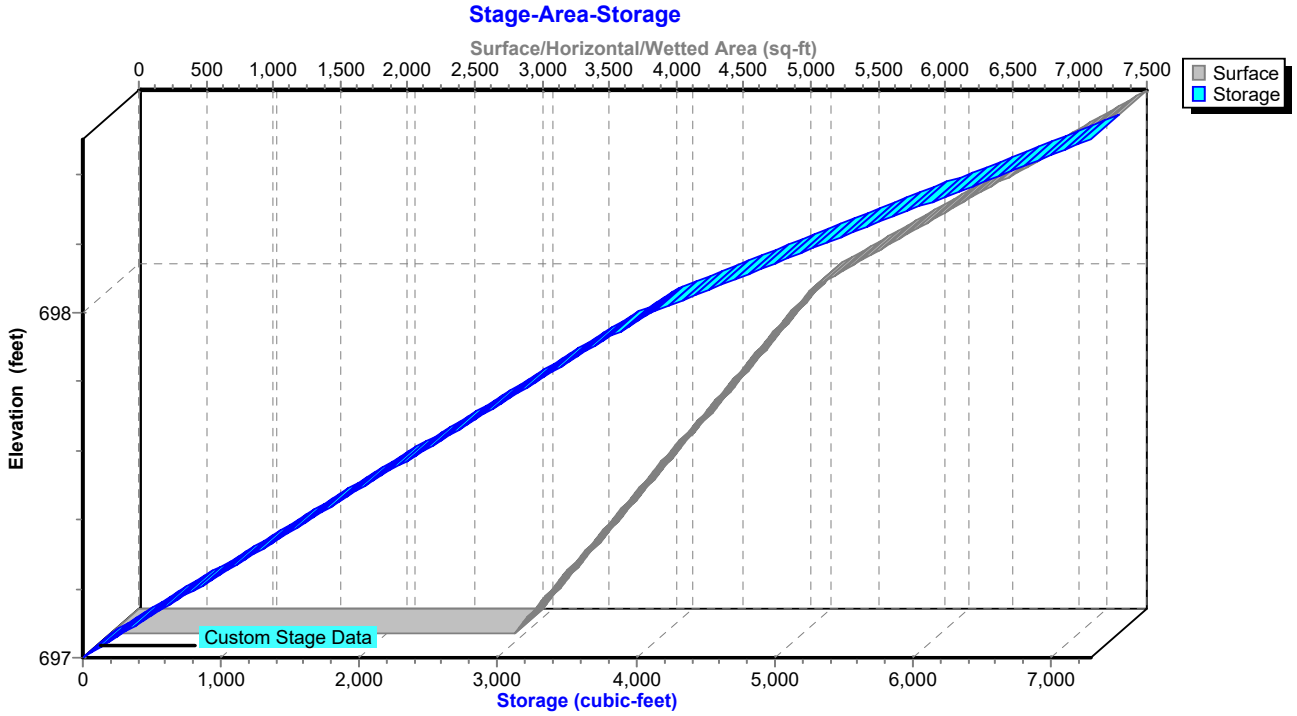
Pond 1P: INFILTRATION BASIN



Pond 1P: INFILTRATION BASIN



Pond 1P: INFILTRATION BASIN



Summary for Pond 2P: POCKET POND

Inflow Area = 5.599 ac, 67.92% Impervious, Inflow Depth > 1.00" for 1-Year event
Inflow = 6.51 cfs @ 12.21 hrs, Volume= 0.465 af
Outflow = 0.16 cfs @ 17.35 hrs, Volume= 0.086 af, Atten= 98%, Lag= 308.1 min
Primary = 0.16 cfs @ 17.35 hrs, Volume= 0.086 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 694.00' Surf.Area= 7,614 sf Storage= 12,558 cf
Peak Elev= 695.83' @ 17.35 hrs Surf.Area= 10,801 sf Storage= 29,371 cf (16,814 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 332.9 min (1,164.6 - 831.7)

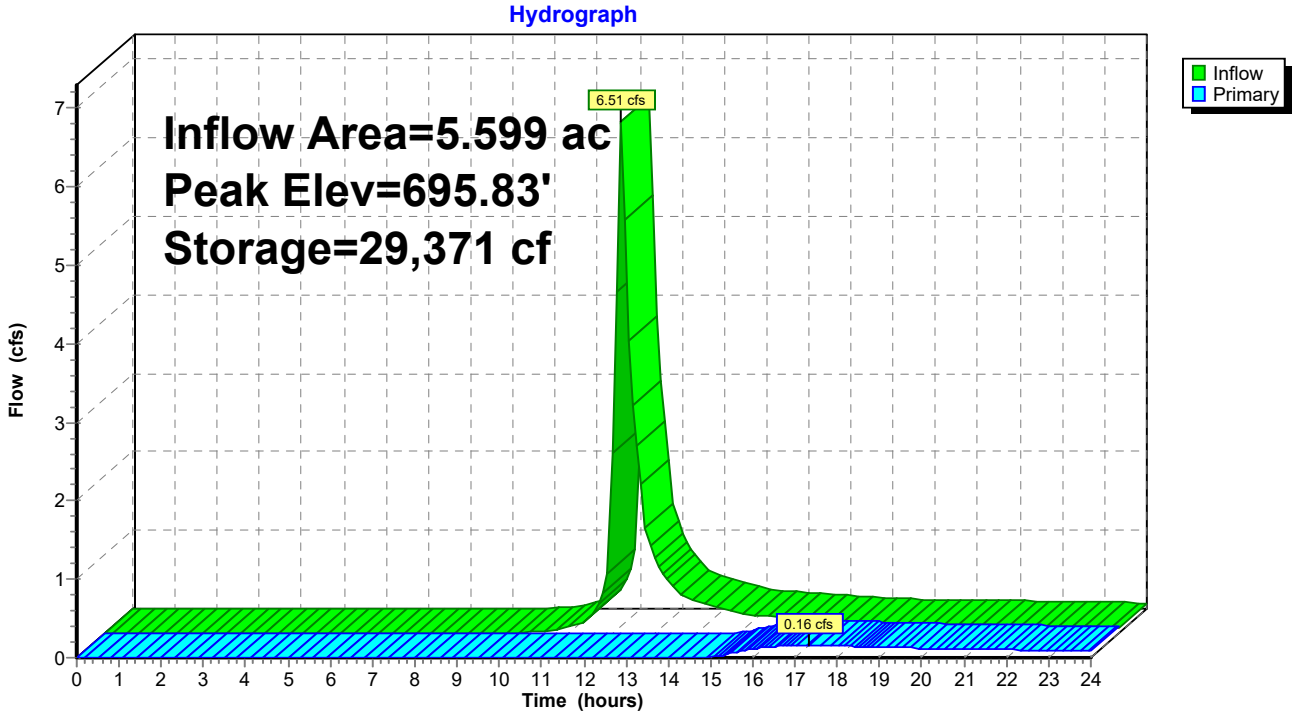
Volume	Invert	Avail.Storage	Storage Description
#1	692.00'	59,547 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
692.00	4,961	0	0
693.00	6,270	5,616	5,616
694.00	7,614	6,942	12,558
695.00	9,180	8,397	20,955
696.00	11,136	10,158	31,113
697.00	13,227	12,182	43,294
697.50	17,262	7,622	50,916
698.00	17,262	8,631	59,547

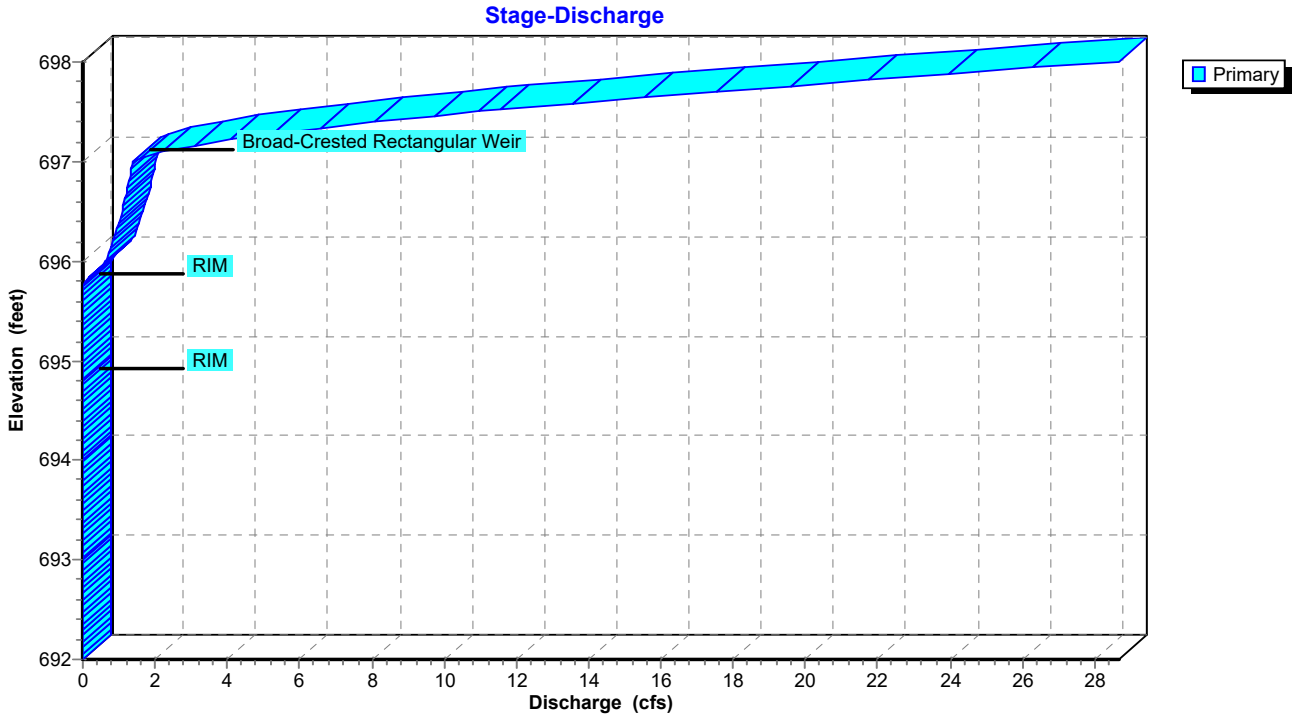
Device	Routing	Invert	Outlet Devices
#1	Primary	695.75'	**8.0" Horiz. RIM** C= 0.600 Limited to weir flow at low heads
#2	Device 1	694.80'	**8.0" Round RIM** L= 64.0' Ke= 0.600 Inlet / Outlet Invert= 694.80' / 694.80' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.35 sf
#3	Primary	697.00'	**10.0' long 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

Primary OutFlow Max=0.15 cfs @ 17.35 hrs HW=695.83' (Free Discharge)
- **1=RIM** (Weir Controls 0.15 cfs @ 0.92 fps)
  - **2=RIM** (Passes 0.15 cfs of 0.35 cfs potential flow)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

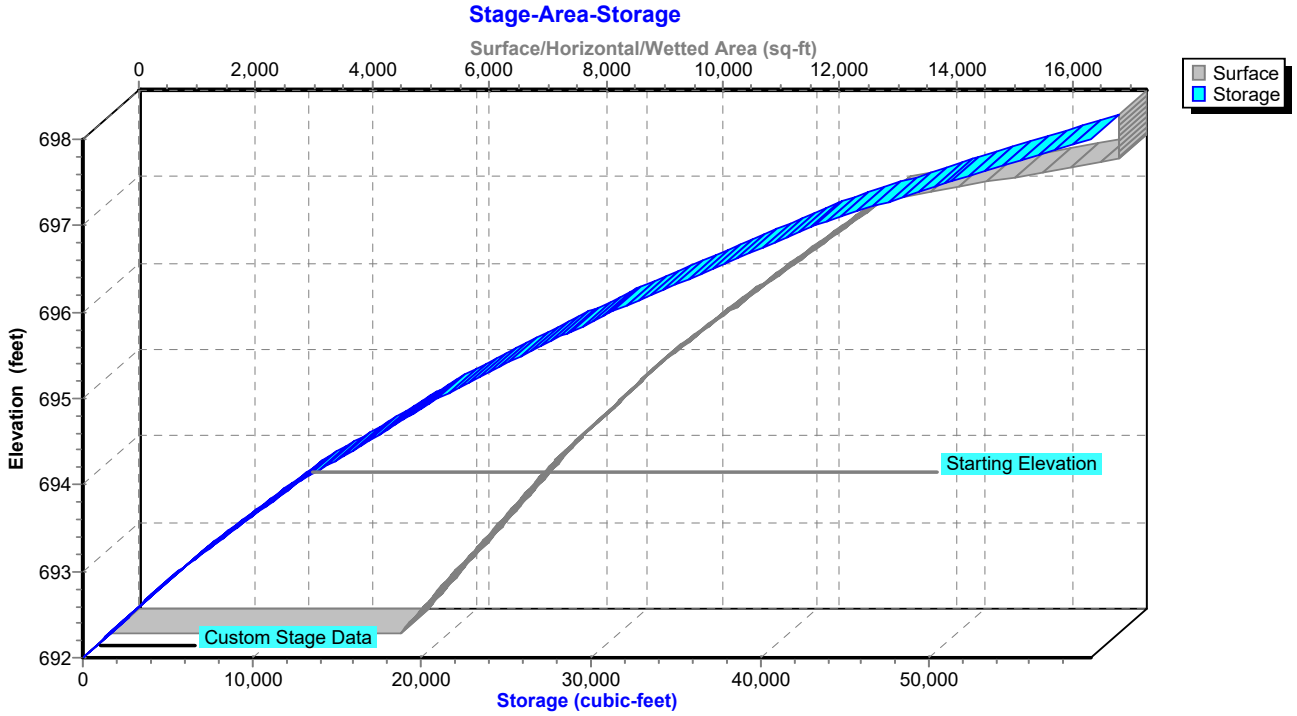
Pond 2P: POCKET POND



Pond 2P: POCKET POND



Pond 2P: POCKET POND



Summary for Subcatchment 1A: 1A

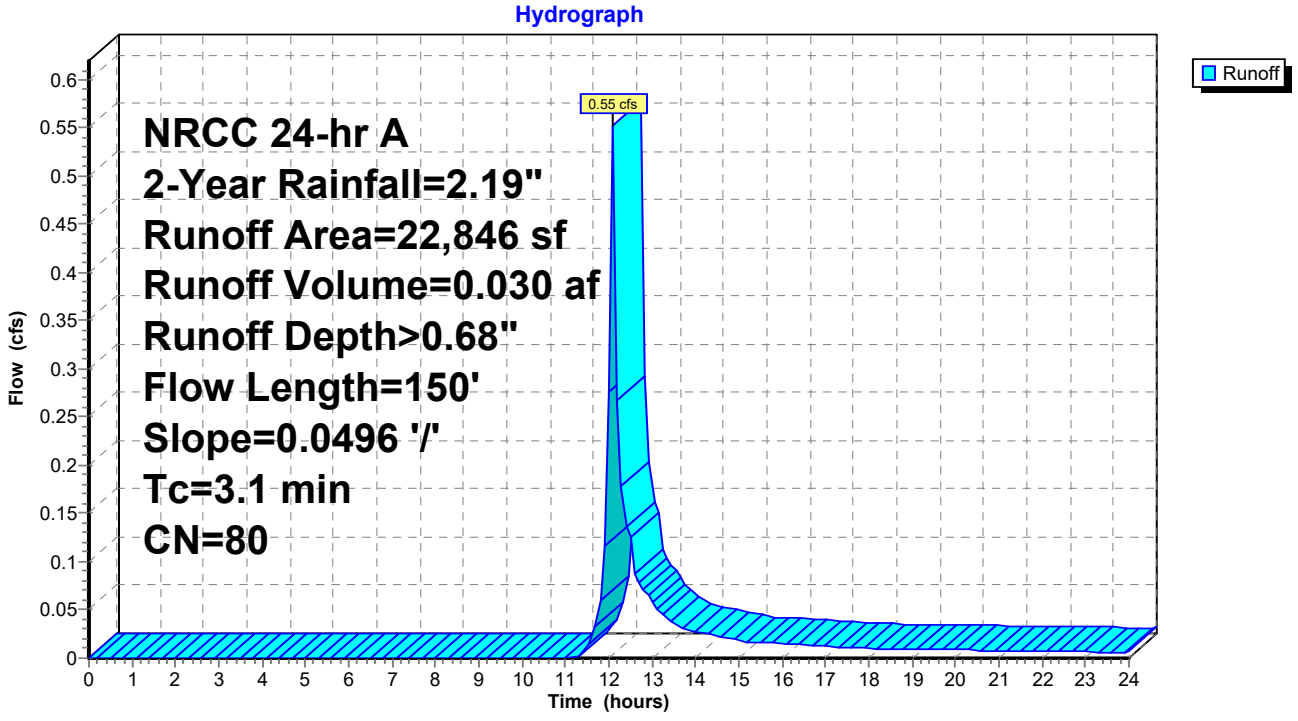
Runoff = 0.55 cfs @ 12.10 hrs, Volume= 0.030 af, Depth> 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 2-Year Rainfall=2.19"

Area (sf)	CN	Description
54	98	Paved parking HSG D
22,792	80	>75% Grass cover, Good HSG D
22,846	80	Weighted Average
22,792		99.76% Pervious Area
54		0.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	150	0.0496	0.80		**Lag/CN Method,**

Subcatchment 1A: 1A



Summary for Subcatchment 1B1: 1B1

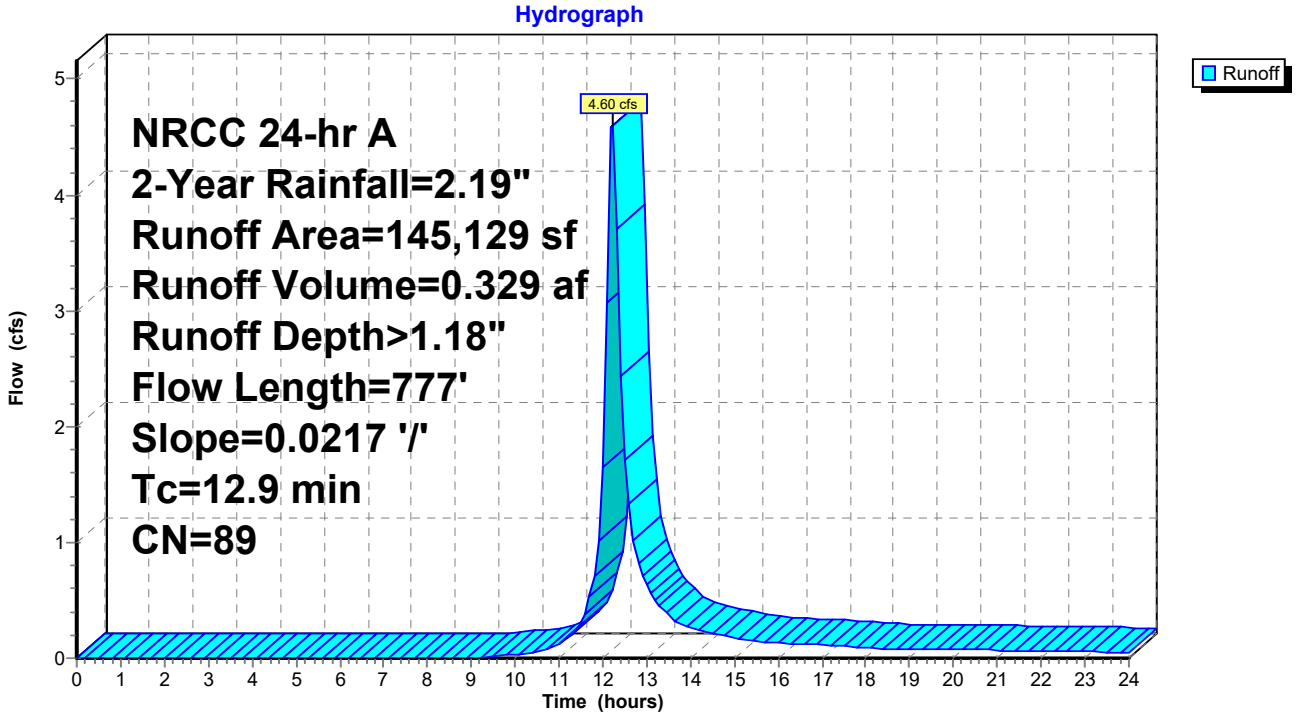
Runoff = 4.60 cfs @ 12.21 hrs, Volume= 0.329 af, Depth> 1.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 2-Year Rainfall=2.19"

Area (sf)	CN	Description
76,554	98	Paved parking HSG D
68,575	80	>75% Grass cover, Good HSG D
145,129	89	Weighted Average
68,575		47.25% Pervious Area
76,554		52.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9	777	0.0217	1.01		**Lag/CN Method,**

Subcatchment 1B1: 1B1



Summary for Subcatchment 1B2: 1B2

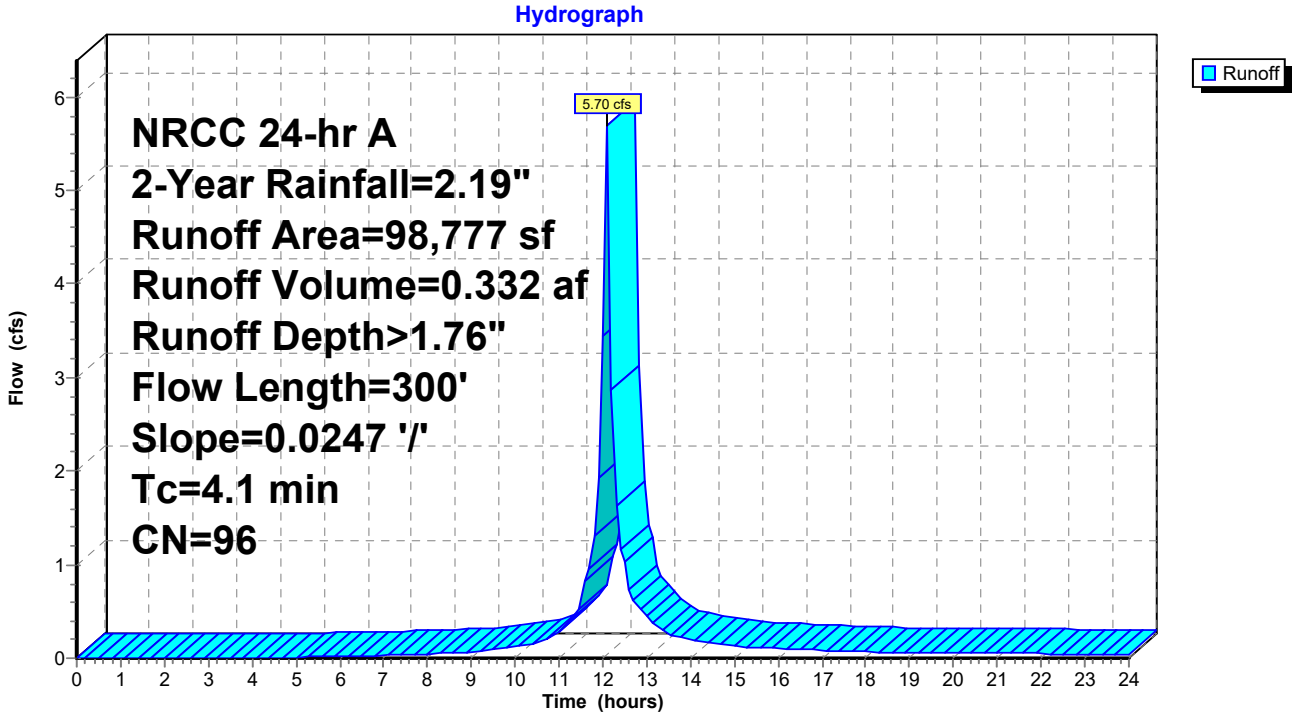
Runoff = 5.70 cfs @ 12.09 hrs, Volume= 0.332 af, Depth> 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 2-Year Rainfall=2.19"

Area (sf)	CN	Description
89,109	98	Paved parking HSG D
9,668	80	>75% Grass cover, Good HSG D
98,777	96	Weighted Average
9,668		9.79% Pervious Area
89,109		90.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	300	0.0247	1.22		**Lag/CN Method,**

Subcatchment 1B2: 1B2



Summary for Subcatchment 2: 2

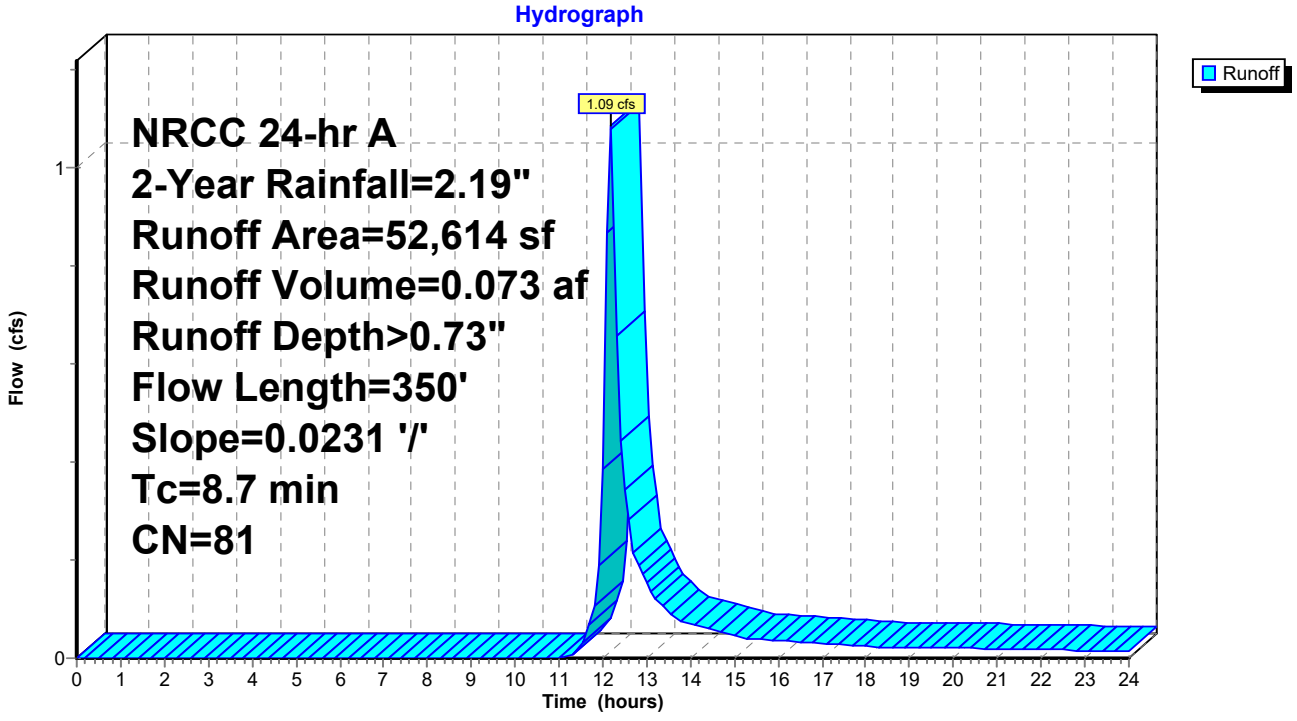
Runoff = 1.09 cfs @ 12.18 hrs, Volume= 0.073 af, Depth> 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 2-Year Rainfall=2.19"

Area (sf)	CN	Description
2,737	98	Paved parking HSG D
49,877	80	>75% Grass cover, Good HSG D
52,614	81	Weighted Average
49,877		94.80% Pervious Area
2,737		5.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	350	0.0231	0.67		**Lag/CN Method,**

Subcatchment 2: 2

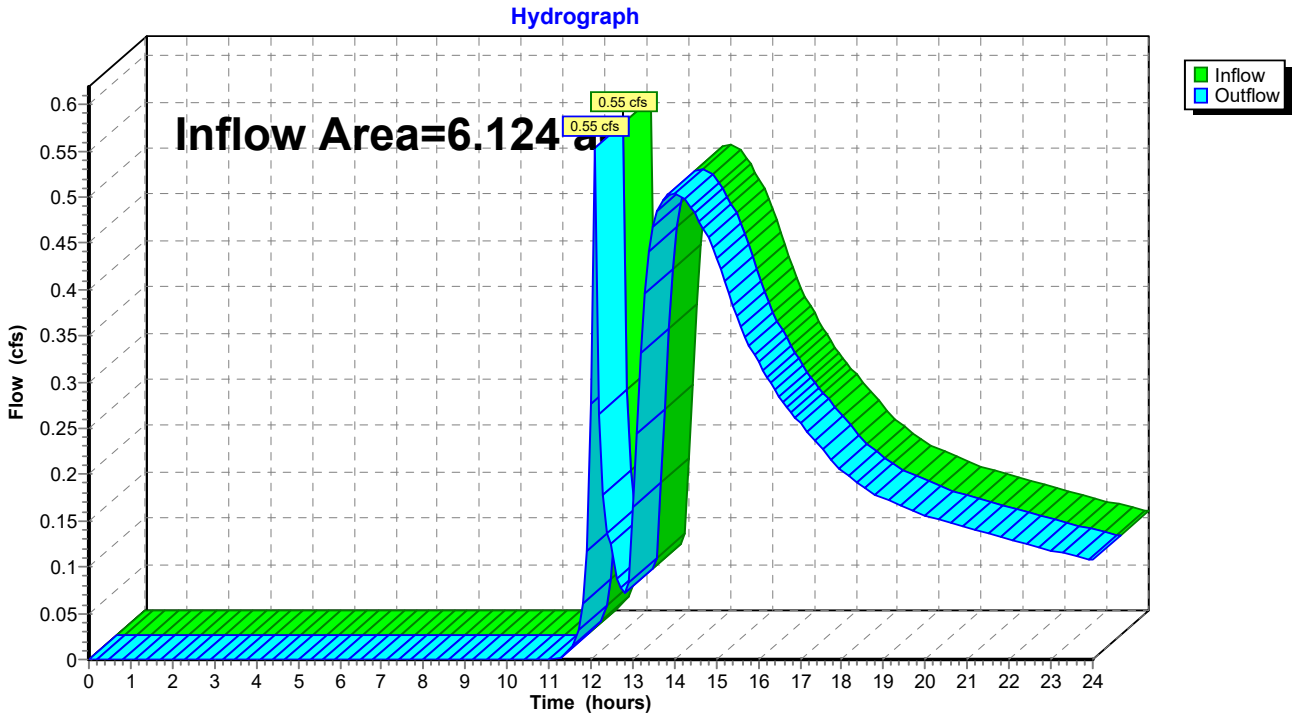


Summary for Reach #1: OUTFALL#1

Inflow Area = 6.124 ac, 62.12% Impervious, Inflow Depth > 0.47" for 2-Year event
Inflow = 0.55 cfs @ 12.10 hrs, Volume= 0.238 af
Outflow = 0.55 cfs @ 12.10 hrs, Volume= 0.238 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Reach #1: OUTFALL#1

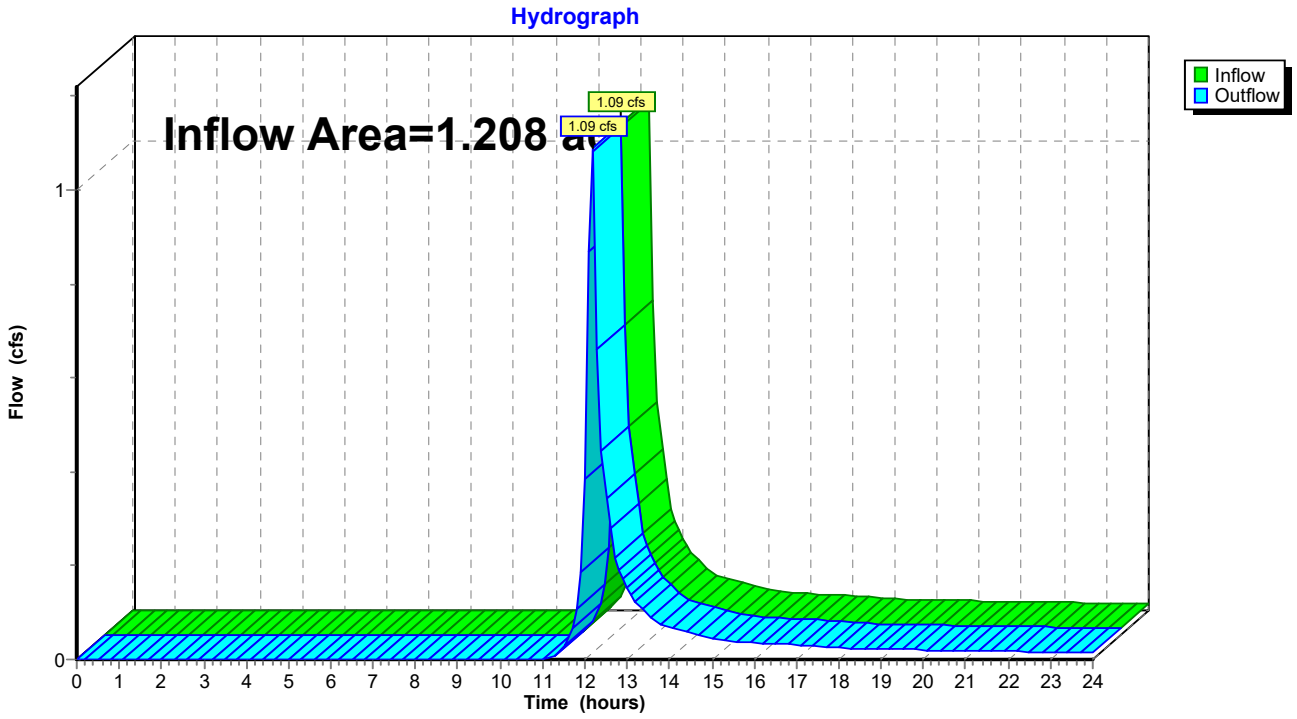


Summary for Reach #2: OUTFALL#2

Inflow Area = 1.208 ac, 5.20% Impervious, Inflow Depth > 0.73" for 2-Year event
Inflow = 1.09 cfs @ 12.18 hrs, Volume= 0.073 af
Outflow = 1.09 cfs @ 12.18 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Reach #2: OUTFALL#2



Summary for Pond 1P: INFILTRATION BASIN

Inflow Area = 2.268 ac, 90.21% Impervious, Inflow Depth > 1.76" for 2-Year event
Inflow = 5.70 cfs @ 12.09 hrs, Volume= 0.332 af
Outflow = 3.82 cfs @ 12.20 hrs, Volume= 0.260 af, Atten= 33%, Lag= 6.1 min
Primary = 3.82 cfs @ 12.20 hrs, Volume= 0.260 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 698.17' @ 12.20 hrs Surf.Area= 6,005 sf Storage= 5,205 cf

Plug-Flow detention time= 119.4 min calculated for 0.260 af (78% of inflow)
Center-of-Mass det. time= 49.1 min (828.4 - 779.2)

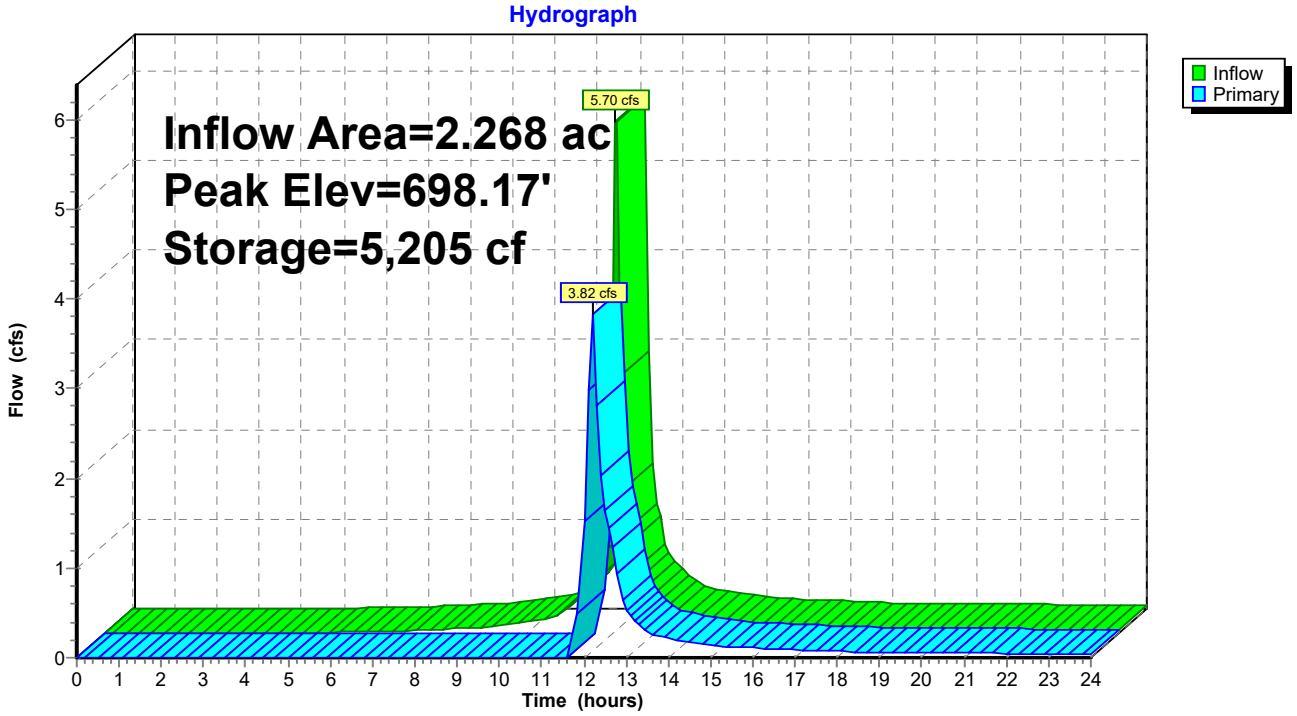
Volume	Invert	Avail.Storage	Storage Description
#1	697.00'	7,291 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
697.00	3,000	0	0
698.00	5,221	4,111	4,111
698.50	7,500	3,180	7,291

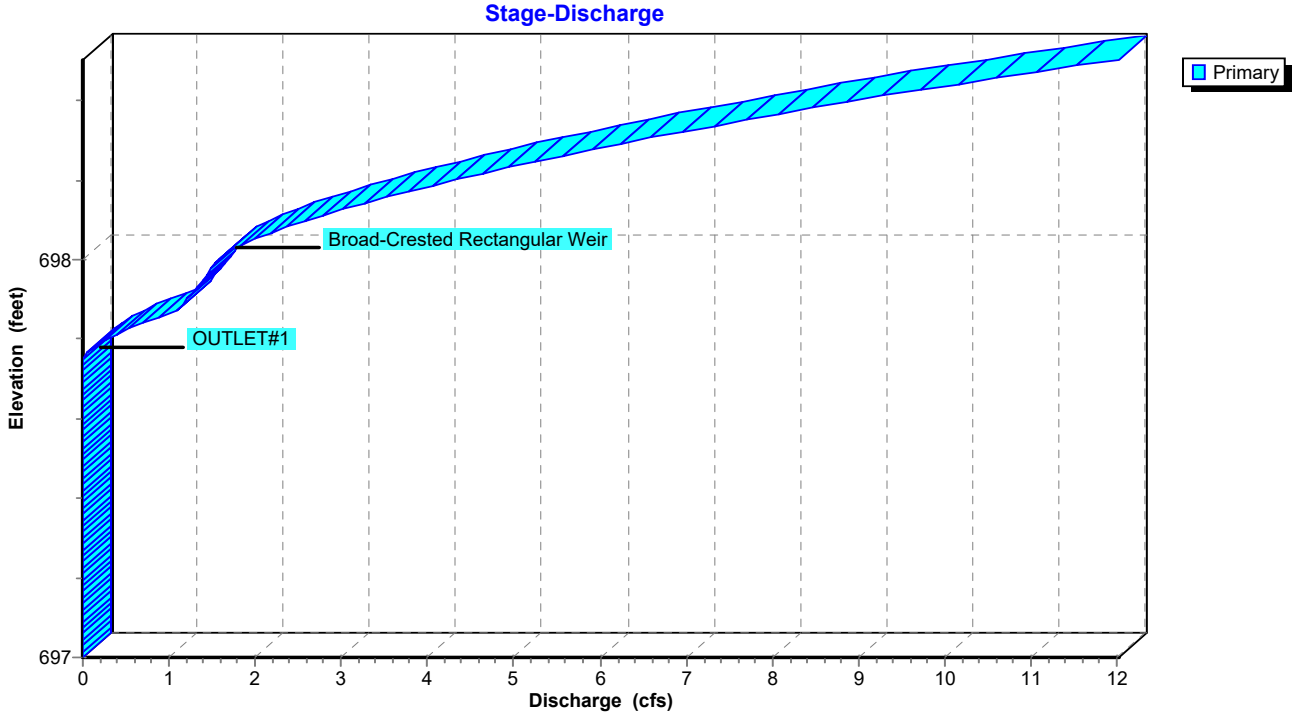
Device	Routing	Invert	Outlet Devices
#1	Primary	697.75'	**24.0" x 24.0" Horiz. OUTLET#1** C= 0.600 Limited to weir flow at low heads
#2	Device 1	696.35'	**12.0" Round OUTLET#1** L= 77.0' Ke= 0.600 Inlet / Outlet Invert= 696.35' / 696.35' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Primary	698.00'	**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

Primary OutFlow Max=3.78 cfs @ 12.20 hrs HW=698.17' (Free Discharge)
- **1=OUTLET#1** (Passes 2.04 cfs of 7.11 cfs potential flow)
  - **2=OUTLET#1** (Outlet Controls 2.04 cfs @ 2.59 fps)
- **3=Broad-Crested Rectangular Weir** (Weir Controls 1.74 cfs @ 1.03 fps)

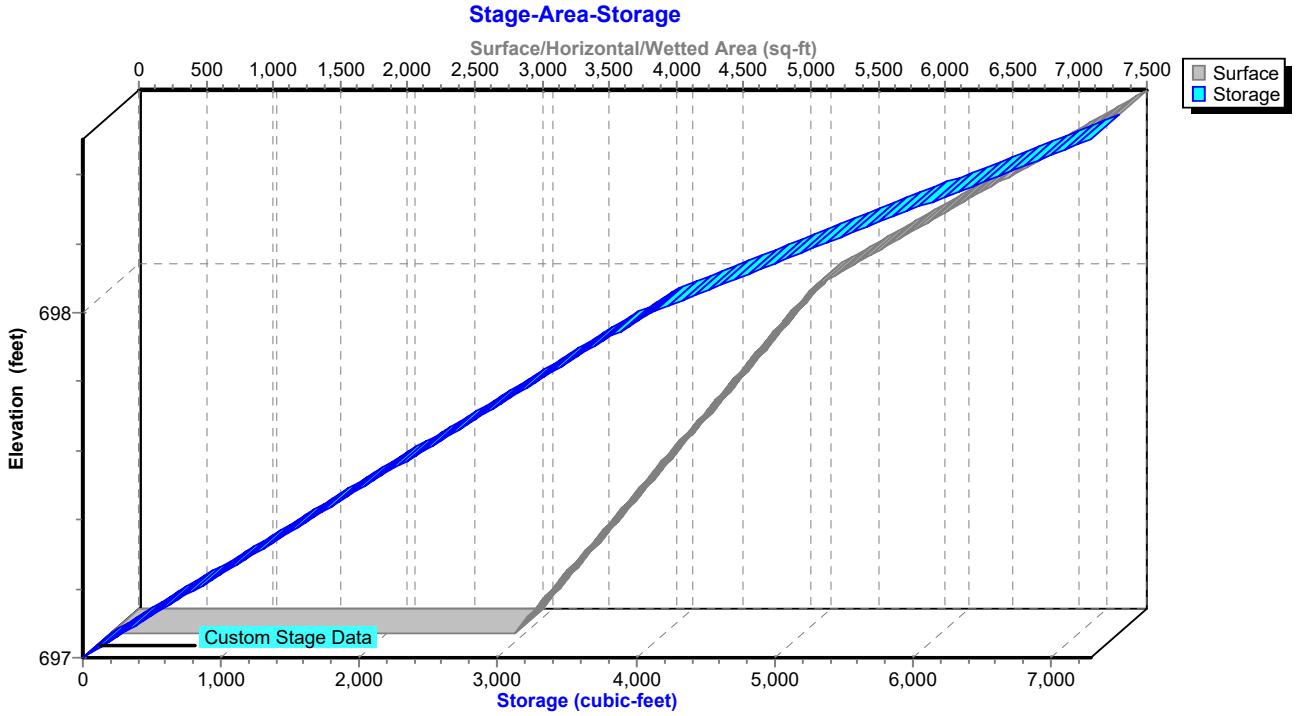
Pond 1P: INFILTRATION BASIN



Pond 1P: INFILTRATION BASIN



Pond 1P: INFILTRATION BASIN



Summary for Pond 2P: POCKET POND

Inflow Area = 5.599 ac, 67.92% Impervious, Inflow Depth > 1.26" for 2-Year event
Inflow = 8.41 cfs @ 12.21 hrs, Volume= 0.589 af
Outflow = 0.48 cfs @ 14.01 hrs, Volume= 0.208 af, Atten= 94%, Lag= 108.3 min
Primary = 0.48 cfs @ 14.01 hrs, Volume= 0.208 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 694.00' Surf.Area= 7,614 sf Storage= 12,558 cf
Peak Elev= 695.93' @ 14.01 hrs Surf.Area= 10,994 sf Storage= 30,374 cf (17,816 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 196.0 min (1,020.5 - 824.5)

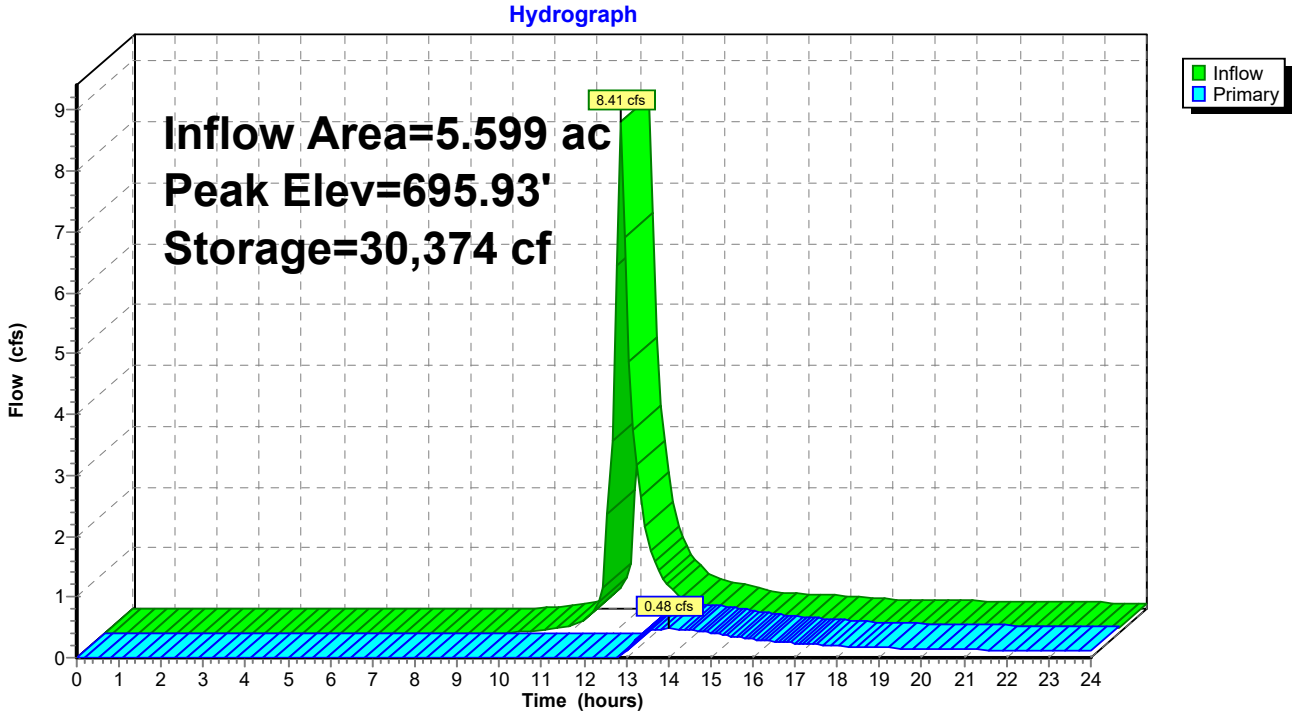
Volume	Invert	Avail.Storage	Storage Description
#1	692.00'	59,547 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
692.00	4,961	0	0
693.00	6,270	5,616	5,616
694.00	7,614	6,942	12,558
695.00	9,180	8,397	20,955
696.00	11,136	10,158	31,113
697.00	13,227	12,182	43,294
697.50	17,262	7,622	50,916
698.00	17,262	8,631	59,547

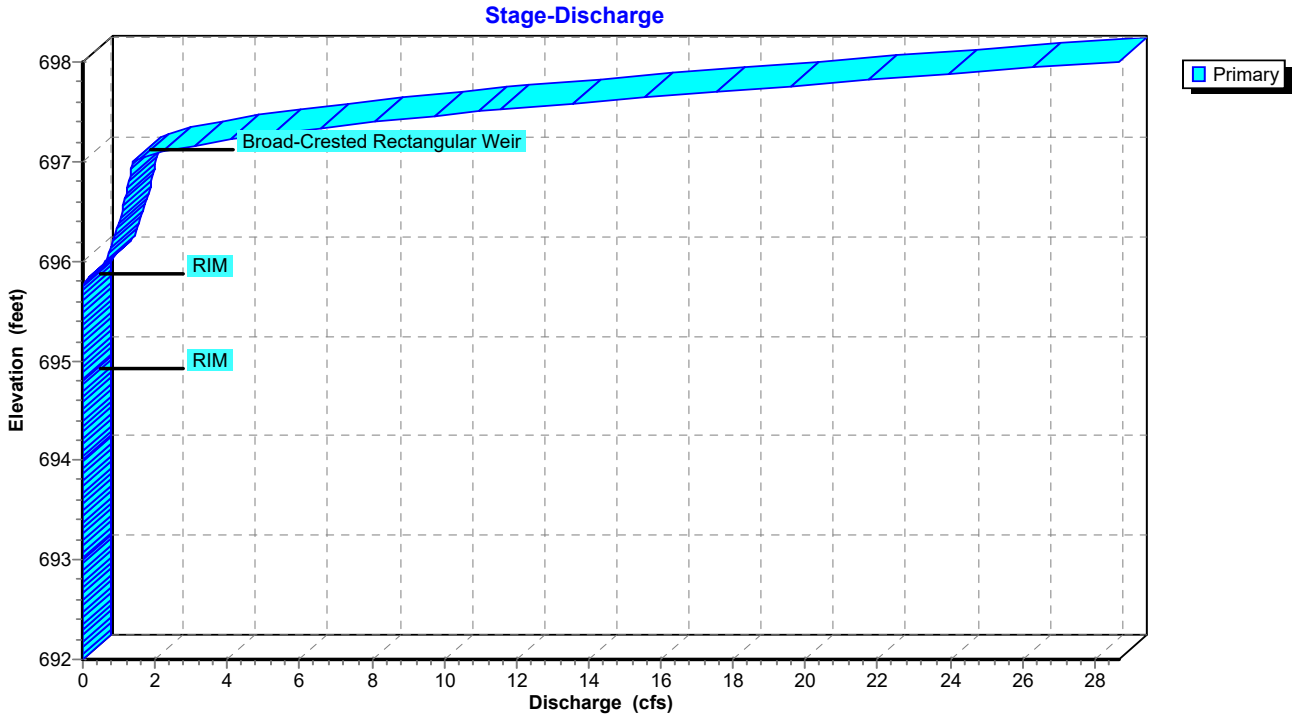
Device	Routing	Invert	Outlet Devices
#1	Primary	695.75'	**8.0" Horiz. RIM** C= 0.600 Limited to weir flow at low heads
#2	Device 1	694.80'	**8.0" Round RIM** L= 64.0' Ke= 0.600 Inlet / Outlet Invert= 694.80' / 694.80' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.35 sf
#3	Primary	697.00'	**10.0' long 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

Primary OutFlow Max=0.51 cfs @ 14.01 hrs HW=695.93' (Free Discharge)
- **1=RIM** (Weir Controls 0.51 cfs @ 1.38 fps)
  - **2=RIM** (Passes 0.51 cfs of 0.52 cfs potential flow)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

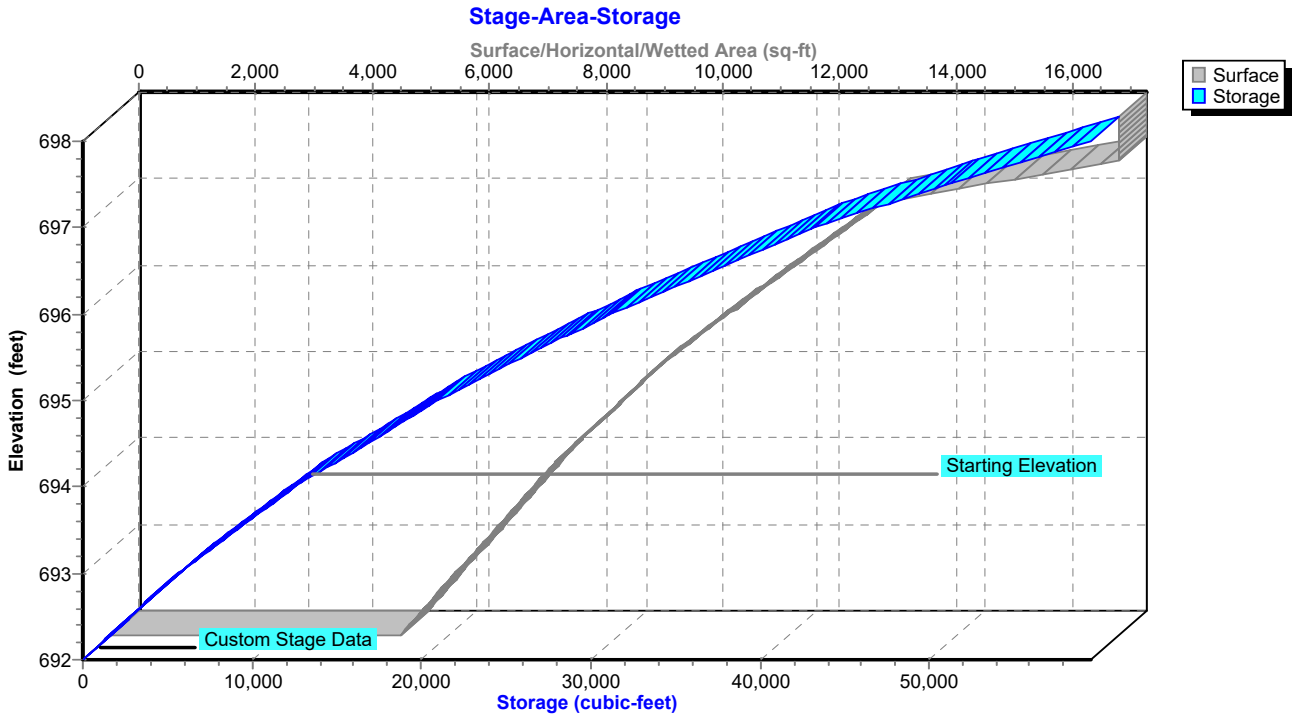
Pond 2P: POCKET POND



Pond 2P: POCKET POND



Pond 2P: POCKET POND



Summary for Subcatchment 1A: 1A

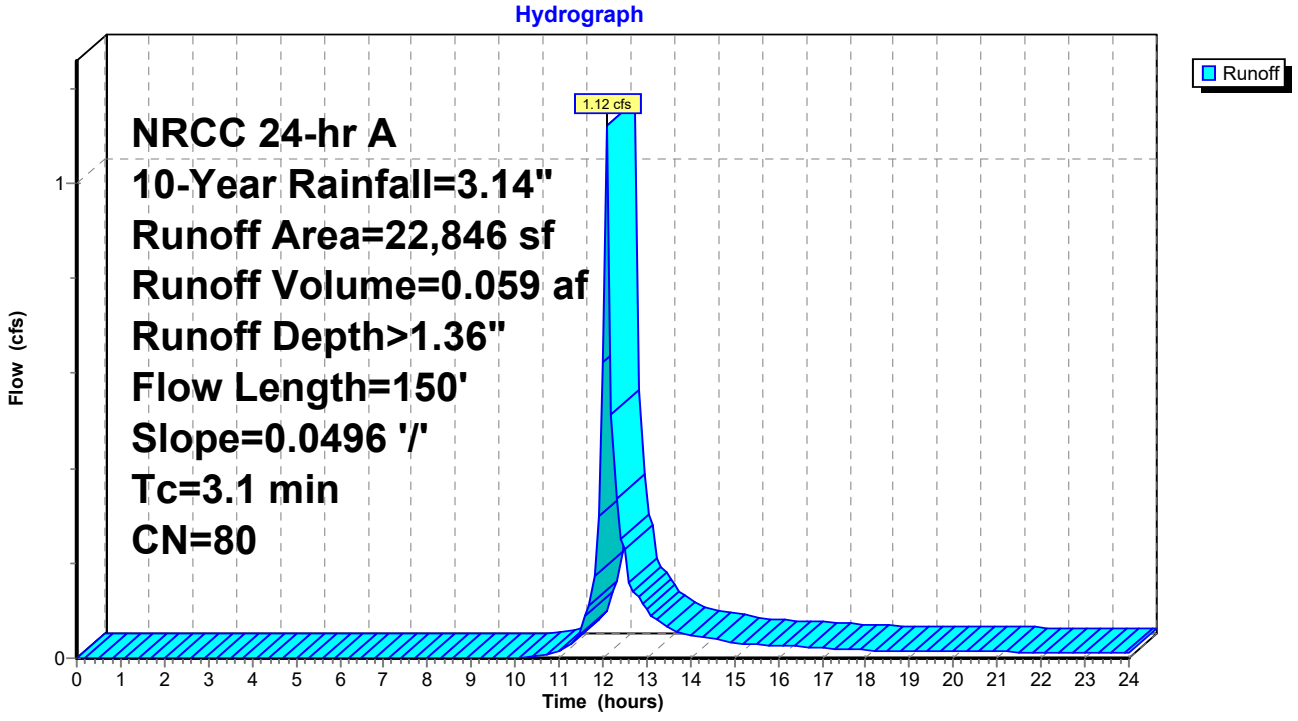
Runoff = 1.12 cfs @ 12.09 hrs, Volume= 0.059 af, Depth> 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-Year Rainfall=3.14"

Area (sf)	CN	Description
54	98	Paved parking HSG D
22,792	80	>75% Grass cover, Good HSG D
22,846	80	Weighted Average
22,792		99.76% Pervious Area
54		0.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	150	0.0496	0.80		**Lag/CN Method,**

Subcatchment 1A: 1A



Summary for Subcatchment 1B1: 1B1

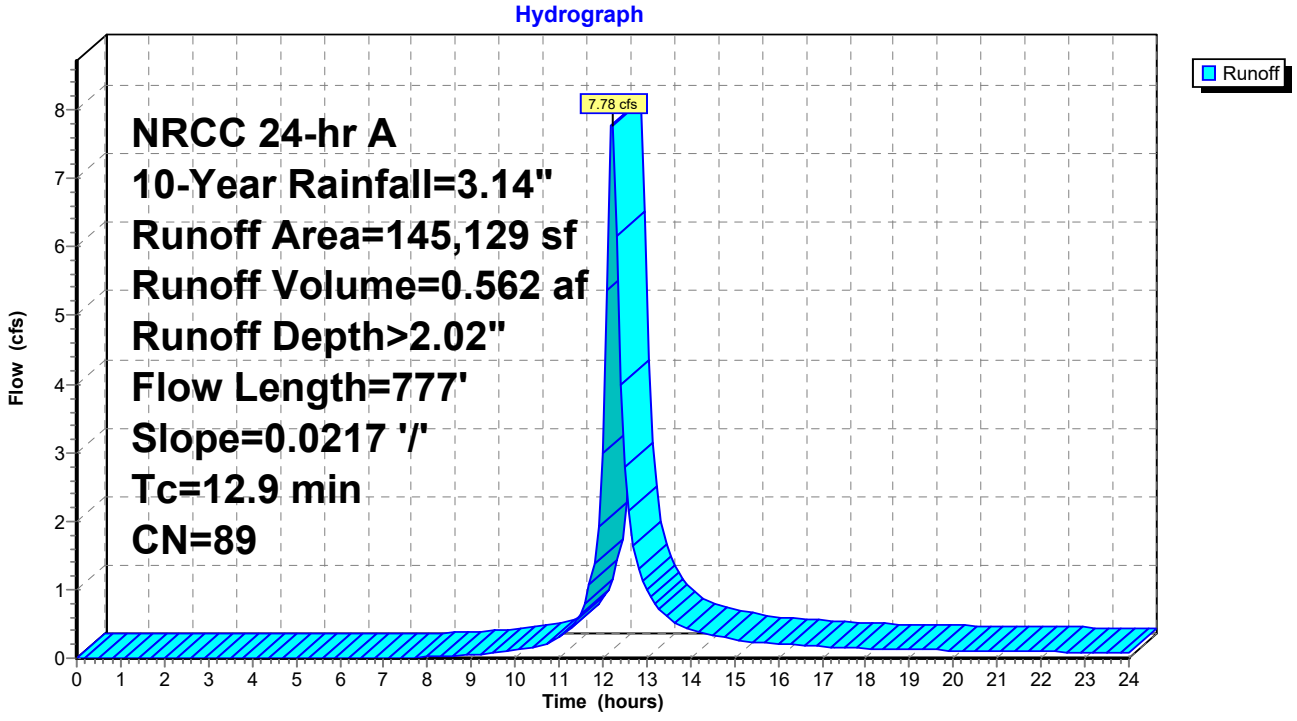
Runoff = 7.78 cfs @ 12.21 hrs, Volume= 0.562 af, Depth> 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-Year Rainfall=3.14"

Area (sf)	CN	Description
76,554	98	Paved parking HSG D
68,575	80	>75% Grass cover, Good HSG D
145,129	89	Weighted Average
68,575		47.25% Pervious Area
76,554		52.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9	777	0.0217	1.01		**Lag/CN Method,**

Subcatchment 1B1: 1B1



Summary for Subcatchment 1B2: 1B2

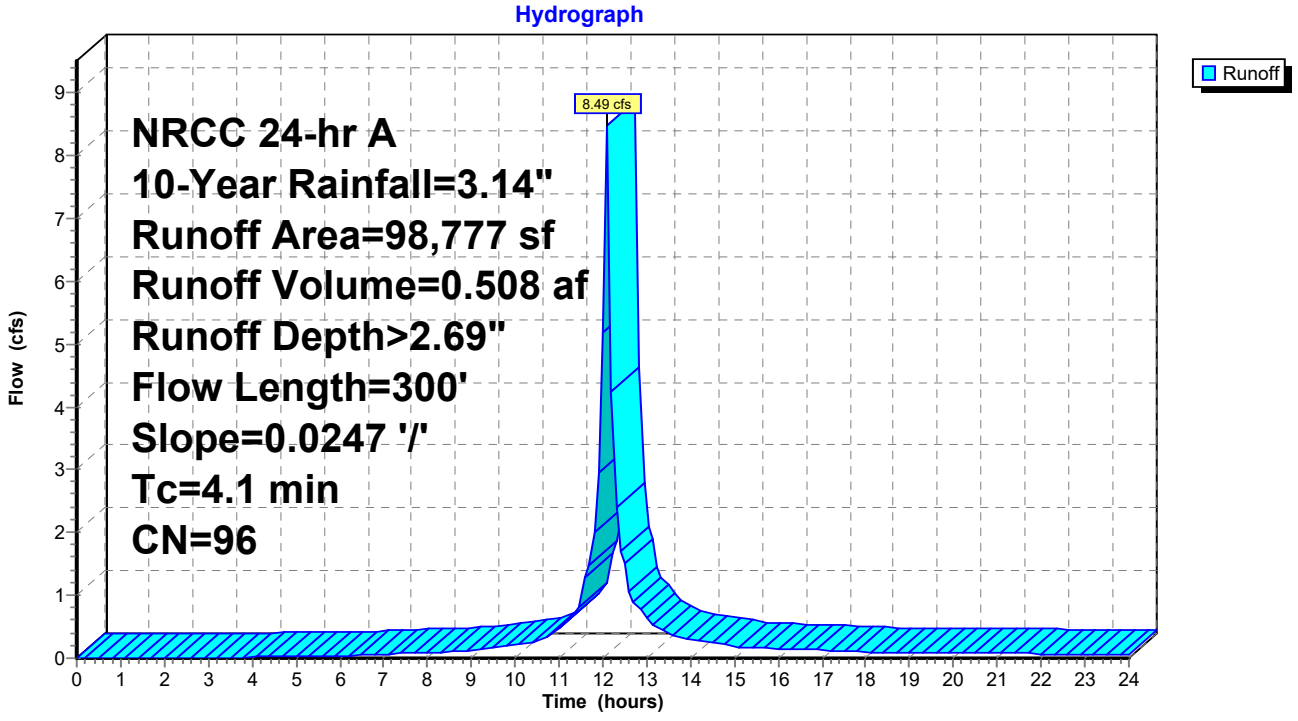
Runoff = 8.49 cfs @ 12.09 hrs, Volume= 0.508 af, Depth> 2.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-Year Rainfall=3.14"

Area (sf)	CN	Description
89,109	98	Paved parking HSG D
9,668	80	>75% Grass cover, Good HSG D
98,777	96	Weighted Average
9,668		9.79% Pervious Area
89,109		90.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	300	0.0247	1.22		**Lag/CN Method,**

Subcatchment 1B2: 1B2



Summary for Subcatchment 2: 2

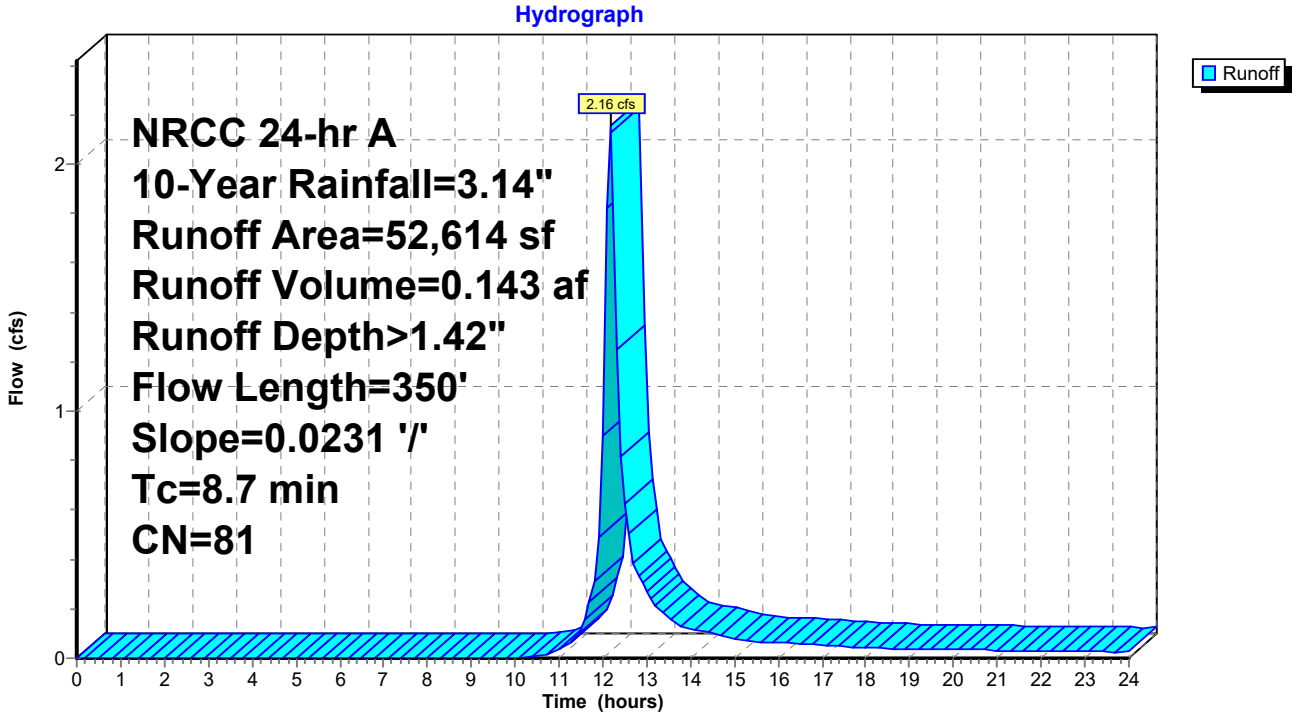
Runoff = 2.16 cfs @ 12.18 hrs, Volume= 0.143 af, Depth> 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-Year Rainfall=3.14"

Area (sf)	CN	Description
2,737	98	Paved parking HSG D
49,877	80	>75% Grass cover, Good HSG D
52,614	81	Weighted Average
49,877		94.80% Pervious Area
2,737		5.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	350	0.0231	0.67		**Lag/CN Method,**

Subcatchment 2: 2

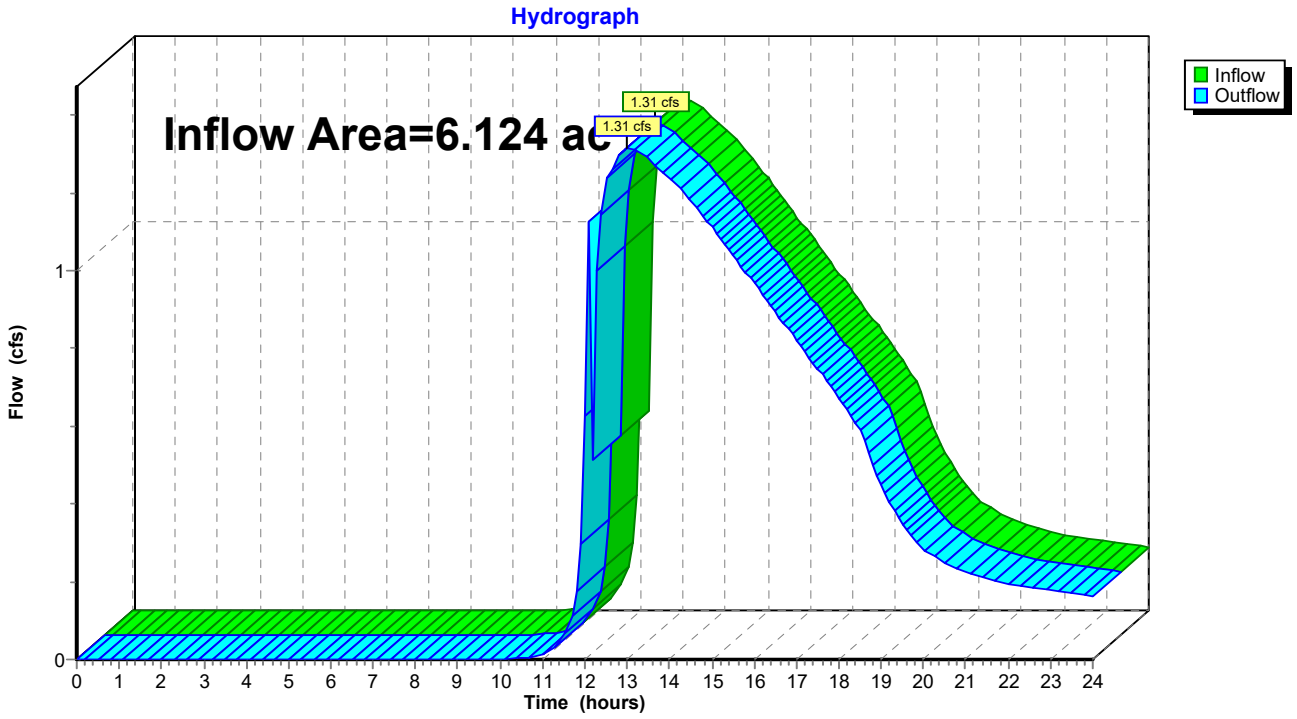


Summary for Reach #1: OUTFALL#1

Inflow Area = 6.124 ac, 62.12% Impervious, Inflow Depth > 1.32" for 10-Year event
Inflow = 1.31 cfs @ 13.01 hrs, Volume= 0.671 af
Outflow = 1.31 cfs @ 13.01 hrs, Volume= 0.671 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Reach #1: OUTFALL#1

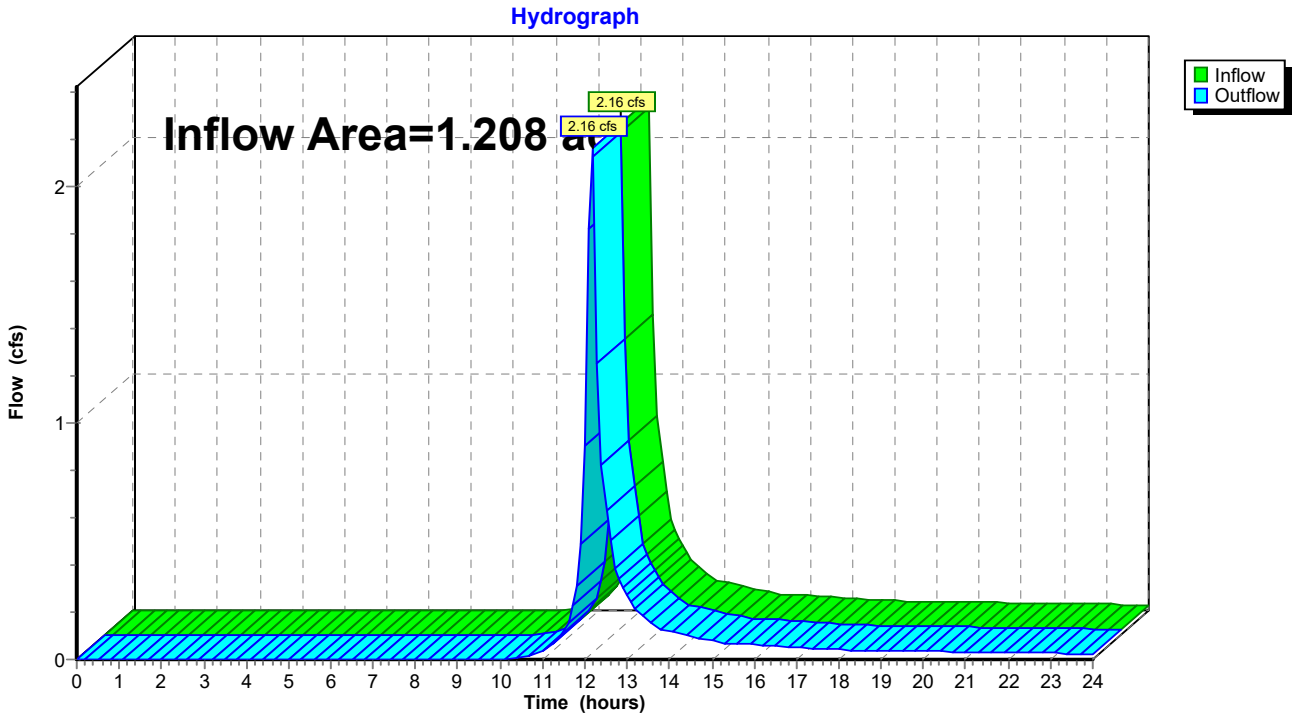


Summary for Reach #2: OUTFALL#2

Inflow Area = 1.208 ac, 5.20% Impervious, Inflow Depth > 1.42" for 10-Year event
Inflow = 2.16 cfs @ 12.18 hrs, Volume= 0.143 af
Outflow = 2.16 cfs @ 12.18 hrs, Volume= 0.143 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Reach #2: OUTFALL#2



Summary for Pond 1P: INFILTRATION BASIN

Inflow Area = 2.268 ac, 90.21% Impervious, Inflow Depth > 2.69" for 10-Year event
Inflow = 8.49 cfs @ 12.09 hrs, Volume= 0.508 af
Outflow = 6.30 cfs @ 12.17 hrs, Volume= 0.436 af, Atten= 26%, Lag= 4.7 min
Primary = 6.30 cfs @ 12.17 hrs, Volume= 0.436 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 698.29' @ 12.17 hrs Surf.Area= 6,557 sf Storage= 5,975 cf

Plug-Flow detention time= 97.3 min calculated for 0.434 af (85% of inflow)
Center-of-Mass det. time= 42.0 min (811.7 - 769.6)

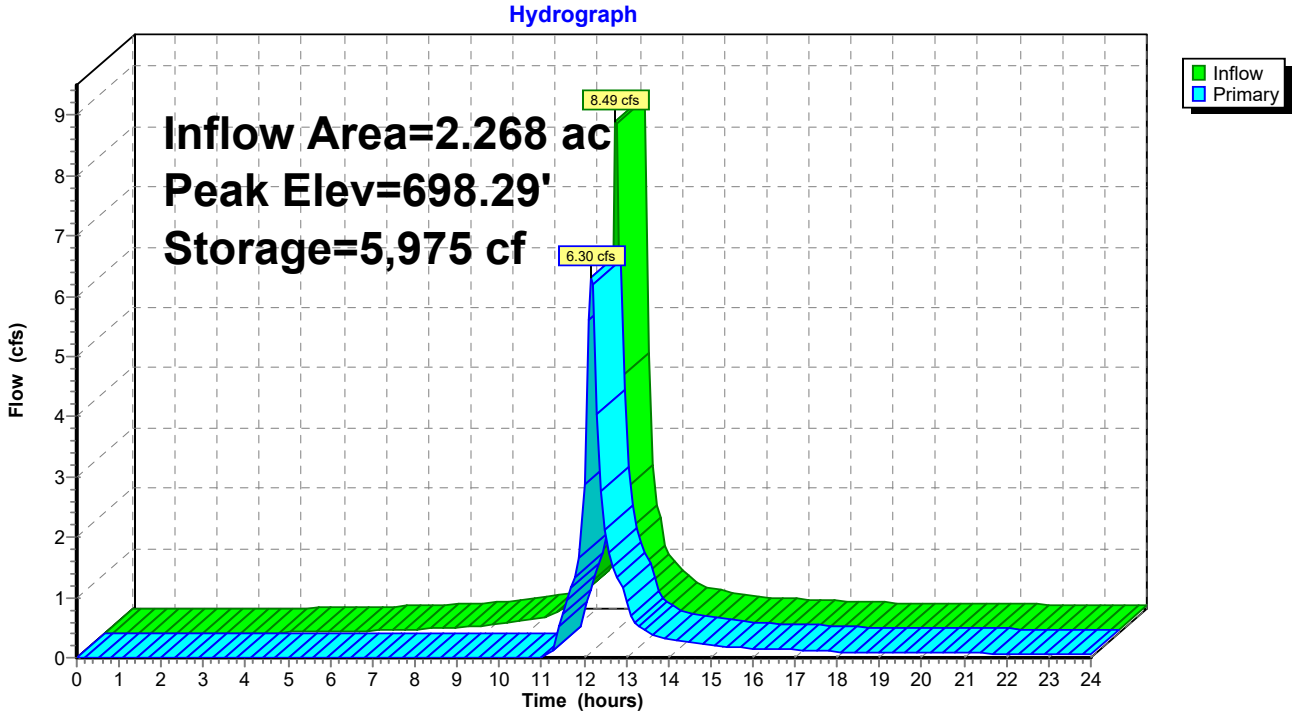
Volume	Invert	Avail.Storage	Storage Description
#1	697.00'	7,291 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
697.00	3,000	0	0
698.00	5,221	4,111	4,111
698.50	7,500	3,180	7,291

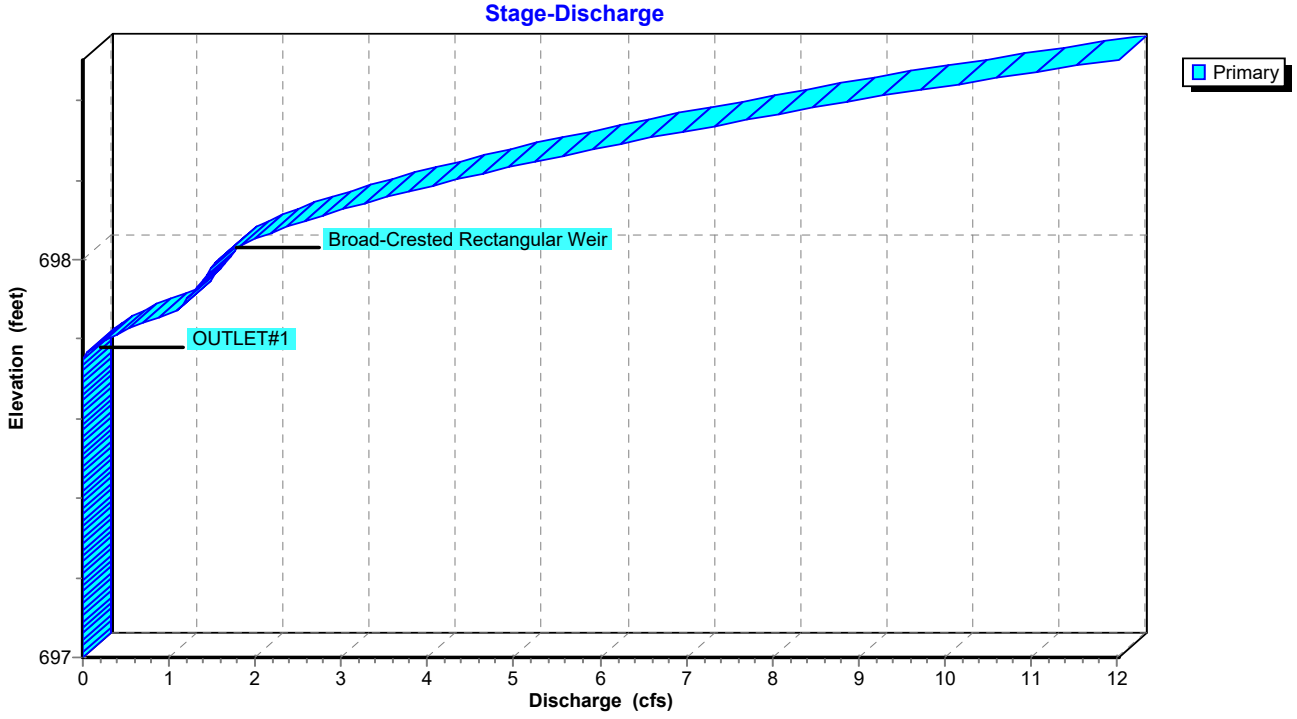
Device	Routing	Invert	Outlet Devices
#1	Primary	697.75'	**24.0" x 24.0" Horiz. OUTLET#1** C= 0.600 Limited to weir flow at low heads
#2	Device 1	696.35'	**12.0" Round OUTLET#1** L= 77.0' Ke= 0.600 Inlet / Outlet Invert= 696.35' / 696.35' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Primary	698.00'	**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

Primary OutFlow Max=6.02 cfs @ 12.17 hrs HW=698.28' (Free Discharge)
- **1=OUTLET#1** (Passes 2.29 cfs of 10.09 cfs potential flow)
  - **2=OUTLET#1** (Outlet Controls 2.29 cfs @ 2.91 fps)
- **3=Broad-Crested Rectangular Weir** (Weir Controls 3.73 cfs @ 1.33 fps)

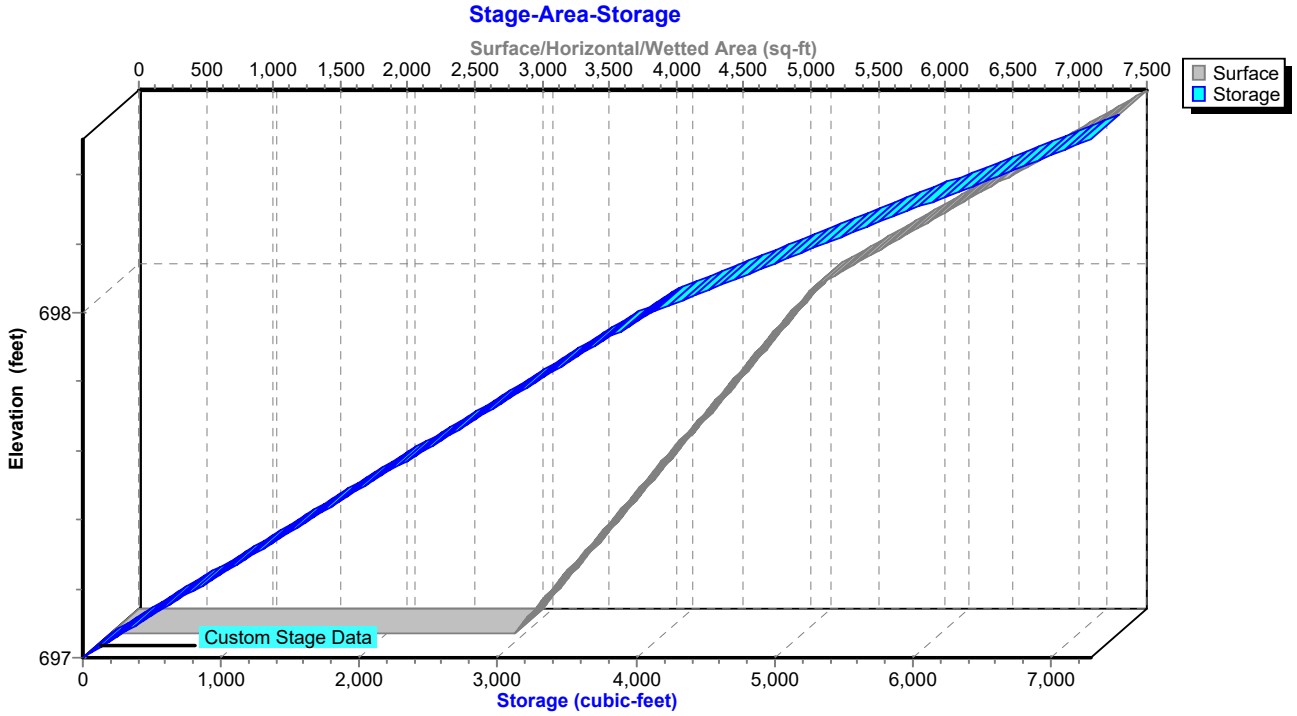
Pond 1P: INFILTRATION BASIN



Pond 1P: INFILTRATION BASIN



Pond 1P: INFILTRATION BASIN



Summary for Pond 2P: POCKET POND

Inflow Area = 5.599 ac, 67.92% Impervious, Inflow Depth > 2.14" for 10-Year event
Inflow = 13.96 cfs @ 12.19 hrs, Volume= 0.998 af
Outflow = 1.23 cfs @ 13.31 hrs, Volume= 0.612 af, Atten= 91%, Lag= 67.1 min
Primary = 1.23 cfs @ 13.31 hrs, Volume= 0.612 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 694.00' Surf.Area= 7,614 sf Storage= 12,558 cf
Peak Elev= 696.72' @ 13.31 hrs Surf.Area= 12,641 sf Storage= 39,879 cf (27,321 cf above start)

Plug-Flow detention time= 381.9 min calculated for 0.324 af (32% of inflow)
Center-of-Mass det. time= 155.8 min (965.8 - 810.0)

Volume	Invert	Avail.Storage	Storage Description
#1	692.00'	59,547 cf	**Custom Stage Data (Prismatic)** Listed below

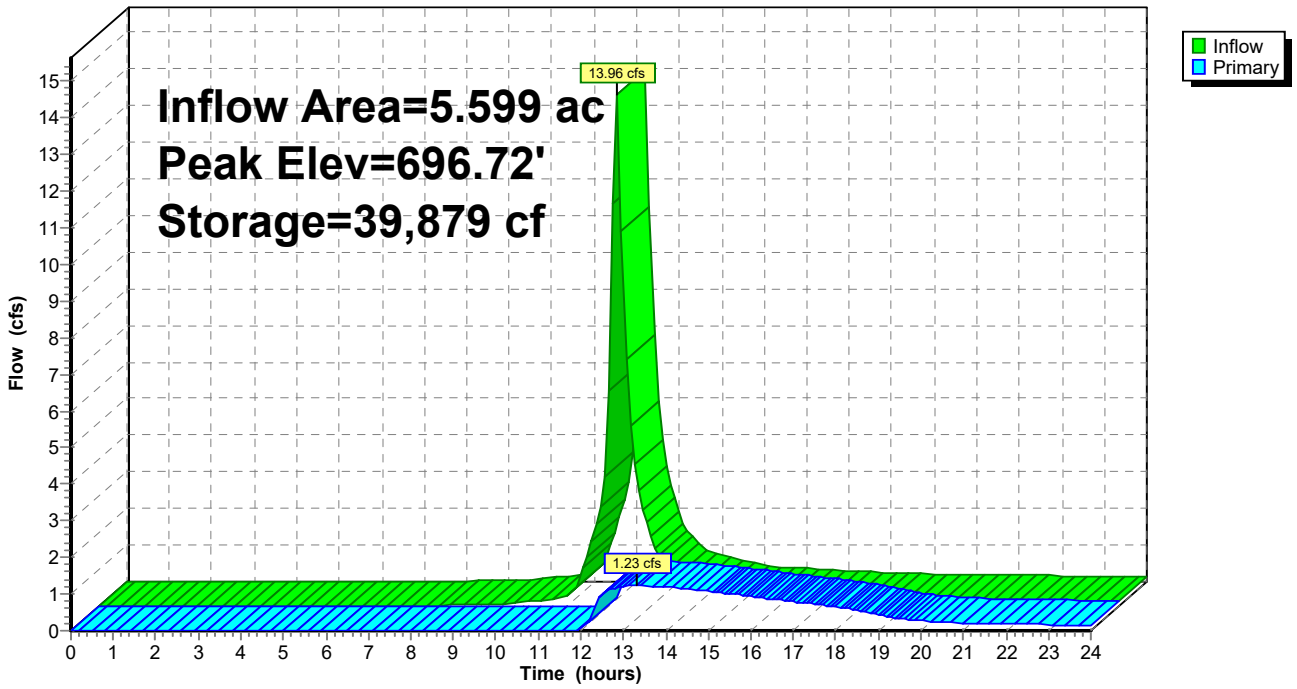
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
692.00	4,961	0	0
693.00	6,270	5,616	5,616
694.00	7,614	6,942	12,558
695.00	9,180	8,397	20,955
696.00	11,136	10,158	31,113
697.00	13,227	12,182	43,294
697.50	17,262	7,622	50,916
698.00	17,262	8,631	59,547

Device	Routing	Invert	Outlet Devices
#1	Primary	695.75'	**8.0" Horiz. RIM** C= 0.600 Limited to weir flow at low heads
#2	Device 1	694.80'	**8.0" Round RIM** L= 64.0' Ke= 0.600 Inlet / Outlet Invert= 694.80' / 694.80' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.35 sf
#3	Primary	697.00'	**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

Primary OutFlow Max=1.23 cfs @ 13.31 hrs HW=696.72' (Free Discharge)
- **1=RIM** (Passes 1.23 cfs of 1.65 cfs potential flow)
  - **2=RIM** (Outlet Controls 1.23 cfs @ 3.52 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

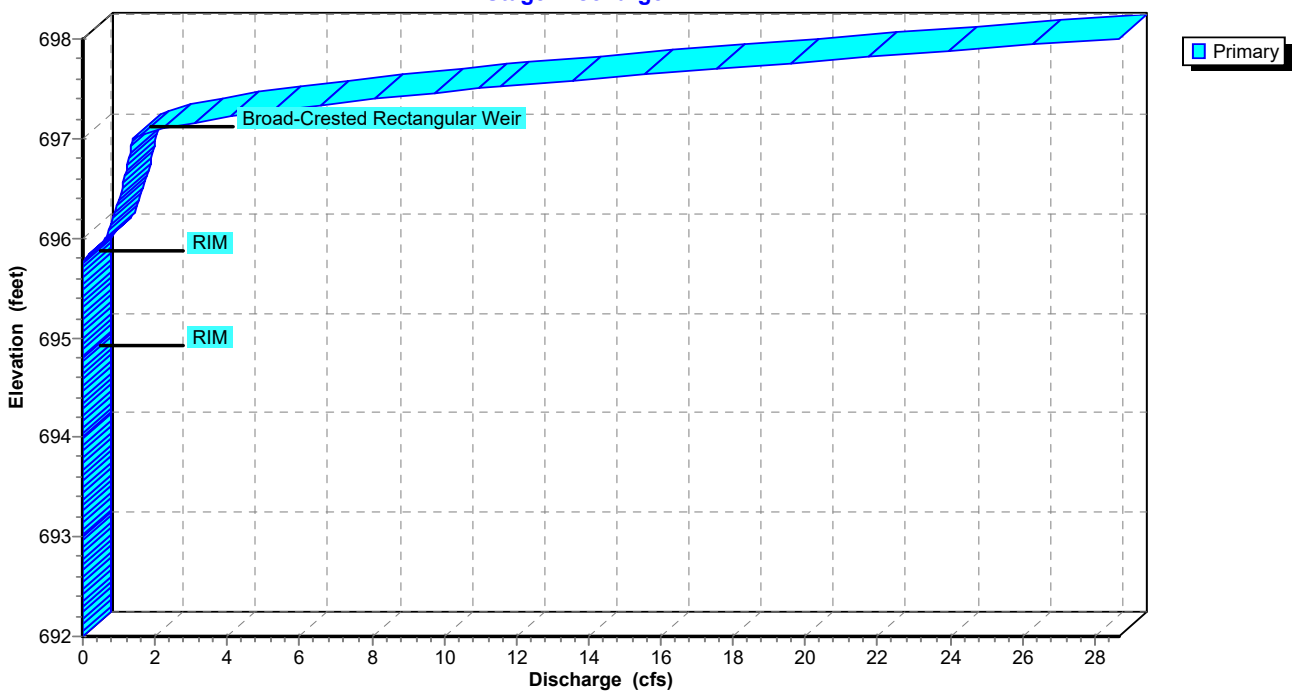
Pond 2P: POCKET POND

Hydrograph

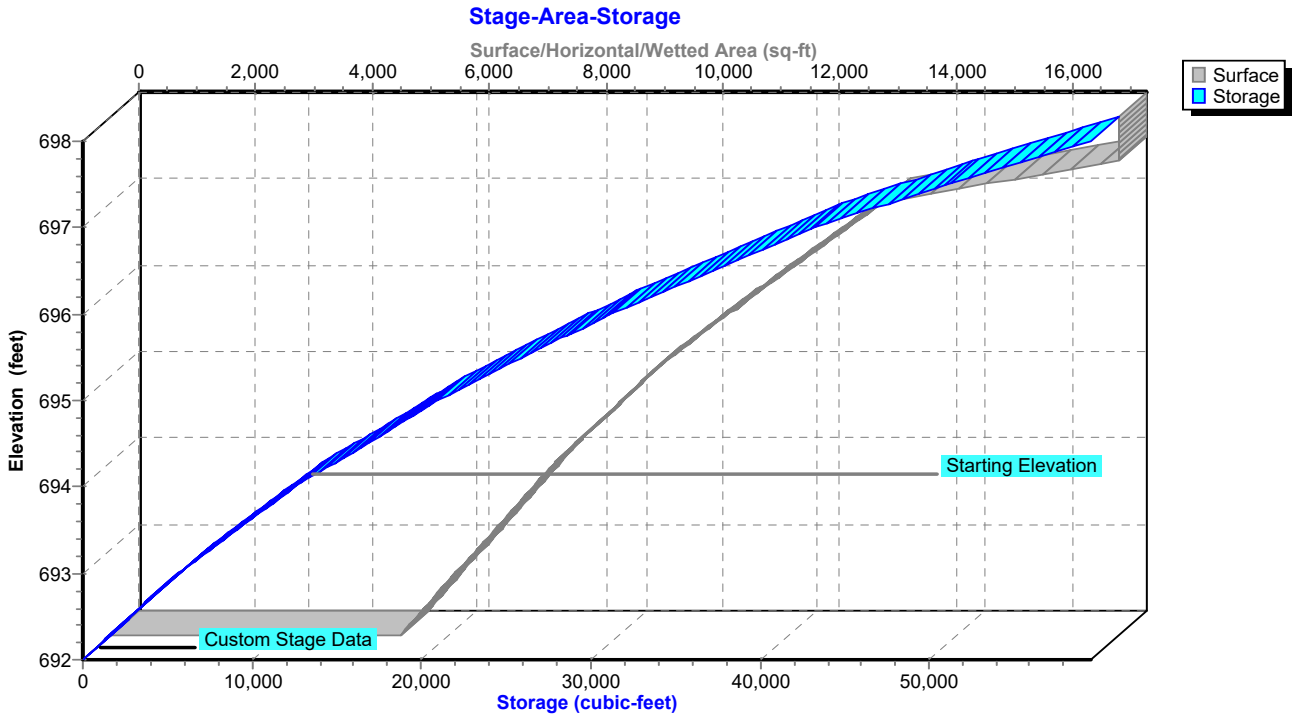


Pond 2P: POCKET POND

Stage-Discharge



Pond 2P: POCKET POND



Summary for Subcatchment 1A: 1A

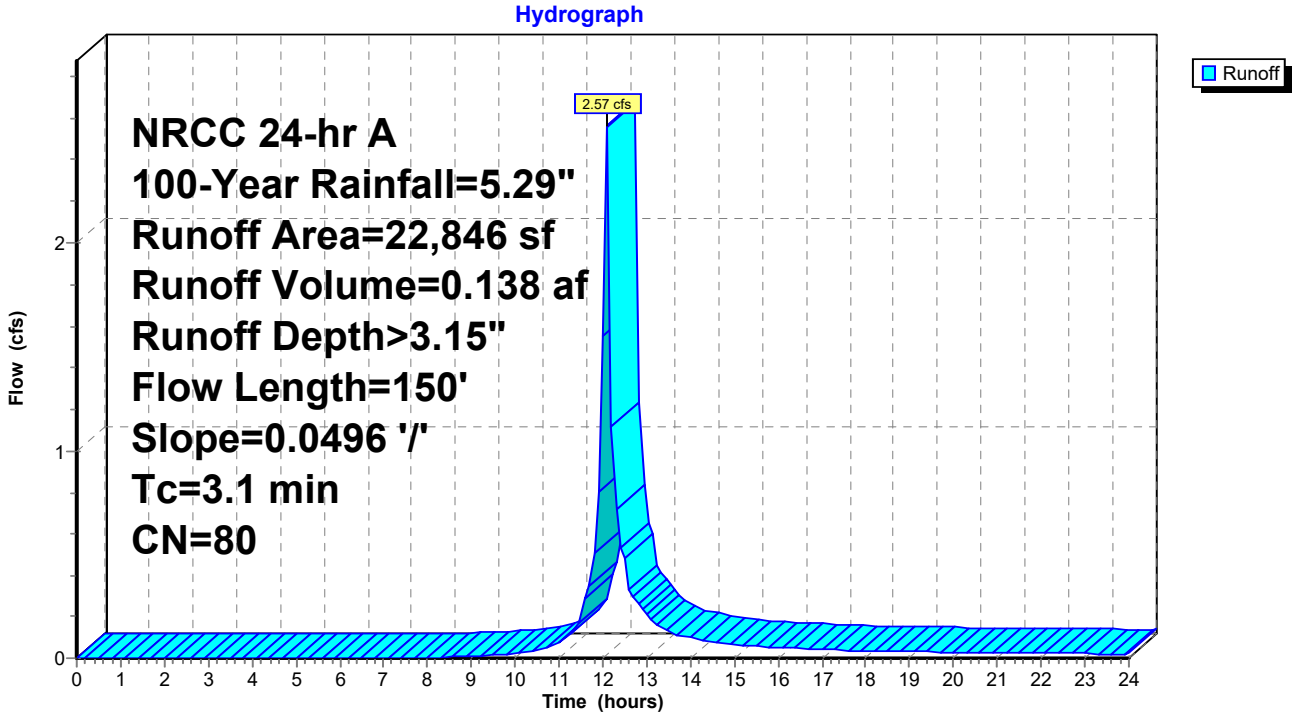
Runoff = 2.57 cfs @ 12.09 hrs, Volume= 0.138 af, Depth> 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-Year Rainfall=5.29"

Area (sf)	CN	Description
54	98	Paved parking HSG D
22,792	80	>75% Grass cover, Good HSG D
22,846	80	Weighted Average
22,792		99.76% Pervious Area
54		0.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	150	0.0496	0.80		**Lag/CN Method,**

Subcatchment 1A: 1A



Summary for Subcatchment 1B1: 1B1

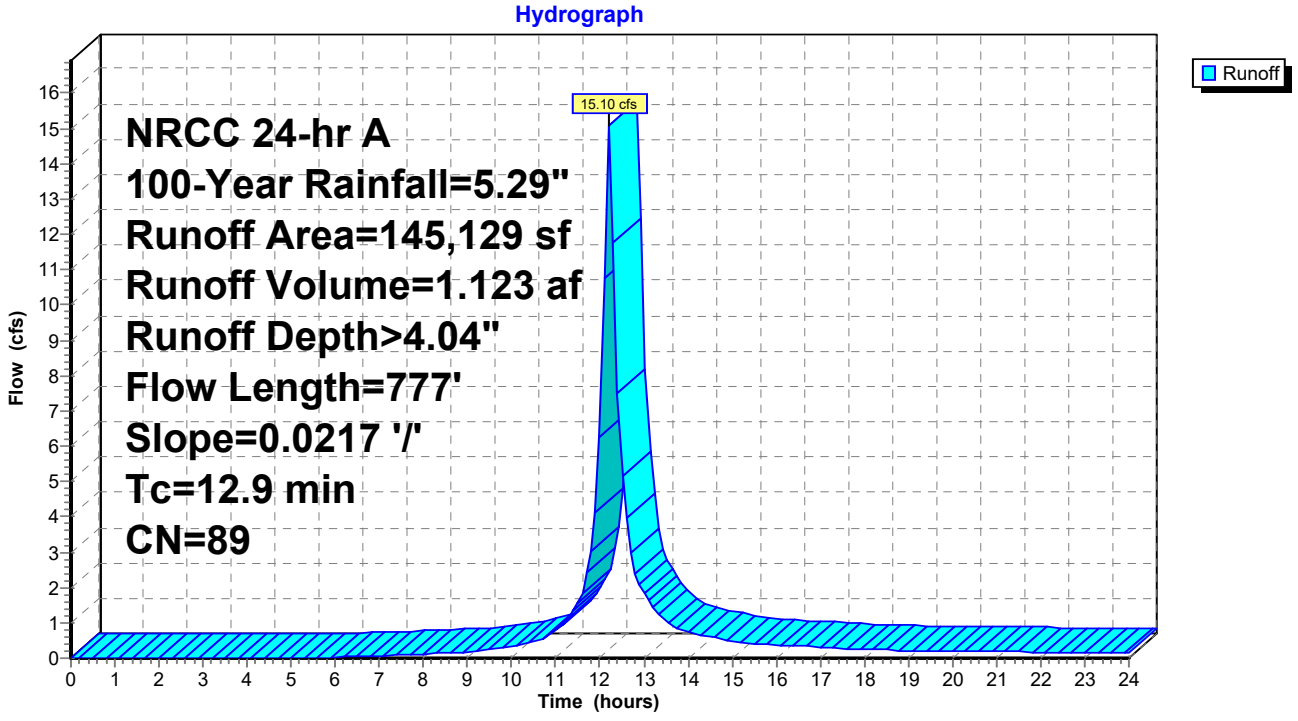
Runoff = 15.10 cfs @ 12.21 hrs, Volume= 1.123 af, Depth> 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-Year Rainfall=5.29"

Area (sf)	CN	Description
76,554	98	Paved parking HSG D
68,575	80	>75% Grass cover, Good HSG D
145,129	89	Weighted Average
68,575		47.25% Pervious Area
76,554		52.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9	777	0.0217	1.01		**Lag/CN Method,**

Subcatchment 1B1: 1B1



Summary for Subcatchment 1B2: 1B2

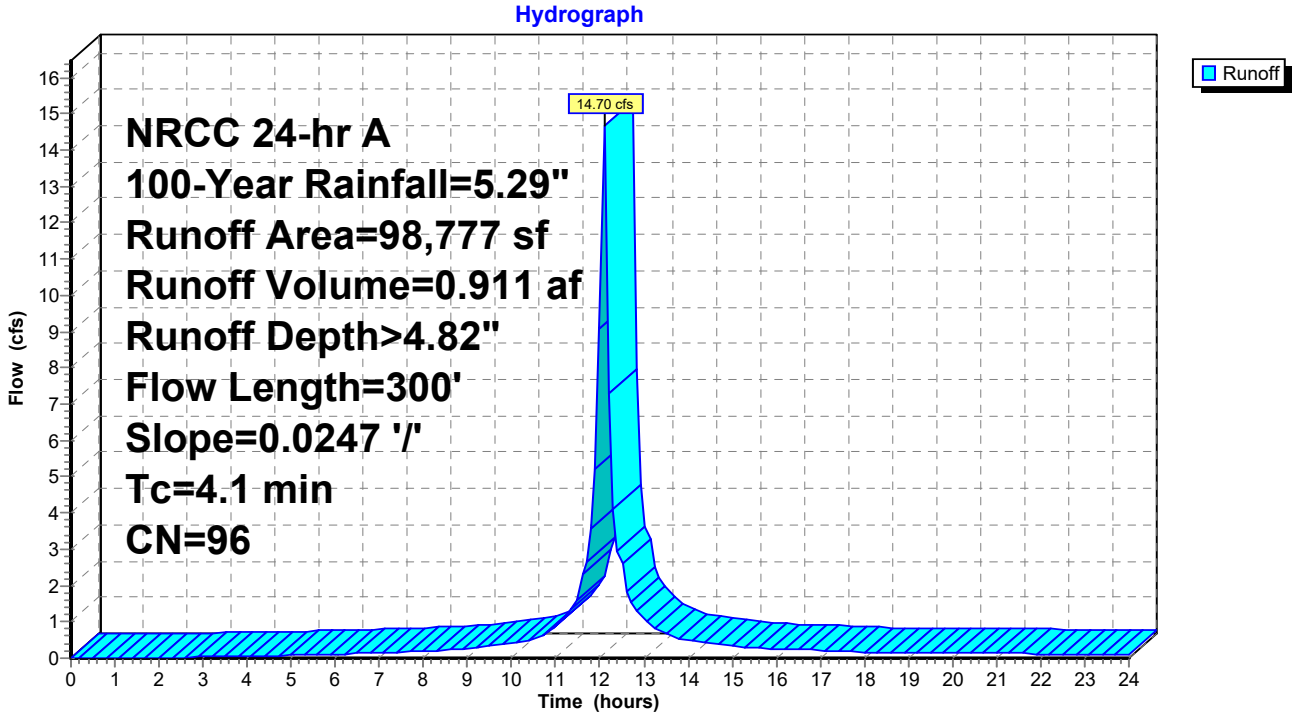
Runoff = 14.70 cfs @ 12.09 hrs, Volume= 0.911 af, Depth> 4.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-Year Rainfall=5.29"

Area (sf)	CN	Description
89,109	98	Paved parking HSG D
9,668	80	>75% Grass cover, Good HSG D
98,777	96	Weighted Average
9,668		9.79% Pervious Area
89,109		90.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	300	0.0247	1.22		**Lag/CN Method,**

Subcatchment 1B2: 1B2



Summary for Subcatchment 2: 2

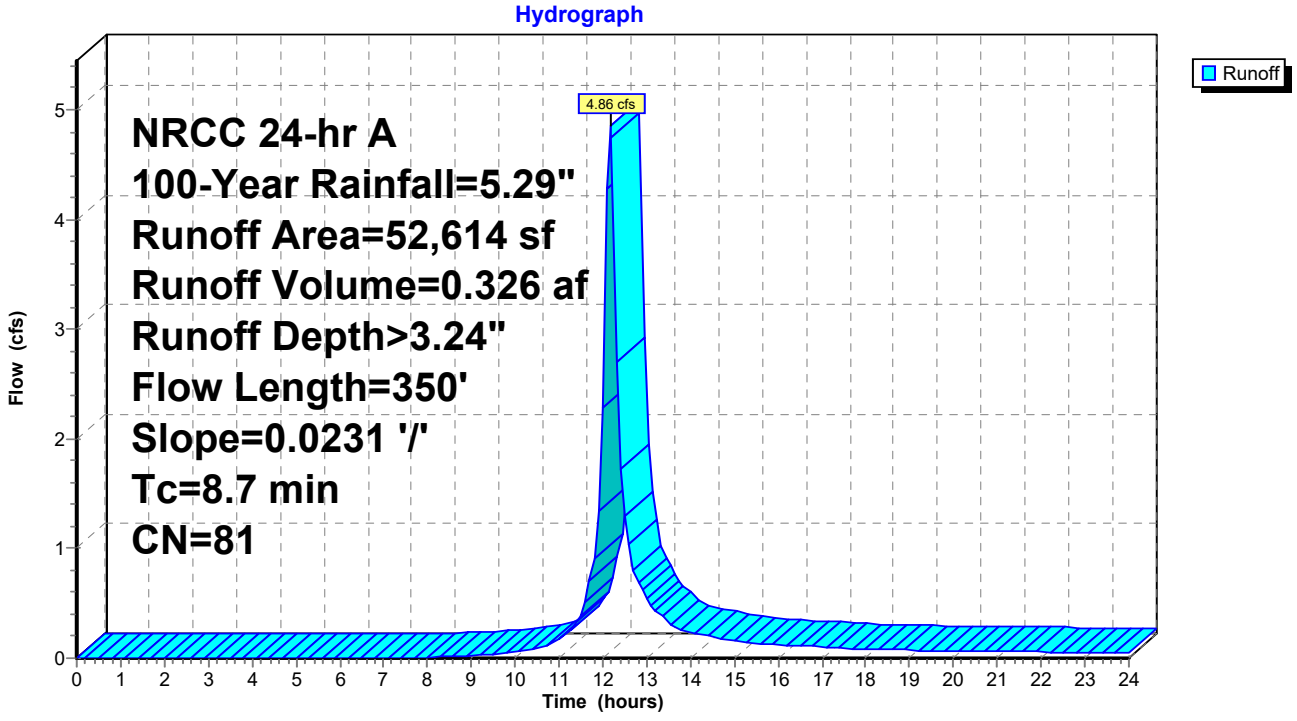
Runoff = 4.86 cfs @ 12.17 hrs, Volume= 0.326 af, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-Year Rainfall=5.29"

Area (sf)	CN	Description
2,737	98	Paved parking HSG D
49,877	80	>75% Grass cover, Good HSG D
52,614	81	Weighted Average
49,877		94.80% Pervious Area
2,737		5.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	350	0.0231	0.67		**Lag/CN Method,**

Subcatchment 2: 2

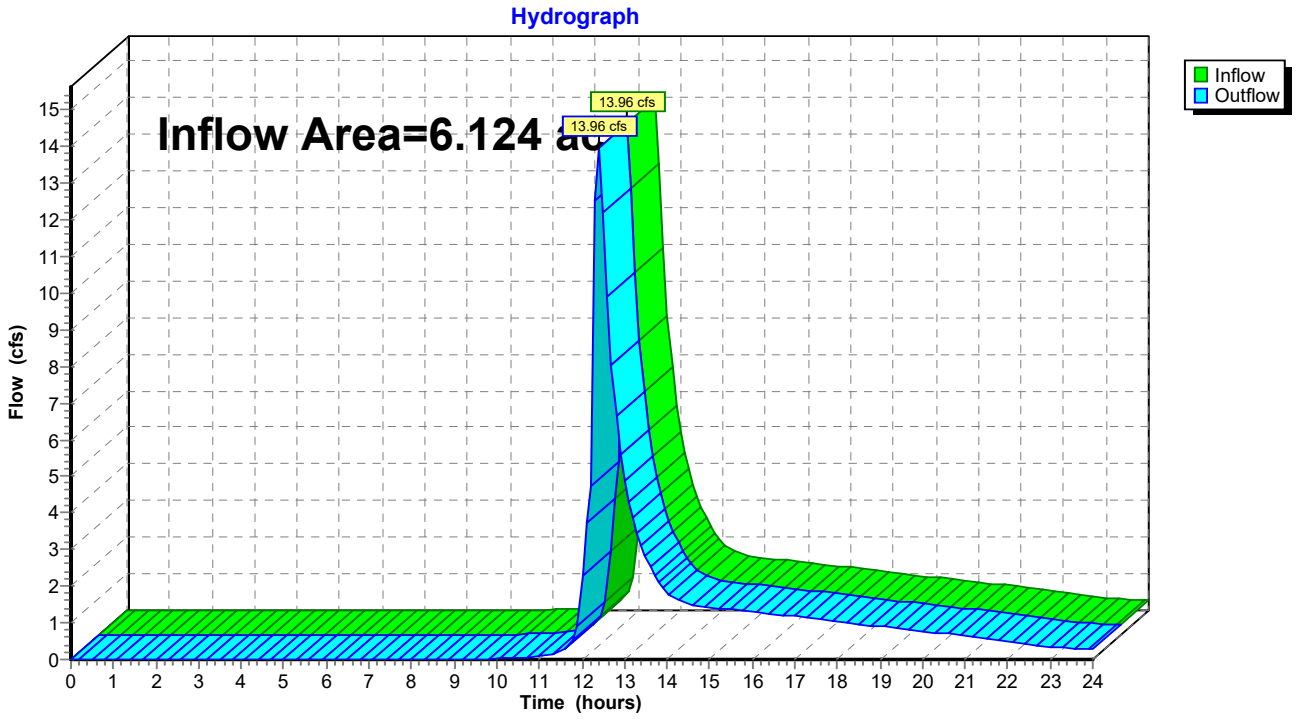


Summary for Reach #1: OUTFALL#1

Inflow Area = 6.124 ac, 62.12% Impervious, Inflow Depth > 3.34" for 100-Year event
Inflow = 13.96 cfs @ 12.39 hrs, Volume= 1.704 af
Outflow = 13.96 cfs @ 12.39 hrs, Volume= 1.704 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Reach #1: OUTFALL#1

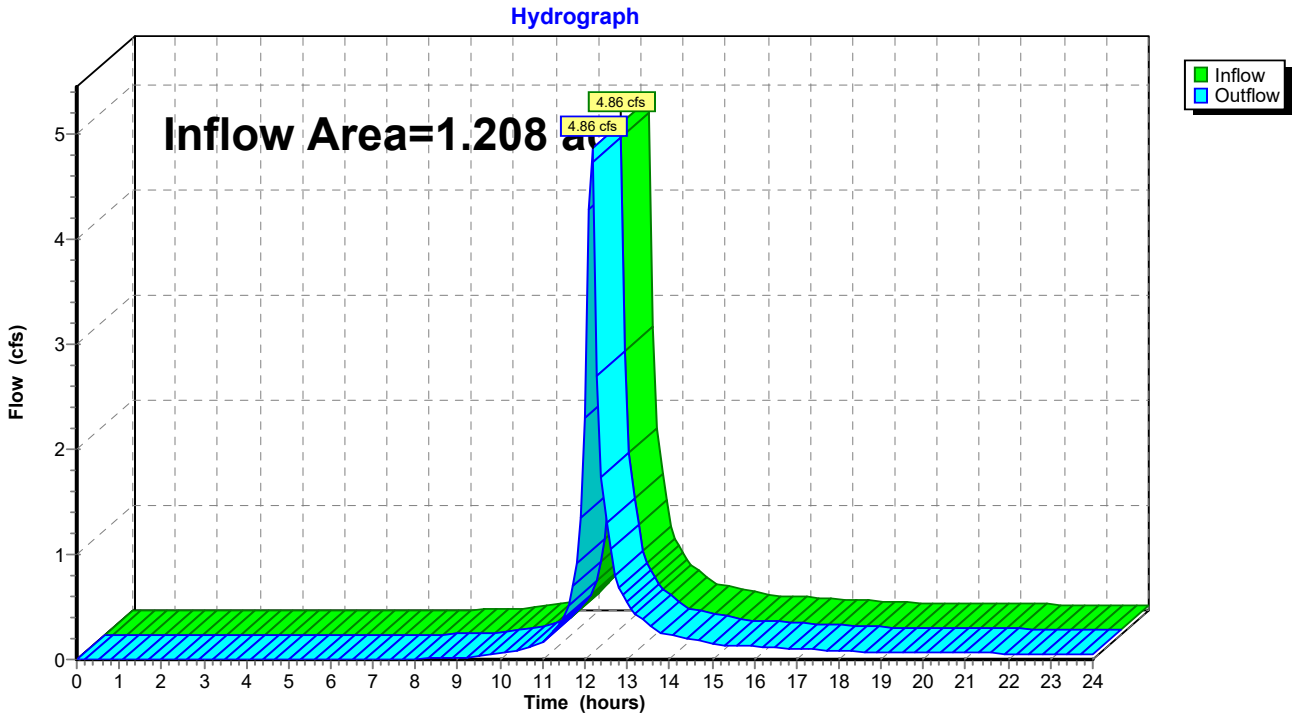


Summary for Reach #2: OUTFALL#2

Inflow Area = 1.208 ac, 5.20% Impervious, Inflow Depth > 3.24" for 100-Year event
Inflow = 4.86 cfs @ 12.17 hrs, Volume= 0.326 af
Outflow = 4.86 cfs @ 12.17 hrs, Volume= 0.326 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Reach #2: OUTFALL#2



Summary for Pond 1P: INFILTRATION BASIN

Inflow Area = 2.268 ac, 90.21% Impervious, Inflow Depth > 4.82" for 100-Year event
Inflow = 14.70 cfs @ 12.09 hrs, Volume= 0.911 af
Outflow = 11.67 cfs @ 12.15 hrs, Volume= 0.838 af, Atten= 21%, Lag= 3.3 min
Primary = 11.67 cfs @ 12.15 hrs, Volume= 0.838 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 698.49' @ 12.15 hrs Surf.Area= 7,465 sf Storage= 7,241 cf

Plug-Flow detention time= 73.5 min calculated for 0.834 af (92% of inflow)
Center-of-Mass det. time= 35.1 min (792.6 - 757.5)

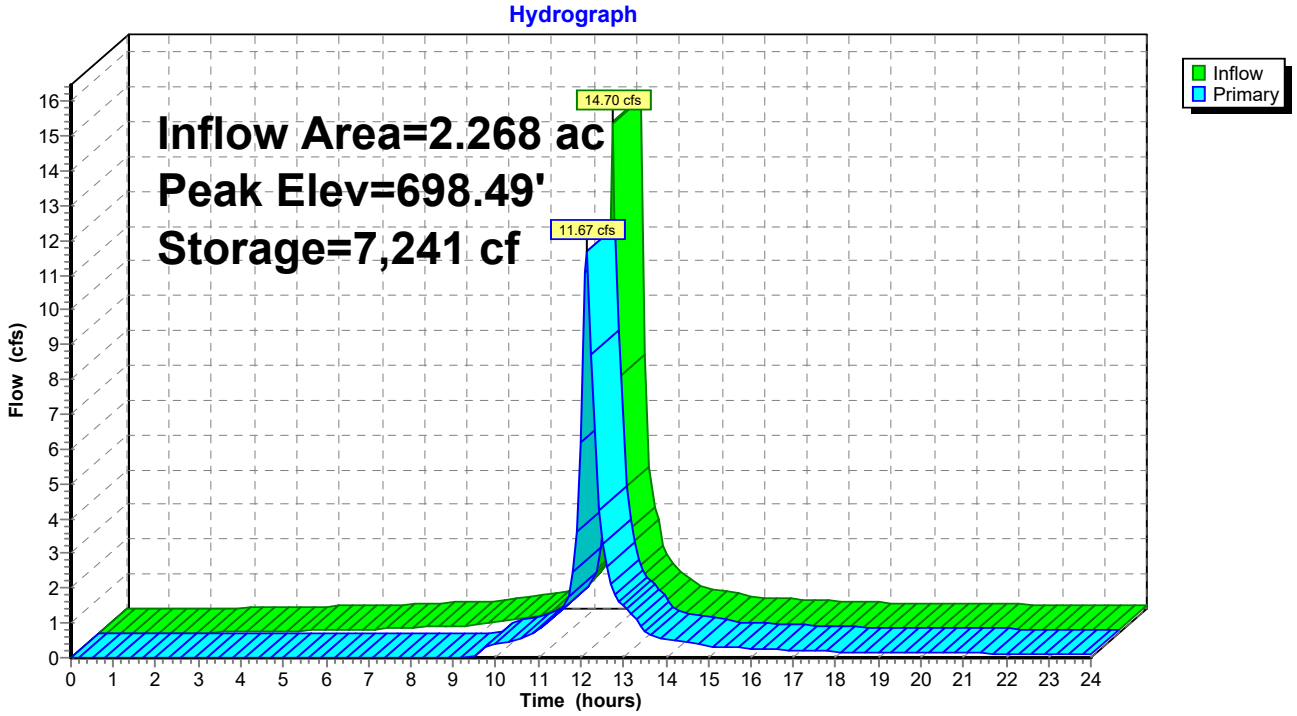
Volume	Invert	Avail.Storage	Storage Description
#1	697.00'	7,291 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
697.00	3,000	0	0
698.00	5,221	4,111	4,111
698.50	7,500	3,180	7,291

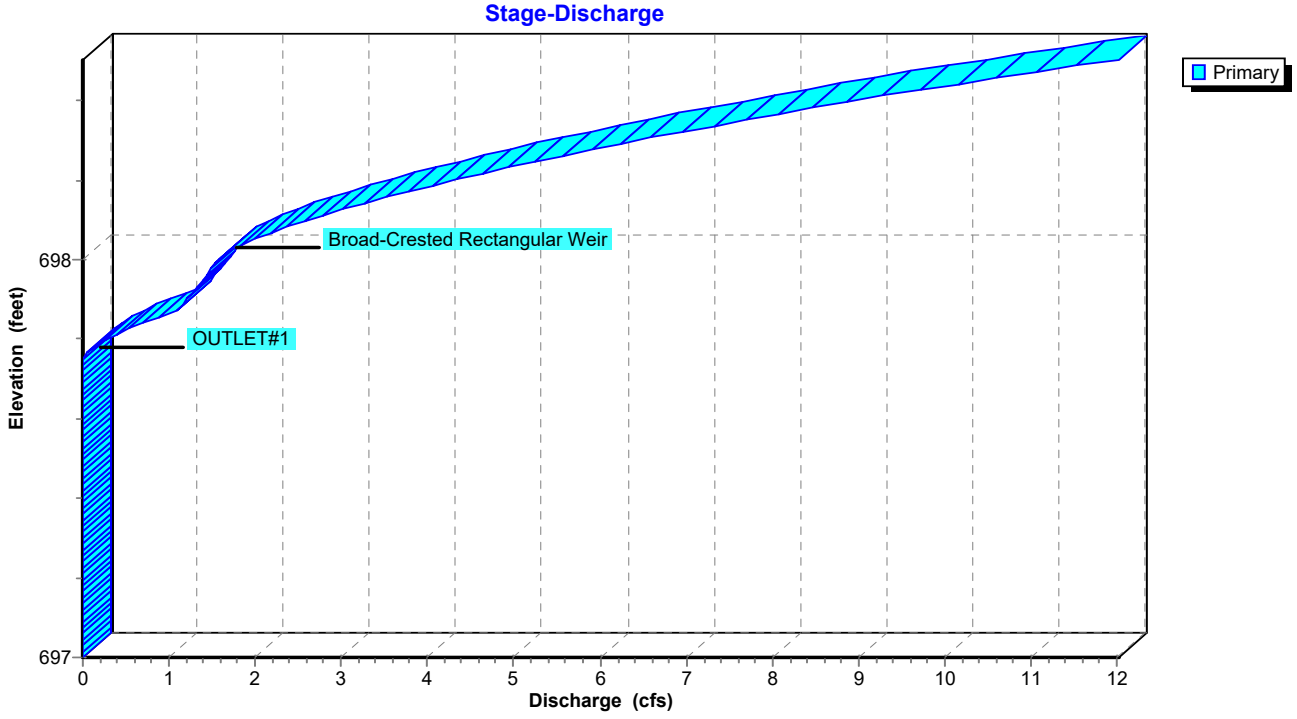
Device	Routing	Invert	Outlet Devices
#1	Primary	697.75'	**24.0" x 24.0" Horiz. OUTLET#1** C= 0.600 Limited to weir flow at low heads
#2	Device 1	696.35'	**12.0" Round OUTLET#1** L= 77.0' Ke= 0.600 Inlet / Outlet Invert= 696.35' / 696.35' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Primary	698.00'	**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

Primary OutFlow Max=11.04 cfs @ 12.15 hrs HW=698.47' (Free Discharge)
- **1=OUTLET#1** (Passes 2.67 cfs of 15.95 cfs potential flow)
  - **2=OUTLET#1** (Outlet Controls 2.67 cfs @ 3.39 fps)
- **3=Broad-Crested Rectangular Weir** (Weir Controls 8.38 cfs @ 1.79 fps)

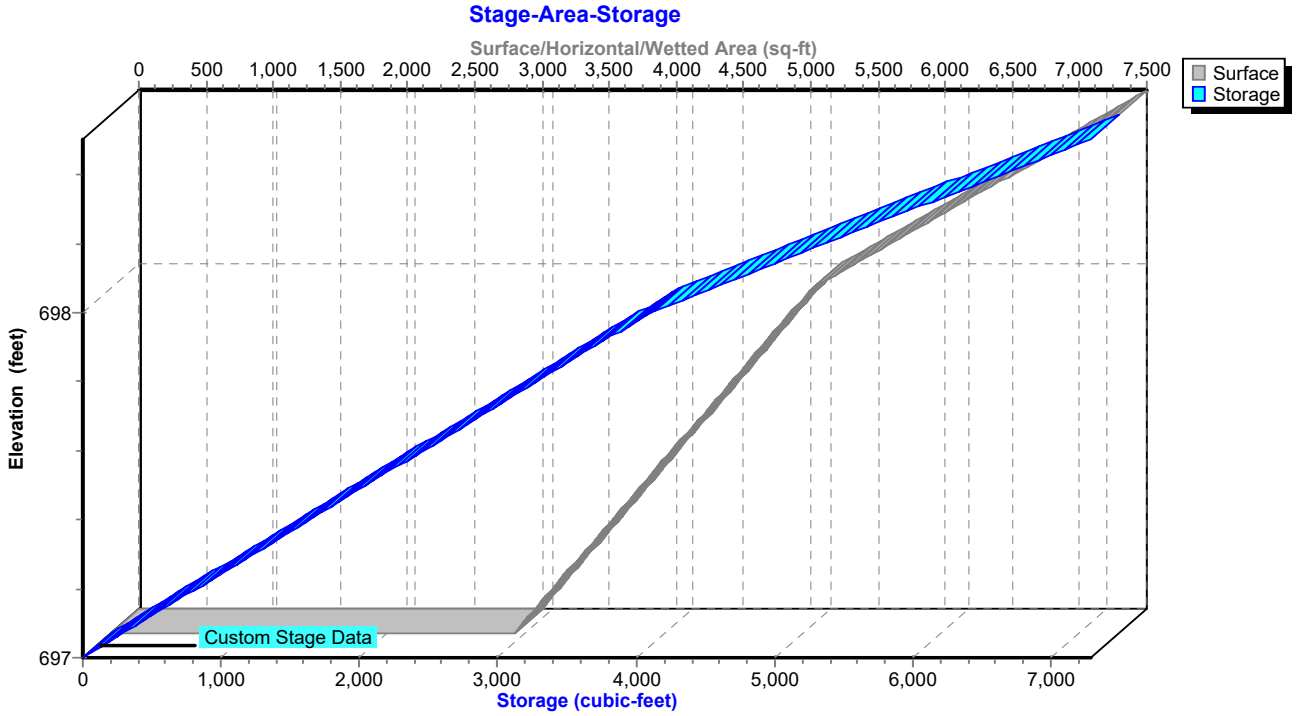
Pond 1P: INFILTRATION BASIN



Pond 1P: INFILTRATION BASIN



Pond 1P: INFILTRATION BASIN



Summary for Pond 2P: POCKET POND

Inflow Area = 5.599 ac, 67.92% Impervious, Inflow Depth > 4.20" for 100-Year event
Inflow = 26.21 cfs @ 12.18 hrs, Volume= 1.960 af
Outflow = 13.43 cfs @ 12.40 hrs, Volume= 1.566 af, Atten= 49%, Lag= 12.8 min
Primary = 13.43 cfs @ 12.40 hrs, Volume= 1.566 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 694.00' Surf.Area= 7,614 sf Storage= 12,558 cf
Peak Elev= 697.58' @ 12.40 hrs Surf.Area= 17,262 sf Storage= 52,233 cf (39,675 cf above start)

Plug-Flow detention time= 228.7 min calculated for 1.273 af (65% of inflow)
Center-of-Mass det. time= 111.2 min (903.7 - 792.5)

Volume	Invert	Avail.Storage	Storage Description
#1	692.00'	59,547 cf	**Custom Stage Data (Prismatic)** Listed below

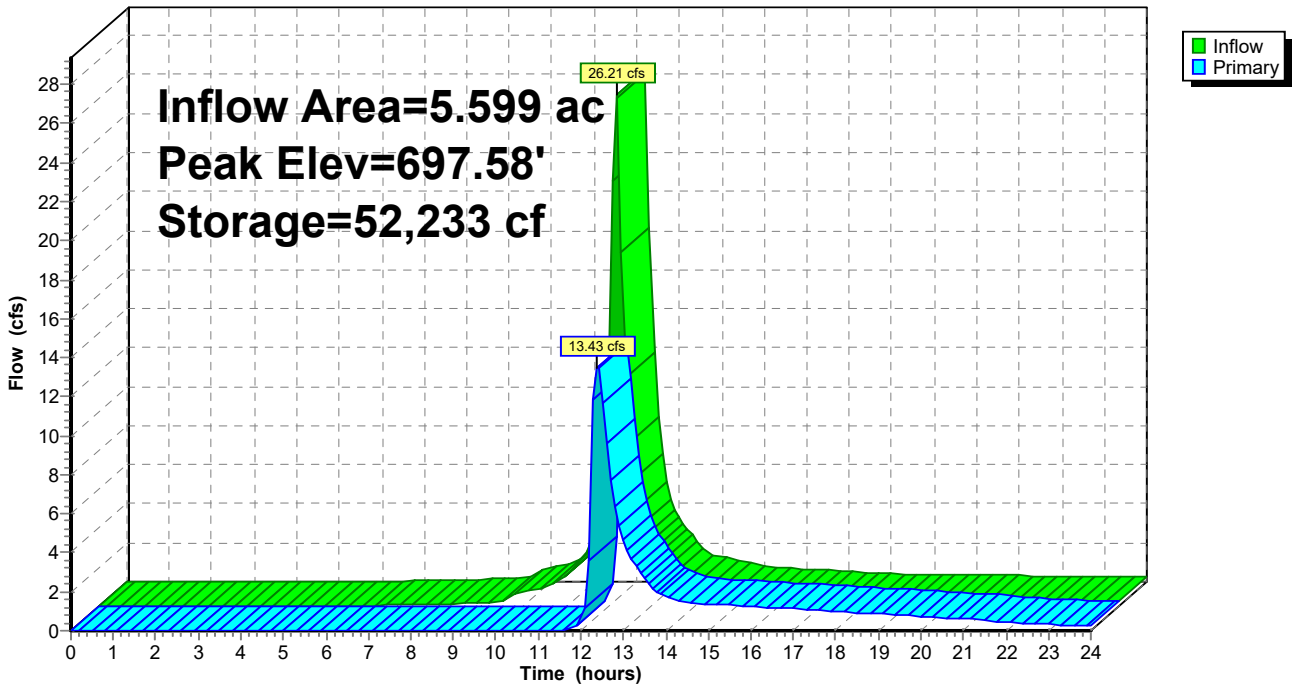
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
692.00	4,961	0	0
693.00	6,270	5,616	5,616
694.00	7,614	6,942	12,558
695.00	9,180	8,397	20,955
696.00	11,136	10,158	31,113
697.00	13,227	12,182	43,294
697.50	17,262	7,622	50,916
698.00	17,262	8,631	59,547

Device	Routing	Invert	Outlet Devices
#1	Primary	695.75'	**8.0" Horiz. RIM** C= 0.600 Limited to weir flow at low heads
#2	Device 1	694.80'	**8.0" Round RIM** L= 64.0' Ke= 0.600 Inlet / Outlet Invert= 694.80' / 694.80' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.35 sf
#3	Primary	697.00'	**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

Primary OutFlow Max=13.39 cfs @ 12.40 hrs HW=697.58' (Free Discharge)
- **1=RIM** (Passes 1.68 cfs of 2.27 cfs potential flow)
  - **2=RIM** (Outlet Controls 1.68 cfs @ 4.82 fps)
- **3=Broad-Crested Rectangular Weir** (Weir Controls 11.71 cfs @ 2.04 fps)

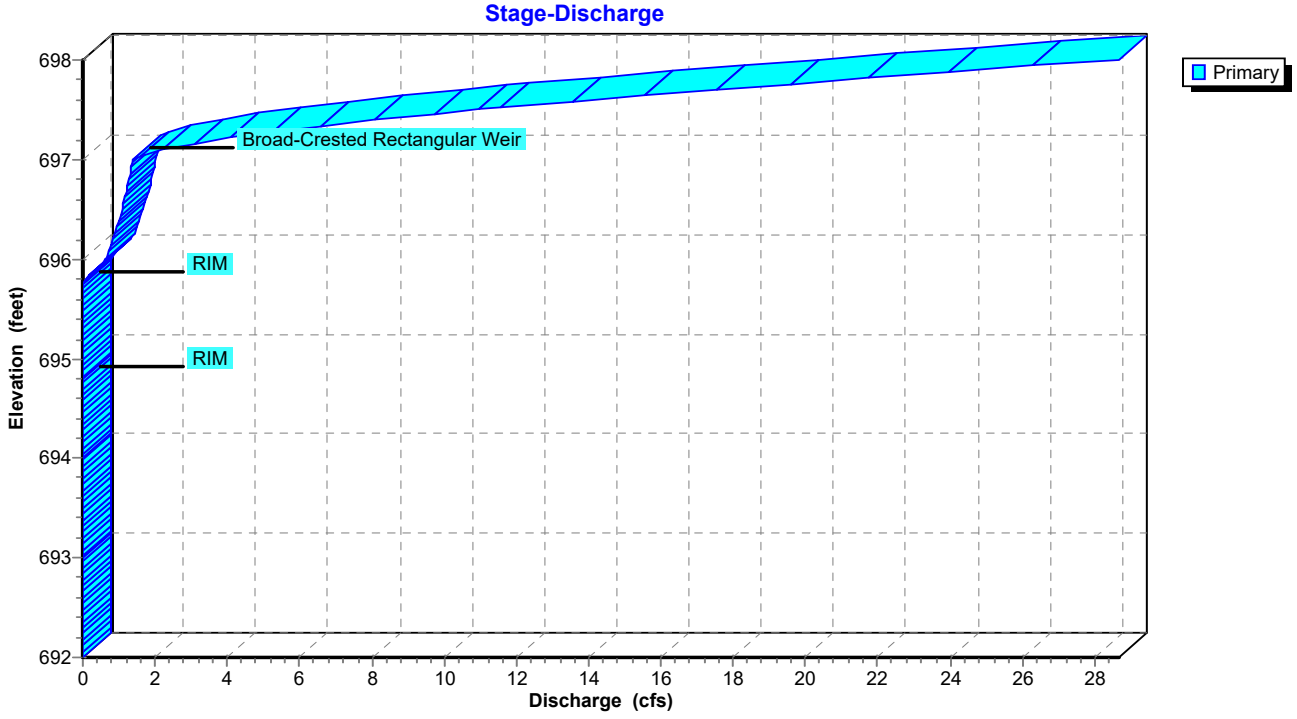
Pond 2P: POCKET POND

Hydrograph

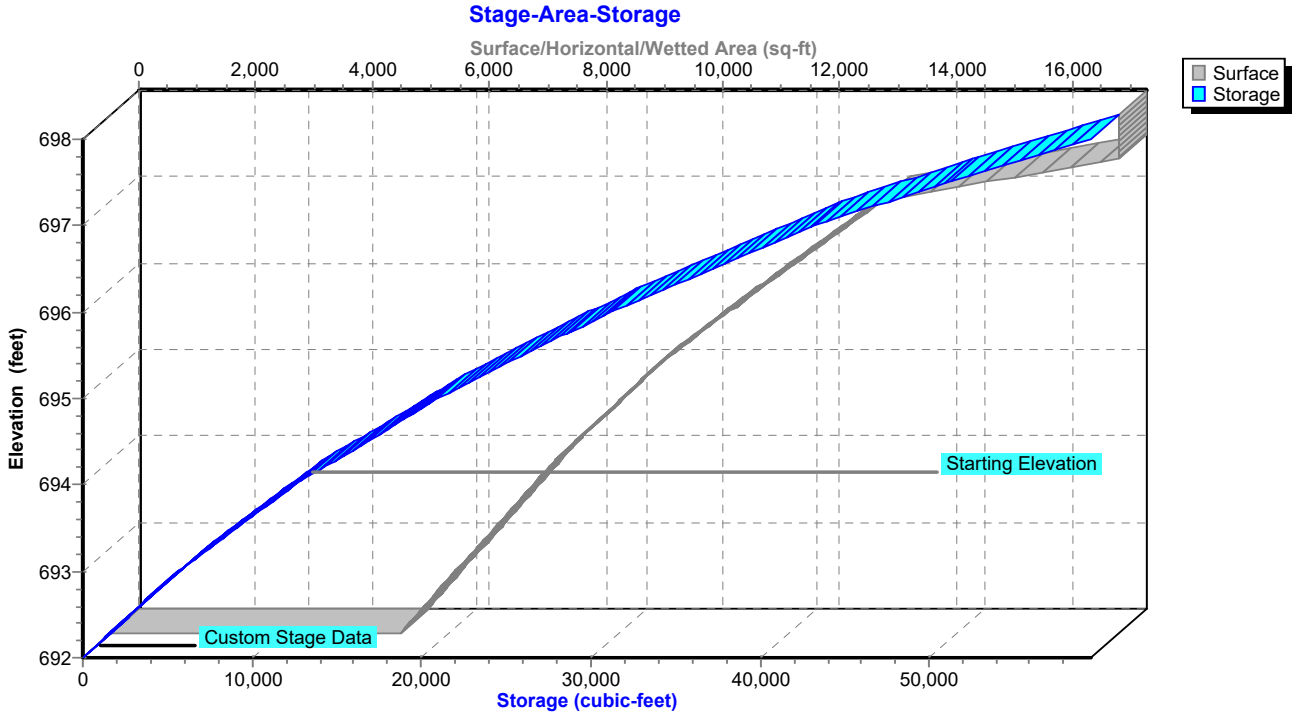


Pond 2P: POCKET POND

Stage-Discharge



Pond 2P: POCKET POND



APPENDIX C

Stormwater Design Calculations

Planning

Practice	Description	Application
Preservation of Undisturbed Areas	Delineate and place into permanent conservation undisturbed forests, native vegetated areas, riparian corridors, wetlands, and natural terrain.	Considered & Not Applied
Preservation of Buffers	Define, delineate and preserve naturally vegetated buffers along perennial streams, rivers, shorelines and wetlands.	N/A
Reduction of Clearing and Grading	Limit clearing and grading to the minimum amount needed for roads, driveways, foundations, utilities and stormwater management facilities.	Considered & Applied
Locating Development in Less Sensitive Areas	Avoid sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitats by locating development to fit the terrain in areas that will create the least impact.	Considered & Applied
Open Space Design	Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources.	N/A
Soil Restoration	Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of post construction practices.	Considered & Applied
Roadway Reduction	Minimize roadway widths and lengths to reduce site impervious area	Considered & Applied
Sidewalk Reduction	Minimize sidewalk lengths and widths to reduce site impervious area	Considered & Applied
Driveway Reduction	Minimize driveway lengths and widths to reduce site impervious area	Considered & Applied
Cul-de-sac Reduction	Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.	N/A
Building Footprint Reduction	Reduce the impervious footprint of residences and commercial buildings by using alternate or taller buildings while maintaining the same floor to area ratio.	Considered & Not Applied
Parking Reduction	Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, minimizing stall dimensions, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate.	Considered & Applied

Version 1.7
Last Updated: 10/02/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	No

Design Point:	storm	
P=	1.89	*inch*

Manually enter P, Total Area and Impervious Cover.

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	3.33	1.76	53%	0.52	11,994	Filter Strips
2	2.27	2.05	90%	0.86	13,409	Infiltration Basin
3	1.21	0.06	5%	0.10	802	Vegetated Swale
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	6.81	3.87	57%	0.56	**26,206**	**Subtotal 1**
Total	6.81	3.87	57%	0.56	**26,206**	**Initial WQv**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	3.33	1.76	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**3.33**	**1.76**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*
"<<Initial WQv"	6.81	3.87	57%	0.56	26,206
Subtract Area	-3.33	-1.76			
WQv adjusted after Area Reductions	**3.48**	**2.11**	61%	0.60	14,211
Disconnection of Rooftops		2.05			
Adjusted WQv after Area Reduction and Rooftop Disconnect	3.48	0.06	2%	0.07	**1,553**
WQv reduced by Area Reduction techniques					24,652

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**cf**	**cf**
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	3.33	1.76		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		2.05		
	Vegetated Swale	RR-5	1.21	0.06	80	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	2.27	0.00	5040	9120
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4	0.00			
	Bioretention & Infiltration Bioretention	F-5	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			3.33	3.81	24652	
Totals by Volume Reduction →			1.21	0.06	80	
Totals by Standard SMP w/RRV →			2.27	0.00	5040	9120
Totals by Standard SMP →			0.00	0.00		0
Totals (Area + Volume + all SMPs) →			6.81	3.87	29,773	9,120
	Impervious Cover √	okay				

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**6.81**	20%
Total Area	6.81	
Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	3.87	*acre*
Precipitation	1.89	*in*
Rv	0.95	
Minimum RRv	**5,039**	***ft3***
	0.12	af

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	26206	*0.602*
30	Total RRV Provided	29773	*0.683*
31	Is RRv Provided ≥WQv Required?	Yes	
32	Minimum RRv	5039	*0.116*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated	9120	*0.209*
34	Sum of Volume Reduced & Treated	38893	*0.893*
34	Sum of Volume Reduced and Treated	38893	*0.893*
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?	Yes	

Apply Peak Flow Attenuation			
36	Channel Protection	*Cpv*	
37	Overbank	*Qp*	
37	Extreme Flood Control	*Qf*	
	Are Quantity Control requirements met?	*Yes*	Plan Completed

Filter Strip

Design Point:	storm

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	3.33	1.76	0.53	0.52	########	1.89	Filter Strips

Design Elements			
Is another area based practice applied to this area?	*No*	*Y/N*	
Amended Soils & Dense Turf Cover?	*Yes*	*Y/N*	
Is area protected from compaction from heavy equipment during construction?	*Yes*	*Y/N*	
Small Area of Impervious Area & close to source?	*Yes*	*Y/N*	
Composte Amendments?	*No*	*Y/N*	
Boundary Spreader?	*Yes*	*Y/N*	*Gravel Diaphram at top*
Boundary Zone?	*Yes*	*Y/N*	*25 feet of level grass*
Specify how sheet flow will be ensured.	2		*level spreader shall be used for buffer slopes ranging from 3-15%*
Average contributing slope	1%	*%*	*3% maximum unless a level spreader is*
Slope of first 10 feet of Filter Strip	1	*%*	*2% maximum*
Overall Slope	2	*%*	*8% maximum*
Contributing Length of Pervious Areas (PC)	0	*ft*	*150 ft maximum*
Contributing Length of Impervious areas (IC)	75	*ft*	*75 ft maximum*
Maximum PC Contributing Length for combination of PC & IC	75	*ft*	
Soil Group (HSG)	D		
Filter Strip Width	100	*ft*	*50 ft minimum for slopes 0-8%* *75 ft minimum for slopes 8-12%* *100 ft minimum for slopes 12-15%* *HSG C or D increase by 15-20%*
Are All Criteria for Filter Strips in Section 5.3.2 met?	*Yes*		

Area Reduction Adjustments		
Subtract	**3.33**	***Acres from total Area***
Subtract	**1.76**	***Acres from total Impervious Area***

TRUE

Infiltration Basin Worksheet

Design Point:	storm

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
2	2.27	2.05	0.90	0.86	13409.07	1.89	Infiltration Basin
Enter Impervious Area Reduced by Disconnection of Rooftops		2.05	0%	0.05	751	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					13,409	*ft^3*	

Pretreatment Techniques to Prevent Clogging			
Infiltration Rate	2.00	*in/hour*	*Okay*
Pretreatment Sizing	25	*% WQv*	*25% minimum;* *50% if >2 in/hr* *100% if >5in/hour*
Pretreatment Required Volume	3,540	*ft^3*	
Pretreatment Provided	4,083	*ft^3*	
Pretreatment Techniques utilized	*Grass Channel*		

Size An Infiltration Basin			
Design Volume	14,160	*ft^3*	WQv
Basal Area Required	7,080	*ft^2*	*Infiltration practices shall be designed to exfiltrate the entire WQv through the floor of each practice.*
Basal Area Provided	2,800	*ft^2*	*Error, too small*
Design Depth	2.00	*ft*	
Volume Provided	5,600	*ft^3*	*Storage Volume provided in infiltration basin area (not including pretreatment.*

Determine Runoff Reduction			
RRv	**5,040**	***ft^3***	***90% of the storage provided in the basin or WQv whichever is smaller***
Volume Treated	9,120	*ft^3*	*This is the portion of the WQv that is not reduced/infiltrated*
Sizing √	Error		*The infiltration basin must provide storage equal to or greater than the WQv of the contributing area.*

Vegetated Swale Worksheet

Design Point:	storm

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
3	1.21	0.06	0.05	0.10	802.31	1.89	Vegetated Swale

Enter Soil Infiltration Rate			
Soil Infiltration Rate	*1.00*	*in/hour*	*Okay*

Calculate Peak WQv		
Modified CN	69	*Note: Value is modified curve number using Appendix B.2 - Water Quality Peak Flow Calculation of the New York State Stormwater Management Design Manual*
Ia	0.891	
Ia/P	0.471	
Tc (hours)	0.15	*Note: Tc is a direct entry using the flow path for the catchment draining to the practice*
qu	400	*Note: qu value is taken from TR-55 (either Exhibit 4-II (Type II Rainfall Distribution) or Exhibit 4-III (Type III Rainfall Distribution) depending on the location in the State*
Qp	0.14	*cfs*
Q10	2.16	*cfs* — *From TR-55*

Enter Swale Dimensions			
Bottom Width	4	*ft*	*Minimum of 2 ft but no greater than 6 ft*
Side Slopes	3	*:1*	*Okay*
Channel Height	2	*ft*	
Flow Depth	0.33	*ft*	*Okay*
Longitudinal Slope	100.0%		*Between .5% and 4% (1.5-2.5% Preferred)*
Swale Length	300.00	*ft*	
Mannings Coef.	0.10		*Use variable n values corresponding to flow depths (from .15 down to .03) (APPENDIX L)*

Calculated Swale Dimensions						
Top Width	5.98		Q	10.3		
Area	1.65	*ft^2*	Velocity	6.23	*fps*	
Wetted Perimeter	6.09	*ft*	Detention Time	0.80	*minutes*	

Determine Required Length Of Channel		
Required Length	300.00	*ft*
Length Provided	300.00	*ft*
Q10 Velocity	0.54	*fps*
Q10 flow depth	6.00	*inches*
Q10 freeboard	18.00	*inches*

Determine Runoff Reduction					
Soil Group	D	Percent Reduction	0.10		
Is the Vegetated Swale contributing flow to another practice?		No	Select Practice	N/A	
Runoff Reduction		**80**	***ft3***		
Portion of WQv not reduced that must be directed to a standard SMP		***722***	***ft3***		

4. Channel Protection Volume (1-year Storm For 24 hours)

Developed Tributary DA = **5.60** acres
RCN = **92**
Rainfall (1-yr) = **1.89** in.

Runoff 1-yr (Qd) = **0.6** (from TR-55 FIGURE 2.1)

Time of Concentration (Tc) = **0.14** hours

Ia =0.2(1000/RCN - 10) = 0.18

Ia/P = 0.09

Form EXHIBIT 4-II (TR-55) Unit Peak Discharge for Type II Rainfall:

Qu = **900** csm/in

From FIGURE B.1 (NYS Stormwater Design Manual) (for 24 hours):

Qo/Qi = **0.015**

Eq. 2.1.16 (NYS Stormwater Design Manual)

$$Vs/Vr = 0.683 - 1.43(Qo/Qi) + 1.64(Qo/Qi)^2 - 0.804(Qo/Qi)^3$$

Vs/Vr = 0.662

Equation 2.1.17 (NYS Stormwater Design Manual)

$$Vs = (Vs/Vr \times Qd \times A)/12$$

Vs = 0.19 ac-ft
8072 Cubic Feet

4/16/2020

5. Channel Protection Orfice

Channel Protecetion Volume Provided = **0.19** ac-ft

Head: From elevation: **694.8** to **695.75** = 0.95 feet

Average h = 0.475 feet

For 24-hour release:

Q = Volume/24hours/60minutes/60seconds

Q = 0.0958 cfs (average)

Orfice Equation:

$Q = 0.6A(64.4H)^{0.5}$

$A = Q/(0.6(64.4h)^{0.5})$

A = 0.03 ft^2

$D = (A/\pi)^{0.5} \times 2$

D = **0.19** feet = 2.3 inches

Use: 2 -inch orfice
At elevation: 694.8 feet

***Do not use a Channel Orfice, smaller than a minimum of 3"

APPENDIX D

Notice of Intent
(NOI)

0644089821

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____ (for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
BTY Holdings LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Wood

Owner/Operator Contact Person First Name
Brendan

Owner/Operator Mailing Address
3568 Co Rd 16

City
Canandaigua

State: NY

Zip: 14424-____

Phone (Owner/Operator): 585-310-2240

Fax (Owner/Operator): ___-___-____

Email (Owner/Operator)
brendan.wood@gmail.com

FED TAX ID
_____ (not required for individuals)

Project Site Information

Project/Site Name
BTY Holdings

Street Address (NOT P.O. BOX)
2970 County Road 10

Side of Street
○ **North** ○ **South** ○ **East** ● **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Canandaigua

State: NY
Zip: 14424-
County: Ontario
DEC Region: 8

Name of Nearest Cross Street
County Road 46

Distance to Nearest Cross Street (Feet)
0

Project In Relation to Cross Street
● **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel
84.00-1-17.100

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting): 316558

Y Coordinates (Northing): 4750935

2. What is the nature of this construction project?

● **New Construction**

○ **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ● PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ● COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ○ OTHER

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
7.3	6.7	0.	3.9

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ● **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
0 %	0 %	0 %	100 %

7. Is this a phased project? ○ **Yes** ● **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date 05/01/2020 - **End Date** 09/01/2020

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name: Wetland offsite

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ● Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ● Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-15-002? ○ **Yes** ● **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-15-002? ○ **Yes** ● **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ● **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ● **No**
If Yes, what is the acreage to be disturbed?

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ● **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ Yes ● No ○ Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ Yes ● No

19. Is this property owned by a state authority, state agency, federal government or local government? ○ Yes ● No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ Yes ● No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ● Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ● Yes ○ No
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ● Yes ○ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer
MARKS ENGINEERING, P.C.

Contact Name (Last, Space, First)
MARKS BRENNAN

Mailing Address
42 BEEMAN ST

City
CANANDAIGUA

State Zip
NY 14424-

Phone
5853290138

Fax
5854862205

Email
BMARKS@MARKSENGINEERING.COM

SWPPP Preparer Certification

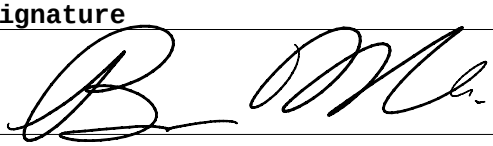
I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name
BRENNAN

MI

Last Name
MARKS

Signature



Date
04/16/2020

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ● Check Dams
- ● Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ● Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ● Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ● Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ● Rock Outlet Protection
- ○ Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ● **Preservation of Undisturbed Areas**
- ○ **Preservation of Buffers**
- ● **Reduction of Clearing and Grading**
- ● **Locating Development in Less Sensitive Areas**
- ● **Roadway Reduction**
- ● **Sidewalk Reduction**
- ● **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ● **Building Footprint Reduction**
- ● **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ● All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

		0	.	6	0	2

acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
● Sheetflow to Riparian Buffers/Filters Strips (RR-2)	3.33	and/or	1.76
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
● Vegetated Swale (RR-5)			1.21
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
● Infiltration Basin (I-2)			2.05
○ Dry Well (I-3)			
○ Underground Infiltration System (I-4)			
○ Bioretention (F-5)			
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
● Pocket Pond (P-5)			3.81
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ **Hydrodynamic**	
○ **Wet Vault**	
○ **Media Filter**	
○ **Other**	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

0.683 **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

● **Yes** ○ **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

○ **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). [ ][ ][ ].[ ][ ][ ]

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ○ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

[ ][ ]0.[1][9][ ] **acre-feet**

CPv Provided

[ ][ ]0.[1][9][ ] **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

● Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

[ ][ ]8.[1][2][ ] **CFS**

Post-development

[ ][ ]3.[4][7][ ] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

[ ][2][2].[5][2][ ] **CFS**

Post-development

[ ][1][8].[8][2][ ] **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

BTY HOLDINGS LLC.

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ● None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ● **No**
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][ ].[ ]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ● **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ● **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N][Y][R][ ][ ][ ][ ][ ][ ]

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name

BRENDAN

MI

Print Last Name

WOOD

Owner/Operator Signature

Date

/ /

APPENDIX E

MS4 Stormwater Pollution Prevention Plan (SWPPP)
Acceptance Form -

Town of Canandaigua

5440 Routes 5 & 20 West • Canandaigua, NY 14424 • (585) 394-1120

STORMWATER CONTROL FACILITIES MAINTENANCE AGREEMENT

WHEREAS, the Town of Canandaigua, having an address of 5440 Routes 5 & 20 West, Canandaigua, New York 14424 (Municipality) and _____(Facility Owner), having an address of _____ want to enter into an agreement (this "Agreement") to provide for the long term maintenance and continuation of permanent stormwater control measures approved by the Municipality for the below named project, and

WHEREAS, the Municipality and the Facility Owner desire that the permanent stormwater control measures, as detailed on the approved project plans entitled "_____", having drawing number(s) _____, prepared by _____ and last revised _____, (the "Plans"), be built in accordance with the Plans and thereafter be maintained, cleaned, repaired, replaced, and continued in perpetuity in order to ensure optimum performance of the components. Reduced size versions of the Plans are attached hereto as Exhibit A.

Therefore, the Municipality and the Facility Owner agree as follows:

1. This Agreement binds the Municipality and the Facility Owner, its successors and assigns, to maintain the permanent stormwater control measures depicted in the Plans (as same may be amended), which are attached as Schedule A of this Agreement.

2. The Facility Owner shall maintain, clean, repair, replace and continue the stormwater control measures depicted on the Plans as necessary to ensure optimum performance of the measures to design specifications. If identified on the plans, the stormwater control measures shall include, but shall not be limited to, the following: drainage ditches, swales, dry wells, infiltrators, drop inlets, pipes, culverts, soil absorption devices, and retention ponds (collectively, the "Control Measures").

3. The Facility Owner shall be responsible for all expenses related to the maintenance of the Control Measures.

4. The Facility Owner shall provide for the periodic inspection of the Control Measures, not less than once in every five year period, to determine the condition and integrity of the Control Measures. The Facility Owner's obligations to inspect the Control Measures under this Section 4 shall commence upon the issuance of the first certificate of occupancy for the project depicted on the Plans. Each inspection shall be performed by a Professional Engineer, at the Facility Owner's choosing, so long as such Professional Engineer is licensed by the State of New York (the "Inspecting Engineer"). The Inspecting Engineer shall prepare and submit to the Municipality within 30 days of each inspection, a written report of the findings of his/her inspection including any recommendations necessary for the continued maintenance or repair of the Control Measures.

5. The Facility Owner shall grant Right of Entry to duly authorized representatives of the Town. Upon presentation of proper credentials, duly authorized representatives of the Town may enter at reasonable times upon the premises to inspect the implementation, condition or operation and maintenance of the Control Measures. Facility Owner shall allow persons working on behalf of the Town ready access to all parts of the premises for the purposes of inspecting the Control Measures. Persons working on behalf of the Town shall have the right to temporarily locate, on any stormwater facility or Control Measure in the Town, such devices as are necessary to conduct monitoring and/or sampling of the discharges from such Control Measures.

6. Except in an emergency situation, or as permitted by Section 7 below, The Facility Owner shall not authorize, undertake, or permit any material alteration, abandonment, modification, or discontinuation of the Control Measures except in accordance with written approval of the Municipality.

7. The Facility Owner shall undertake all necessary repairs, maintenance, or replacement of the Control Measures in accordance with the recommendations of the Inspecting Engineer, except to the extent such repairs, maintenance, or replacement are made necessary by the acts or omissions of the Municipality, including without limitation offsite grading. Such repair, maintenance, or replacement shall not require the approval of the Municipality. Repairs, maintenance, or replacements made necessary by the acts or omissions of the Municipality shall be undertaken by the Municipality as its cost and expense.

8. This Agreement shall be recorded in the Office of the County Clerk, County of Ontario.

9. If ever the Municipality determines that the Facility Owner has failed to maintain, clean, repair, replace, and continue the Control Measures in accordance with the Plans or has failed to undertake necessary corrective action in accordance with Section 7 above, the Municipality shall give the Facility Owner written notice of such a default. In the event the Facility Owner fails to cure such default within thirty (30) days from its receipt of such notice, the Municipality is authorized to undertake such steps as reasonably necessary for the preservation, continuation, or maintenance of the Control Measures, to charge the Facility Owner for the reasonable expenses of such steps, and to affix such expenses as a lien against the property (including reasonable attorney fees and other administrative costs incurred in executing such a lien); provided however that if the nature of the default is such that it cannot reasonably be cured within such thirty (30) day period, then so long as the Facility Owner commences to cure such default within such thirty (30) day period, and, thereafter, diligently, in good faith and expeditiously proceeds to cure such default before the Municipality may take action under this Section 9.

10. The parties agree and acknowledge that this Agreement shall cover not only the Control Measures set forth on the Plans, but it also shall cover any alterations or modifications to the Plans that may be approved by the Municipality after the execution of this Agreement.

11. This Agreement shall be binding upon, and inure to the benefit of, the respective successors and permitted assigns of the parties. This Agreement shall not be assignable by the Municipality but may be assigned or transferred by the Facility Owner.

12. All notices required or permitted hereunder shall be in writing and shall be sent to the parties at the following addresses:

If to the Municipality: Stormwater Program Manager
Town of Canandaigua
5440 Routes 5 & 20 West
Canandaigua, New York 14424

If to the Facility Owner: xxxx
xxxx
xxxx
xxxx

With copies to: xxxx
xxxx
xxxx
xxxx

Any such notices may be sent by: (a) certified mail, return receipt requested, or
(b) a nationally recognized overnight courier

The above addresses may be changed by written notice to the other party. Any such notices shall be deemed effective upon receipts.

12. This agreement sets forth all of the agreements, conditions, and understandings between the Municipality and the Facility Owner concerning the maintenance of the Control Measures and supersedes any and all prior agreements and understandings between the parties with respect thereto.

13. This Agreement shall be governed exclusively by the laws of the State of New York, without giving effect to choice of laws or choice of laws rules or principles.

14. Issuance of the first certificate of occupancy or certificate of compliance for the project depicted on the Plans shall be deemed an acknowledgement by the Municipality that the Control Measures have been constructed in accordance with the Plans.

15. This Agreement may be executed in several counterparts, including by facsimile, each of which shall be an original and all of which shall constitute but one and the same instrument.

16. This Agreement may not be amended, changed, modified, altered, or terminated, except by an instrument in writing, signed by the parties hereto.

17. This Agreement is effective upon full execution by both parties.

[REMAINDER OF PAGE INTENTIONALLY BLANK]

The parties have entered into this Agreement on this _____ day of _____, 2016.

MUNICIPALITY
TOWN OF CANANDAIGUA, NY

_____
By:
Title:
Date:

FACILITY OWNER
xxxxxxx

_____
By:
Title:
Date:

[REMAINDER OF PAGE INTENTIONALLY BLANK]

State of New York)
County of Ontario) ss.:

On the ____ day of _____ in the year _____ before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledge to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Signature and Office of individual taking acknowledgment

State of New York)
County of Ontario) ss.:

On the ____ day of _____ in the year _____ before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledge to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Signature and Office of individual taking acknowledgment

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	BTY HOLDINGS LLC
2. Contact Person:	BRENDAN WOOD
3. Street Address:	
4. City/State/Zip:	CANANDAIGUA, NY 14424
II. Project Site Information	
5. Project/Site Name:	MUST-STASH-IT STORAGE FACILITY
6. Street Address:	2970 CO RD 10
7. City/State/Zip:	CANANDAGUA, NY 14424
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	
9. Title/Position:	
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Contact Person:	
14. Street Address:	
15. City/State/Zip:	
16. Telephone Number:	

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

APPENDIX F

MAINTENANCE AGREEMENT

and

Management Inspection Checklist

Stormwater Ponds

Description: Constructed stormwater retention basin that has a permanent pool (or micropool). Runoff from each rain event is detained and treated in the pool through settling and biological uptake mechanisms.

Design Options: Micropool Extended Detention (P-1), Wet Pond (P-2), Wet Extended Detention (P-3), Multiple Pond (P-4), Pocket Pond (P-5)

KEY CONSIDERATIONS

FEASIBILITY

- Contributing drainage area greater than 10 acres for P-1, 25 acres for P-2 to P-4.
- Follow DEC Guidelines for Design of Dams.
- Provide a minimum 2' separation from the groundwater in sole source aquifers.
- Do not locate ponds in jurisdictional wetlands.
- Avoid directing hotspot runoff to design P-5.

CONVEYANCE

- Forebay at each inlet, unless the inlet contributes less than 10% of the total inflow, 4' to 6' deep.
- Stabilize the channel below the pond to prevent erosion.
- Stilling basin at the outlet to reduce velocities.

PREATREATMENT

- Forebay volume at least 10% of the WQ_v
- Forebay shall be designed with non-erosive outlet conditions.
- Provide direct access to the forebay for maintenance equipment
- In sole source aquifers, provide 100% pretreatment for hotspot runoff.

TREATMENT

- Provide the water quality volume in a combination of permanent pool and extended detention (Table 6.1 in manual provides limitations on storage breakdown)
- Minimum length to width ratio of 1.5:1
- Minimum surface area to drainage area ratio of 1:100

LANDSCAPING

STORMWATER MANAGEMENT SUITABILITY

X	Water Quality
X	Channel Protection
X	Overbank Flood Protection
X	Extreme Flood Protection

Accepts Hotspot Runoff: *Yes*

(2 feet minimum separation distance required to water table)

FEASIBILITY CONSIDERATIONS

L	Cost
L	Maintenance Burden

Key: L=Low **M**=Moderate **H**=High

Residential Subdivision Use: Yes

High Density/Ultra-Urban: *No*

Soils: *Hydrologic group 'A' soils may require pond liner*

Hydrologic group 'D' soils may have compaction constraints

Other Considerations:

- *Thermal effects*

- Provide a minimum 10’ and preferably 15’ safety bench extending from the high water mark, with a maximum slope of 6%.
- Provide an aquatic bench extending 15 feet outward from the shoreline, and a maximum depth of 18" below normal water elevation.
- Develop a landscaping plan.
- Provide a 25’pond buffer.
- No woody vegetation within 15 feet of the toe of the embankment, or 25 feet from the principal spillway.

MAINTENANCE REQUIREMENTS

- Legally binding maintenance agreement
- Sediment removal from forebay every five to six years or when 50% full.
- Provide a maintenance easement and right-of-way.
- Removable trash rack on the principal spillway.
- Non-clogging low flow orifice
- Riser in the embankment.
- Pond drain required, capable of drawing down the pond in 24 hours.
- Notification required for pond drainage.
- Provide an adjustable gate valve on both the WQ_v-ED pipe, and the pond drain.
- Side Slopes less than 3:1, and terminate at a safety bench.
- Principal spillway shall not permit access by small children, and endwalls above pipes greater than 48” in diameter shall be fenced.

- *Outlet clogging*
- *Safety bench*

POLLUTANT REMOVAL

G	Phosphorus
G	Nitrogen
G	Metals - Cadmium, Copper,Lead, and Zinc removal
G	Pathogens Coliform, E.Coli, Streptococci removal

Key: G=Good **F**=Fair **P**=Poor

APPENDIX G

Notice of Termination
(NOT)

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

APPENDIX H

Environmental Impact Information

%UHQQDQ 0DUNV ˜EPDUNV#PDUN

6+32 ,QLWLDO 6XEPLVVLRQ $FFHSWHG IRU &RQVXOWD

PHVVDJH

1HZ <RUN 6WDWH 3DUNV &5,6 $SSOLFDWLRQ ˜FULV#SDUNV Q\ :HG $SU ˇ DW
7R¸ EPDUNV#PDUNVHQJLQHHULQJ FRP OWLGG#PDUNVHQJLQHHULQJ FRP FI

7KLV PHVVDJH LV D QRWLILFDWLRQ WKDW 6+32 KDV UHFHLYHG \RXU
WKURXJK LWV &XOWXUDO 5HVRXUFH ,QIRUPDWLRQ 6\VWHP
1HZ 6WRUDJH)DFLOLW\ KDV EHHQ DFFHSWHG DV QHZ S
UHIHU WR SURMHFW QXPEHU 35 ˇ LQ IXWXUH FRUUHVS

1R DFWLRQ RQ \RXU SDUW LV UHTXLUHG DW WKLV WLPH
SURJUHVV DQG \RX ZLOO UHFHLYH XSGDWHV E\ HPDLO

,I \RX KDYH DQ\ TXHVWLRQV DERXW &5,6 SOHDVH HPDLO &5,6 +HOS
DQ\ RWKHU TXHVWLRQV SOHDVH FDOO ˇ ˙ ˆ ˙ˇ

6LQFHUHO\

1HZ <RUN 6WDWH +LVWRULF 3UHVHUYDWLRQ 2IILFH
3HHEOHV ,VODQG 6WDWH 3DUN 3 2 %R[:DWHUIRUG 1<
ˇ ˙ ˆ ˙ˇ KWWSV¸ SDUNV Q\ JRY VKSR
&5,6 KWWSV¸ FULV SDUNV Q\

$UH \RX UHJLVWHUHG WR YRWH" 5HJLVWHU WR YRWH RQOLQH WRGD\ 0RYHG UHFHQWO\" 8SGDWH \RXU LQIRUPDWLRQ ZLWK WKH 1<6
%RDUG RI (OHFWLRQV 1RW VXUH LI \RX DUH UHJLVWHUHG WR YRWH" 6HDUFK \RXU YRWHU UHJLVWUDWLRQ VWDWXV

<RX DUH UHFHLYLQJ WKLV HPDLO DV SDUW RI RQ RQJRLQJ
5HFUHDWLRQ DQG +LVWRULF 3UHVHUYDWLRQ V 'LYLVLRQ
<RUN 6WDWH +LVWRULF 3UHVHUYDWLRQ 2IILFH ¶V &XOWXUDO 5HVRXUF
LV DQ DGYDQFHG *HRJUDSKLF ,QIRUPDWLRQ 6\VWHP DSS
6WDWH V YDVW KLVWRULF DQG FXOWXUDO UHVRXUFH GDW
VHUYHV DV DQ LQWHUDFWLYH SRUWDO IRU DJHQFLHV PX
FRQVXOWDWLRQ ZLWK RXU DJHQF\ RQ KLVWRULF SUHVHU

2XU HPDLO WR \RX LV LQ GLUHFW UHVSRQVH WR HPDLO UHJDUGL
SURMHFW IRU ZKLFK \RX ZHUH LGHQWLILHG DV D FRQWDF
UHYLHZDEOH E\ RXU DJHQF\ XQGHU WKH 1DWLRQDO +LVW
1HZ <RUN 6WDWH +LVWRULF 3UHVHUYDWLRQ $FW 6HFWLRQ
4XDOLW\ 5HYLHZ $FW 6(45$

,I \RX GLG QRW HQWHU WKLV SURMHFW GLUHFWO\ LQWR &
DQRWKHU SURMHFW FRQWDFW KDV ZHOO HQWHUHG LW LQ \RXU
SURMHFW YLD HPDLO

<RX PD\ DFFHVV WKH SURMHFW KWWSV¸ FULV SDUNV Q\ DUH D UHJLV
WKH SURMHFW ZLOO EH DYDLODEOH WR \RX +RPH GDVKERDUG

\RX PD\ YLHZ WKH SURMHFW GHWDLOV)LQG 3URMHFW $FFRXQW RQ WKH &5,6 +RP
\RX FDQ FKHFN 3URMHFW VWDWXV E\ HQWHULQJ WKH VXEPLVVLRQ WRN
WDE RQ WKH 6HDUFK SDJH