STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Bronze Foundry Lofts

AC Hammer, LLC
Onondaga County
NYS Route 370 / East Genesee Street Baldwinsville NY,13027

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NOT FOR CONSTRUCTION

FOR REVIEW ONLY

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APPENDICES

CONTRACT DRAWINGS (Full Size Drawings Bound Separately)

1. DEFINITIONS AND ACRONYMS

DEFINITIONS

Commencement of Construction: The initial disturbance of soils associated with clearing, grading or excavation activities, or other construction related activities that disturb or expose soils such as demolition or stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP.

Discharge(s): Any addition of pollutant to waters of the State through an outlet or point source.

EDR: Environmental Design and Research, Landscape Architecture, Engineering and Environmental Services, DPC

Embankment: An earthen or rock slope that supports a road/highway

Final Stabilization: All soil disturbance activities at the site have ceased and uniform perennial vegetative cover with a density of 80 percent over the entire pervious surface has been established or equivalent stabilization measures such as permanent landscape mulches, rock rip-rap, or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete, or pavement.

Qualified Inspector: A person that is knowledgeable in the principles and practices of erosion and sediment control. Qualified Inspectors include:

- A person with one of the following credentials: Licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), or Registered Landscape Architect.

- A person working under the direct supervision of, and at the same company as, the Licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control (i.e., the individual has received four hours of NYSDEC endorsed training in proper erosion and sediment control within the prior three years).

Trained Contractor: An employee from a contracting (construction) firm that has received four hours of NYSDEC endorsed training from a Soil and Water Conservation District (or other NYSDEC endorsed entity) in proper erosion and sediment control principles no later than two years from the date this general permit is issued. After receiving the initial training, the trained individual shall receive four hours of training every three years.

Temporarily Ceased: An existing disturbed area that will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization: When exposed soil has been covered with materials to prevent the exposed soil from eroding as set forth in the NYS Standards and Specifications for Erosion and Sediment Control. Examples of materials include mulch, seed and mulch, and rolled erosion control products.

ACRONYMS

DOW	Division of Water
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NOT	Notice of Termination
NYSDEC	New York State Department of Environmental Conservation
SWPPP	Stormwater Pollution Prevention Plan

2. INTRODUCTION AND REGULATORY REQUIREMENTS

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared by EDR (Engineer) to provide instruction on appropriate construction management practices that will guide **AC Hammer, LLC** (Owner) in its field activities and operations to minimize the discharge of pollutants in stormwater runoff and protect water quality during and after construction activities.

ALL PERSONNEL ENGAGED IN **BRONZE FOUNDRY LOFTS** CONSTRUCTION ACTIVITIES SHALL ABIDE BY THIS SWPPP.

This SWPPP is a requirement of New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities, Permit No. GP-0-25-001 (General Permit) effective January 29,2025 with an expiration date of January 28, 2030. The General Permit authorizes stormwater discharges to surface waters of the State from construction related activities. The contents of this SWPPP discuss and describe the requirements of this permit.

The SWPPP is required to be kept at the project site and made available for review by applicable regulatory agencies, Engineer, and Contractors. Regulatory agencies that have jurisdiction over the project site may elect to review this SWPPP and, if necessary, may notify the Owner that modifications to the SWPPP or site conditions are required.

The Notice of Intent (NOI), SWPPP, and inspection reports must be made available for public review by the Owner. The Owner shall produce copies of these documents for any person within five business days of the receipt of a written request. The requester is responsible for copying costs.

The owner or operator is authorized to commence construction activity as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by NYSDEC after a complete Electronic Notice of Intent (eNOI) is submitted.

Coverage under this permit authorizes stormwater discharges from only those areas of disturbance that are identified in the eNOI. Prior to disturbing soil not yet authorized, the owner or operator must:

a. amend the SWPPP and eNOI in (contact Stormwater_info@dec.ny.gov to receive access to amend the eNOI); and
b. receive an updated LOA

If the owner or operator makes substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of SMP(s) changes, there is a reduction in the sizing of the SMP(s) that were not reflected in the original eNOI submitted to NYSDEC, they must amend the eNOI prior to implementing such revisions (contact Stormwater_info@dec.ny.gov to receive access to amend the eNOI).

As of the date the LOA is received, the owner or operator must make the eNOI and SWPPP available for review and copying for the NYSDEC within five (5) business days.

The owner or operator must ensure compliance with all requirements of this permit and that the provisions of the SWPPP, including any changes made to the SWPPP are properly implemented and maintained from the commencement of construction activity until:

a. all areas of disturbance have achieved final stabilization; and
b. the electronic Notice of Termination (eNOT) has been accepted by NYSDEC

The owner or operator must maintain at the construction site, until all areas of disturbance have achieved final stabilization and the eNOT has been accepted by NYSDEC, a copy of the:

a. responsible contractor's or subcontractor's certification statement(s)
b. inspection reports;
c. Request to Disturb Greater Than Five Acres and the Authorization Letter to Disturb Greater Than Five Acres (when applicable);

The owner or operator must maintain all documentation necessary to demonstrate eligibility with this permit, in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection. The documents must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If electronic documents are kept on site, the owner or operator must maintain functional equipment on site available to an inspector during normal hours of operation such that an inspector may view the electronic documents in a format that can be read in a similar manner as a paper record and in a legally dependable format with no less evidentiary value than their paper equivalent.

When property ownership changes, or when there is a change in operational control over the construction plans and specifications, the following process applies:

a. The new owner or operator must meet the applicable prerequisites for submitting an eNOI.
b. The new owner or operator must submit an eNOI.
c. Permit coverage for the new owner or operator will be effective upon receipt of the LOA
d. The new owner or operator, upon receipt of their LOA, must provide their Permit ID to the original owner or operator.
e. If the original owner or operator will no longer be the owner or operator of the construction activity identified in the original owner's or operator's eNOI, the original owner or operator, upon receipt of the new owner's or operator's Permit ID, must submit to NYSDEC a completed NOT that includes the name and Permit ID of the new owner or operator.
f. If the original owner or operator maintains ownership of a portion of the construction activity, the original owner or operator must maintain their coverage under the permit by amending the original eNOI; amendments to the eNOI must include:
    i. the revised area of disturbance and/or impervious area(s);
    ii. the revised SMP information, if applicable;
    iii. a narrative description of what has changed; and
    iv. the new owner's or operator's Permit ID for the portion of the project removed from the eNOI.

To receive access to amend the original eNOI, contact: Stormwater_info@dec.ny.gov

The General Permit requires that a review of the project be completed to determine whether stormwater discharge or construction activities affect a property that is an historic or archaeological resource listed or eligible for listing on the State or National Register of Historic Places. Further, the General Permit requires that a review of the project be completed to determine whether construction activities or discharges from construction activities may adversely affect an endangered or threatened species. Documentation of this review is included in Appendix D – State Historic Preservation Office (SHPO) and Endangered and Threatened Species (E&T) documentation.

Construction activities constitute construction of a point source and therefore the owner or operator must have coverage under a SPDES permit prior to commencement of construction activities. The owner or operator cannot wait until there is an actual discharge from the construction site to obtain permit coverage.

The Owner shall retain the following documents for a period of at least five years from the date that the site achieves final stabilization:

1. The SWPPP including:
    - NOI
    - Municipal Separate Storm Sewer System (MS4) acceptance form
    - NOI acknowledgement letter
    - Contractor Certification(s)
    - NOT
2. Stormwater Construction Site Inspection Reports
3. Contract Documents including construction drawings and technical specifications
4. Correspondence (from NYSDEC, municipality, Engineer, etc.) regarding stormwater management

3. PERMIT COVERAGE

The SWPPP for the project has been prepared with no deviations from the 2016 New York State Standards and Specifications for Erosion and Sediment Control.

The SWPPP for the project has been prepared with no deviations from the 2024 New York State Stormwater Management Design Manual.

Bronze Foundry Lofts is subject to the requirements of a regulated, traditional land use control MS4. Construction related stormwater discharges from the project construction site will be authorized five business days from the date the NYSDEC receives a complete electronic NOI and signed MS4 SWPPP Acceptance form, or 10 business days from the date the NYSDEC receives a complete paper copy of the NOI and signed MS4 SWPPP acceptance form (Appendix A).

4. SWPPP REVISION REQUIREMENTS

The Owner or the Contractors shall amend this SWPPP when modifications to the design, construction, operator, or maintenance of the project could affect the potential for discharge of pollutants in stormwater runoff. Scenarios where amendments are required include, but are not limited to, the following:

- The currently installed erosion and sediment control practices are ineffective in minimizing pollutants in stormwater discharges.
- An additional Contractor will be implementing the stormwater management and/or erosion and sediment control facilities and must complete the Contractor certification.
- Issues are identified by qualified inspector, a NYSDEC representative, or other regulatory authority that require a modification.

The Contractor is responsible for the installation of all erosion and sediment control devices as specified in this SWPPP.

If changes in site conditions occur as a result of the workmanship or actions of the Contractor, time of year, and/or weather conditions, the Contractor will be responsible for revising the SWPPP documents, implementing all SWPPP revisions, and installing all additional or revised stormwater management and erosion and sediment control devices at their own cost. All SWPPP revisions will be completed within seven days of receiving notification that revisions are necessary. Revisions shall be reviewed and accepted by the Owner and the Engineer prior to implementation.

If existing site conditions observed by the Contractor are different than what is shown in the SWPPP documents, the Contractor shall report in writing all discrepancies to the Owner prior to any site disturbance. The Owner shall review the documented discrepancies and provide in writing acceptance or denial of discrepancies to the Contractor. When the Owner provides written acceptance of any agreed upon discrepancies prior to any site disturbance, the Owner shall revise the SWPPP document and provide it to the Contractor within three days. The Contractor shall review the revised SWPPP within three days of receipt and document in writing any changes to the negotiated contract. After acceptance by the Owner**,** the Contractor shall be responsible for full implementation of the revised SWPPP's stormwater management and erosion and sediment control practices. All SWPPP revisions will be completed within seven days of receiving notification to proceed with the revisions.

All SWPPP revisions must be marked with the revision date and distributed by the Owner or the Contractors to the involved parties (i.e., subcontractors, Engineer, and municipality).

Where there are planned amendments or modifications to the postconstruction stormwater management practice (SMP) component of the SWPPP, the owner or operator must:

a. notify NYSDEC via email at Stormwater_info@dec.ny.gov;

b. prior to implementing the planned amendments or modifications to the SMPs, update the eNOI to reflect the planned amendments or modifications and resubmit the eNOI in accordance with Part I.D.; and
c. implement the planned amendments or modifications to the SMPs after the eNOI updates have been accepted by NYSDEC

5. SITE INFORMATION

5.1 SITE AND PROJECT DESCRIPTION

The Owner is constructing residential units between NYS Route 370/East Genesee Street, NYS Route 31/ Salina Street, Curtis Avenue in the Village of Baldwinsville. Proposed project features include:

15.6-acres (total project site), the construction of seven three-story residential buildings (270 units), multiple garage structures, landscape areas, two-way curb-cuts: one at East Genesee Street and one at Salina Street, and an internal circulation infrastructure with two-way streets, surface parking, and sidewalk network.

The soils information for this site is given in Appendix C.

Stormwater from the site discharges into minor tributary, draining into lower Seneca River.

5.2 SITE LOCATION AND OWNER/OPERATOR CONTACT INFORMATION

Contact information for the site is as follows:

Owner/Operator: AC Hammer, LLC
Contact: cbreuer@hb1872.build
Address: 148 Berwyn Ave, Syracuse NY, 13210
Telephone: 315-476-7917

5.3 CONTRACT DOCUMENTS

The Contract Documents include construction drawings as listed in the Table of Contents, technical specifications, and this SWPPP.

6. SWPPP CONSTRUCTION REQUIREMENTS

6.1 PRE-CONSTRUCTION REQUIREMENTS

Prior to construction, the Owner shall have the Contractors and subcontractors identify at least one person from their company who meets the requirements of a Trained Contractor. This person will be responsible for the implementation of the SWPPP and the inspection of the erosion and sediment controls in accordance with the New York Standards and Specifications for Erosion and Sediment Controls. The Owner's representative shall ensure that at least one Trained Contractor is onsite daily when soil disturbance activities are being performed. The Trained Contractor shall inspect the site's erosion and sediment control practices daily to ensure these facilities are operational.

Pre-construction requirements to be followed by the Owner and Contractors prior to the commencement of any construction activities are described in Appendix E.

6.2 CONSTRUCTION REQUIREMENTS

Construction activity will not disturb greater than 5 acres of soil at any one time without prior written permission of the Owner's representative and the MS4 stormwater contact.

6.2a Over 5 Acres of Disturbance

To obtain approval from the MS4, the Owner is required to submit a written request to MS4 stormwater contact that contains the following information:

1. A phasing plan that defines:
   - The maximum disturbed area per phase
   - The required cuts and fills
   - Any additional erosion and sediment control measures that will be implemented
   - Identification of additional water quality treatment practices to be installed
2. An explanation of why the 5 acre disturbance limit must be exceeded.
3. Acknowledgement that a qualified inspector will conduct at least two site inspections every seven days. The inspections must be separated by a minimum of two calendar days.
4. Acknowledgement that where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures, in conformance with the New York State Standards and Specifications for Erosion and Sediment Control, shall be installed within seven days of the date the soil disturbance activity ceased.
5. Acknowledgement that the Owner/Operator shall install any additional practices to protect water quality as necessary based on site conditions.

If the current site disturbance is reduced to less than 5 acres, then the inspection frequency can be reduced to the required frequency as identified in Section 6.2c. The Owner shall notify the MS4 Stormwater Contact in writing prior to reducing the frequency of inspections.

6.2b Construction Sequence

The Contractors shall install erosion and sediment control practices downstream of the project area, prior to disturbance, to prevent sediment transport to offsite areas. General Construction Sequence includes:

1. Install temporary stabilized construction entrance and temporary construction staging area. Install silt fence on downgradient side of entire temporary staging area.
2. Install construction fence, vegetation protection, and construction road stabilization as necessary for site work.
3. Install silt fence prior to upgradient soil disturbances.
4. Strip topsoil and create stabilized stockpile onsite.
5. Install and stabilize sediment trapping devices along with contributing drainage swales.
6. Establish rough grade for site and stormwater management practices. Leave slope surfaces slightly roughened to a depth of 1-2 inches. Do not back blade slopes.
7. Sediment traps, temporary diversion swales and/or temporary outlets, as shown on the drawings, should be installed around permanent basins to direct and discharge runoff until the site is stabilized.
8. Install temporary and/or permanent check dams in drainage swales as detailed and shown on the erosion and sediment control plans.
9. Begin site work including utilities installation, grading, and road construction.
10. Install inlet protection after storm sewers are constructed.
11. Complete soil restoration per Section 5.1.6 of the Design Manual on all disturbed areas that will be vegetated in their final states.
12. Complete fine grading.
13. Apply permanent seed and mulch.
14. Install remainder of planting and seed the project site.
15. When site has reached final stabilization, remove temporary erosion and sediment control measures.

6.2c Construction Site Inspection

The Owner will be responsible for providing a Qualified Inspector to inspect erosion and sediment control practices, post-construction stormwater management practices that are under construction, disturbed areas, and all points of discharge from the construction site.

Specifically, the Qualified Inspector shall:

- Inspect all erosion and sediment control practices to ensure integrity and effectiveness.
- Verify that erosion and sediment control practices required by the SWPPP and the General Permit have been installed as appropriate for the phase of work and conditions at the site.
- Ensure that post-construction stormwater management practices are installed in accordance with the SWPPP.
- Inspect all areas of disturbance that have not achieved final stabilization.
- Observe all points of discharge from the site, including natural surface waterbodies located within or immediately adjacent to the construction site, conveyance systems, and overland flow.
- Provide the certifications required for the NOT.

The Qualified Inspector shall also take digital photographs with date-stamp that clearly show the conditions of erosion and sediment control practices and stormwater management practices that have been identified as needing corrective actions and of practices that have had corrective actions since the last inspection. These photographs shall be attached to the inspection from within seven calendar days of the inspection. The Qualified Inspector must also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The Qualified Inspector must attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven calendar days of the inspection.

If corrective actions are needed, the Qualified Inspector must notify the Owner and the appropriate Contractor within one business day of completing the inspection. If the corrective action does not require engineering design, it will be implemented within one business day and completed within five business days. If the corrective action does require engineering design, the engineering design process will begin within five business days and completed in a reasonable time frame but no later than within 60 calendar days. The Contractor shall begin implementing the corrective action within one business day of receiving notification and complete it within seven calendar days following the date of the inspection. Additional mitigation measures are to be implemented by the Contractors if necessary due to site conditions to minimize sediment transport or discharge of sediment laden runoff offsite.

The Qualified Inspector shall complete an inspection at least once every seven calendar days. If authorization to disturb greater 5 acres of soil at one time is received, the qualified inspector shall conduct at least two site inspections every seven calendar days. There shall be a minimum of two full calendar days between inspections. An Inspection Report form for conducting the inspections is included in Appendix F. Completed Inspection Reports are to remain on file at the site in Appendix F.

Temporary Construction Shutdown

If soil disturbing activities have been temporarily suspended, such as for winter shutdown, and temporary stabilization measures have been applied to all disturbed areas, the Owner may reduce inspections to a minimum of one inspection every 30 calendar days. The Owner shall notify the DOW SPDES program contact at the MS4's stormwater contact in writing prior to reducing the frequency of inspections. The Owner shall resume inspections in accordance with this section as soon as soil disturbance activities resume.

Final Site Inspection

The Qualified Inspector shall perform a final inspection of the site, as required by NYSDEC to certify that:

- All disturbed areas have achieved final stabilization

- Temporary erosion and sediment control practices have been removed
- Post-construction stormwater management practices have been constructed in conformance with the SWPPP

Prior to certification, at their own cost, the Contractors shall supply as-built topographic surveys of all post-construction stormwater management practices to document that the stage/storage relationship has been met. As-builts shall also show rims, inverts, orifices, pipe sizes, elevations, etc. Upon satisfactory completion of the final site inspection, as required by the NYSDEC, the Qualified Inspector shall provide the certifications required to file the NOT form provided in Appendix J.

6.2d Authorized Non-Stormwater Discharges

Discharges from the following sources are authorized provided that they are directed to a sediment trapping device and discharges are minimized:

- Clean wash water (does not contain soaps, detergents or solvents) from cleaning construction vehicles and equipment
- Site dewatering (ground water) from pits, excavations, and trenches

Sediment trapping devices shall be designed and located by the Contractor and approved by the Owner and the Engineer prior to installation.

If clean, potable water is discharged from the site for any reason, it shall be directed over a grassed area prior to reaching offsite areas. Potable water shall not be discharged directly to a natural waterbody or watercourse.

Water used for dust control shall be applied using appropriate quantities and methods. No chemicals, soaps, detergents, etc., shall be used.

6.2e Prohibited Non-Stormwater Discharges

The following discharges are prohibited:

- Wastewater from washout and cleanout of concrete, stucco, paint, form release oils, curing compounds, and other construction materials (It is a requirement of this SWPPP that these materials be washed out into a containment area or tank on site. All waste material must be disposed of offsite in accordance with Federal, State, and local requirements.)
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance
- Soaps or solvents used in vehicle and equipment washing
- Toxic or hazardous substances from a spill or other release

6.2f Maintaining Surface Water Quality

It is expected that compliance with this SWPPP and the General Permit will prevent discharges of pollutants which would cause or contribute to a violation of the surface water quality standards contained in Parts 700 through 705 of Title 6 of Official Compilation of Codes, Rules and Regulations of the State of New York. Potential violations include:

- An increase in turbidity that will cause substantial visible contrast to natural conditions
- An increase of suspended, colloidal or settleable solids that will cause deposition or impair surface waters for their best usages
- A residue from oil and floating substances, visible oil film, or globules of grease

If there is evidence indicating that the stormwater discharges authorized by the General Permit are causing, have reasonable potential to cause, or are contributing to a violation of surface water quality standards, the Owner or

operator must take appropriate corrective action within one business day. The corrective action must be documented in the next SWPPP inspection report. To address the surface water quality standard violation, the Owner or operator may need to provide additional information, include and implement appropriate controls from this SWPPP to correct the problem, or obtain an individual SPDES Permit.

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations must meet erosion and sediment control, soil stabilization, dewatering, pollution prevention measures, and surface outlet standards as described in the general permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

6.2g – Chemical and Oil Management

Secondary containment for oil containers shall be provided. If total oil storage onsite exceeds a cumulative total of 1,320 gallons, a spill prevention control and countermeasure (SPCC) plan is to be prepared by the Contractors and maintained onsite.

Spills of petroleum products, chemicals, and other hazardous materials shall be reported in accordance with State, Federal, and local regulations. If a spill occurs at the site during construction, the Contractors shall contact the NYSDEC Spill Hotline (1-800-457-7362). The following material management practices are to be used by the Contractors to reduce the risk of spills or other accidental exposure of pollutants to stormwater runoff during construction:

- Products including, but not limited to, building materials, building products, construction waste, trash, landscaping materials, fertilizers, pesticides, herbicides, detergents, and sanitary waste shall be stored under a roof or other cover to minimize exposure to precipitation
- Products shall be securely stored in their original containers, or as recommended by the manufacturer, and labeled appropriately.
- The amount of product stored onsite will be appropriate for usage on the site. Do not bring excessive quantities to the site for storage.
- Whenever practical, products are to be used up or containers resealed before proper disposal of contents and containers offsite.
- Substances are not to be mixed with one another unless recommended by the manufacturer.
- Surplus product and empty containers are to be disposed of in accordance with manufacturer's recommendations and applicable regulations and/or permit conditions. Do not discharge any substances into the storm sewer.
- Onsite vehicles are to be monitored for leaks and receive regular preventative maintenance to reduce the chance of the leakage of petroleum products. Petroleum products are to be stored in closed containers that are clearly labeled.
- Used oils are to be disposed of properly.

In addition to the material management practices discussed above, the following practices are to be followed by the Contractors for spill preparedness and cleanup.

- Spills are to be reported and cleaned up immediately after discovery.
- Manufacturers' recommended methods for spill cleanup are to be followed in the case of a spill, including the use of appropriate Personal Protective Equipment (PPE). Material Safety Data Sheets (MSDS) for materials at the site provide information on spill cleanup and should be stored in the project office or other accessible location.
- Materials and equipment necessary for spill cleanup are to be kept in designated material storage areas onsite. Spill response materials are to include items such as brooms, dust pans, mops, rags, gloves, goggles, spill control materials, sand, sawdust, disposal containers specifically for spill cleanup, and other response materials dependent on the materials stored at the site.
- If a spill does occur at the site, a spill report is to be completed by the Contractor in accordance with NYSDEC requirements and filed with this SWPPP.

6.3 POST-CONSTRUCTION MAINTENANCE REQUIREMENTS

An NOT shall be filed with the NYSDEC when the project is permanently stabilized. The NOT requires certification from the Qualified Inspector, as required by the NYSDEC that the site has been stabilized and that all post-construction practices have been constructed in conformance with the SWPPP. Hueber Beruer will be the ultimate owner of the stormwater facilities and are required to have a maintenance plan in place. Post-construction maintenance and inspection checklists have been included in Appendix G for reference. Prior to submitting the NOT, the Owner must ensure that Hueber-Breuer Construction Company Inc. is a public or private institution, government agency or authority, or public utility and has a policy in place that ensures operation and maintenance of the stormwater management practices in accordance with this SWPPP.

7. STORMWATER MANAGEMENT DURING CONSTRUCTION

Anticipated locations for the erosion and sediment control practices are shown on the construction drawings. These practices, and any practices added due to conditions at the site, are to be installed and maintained in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (NYSDEC 2016).

The Contractor is to provide a construction stabilization schedule (see Appendix E) to detail when construction activities are anticipated to start and when areas will be stabilized. This record is to become part of this SWPPP as Appendix E.

7.1 EROSION AND SEDIMENT CONTROLS

Proposed erosion and sediment control practices were designed in accordance with the following documents:

- New York State Standards and Specifications for Erosion and Sediment Control (NYSDEC 2016)
- New York State Stormwater Management Design Manual (the Design Manual) NYSDEC (June 2024)
- NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-25-001) (effective date January 29, 2025)

The erosion and sediment control practices are identified in the Contract Documents and must be installed and maintained to meet the requirements of the SWPPP.

Practices that must be directed to a temporary sediment trapping device that was not identified in the contract drawings shall be designed by the Contractor. Prior to installing these practices, the Contractor shall provide a detail and proposed location of the sediment trap to be approved by the Owner prior to installation.

Structural erosion and sediment control practices should generally be inspected weekly by a Qualified Inspector and after storms by the Trained Contractor.

7.2 STABILIZATION PRACTICES

7.2a Warm Weather Stabilization Practices

Stabilization practices must follow the guidelines specified in the 2016 New York State Standards and Specifications for Erosion and Sediment. For portions of the site where soil disturbance activities have temporarily or permanently ceased, stabilization measures must be initiated by the end of the next business day and completed within 14 days of the date the most recent soil disturbance activity ceased, or within seven days if the current project disturbance is 5 acres or greater.

7.2b Winter Stabilization Practices

The following stabilization practices, per the 2016 New York State Standards and Specifications for Erosion and Sediment, will be employed by the Contractor for any construction activities with ongoing land disturbance and exposure between November 15 to the following April 1:

The Contractor shall:

1. Prepare a snow management plan with adequate storage for snow and control of melt water, requiring cleared snow to be stored in a manner not affecting ongoing construction activities.
2. Enlarge and stabilize access points to provide for snow management and stockpiling. Snow management activities must not destroy or degrade installed erosion and sediment control practices.
3. A minimum 25 foot buffer shall be maintained from all perimeter controls such as silt fence. Mark silt fence with tall stakes that are visible above the snow pack.
4. Edges of disturbed areas that drain to a waterbody within 100 feet will have two rows of silt fence, 5 feet apart, installed on the contour.
5. Drainage structures must be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations that restrict the flow of runoff and meltwater shall be removed.
6. Sediment barriers must be installed at all appropriate perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.
7. Soil stockpiles must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. A barrier must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil.
8. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three days. Rolled erosion control blankets must be used on all slopes, three horizontal to one vertical or steeper.
9. If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre. Other manufactured mulches should be applied at double the manufacturer's recommended rate.
10. To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless:
    - Work will resume within 24 hours in the same area and no precipitation is forecast; or
    - The work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.
11. Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum of 10 feet in width but wider as necessary to accommodate equipment.

The site shall be inspected frequently to ensure that the erosion and sediment control plan is performing its winter stabilization function. If the site will not have earth disturbing activities ongoing during the winter season, all bare exposed soil must be stabilized by established vegetation, straw, or other acceptable mulch, matting, rock, or other approved material such as rolled erosion control products. Seeding of areas with mulch cover is preferred but seeding alone is not acceptable for proper stabilization.

Compliance inspections must be performed and reports filed properly by the Qualified Inspector in accordance with the SWPPP for all sites under a winter shutdown.

7.3 ADDITIONAL STORMWATER CONTROLS

The following are additional Best Management Practices to be implemented at the site to minimize pollutant transport:

- Material Transport – Take proper precautions to prevent spilling materials during transport. Any spilled materials will be swept or removed as soon as practicable so that they do not enter surface and/or subsurface drainage systems.

- Dust Control – Provide dust control measures to prevent dust from leaving the site. Measures may include water application or mulching but shall not include the use of chemical additives. Any sediment that is tracked off the site shall be removed using a hand broom or other cleaning equipment.
- Solid Waste Management – Store waste in covered dumpsters or other appropriate containers. Waste is to be disposed of regularly and properly in accordance with local, State, and/or Federal regulations.
- Portable Toilets – Install and clean portable toilets regularly. Locate portable toilets where they will not be impacted by construction activities.
- Building Materials Storage – Properly store and contain building materials onsite.

8. POST-CONSTRUCTION STORMWATER MANAGEMENT

8.1 STORMWATER QUALITY

The project falls under the Chapter 4 requirements of the Stormwater Design Manual for development and will increase impervious area

Water quality volume for this site will be treated by the implementation of Three (3) Infiltration Basins. Infiltration Basins are a Runoff Reduction Technique, 100% of the total water quality volume for the site must be treated under the Chapter 4 requirements of the Stormwater Design Manual. The Infiltration Basins have been sized to treat 23,304 cubic feet, which is 100% of the total water quality volume for the site.

Detailed calculations and design information related to stormwater quality can be found in the Stormwater Management Engineering Memo included in Appendix H and the contract drawings bound separately from this report.

8.2 STORMWATER QUANTITY

There is no increase in stormwater quantity on this site for the 1-year, 10-year, and 100-year storm events due to the use of three (3) infiltration basins.

Channel protection volume (CPv) is waived since the reduction of the entire CPv is achieved by application of runoff reduction techniques. Detailed calculations, modelling, and figures for the stormwater quantity of this project are located in Appendix H.

9. CLIMATE CHANGE CONSIDERATIONS

As outlined in the 2025 Stormwater General Permit (GP-0-25-001), climate change is expected to cause a range of impacts in New York State, including increases in temperature, precipitation, frequency and severity of flooding, chances of drought, sea level, storm surge, and a shifting ecology.

Below is a list of how each of these climate change risks have been addressed from overall site planning:

Increasing Temperature:

- Issues:
  - Vegetative stabilization
  - Dust suppression
  - Impervious area creating hot spots
  - Heat stress
- Mitigation strategies:
  - Native/drought resistant plantings
  - Avoiding vehicle idling onsite to the extent practicable

Increasing Precipitation:

- **Issues:**
  - Erosion/sedimentation
  - Loss of temporary/permanent stabilization cover
  - Ability of BMPs/SCMs to function as designed
  - Permanent structure siting
- **Mitigation strategies:**
  - Phased soil disturbance/stabilization approaches
  - Native vegetation as stabilization

Increasing variability in precipitation, including chance of drought:

- **Issues:**
  - Erosion/sedimentation
  - Loss of temporary/permanent stabilization cover
  - Access constraints due to roadway erosion
- **Mitigation strategies**
  - Implementation of temporary and permanent erosion control practices
  - Native vegetation as stabilization

Shifting Ecology:

- **Issues:**
  - Loss of habitat
  - Invasive plants/species
- **Mitigation strategies:**
  - Use of native plants/trees as habitat
  - Invasive species monitoring

Rising Sea Level:
This will not impact the project site since the project site is not in proximity to a coastal area and therefore no adjustments are needed.

Increasing Storm Surge:
This will not impact the project site since the project site is not in proximity to a floodway or floodplain.

APPENDIX A

NYSDEC Notice of Intent (NOI) and MS4 Acceptance Form

Construction General Permit (CGP) Electronic Notice of Intent (eNOI) GP-0-25-001

version 1.11

(Submission #: HQD-M3A3-2SKH4, version 1)

Details

Originally Started By	EDR Engineering
Alternate Identifier	Bronze Foundry Lofts—Region 7
Submission ID	HQD-M3A3-2SKH4
Status	Draft

Form Input

Eligibility

Disturbance Threshold

1. Will the construction activity involve soil disturbances listed in Part I.A.1 of GP-0-25-001?
Yes

1.a. Will any runoff from the site enter a sewer system classified as a combined sewer?
No

1.b. Is this a remediation project being done under a Department approved work plan (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) with a SWPPP which meets the substantive requirements of GP-0-25-001?
No

1.c. Is the construction activity related to a stormwater discharge that does not require a permit as described in 40 CFR 122.3(e), e.g. non-point source agriculture or silviculture activities?
No

Other SPDES Permits

2. Will the discharge from the construction activity meet all conditions listed in Part I.A.2 of GP-0-25-001?
Yes

Threatened and Endangered Species

3. Will the construction activity potentially adversely affect a species that is endangered or threatened per Part I.A.3.?
No

State Historic Preservation Act (SHPA)

---

4. Is the construction activity designated by the Commissioner of the Office of Parks, Recreation and Historic Preservation (OPRHP), pursuant to 9 NYCRR §§428.12 or 428.13 as exempt from the SHPA review (see Attachment 2 of the Letter of Resolution between NYSDEC and OPRHP, dated January 9, 2015)?
No

4.a. Will the construction activity:

a) occur within an archeologically sensitive area indicated on the sensitivity map, or

b) have the potential to affect a property that is listed or determined to be eligible for listing on the Na or State Registers of Historic Places, or

c) include a new permanent building on the construction site within the following distances from a building, structure, or object that is more than 50 years old and OPRHP, a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determinec historically/archeologically significant building, structure, or object:

- 1-5 acres of disturbance—20 feet
- 5-20 acres of disturbance—50 feet
- 20+ acres of disturbance—100 feet?

No

4.b. Is there documentation at the construction site demonstrating:

a) that the construction activity is not within an archeologically sensitive area indicated on the sensiti map, and that the construction activity is not immediately adjacent to a property listed or determined t eligible for listing on the National or State Registers of Historic Places, and

b) that there is no new permanent building to be built on the construction site within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the construction site within those parameters that OPRHP, a Historic Preserva Commission of a Certified Local Government, or a qualified preservation professional has determinec the building, structure, or object more than 50 years old is not historically/archeologically significant:

- 1-5 acres of disturbance – 20 feet
- 5-20 acres of disturbance – 50 feet
- 20+ acres of disturbance – 100 feet?

Yes

State Environmental Quality Review (SEQR)

---

5. Is the construction activity subject to SEQR (Part I.A.5.), or the equivalent environmental review from another NYS or federal agency (Part I.A.6.)?
Yes

5.a. Has the owner/operator obtained documentation that the project review pursuant to SEQR, or the equivalent, has been satisfied per Part I.A.5. or I.A.6. of GP-0-25-001?
Yes

Uniform Procedures Act (UPA) Permits

6. Has the owner/operator obtained all necessary UPA permits from NYSDEC, or the equivalent from another NYS or federal agency per Part I.A.7.a. of GP-0-25-001?
Yes

Steep Slope

7. Is the construction activity within the watershed of surface waters of the State classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website?
No

Owner/Operator Information

8. Owner/Operator Name
AC Hammer LLC

9. Owner/Operator Contact Person Information

First and Last Name	Phone	E-mail
Charlie Breuer	315-476-7917	cbreuer@hb1872.build

10. Owner/Operator Mailing Address

148 Berwyn Avenue
Syracuse, NY 13210
USA

11. Is the billing contact different from the Owner/Operator Contact?
No

12. What type of organization is the owner/operator?
Corporation

12.b. Is the owner/operator registered with the Department of State to do business in New York State?
Yes

12.b.i. Department of State ID #
5170359

The Department of State ID can be found using the following link:
Department of State | Division of Corporations

Site Information

13. Project/Site Name
Bronze Foundry Lofts

14. Site Address

88 E Genessee St
Baldwinsville, NY 13027
Onondaga

DEC Region
7

15. Site Latitude & Longitude
43.15993637517244,-76.32230142099752

Project Details

16. This eNOI submission is for:
A construction activity not part of a common plan of development or sale in accordance with Part I.D.1.a.

17. Does the project type fall under Table 1 or Table 2 of Appendix B of GP-0-25-001? If any portion of the construction activity falls under Table 2, regardless of the size of the disturbance, select "Table 2".
Table 2

18. Consistent with Part III.B.1.c.i. of GP-0-25-001, provide a concise overview of the project. Describe existing and proposed conditions, and include any other relevant information.
The Owner is constructing residential units between NYS Route 370/East Genesee Street, NYS Route 31/ Salina Street, Curtis Avenue in the Village of Baldwinsville. Proposed project features include:

15.6-acres (total project site), the construction of seven three-story residential buildings (270 units), multiple garage structures, landscape areas, two-way curb-cuts: one at East Genesee Street and one at Salina Street, and an internal circulation infrastructure with two-way streets, surface parking, and sidewalk network.

Enter the total project site acreage, the acreage to be disturbed, and the future impervious area (acreage) within the disturbed area, rounded to the nearest tenth of an acre.

19. Total Site Area (acres)
15.6

20. Total Area to be Disturbed (acres)
15.0

21. Existing Impervious Area to be Disturbed (acres)
2.0

22. Future Impervious Area Within Disturbed Area (acres)
6.3

Nature of the project:
Redevelopment with increase in impervious area

23. Do you plan to disturb more than 5 acres of soil at any one time?
Yes

> The owner/operator must meet the requirements in Part I.E.6. before disturbing greater than five acres at any one time.

---

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

A (%)
26

B (%)
0

C (%)
0

D (%)
74

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

Start Date
NONE PROVIDED

End Date
NONE PROVIDED

26. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Minor Tribs to Lower Seneca River

27. Type of waterbody identified in question 26?
Stream/Creek Off Site

28. Has the surface waterbody in question 26 been identified as a 303(d) segment in Appendix D of GP-0-25-001?
No

29. Is this project located in one of the Watersheds identified in Appendix C of GP-0-25-001?
No

30. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

31. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
Yes

31.a. What is the name of the municipality/entity that owns the separate storm sewer system? If the separate sewer system is owned by an MS4 Operator, enter the MS4 Operator name.
Baldwinsville

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

33. Is this property owned by a state authority, state agency, federal government or local government?
No

Required SWPPP Components

General SWPPP Requirements

34. Has a SWPPP been developed in conformance with the requirements in Part III. of GP-0-25-001?
Yes

35. Does the SWPPP demonstrate consideration of the future physical risks due to climate change pursuant to the CRRA, 6 NYCRR Part 490, and associated guidance per Part III.A.2. of GP-0-25-001?
Yes

36. 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

37. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the NYS Stormwater Management Design Manual?
Yes

37.a. Which version of the NYS Stormwater Management Design Manual was used to develop the SWPPP?
2024

SWPPP Preparer

39. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

40. Name of the person who prepared the SWPPP
Thomas Dussing

41. SWPPP Preparer Organization Name
EDR

42. SWPPP Preparer Contact Information

First and Last Name	Phone	E-mail
Thomas Dussing	315-471-0688	tdussing@edrdpc.com

43. SWPPP Preparer Address

217 Montgomery St
Syracuse, NY 13082

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Upload the completed form
Download SWPPP Preparer Certification Form

44. Please upload the SWPPP Preparer Certification

NONE PROVIDED

Comment

NONE PROVIDED

44.a. Has the SWPPP Preparer Certification Form been signed by the SWPPP preparer in accordance with Part VII.J of GP-0-25-001?

Yes

Erosion & Sediment Control Criteria

45. Has a construction sequence schedule for the planned management practices been prepared?

Yes

Post-Construction Criteria

Site Planning and Soil Restoration

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

Reduction of Clearing and Grading

47. 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.

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).

Water Quality Criteria

49. Water Quality Sizing Criteria

Total WQv required (acre-feet)	Total RRv provided (acre-feet)	Minimum RRv (acre-feet)	Total WQv provided (acre-feet)	Sum of RRv and WQv provided
.535	0.68			NaN

Water Quantity Criteria

50. Per Section 9.2.1.C.VI and VII of the 2024 Design Manual, is there 0% change to hydrology that increases the discharge rate and volume from the project site?

No

51. Does one of the waiver conditions apply to the channel protection for this construction activity?

Yes

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

Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems.

52. Does one of the waiver conditions apply to the Qp and Qf for this construction activity?

No

Overbank Flood Control Criteria (Qp)

52.b.i. Pre-Development (CFS)
89.95

52.b.ii. Post-Development (CFS)
85.85

Total Extreme Flood Control Criteria (Qf)

52.b.iii. Pre-Development (CFS)
170.97

52.b.iv. Post-Development (CFS)
160.79

Operation and Maintenance

53. Has a long-term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
Yes

53.a. Identify the entity responsible for the long-term Operation and Maintenance.
AC HAMMER, LLC

Post-Construction SMP Identification

54. Post-Construction RR Techniques and Standard SMPs

RR Techniques and SMPs	Contributing Impervious Area (acres)	Total Contributing Area (acres)
Infiltration Basin (I-2)	8.350	

55. Alternative SMPs

Type of Alternative SMP	Manufacturer of the Alternative SMP	Name of the Alternative SMP	Contributing Impervious Area (acres)
NONE PROVIDED	*NONE PROVIDED*	*NONE PROVIDED*	*NONE PROVIDED*

Other Permits

56. Identify other permits, existing and new, that are required for this project/facility.
Freshwater Wetlands/Article 24

57. Is this NOI for a change in owner/operator per Part I.G.?
No

MS4 SWPPP Acceptance

59. Will the construction activities be within the municipal boundary(ies) of Traditional Land Use Control MS4 Operator(s) and discharge to the MS4(s)?
Yes

59.a. Which form is required per Part I.D.2.b.ii.?
MS4 SWPPP Acceptance Form

MS4 SWPPP Acceptance Form Download

Download the MS4 SWPPP Acceptance Form from the link below.
MS4 SWPPP Acceptance Form

60. MS4 Acceptance or No Jurisdiction Form Upload

> *NONE PROVIDED*
> **Comment**
> *NONE PROVIDED*

60.a. Has the form been signed by the principal executive officer or ranking elected official—or duly authorized representative of that person—in accordance with Part VII.J. and submitted along with this NOI?
Yes

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the Owner/Operator Certification Form by clicking the link below.
Owner/Operator Certification Form

61. Upload Owner/Operator Certification Form

> *NONE PROVIDED*
> **Comment**
> *NONE PROVIDED*

61.a. Has the Owner/Operator Certification Form from Appendix J been signed by the owner/operator, or a representative of the owner/operator in accordance with Part VII.J of GP-0-25-001 and uploaded to the eNOI?
Yes

Additional Project Information

62. Enter any additional pertinent project information in the text box below.
NONE PROVIDED

Owner/Operator Certification Form

SPDES Construction General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC via nForm.

Project/Site Name: _____

eNOI Submission ID: _____

eNOI Submitted by: ☐ **Owner/Operator** ☐ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization or a Letter of Continued Coverage from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: May 2024

SWPPP Preparer Certification Form

SPDES Construction General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC via nForm.)

Project/Site Name:

eNOI Submission ID:

Owner/Operator Name:

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature | Date

Revised: May 2024

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES Construction General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC via nForm.)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
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 Operator:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Street Address:
14. City/State/Zip:
15. 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 section II. of this form has been reviewed and meets the substantive requirements in the SPDES Construction General Permit (CGP) for Stormwater Discharges from Construction Activity, GP-0-25-001. Note: The MS4 Operator, 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 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

APPENDIX B

NYSDEC Acknowledgement of NOI Letter

APPENDIX C

Location Map/Soils Information

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Onondaga County, New York

October 9, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:3,950 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: Onondaga County, New York
Survey Area Data: Version 19, Aug 29, 2024

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

Date(s) aerial images were photographed: Aug 3, 2021—Nov 7, 2021

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ArB	Arkport very fine sandy loam, 2 to 6 percent slopes	4.2	10.4%
ArC	Arkport very fine sandy loam, rolling	3.5	8.8%
GaA	Galen very fine sandy loam, 0 to 2 percent slopes	8.7	21.7%
GaB	Galen very fine sandy loam, 2 to 6 percent slopes	20.7	51.3%
Ub	Urban land	3.2	7.8%
Totals for Area of Interest		**40.3**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Onondaga County, New York

ArB—Arkport very fine sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9vfh
Elevation: 300 to 900 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Arkport and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arkport

Setting

Landform: Deltas on lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Glaciofluvial or deltaic deposits with a high content of fine and very fine sand

Typical profile

H1 - 0 to 10 inches: very fine sandy loam
H2 - 10 to 18 inches: very fine sandy loam
H3 - 18 to 60 inches: very fine sandy loam
H4 - 60 to 70 inches: very fine sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F101XY005NY - Dry Outwash
Hydric soil rating: No

Minor Components

Minoa
Percent of map unit: 5 percent
Hydric soil rating: No

Alton
Percent of map unit: 5 percent
Hydric soil rating: No

Colonie
Percent of map unit: 5 percent
Hydric soil rating: No

Galen
Percent of map unit: 5 percent
Hydric soil rating: No

Howard
Percent of map unit: 5 percent
Hydric soil rating: No

ArC—Arkport very fine sandy loam, rolling

Map Unit Setting
National map unit symbol: 9vfj
Elevation: 300 to 900 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Arkport and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arkport

Setting
Landform: Deltas on lake plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Glaciofluvial or deltaic deposits with a high content of fine and very fine sand

Typical profile
H1 - 0 to 10 inches: very fine sandy loam
H2 - 10 to 18 inches: very fine sandy loam

H3 - 18 to 60 inches: very fine sandy loam
H4 - 60 to 70 inches: very fine sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F101XY005NY - Dry Outwash
Hydric soil rating: No

Minor Components

Galen

Percent of map unit: 5 percent
Hydric soil rating: No

Minoa

Percent of map unit: 5 percent
Hydric soil rating: No

Colonie

Percent of map unit: 5 percent
Hydric soil rating: No

Alton

Percent of map unit: 5 percent
Hydric soil rating: No

Howard

Percent of map unit: 5 percent
Hydric soil rating: No

GaA—Galen very fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 9vgs
Elevation: 360 to 560 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Galen and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Galen

Setting

Landform: Deltas on lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Deltaic deposits with a high content of fine and very fine sand

Typical profile

H1 - 0 to 9 inches: very fine sandy loam
H2 - 9 to 15 inches: very fine sandy loam
H3 - 15 to 48 inches: loamy fine sand
H4 - 48 to 60 inches: stratified loamy fine sand to fine sand to silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A/D
Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Unnamed soils

Percent of map unit: 5 percent
Hydric soil rating: No

Minoa

Percent of map unit: 5 percent
Hydric soil rating: No

Arkport

Percent of map unit: 5 percent
Hydric soil rating: No

Lamson

Percent of map unit: 5 percent

Landform: Depressions
Hydric soil rating: Yes

GaB—Galen very fine sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9vgt
Elevation: 360 to 590 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Galen and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Galen

Setting

Landform: Deltas on lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Deltaic deposits with a high content of fine and very fine sand

Typical profile

H1 - 0 to 9 inches: very fine sandy loam
H2 - 9 to 15 inches: very fine sandy loam
H3 - 15 to 48 inches: loamy fine sand
H4 - 48 to 60 inches: stratified loamy fine sand to fine sand to silt loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A/D
Ecological site: F101XY006NY - Moist Outwash

Hydric soil rating: No

Minor Components

Minoa
Percent of map unit: 5 percent
Hydric soil rating: No

Arkport
Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed soils
Percent of map unit: 5 percent
Hydric soil rating: No

Ub—Urban land

Map Unit Setting
National map unit symbol: 9vkw
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition
Urban land: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Dunkirk
Percent of map unit: 5 percent
Hydric soil rating: No

Howard
Percent of map unit: 5 percent
Hydric soil rating: No

Appleton
Percent of map unit: 5 percent
Hydric soil rating: No

Fredon
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Mardin
Percent of map unit: 5 percent
Hydric soil rating: No

Lamson

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX D

SHPO and E&T Documentation

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner Pro Tempore

April 09, 2025

Grant Johnson
Historic Preservation Services Leader
Environmental Design & Research, D.P.C. (EDR)
217 Montgomery Street
Suite 1100
Syracuse, NY 13202

Re: USACE
Bronze Foundry Lofts
Village of Baldwinsville, Onondaga County , NY
25PR03031

Dear Grant Johnson:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Erin Czernecki at the following email address:

Erin.Czernecki@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation

APPENDIX E

Pre-Construction Requirements

E-1: PRE-CONSTRUCTION MEETING DOCUMENTS AND INSPECTION REPORTS

General Project Information			
Project Name	Bronze Foundry Lofts		
Project Location	Baldwinsville New York	**County**	Onondaga
SPDES Permit ID No.		**NYSDEC Date of Authorization**	

PREAMBLE TO SITE ASSESSMENT AND INSPECTIONS – TO BE READ BY ALL PERSONS INVOLVED IN THE CONSTRUCTION OF STORMWATER RELATED ACTIVITIES

1. The Owner/Operator and Contractors shall read the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities GP-0-25-001. This SWPPP has been prepared for the project and represents the minimum standards for compliance. The Contractors must follow the requirements of the SWPPP.
2. A copy of the General Permit (GP-0-25-001), the SWPPP, NOI, NOI Acknowledgement Letter, MS4 Acceptance form (if applicable), inspection reports and any correspondence with the NYSDEC must be kept at the work site at all times. (e.g., in the job trailer.)
3. Prior to commencing soil disturbance, the Owner/Operator and/or Contractors must complete the forms and certifications in this Appendix. This information must be kept up to date.
4. All enclosed certifications shall be completed by the contractor. Subcontractors responsible for implementing erosion and sediment control measures or constructing stormwater management practices shall also complete the certifications. Each certification is to be completed and signed by a president, treasurer or vice president, or any person who performs similar policy or decision-making functions, and by the onsite individual having responsibility for the firm.
5. The Owner/Operator shall have a qualified inspector conduct an assessment of installed erosion and sediment controls and overall preparedness of the site prior to the commencement of construction. The inspection report in this section shall be used record the results of the inspection.
6. Site inspections shall be conducted by the qualified inspector at least once every seven calendar days when construction actives commence. For sites where the Owner/Operator has received authorization from the New York State Department of Environmental Conservation (NYSDEC) to disturb greater than five acres of soil at one time or where the project site discharges directly to a 303(d) impaired waterbody or is in a watershed listed in Appendix C of the General Permit, the qualified inspector shall conduct at least two site inspections every seven calendar days. There shall be a minimum of two full calendar days between inspections. The Owner/Operator shall maintain a record of all inspection reports onsite in Appendix F and have them available to the permitting authorities upon request.
7. The qualified inspector will notify the Owner/Operator and Contractor of any items to be addressed within one day business day of the inspection. The Contractors need to start corrective measures within one business day of notification and complete corrective actions in a reasonable time frame.
8. Prior to filing the Notice of Termination (NOT) or the end of permit term, the Owner/Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing, etc.) have been removed and that post-construction stormwater management practices have been installed in accordance with the SWPPP. The Owner/Operator must certify that, based upon their inquiry, all the information contained within the NOT is true.

9. Prior to submitting the NOT, the Owner/Operation is required to have one of the following in place (for permanent stormwater practices):
    a. Provide proof that the post-construction stormwater management practices, including any right-of-ways needed for maintenance of such practices, have been deeded to the municipality in which the practices are located, or
    b. Provide confirmation that the municipality has executed an agreement to maintain the post-construction stormwater management practices, or
    c. For privately-owned post-construction stormwater management practices, provide proof that the Owner/Operator has modified their deed of record to include a deed covenant that requires operation of the practices in accordance with the operations and maintenance plan.
    d. For institutional-owned or municipal-owned post-construction stormwater practices, provide proof that the Owner/Operator has policy and procedure in place to ensure operation of the practices in accordance with the operations and maintenance plan.
10. In the event of a transfer of ownership or responsibility for stormwater runoff, the original Owner/Operator (permittee) must notify the new Owner/Operator in writing of the requirement to obtain permit coverage by submitting a new Notice of Intent. Once the new Owner/Operator obtains permit coverage, the original Owner/Operator shall submit a completed NOT with the name and permit identification number of the new Owner/Operator. If the original Owner/Operator maintains ownership of a portion of the construction activity and will disturb soil, they must obtain their coverage under the general permit. Permit coverage for the new Owner/Operator will be effective when an acknowledgement letter is received from the NYSDEC confirming receipt of the completed Notice of Intent (NOI), provided the original Owner/Operator was not subject to a sixty business day authorization period that has not expired as of the date the Department receives the NOI from the new Owner/Operator.

E-1: PRE-CONSTRUCTION MEETING DOCUMENTS AND INSPECTION REPORTS

General Project Information			
Project Name	Bronze Foundry Lofts		
Project Location	Baldwinsville NY	**County**	Onondaga
SPDES Permit ID No.		**NYSDEC Date of Authorization**	

PRE-CONSTRUCTION SITE ASSESSMENT CHECKLIST

Construction (soil disturbance) shall not commence until all Erosion & Sediment Control Facilities have been installed, inspected, and found acceptable by the Owner/Operator. Add comments below as necessary.

Notice of Intent, SWPPP, and Contractor's Certification		
1.	Has Notice of Intent (NOI) been filed with NYSDEC, MS4 Certification (if applicable) and the NOI Acknowledgment form been received?	☐Yes ☐ No
2.	Is the SWPPP onsite? If yes, where? _____	☐Yes ☐ No
3.	Is the SWPPP current? What is the latest revision date? _____/_____/_____	☐Yes ☐ No
4.	Have all the Contractors involved with stormwater-related activities signed a Contractor's Certification Statement (Appendix E-3)?	☐Yes ☐ No
5.	Has the Contractor's Construction Stabilization Schedule (Appendix E-2) been received?	☐Yes ☐ No
Resource Protection		
6.	Are construction limits clearly flagged or fenced?	☐Yes ☐ No ☐ NA
7.	Have the important trees and associated root zones, onsite septic system absorption fields, existing vegetation areas suitable for filter strips been flagged for protection?	☐Yes ☐ No ☐ NA
8.	Were creek-crossings installed prior to land-disturbing activity?	☐Yes ☐ No ☐ NA
9.	Have wetlands been identified, flagged and protected?	☐Yes ☐ No ☐ NA
Surface Water Protection		
10.	Has runoff from undisturbed areas been diverted away from or around areas to be disturbed?	☐Yes ☐ No ☐ NA
11.	Have bodies of water either onsite or in the vicinity been identified and protected?	☐Yes ☐ No ☐ NA
12.	Have appropriate practices to protect onsite or downstream surface water been installed?	☐Yes ☐ No ☐ NA
13.	Has any grading operation occurred prior to this inspection, except for Erosion & Sediment Control Practices installation?	☐Yes ☐ No ☐ NA
Stabilized Construction Entrance		
14.	Has a temporary construction entrance been installed to prevent mud and debris from entering the public roadway?	☐Yes ☐ No ☐ NA
15.	Have construction routes and equipment parking areas needed to begin construction been stabilized immediately as work takes place, with gravel or other cover?	☐Yes ☐ No ☐ NA
16.	Is there a plan to remove or clean sediment tracked on to public roadways?	☐Yes ☐ No ☐ NA

Sediment Controls		
17.	Does the silt fence material and installation comply with the contract drawing, SWPPP, and specifications?	☐Yes ☐ No ☐ NA
18.	Are silt fences installed at appropriate spacing intervals?	☐Yes ☐ No ☐ NA
19.	Were sediment trapping devices installed as the first land disturbing activity?	☐Yes ☐ No ☐ NA
Waste and Hazardous Material Handling		
20.	Has the Owner and/or Operator or designated representative been assigned to implement the spill prevention avoidance and response approach?	☐Yes ☐ No ☐ NA
21.	Are there appropriate materials to control spills onsite? If yes, where? _____	☐Yes ☐ No ☐ NA

Items that need to be addressed prior to completion of Qualified Inspector's Certification

1.
2.
3.
4.
5.
6.

Qualified Inspector's Credentials and Certification

I hereby certify that I meet the Qualified Inspector criteria set forth in the General Permit and that the appropriate erosion and sediment controls described in the SWPPP and as described this checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction.

Signature: _____

Name (please print): _____

Title: _____ Date: _____

Company Name: _____

Address: _____

Phone: _____ Email: _____

Inspector Qualifications: ☐ PE ☐ RLA ☐ CPESC

4-hour Contractor Training Completed

Card Received: ☐ Yes ☐ No

Expiration Date: _____

E-2: CONSTRUCTION STABILIZATION SCHEDULE

General Project Information			
Project Name	Bronze Foundry Lofts		
Project Location	Baldwinsville New York	**County**	Onondaga
SPDES Permit ID No.		**NYSDEC Date of Authorization**	

For portions of the site where soil disturbance activities have temporarily or permanently ceased, stabilization measures must be initiated by the contractor by the end of the next business day and completed within 14 calendar days from the date the current soil disturbance activity ceased. Stabilization must be completed within 7 calendar days if the site current disturbance 5 acres or greater.

When construction activity is precluded by snow cover, stabilization measures shall be initiated as soon as practical.

Contractors are responsible to provide a construction schedule for review and approval by the Owner/Operator:

Soil Disturbing Activities	Location	Anticipated Start Date	Anticipated Stabilization Date
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

E-3: CONTRACTOR CERTIFICATION STATEMENT

General Project Information			
Project Name	Bronze Foundry Lofts		
Project Location	Baldwinsville New York	**County**	Onondaga
SPDES Permit ID No.		**NYSDEC Date of Authorization**	

Each Contractor/Subcontractor is required to complete this form and sign this certification statement prior to working onsite.

Contractor Information

Contracting Firm: _____

Address: _____

Phone (Office): _____ Job Site (Trailer): _____

Contacts: 1) _____ Mobile: _____

2) _____ Mobile: _____

3) _____ Mobile: _____

Trained Contactor Responsibilities

A Trained Individual is an employee that has received 4 hours of training approved by the NYSDEC, from a Soil and Water Conservation District, from CPESC, Inc., or from another NYSDEC-endorsed entity providing training in proper erosion and sediment control principles. Training must be completed prior to the date that this project commences (prior to project mobilization). After receiving the initial training, the individual shall receive 4 hours of NYSDEC-approved training every 3 years.

Names of Trained Individuals from the Contractor's company that will be responsible for implementing the SWPPP:

Name: _____ Title: _____

Measures Responsible for: 1) _____

2) _____

3) _____

4) _____

Name: _____ Title: _____

Measures Responsible for:
1) _____
2) _____
3) _____
4) _____

Name: _____ Title: _____

Measures Responsible for:
1) _____
2) _____
3) _____
4) _____

Contractor's Certification

I hereby certify under penalty of law 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 and/or Operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activities, and it is unlawful for any person to cause, or contribute to, a violation of water quality standards.

Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations.

I also certify that I have received a copy of the SWPPP and will retain a copy of such SWPPP onsite during construction.

Signature of President, Vice President, or Treasurer DSF

Signature: _____ Date: _____

Print Name: _____ Title: _____

Signature of Responsible Onsite Individual (Must Meet Requirements of Trained Contractor)

Signature: _____ Date: _____

Print Name: _____ Title: _____

APPENDIX F

Stormwater Construction Site Inspection Reports

Stormwater Construction Site Inspection Report Report

General Information			
Project Name			
SPDES Permit I.D. No.			
Date of Inspection		Project Location	
Qualified Inspector's Name(s)		Qualified Inspector's Title(s)	
Inspector's Contact Information			
Describe present phase of construction			

Type of Inspection
☐ Weekly ☐ Monthly ☐ Twice Weekly

Weather at time of this inspection?
☐ Sunny ☐ Cloudy ☐ Raining ☐ Snow Cover

Soil Conditions at time of this inspection?
☐ Dry ☐ Wet ☐ Saturated

Are there any discharges at the time of inspection? ☐Yes ☐No

Describe the condition of all points of discharge to natural surface waters and all point of discharge from the construction site located within, or immediately adjacent to the project's property boundaries, which receive runoff from disturbed areas (specifically note if sediment is present):

SWPPP Documentation Compliance		
1.	Has Notice of Intent (NOI) been filed with NYSDEC and the NOI Acknowledgment form been received?	☐Yes ☐No
2.	Is the SWPPP on-site? SWPPP documentation onsite and current	☐Yes ☐No ☐Yes ☐No
3.	Is the Approved Phasing Plan for Disturbance > 5 Acres being followed?	☐Yes ☐No ☐N/A
4.	Is the Project Schedule being followed?	☐Yes ☐No
5.	Any SWPPP revisions? Latest revision date: (list all revisions and dates)	☐Yes ☐No

	BMP/Activity		Maintained? If no, list Corrective Action	List Required Completion Date, Company, and Responsible Person
Disturbance				
1.	Are construction limits and important resource areas clearly flagged or fenced?	☐Yes ☐No ☐N/A	☐Yes ☐No	
2.	Are areas outside the construction limits undergoing disturbance? If yes, explain	☐Yes ☐No		
3.	Has any single area > 5 Acres been disturbed?	☐Yes ☐No	☐Yes ☐No	
4.	Are clearing and grubbing operations minimized to the smallest practicable area?	☐Yes ☐No ☐N/A	☐Yes ☐No	
5.	Has clean stormwater runoff been diverted around areas to be disturbed?	☐Yes ☐No ☐N/A	☐Yes ☐No	
E&SC Practices				
6.	Were the sediment traps installed prior to any land-disturbing activity?	☐Yes ☐No ☐N/A	☐Yes ☐No	
7.	Are stabilized temporary construction entrances and construction staging area(s) in place?	☐Yes ☐No ☐N/A	☐Yes ☐No	
8.	Have construction access roads been properly stabilized?	☐Yes ☐No ☐N/A	☐Yes ☐No	
9.	Is there evidence of sediment being tracked onto the street?	☐Yes ☐No	☐Yes ☐No	
10.	Has silt fence been or other perimeter sediment control barriers been installed?	☐Yes ☐No ☐N/A	☐Yes ☐No	
11.	Are storm drain inlets properly protected?	☐Yes ☐No ☐N/A	☐Yes ☐No	
12.	Are washout facilities for concrete available and clearly marked?	☐Yes ☐No ☐N/A	☐Yes ☐No	
13.	Are temporary and/or permanent check dams in place?	☐Yes ☐No ☐N/A	☐Yes ☐No	
14.	Are top soil and excess excavated material stored in stabilized stock piles?	☐Yes ☐No ☐N/A	☐Yes ☐No	

	BMP/Activity		Maintained? If no, list Corrective Action	List Required Completion Date, Company, and Responsible Person
15.	Are dust control measures being properly implemented?	☐Yes ☐No ☐N/A	☐Yes ☐No	
16.	Were creek crossings installed prior to any land-disturbing activity?	☐Yes ☐No ☐N/A	☐Yes ☐No	
Stabilization				
17.	Are all slopes not being actively worked properly stabilized?	☐Yes ☐No ☐N/A	☐Yes ☐No	
18.	Are soil slopes steeper than 1V: 3H undergoing surface roughening/seed/mulch?	☐Yes ☐No ☐N/A	☐Yes ☐No	
19.	Are disturbed areas stabilized within 14 days?	☐Yes ☐No ☐N/A	☐Yes ☐No	
20.	Is the site adequately stabilized at this time?	☐Yes ☐No	☐Yes ☐No	
Other Best Management Practices				
21.	Are vehicle and equipment fueling, clean-out, and maintenance areas free of spills, leaks, or any other deleterious material?	☐Yes ☐No ☐N/A	☐Yes ☐No	
22.	Are materials that are potential stormwater contaminants stored inside or under cover?	☐Yes ☐No ☐N/A	☐Yes ☐No	
23.	Are appropriate materials to control spill located onsite?	☐Yes ☐No ☐N/A	☐Yes ☐No	
24.	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐Yes ☐No ☐N/A	☐Yes ☐No	
25.	Is trash/litter from work areas collected and placed in covered dumpsters?	☐Yes ☐No ☐N/A		
26.	Are any practices listed in the SWPPP missing?	☐Yes ☐No		

Inspector's Signature: _____

Date: _____

APPENDIX G

Post-Construction Maintenance Requirements

General Site Post-Construction Checklist	
Project Name	Bronze Foundry Lofts
Location	Baldwinsville New York
Site Status	

	Maintenance Task	Frequency	Task Completed By & Date
1.	Inspect drainage inlets and remove debris	Monthly	
2.	Remove sediment from catch basin and sediment basins when design capacity is reduced by 50%	Bi-Annually (Spring & Fall)	
3.	Clean and vacuum porous pavement areas and filter strips	Bi-Annually (Spring & Fall)	
4.	Inspect swales, riprap outlet protection and stormwater practices. Remove debris and repair or restabilize areas as necessary.	Bi-Annually (Spring & Fall)	
5.	Complete stormwater practice specific (i.e. bioretention area, stormwater pond, etc.) Operation and Maintenance Check List	Bi-Annually (Spring & Fall)	
6.	Inspect site for areas of poor vegetative cover. Apply top soil, seed and mulch as necessary to revegetate.	Bi-Annually (Spring & Fall)	
7.	Inspect culverts and remove obstructions.	Annually (Spring)	
8.	Sweep paved surfaces	Annually (Spring)	
9.	Removed vegetative debris and fallen trees from buffers and undisturbed areas	Annually (Spring)	

Actions to be Taken:

Inspector's Signature: _____

Post-Construction Operation & Maintenance – Stormwater Pond, Wetland, and Dry Detention Basin			
Project Name	Bronze Foundry Lofts		
Location	Baldwinsville New York		
Site Status		**Inspector's Name**	
Date		**Time**	

	Maintenance Item	Satisfactory/ Unsatisfactory	Comments
Embankment and Emergency Spillway (Spring, Fall, and after Major Storms)			
1.	Vegetation and ground cover adequate	☐ Satisfactory ☐ Unsatisfactory	
2.	Embankment free of erosion	☐ Satisfactory ☐ Unsatisfactory	
3.	Embankment free of animal burrows	☐ Satisfactory ☐ Unsatisfactory	
4.	Cracking bulging, or sliding of dam on: - Upstream face - Downstream face - At or beyond downstream toe - At or beyond upstream toe - Emergency spill way	☐ Satisfactory ☐ Unsatisfactory	
5.	Seeps/leaks on downstream face	☐ Satisfactory ☐ Unsatisfactory	
6.	Slopes stabilized, no sign of riprap failure	☐ Satisfactory ☐ Unsatisfactory	
7.	Vertical/horizontal alignment of top of dam "As-Built"	☐ Satisfactory ☐ Unsatisfactory	
8.	Emergency spillway clear of obstructions and debris	☐ Satisfactory ☐ Unsatisfactory	
Riser and Principal Spillway (Spring, Fall, and after Major Storms)			
9.	Low flow orifice unobstructed	☐ Satisfactory ☐ Unsatisfactory	
10.	Low flow trash rack. Look for: - Debris removal is necessary - Corrosion is evident	☐ Satisfactory ☐ Unsatisfactory	
11.	Weir trash rack. Look for: - Debris removal is necessary - Corrosion is evident	☐ Satisfactory ☐ Unsatisfactory	
12.	Sediment accumulation inside riser	☐ Satisfactory ☐ Unsatisfactory	

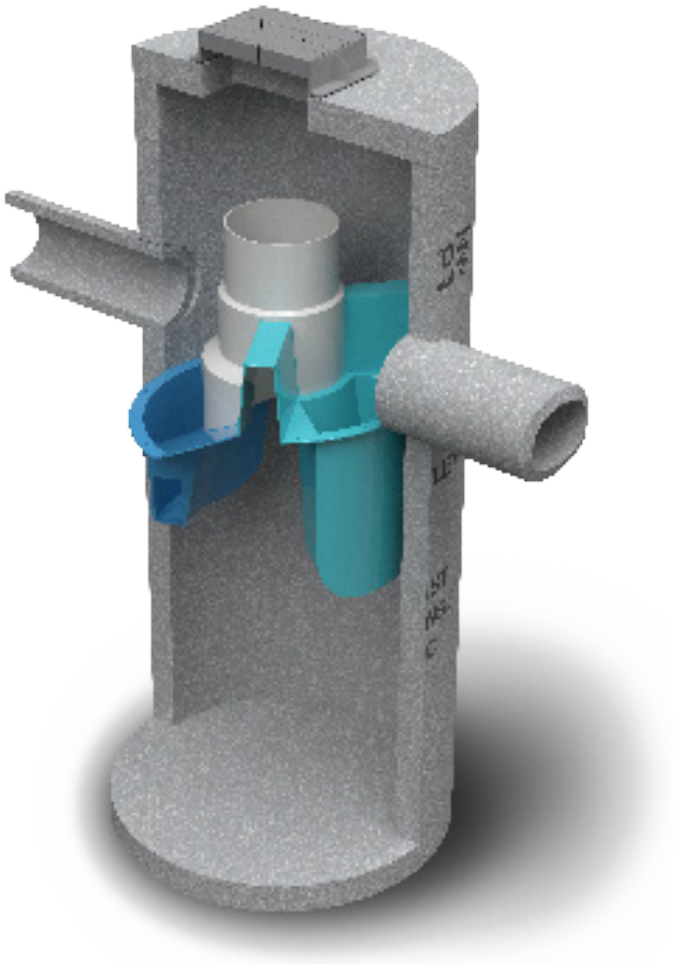
	Maintenance Item	Satisfactory/ Unsatisfactory	Comments
13.	Concrete/masonry condition of riser and barrels. Look for: - Minor spalling (<1") - Major spalling (rebar exposed) - Joint failures - Water tightness	☐ Satisfactory ☐ Unsatisfactory	
14.	Pipe condition	☐ Satisfactory ☐ Unsatisfactory	
15.	Control valve. Look for: - Operational/exercised - Chained and locked	☐ Satisfactory ☐ Unsatisfactory	
16.	Pond drain valve. Look for: - Operational/exercised - Chained and locked	☐ Satisfactory ☐ Unsatisfactory	
17.	Functioning of outfall channels	☐ Satisfactory ☐ Unsatisfactory	
Condition of Outfalls (Spring, Fall and after Major Storms)			
18.	Condition of riprap	☐ Satisfactory ☐ Unsatisfactory	
19.	Free of erosion	☐ Satisfactory ☐ Unsatisfactory	
20.	Storm drain pipes	☐ Satisfactory ☐ Unsatisfactory	
21.	Endwalls and headwalls	☐ Satisfactory ☐ Unsatisfactory	
Sediment Forebays			
22.	Depth of sediment (removal of sediment required prior to reaching 50% design depth)	☐ Satisfactory ☐ Unsatisfactory	
Permanent Pool (Wet Ponds) (Spring and Fall)			
23.	Free of undesirable vegetative growth	☐ Satisfactory ☐ Unsatisfactory	
24.	Free of floating or floatable debris (comment if removal is necessary)	☐ Satisfactory ☐ Unsatisfactory	
25.	Free of visible pollution	☐ Satisfactory ☐ Unsatisfactory	
26.	Shoreline is free of erosion	☐ Satisfactory ☐ Unsatisfactory	
Dry Detention Basins (Dry Ponds) (Spring and Fall)			
27.	Adequate vegetative cover	☐ Satisfactory ☐ Unsatisfactory	
28.	Free from growth of: - Undesirable vegetation - Wood vegetation	☐ Satisfactory ☐ Unsatisfactory	
29.	Low flow channel clear of obstructions	☐ Satisfactory ☐ Unsatisfactory	

	Maintenance Item	Satisfactory/ Unsatisfactory	Comments
30.	No standing water or wet spots	☐ Satisfactory ☐ Unsatisfactory	
31.	Free of sediment and/or trash accumulation	☐ Satisfactory ☐ Unsatisfactory	
Wetlands (Spring and Fall)			
32.	Vegetation health and growing. 50% of wetland covered with wetland plants after second growing season. (If unsatisfactory, reinforcement plantings needed)	☐ Satisfactory ☐ Unsatisfactory	
33.	Dominant wetland plants: - Survival of desired wetland plant species - Distribution of plants according to landscaping plans	☐ Satisfactory ☐ Unsatisfactory	
34.	Free of invasive species	☐ Satisfactory ☐ Unsatisfactory	
35.	Maintenance of adequate water depth for desired wetland plant species	☐ Satisfactory ☐ Unsatisfactory	
36.	Sediment level of the wetland. Look for: - Significantly reduced pool volume - Plants that have been “choked” by sediment	☐ Satisfactory ☐ Unsatisfactory	

Actions to be Taken:

Inspector’s Signature: _____

Hydro International



Operation and Maintenance Manual

First Defense® High Capacity and First Defense®Optimum

Vortex Separator for Stormwater Treatment

Table of Contents

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

I. First Defense® by Hydro International

Introduction

The First Defense® is an enhanced vortex separator that combines an effective and economical stormwater treatment chamber with an integral peak flow bypass. It efficiently removes total suspended solids (TSS), trash and hydrocarbons from stormwater runoff without washing out previously captured pollutants. The First Defense® is available in several model configurations to accommodate a wide range of pipe sizes, peak flows and depth constraints.

The two product models described in this guide are the First Defense® High Capacity and the First Defense® Optimum; they are inspected and maintained identically.

Operation

The First Defense® operates on simple fluid hydraulics. It is self-activating, has no moving parts, no external power requirement and is fabricated with durable non-corrosive components. No manual procedures are required to operate the unit and maintenance is limited to monitoring accumulations of stored pollutants and periodic clean-outs. The First Defense® has been designed to allow for easy and safe access for inspection, monitoring and clean-out procedures. Neither entry into the unit nor removal of the internal components is necessary for maintenance, thus safety concerns related to confined-space-entry are avoided.

Pollutant Capture and Retention

The internal components of the First Defense® have been designed to optimize pollutant capture. Sediment is captured and retained in the base of the unit, while oil and floatables are stored on the water surface in the inner volume (Fig.1).

The pollutant storage volumes are isolated from the built-in bypass chamber to prevent washout during high-flow storm events. The sump of the First Defense® retains a standing water level between storm events. This ensures a quiescent flow regime at the onset of a storm, preventing resuspension and washout of pollutants captured during previous events.

Accessories such as oil absorbent pads are available for enhanced oil removal and storage. Due to the separation of the oil and floatable storage volume from the outlet, the potential for washout of stored pollutants between clean-outs is minimized.

Applications

- Stormwater treatment at the point of entry into the drainage line
- Sites constrained by space, topography or drainage profiles with limited slope and depth of cover
- Retrofit installations where stormwater treatment is placed on or tied into an existing storm drain line
- Pretreatment for filters, infiltration and storage

Advantages

- Inlet options include surface grate or multiple inlet pipes
- Integral high capacity bypass conveys large peak flows without the need for “offline” arrangements using separate junction manholes
- Long flow path through the device ensures a long residence time within the treatment chamber, enhancing pollutant settling
- Delivered to site pre-assembled and ready for installation

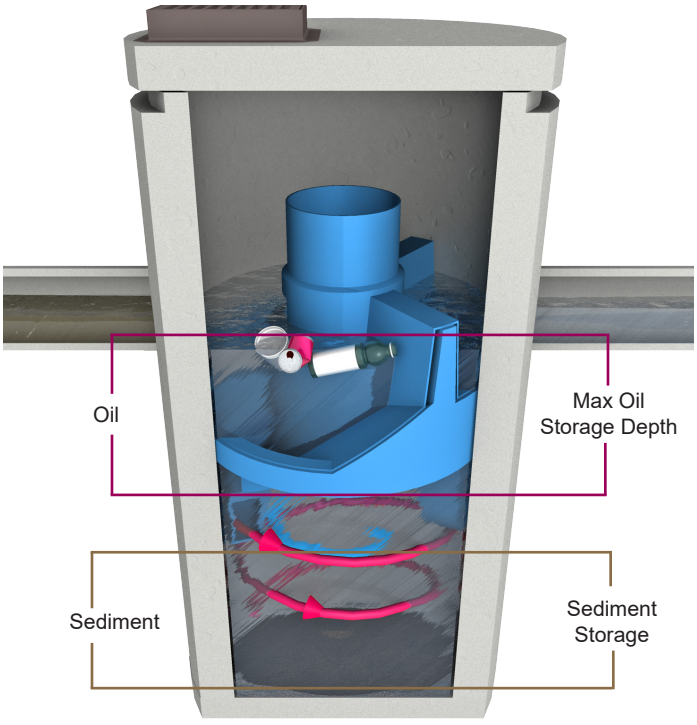


Fig.1 Pollutant storage volumes in the First Defense®.

II. Model Sizes & Configurations

The First Defense® inlet and internal bypass arrangements are available in several model sizes and configurations. The components have modified geometries allowing greater design flexibility to accommodate various site constraints.

All First Defense® models include the internal components that are designed to remove and retain total suspended solids (TSS), gross solids, floatable trash and hydrocarbons (Fig.2). First Defense® model sizes (diameter) are shown in Table 1.

III. Maintenance

First Defense® Components

1. **Built-In Bypass**
2. **Inlet Pipe**
3. **Inlet Chute**
4. **Floatables Draw-off Port**
5. **Outlet Pipe**
6. **Floatables Storage**
7. **Sediment Storage**
8. **Inlet Grate or Cover**

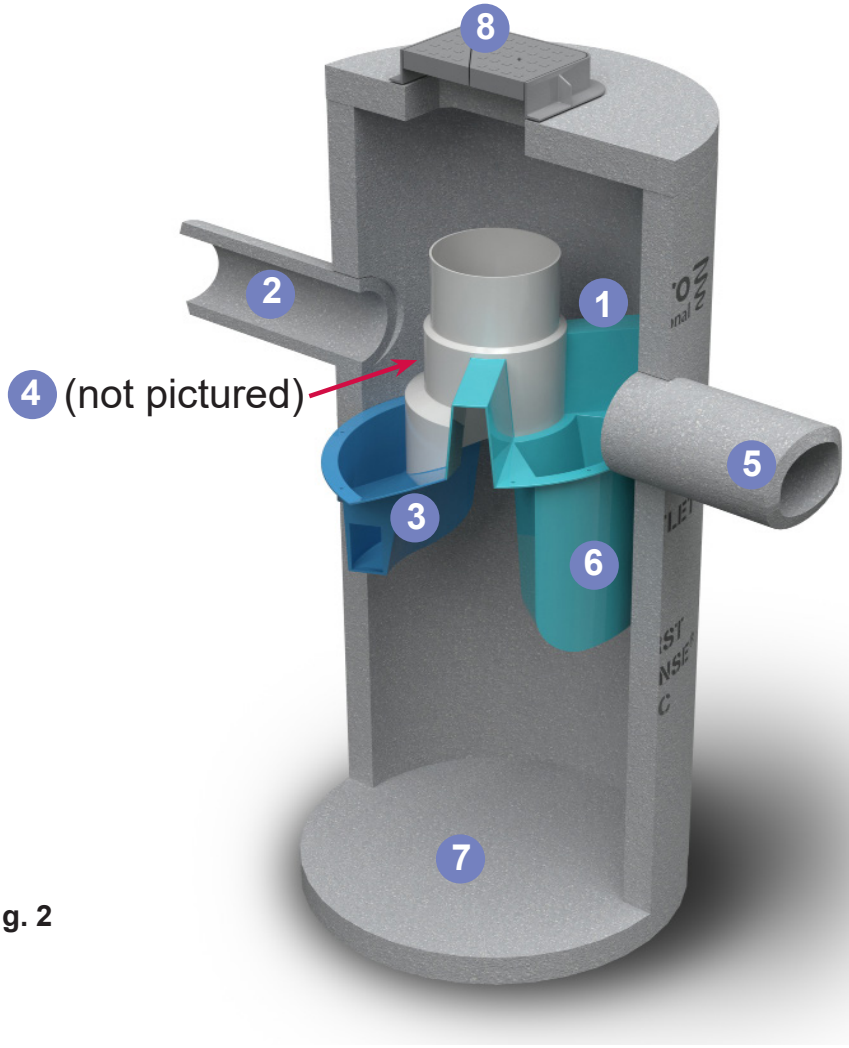


Fig. 2

Table 1

First Defense® Model Sizes
(ft / m) diameter
3 / 0.9
4 / 1.2
5 / 1.5
6 / 1.8
7 / 2.1
8 / 2.4
10 / 3.0

Overview

The First Defense® protects the environment by removing a wide range of pollutants from stormwater runoff. Periodic removal of these captured pollutants is essential to the continuous, long-term functioning of the First Defense®. The First Defense® will capture and retain sediment and oil until the sediment and oil storage volumes are full to capacity. When sediment and oil storage capacities are reached, the First Defense® will no longer be able to store removed sediment and oil.

The First Defense® allows for easy and safe inspection, monitoring and clean-out procedures. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables. Access ports are located in the top of the manhole.

Maintenance events may include Inspection, Oil & Floatables Removal, and Sediment Removal. Maintenance events do not require entry into the First Defense®, nor do they require the internal components of the First Defense® to be removed. In the case of inspection and floatables removal, a vactor truck is not required. However, a vactor truck is required if the maintenance event is to include oil removal and/or sediment removal.

Maintenance Equipment Considerations

The internal components of the First Defense® have a centrally located circular shaft through which the sediment storage sump can be accessed with a sump vac hose. The open diameter of this access shaft is 15 inches in diameter (Fig.3). Therefore, the nozzle fitting of any vactor hose used for maintenance should be less than 15 inches in diameter.

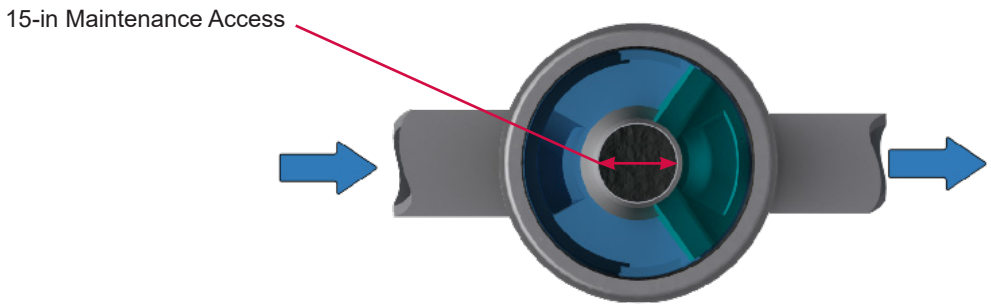


Fig.3 The central opening to the sump of the First Defense®is 15 inches in diameter.

Determining Your Maintenance Schedule

The frequency of clean out is determined in the field after installation. During the first year of operation, the unit should be inspected every six months to determine the rate of sediment and floatables accumulation. A simple probe such as a Sludge-Judge® can be used to determine the level of accumulated solids stored in the sump. This information can be recorded in the maintenance log (see page 9) to establish a routine maintenance schedule.

The vactor procedure, including both sediment and oil / flotables removal, for First Defense® typically takes less than 30 minutes and removes a combined water/oil volume of about 765 gallons.

Inspection Procedures

1. Set up any necessary safety equipment around the access port or grate of the First Defense® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.

2. Remove the grate or lid to the manhole.

3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities. Fig.4 shows the standing water level that should be observed.

4. Without entering the vessel, use the pole with the skimmer net to remove floatables and loose debris from the components and water surface.

5. Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel.

6. On the Maintenance Log (see page 9), record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components or blockages.

7. Securely replace the grate or lid.

8. Take down safety equipment.

9. Notify Hydro International of any irregularities noted during inspection.

Floatables and Sediment Clean Out

Floatables clean out is typically done in conjunction with sediment removal. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables (Fig.4).

Floatables and loose debris can also be netted with a skimmer and pole. The access port located at the top of the manhole provides unobstructed access for a vactor hose to be lowered to the base of the sump.

Scheduling

- Floatables and sump clean out are typically conducted once a year during any season.

- Floatables and sump clean out should occur as soon as possible following a spill in the contributing drainage area.

Fig.4 Floatables are removed with a vactor hose

Recommended Equipment

- Safety Equipment (traffic cones, etc)
- Crow bar or other tool to remove grate or lid
- Pole with skimmer or net (if only floatables are being removed)
- Sediment probe (such as a Sludge Judge®)
- Vactor truck (flexible hose recommended)
- First Defense® Maintenance Log

Floatables and Sediment Clean Out Procedures

1. Set up any necessary safety equipment around the access port or grate of the First Defense® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.

2. Remove the grate or lid to the manhole.

3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities.

4. Remove oil and floatables stored on the surface of the water with the vactor hose or with the skimmer or net

5. Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel and record it in the Maintenance Log (page 9).

6. Once all floatables have been removed, drop the vactor hose to the base of the sump. Vactor out the sediment and gross debris off the sump floor

7. Retract the vactor hose from the vessel.

8. On the Maintenance Log provided by Hydro International, record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components, blockages, or irregularly high or low water levels.

9. Securely replace the grate or lid.

Maintenance at a Glance

Inspection	- Regularly during first year of installation - Every 6 months after the first year of installation
Oil and Floatables Removal	- Once per year, with sediment removal - Following a spill in the drainage area
Sediment Removal	- Once per year or as needed - Following a spill in the drainage area
NOTE: For most clean outs the entire volume of liquid does not need to be removed from the manhole. Only remove the first few inches of oils and floatables from the water surface to reduce the total volume of liquid removed during a clean out.	

First Defense® Installation Log

HYDRO INTERNATIONAL REFERENCE NUMBER:	
SITE NAME:	
SITE LOCATION:	
OWNER:	CONTRACTOR:
CONTACT NAME:	CONTACT NAME:
COMPANY NAME:	COMPANY NAME:
ADDRESS:	ADDRESS:
TELEPHONE:	TELEPHONE:
FAX:	FAX:

INSTALLATION DATE: / /

MODEL SIZE (CIRCLE ONE): [3-FT] [4-FT] [5-FT] [6-FT] [7-FT] [8-FT] [10-FT]

INLET (CIRCLE ALL THAT APPLY): GRATED INLET (CATCH BASIN) INLET PIPE (FLOW THROUGH)

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

First Defense® Inspection and Maintenance Log

Date	Initials	Depth of Floatables and Oils	Sediment Depth Measured	Volume of Sediment Removed	Site Activity and Comments

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

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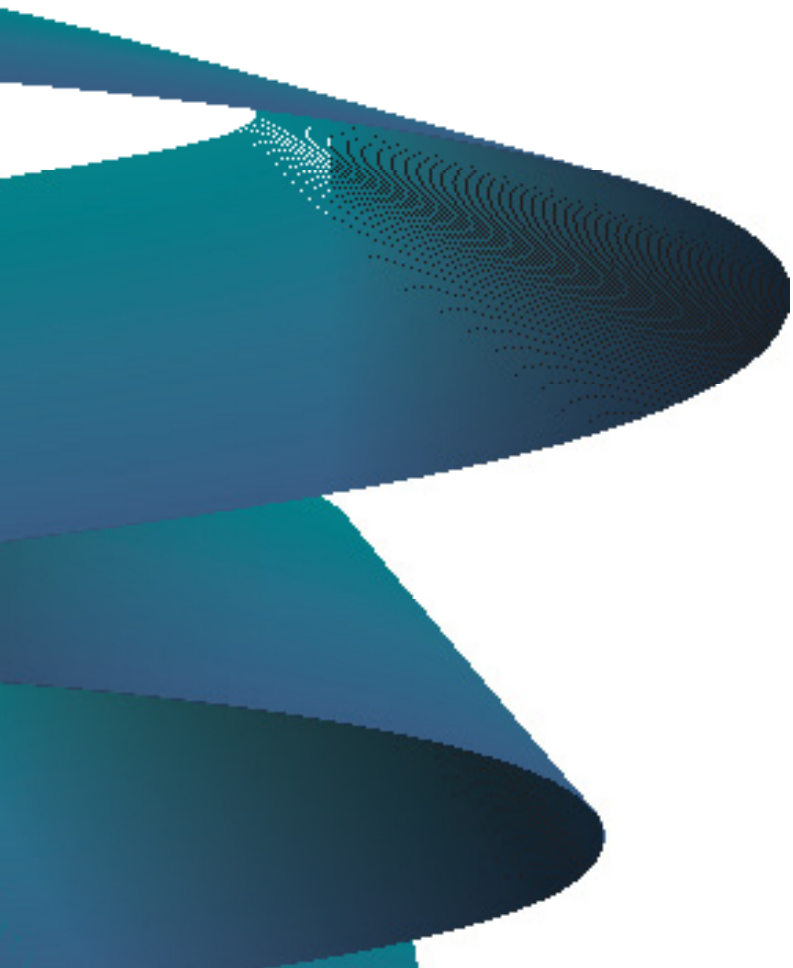
Hydro International®



Stormwater Solutions

94 Hutchins Drive
Portland, ME 04102

Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterinquiry@hydro-int.com

www.hydro-int.com

Turning Water Around...®

FD_O+M_K_2105

APPENDIX H

Stormwater Management Memorandum

Stormwater Management Memorandum

To:

Copies To:

From: Gaired Jordan PE, Thomas Dussing, PE

Date: July 03, 2025

Reference: SWPPP Appendix H - Stormwater Management Memorandum
Bronze Foundry Lofts

EDR Project No: 23385

Memorandum Contents:

Project Introduction:

This memorandum describes the post-construction stormwater management for the Bronze Foundry Lofts. The Bronze Foundry Lofts is located between NYS Route 370/E Genessee St, NYS Route 31/ Salina St, and Curtis Ave in the village of Baldwinsville in Onondaga County.

Methodology:

Stormwater modeling was completed using HydroCAD 10.20-5c. This software was used to perform a Natural Resource Conservation Service (NRCS) Technical Release No. 20 (TR-20) hydrologic analysis of each of the drainage areas. NRCS TR-20 is a computation methodology that develops a sequence of rainfall distributions to predict peak runoffs for a watershed that has been characterized by the Technical Release 55 (TR-55) procedures.

Pre-Construction Site Conditions:

The Pre-Construction condition of the 15.6 acre site is forested use. The soils for the site are mostly Hydrologic Soil Group (HSG) D, with an area of HSG A (See Appendix C of the SWPPP for Web Soil Survey Reports). A 75-acre residential watershed upstream of the project discharges to the site. A delineated wetland is present on the site. Three Points of Analysis (POAs) were selected the site in the Pre-Construction Condition, including:

- POA 1 – Runoff from the site (Watershed E-1.1 and E-1.2) and from the watershed upstream of the site (13S, 6S, and 8S) flows east by overland flow or an existing 15" diameter culvert before discharging into a swale which outlets to the Seneca River.
- POA 2 – Runoff from the northern portion (E-2) of the site flows east by overland flow before discharging to village storm sewer on E Genessee St / NYS Route 31, which outlets to the Seneca River
- POA 3 – Runoff from the southern portion (E-3) of the site flows south before discharging to village storm sewer on Salina St which outlets to the Seneca River.

Post-Construction Site Conditions and Stormwater Management:

The Post-Construction condition of the site is residential use. Residential buildings, roadway, and parking, and garages will be constructed. The post-construction condition of the three POAs are described below:

- POA 1 – Runoff from the majority of the site (P-1.1, P-1.2, and P-4.3) flows overland before entering storm sewer and discharging to infiltration basins (Infiltration Basin 1.1 and 1.2) for storage and treatment before discharging to the existing 15" culvert. Runoff from the interior areas of the site (P-4.2), which is used as conveyance for the existing upstream watershed, will flow through either overland path or one box culvert to the existing 15" culvert. Runoff from the upstream portion of the Site (13S, 6S, 8S, P-4.1) will flow into the existing wetland, before discharging through two box culverts where it will join watershed P-4.2, and P-4.3, before discharging to the existing 15" culvert. Runoff from outside the site (P-5) flows overland before discharging to Seneca River.
- POA 2 – Runoff from the northern portion of the site flows east through overland flow before entering an infiltration basin (Infiltration Basin 2) and discharging to existing city storm sewer
- POA 3 – Runoff from the southern portion of the site flows south before discharging to the city storm sewer on Salina St which outlets to the Seneca River

There are three infiltration basins areas that provided WQv and RRv for the site. The infiltration basins were designed assuming there was 0.5 in/hour of infiltration over the entire site. Three HDS Units and one forebay are sized to provide pretreatment to the infiltration basins. Calculations for each infiltration basin is located in Attachment 3. A summary of stormwater management is shown in Table 1.

Table 1 - Water Quality Treatment Analysis

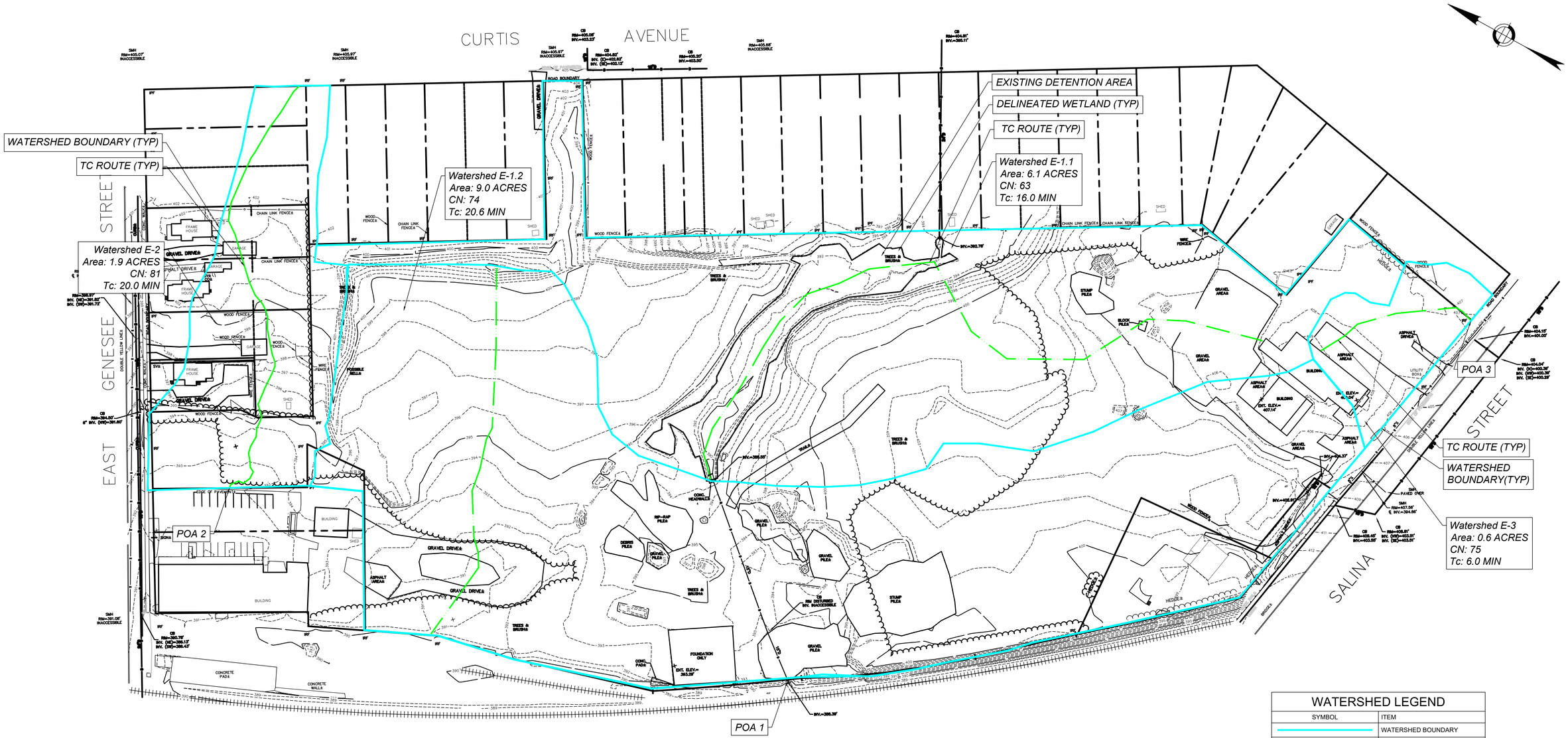
Area Tributary to	Total Area (acre)	Required WQv (cu-ft)	RRv Provided (cu-ft)	Total WQv Provided (cu-ft)	Stormwater Practice Providing RRv & WQv
POA 1	15.0	22,346	27791	27791	Infiltration Basin
POA 2	2.0	958	1830	1830	Infiltration Basin
POA 3	0.7	0	0	0	
Total	17.7	23,304	29621	29621	

Table 2 – Water Quantity Analysis

Point of Analysis (POA)	Site Condition	1 Year Peak Flow (cfs)	10 Year Peak Flow (cfs)	100 Year Peak Flow (cfs)
POA 1	Post-Construction	39.58	82.53	154.04
	Pre-Construction	52.54	85.17	160.31
	Difference	-12.96	-2.64	-6.27
POA 2	Post-Construction	0.66	3.08	5.59
	Pre-Construction	1.08	3.08	6.98
	Difference	-0.42	0	-1.39
POA 3	Post-Construction	0	0.24	1.16
	Pre-Construction	0.65	1.70	3.68
	Difference	-0.65	-1.46	-2.52
Total	Post-Construction	40.24	85.85	160.79
	Pre-Construction	54.27	89.95	170.97
	Difference	-14.03	-4.1	-10.18

Attachment 1

Watershed Maps



WATERSHED LEGEND

SYMBOL	ITEM
	WATERSHED BOUNDARY
	PROPERTY BOUNDARY
	TC ROUTE
	DELINEATED WETLAND

SCALE IN FEET

0 60 120 180 300

CLIENT / SUBCONSULTANT:

EDR a better environment

Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **Bronze Foundry Lofts**

PROJECT LOCATION: **88 E Genessee St**

CLIENT:

DRAWING TITLE: **Pre-Construction Watershed**

CONTRACT NO.

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1					
2					
3					
4					
5					
6					

EDR JOB#: **23385**
DATE: **July 3, 2025**
SCALE: **1" = 60'**
DRAWN BY: **GDJ**
CHECKED BY:
DRAWING NUMBER: **D-01**

TC ROUTE (TYP)

Watershed P-1.2
Area: 6.2 ACRES
CN:91
Tc: 6.0 MIN

CURTIS AVENUE

Watershed P-4.1
Area: 1.9 ACRES
CN: 71
Tc: 11.8 MIN

Watershed P-4.2
Area: 0.5 ACRES
CN: 45
Tc: 7.2 MIN

DELINEATED WETLAND

TC ROUTE (TYP)

Watershed P-1.1
Area: 4.8 ACRES
CN: 91
Tc: 6.0 MIN

TRUE NORTH

TC ROUTE (TYP)

WATERSHED BOUNDARY (TYP)

EAST SEE STREET

Watershed P-2
Area: 2.0 ACRES
CN:84
Tc: 20.0 MIN

Watershed P-3
Area: 0.4 ACRES
CN: 59
Tc: 6.0 MIN

TC ROUTE (TYP)

INFILTRATION BASIN 2: 5960 CF

POA 3

POA 3

TC ROUTE

WATERSHED BOUNDARY (TYP

SALINA STREET

Watershed P-5
Area: 1.6 ACRES
CN: 55
Tc: 10.5 MIN

INFILTRATION BASIN 1.2:
41,844 CF

POA 1

DETENTION BASIN 1

Watershed P-4.3
Area: 0.1 ACRES
CN: 81
Tc: 6.0 MIN

INFILTRATION BASIN 1.2:
27,071 CF

WATERSHED LEGEND

SYMBOL	ITEM
	WATERSHED BOUNDARY
	PROPERTY BOUNDARY
	TC ROUTE
	DELINEATED WETLAND

SCALE IN FEET

0 60 120 180 300

CLIENT / SUBCONSULTANT:

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Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **Bronze Foundry Lofts**

PROJECT LOCATION: **88 E Genessee St**

CLIENT:

DRAWING TITLE: **Post-Construction Watershed**

CONTRACT NO.

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
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2					
3					
4					
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6					

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DATE: **July 3, 2025**
SCALE: **1:60**
DRAWN BY: **GEJ**
CHECKED BY:
DRAWING NUMBER: **D-02**

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Date Printed: 7/3/2025 1:01:58 PM

WATERSHED LEGEND	
SYMBOL	ITEM
	WATERSHED BOUNDARY
	PROPERTY BOUNDARY
	TC ROUTE
	DELINEATED WETLAND

SCALE IN FEET

0 200 400 600 1000

TC ROUTE (TYP)

WATERSHED TO DETENTION POND 1
AREA: 29.8 ACRES
CN: 87
Tc: 12.3 MIN

EXISTING DETENTION POND 1

TC ROUTE (TYP)

WATERSHED TO DETENTION POND 2
AREA: 6.0 ACRES
CN: 92
Tc: 6.0 MIN

EXISTING DETENTION POND 2

TC ROUTE (TYP)

WATERSHED DIRECTLY TO PROJECT SITE
Area: 39.5 ACRES
CN: 84
Tc: 48.2 MIN

EXISTING DETENTION POND 3

WATERSHED BOUNDARY

DELINEATED WETLAND

PROJECT AREA

EXISTING 15" DIA. PIPE

POA 1

CURTIS AVENUE

EAST GENESSEE STREET

SALINA STREET

X:\23385 Bethlehemville Towne Center 2\NCad\Working Drawings\X-Refs\C-WATERSHED.dwg

ORIGINAL DRAWING SIZE: ARCH D (24" X 36")

CLIENT / SUBCONSULTANT:

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Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **Bronze Foundry Lofts**

PROJECT LOCATION: **88 E Genessee St**

CLIENT:

DRAWING TITLE: **Pre-Construction Full Watershed**

CONTRACT NO.

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
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2					
3					
4					
5					
6					

EDR JOB#: **23385**
DATE: **July 3, 2025**
SCALE: **1" = 200'**
DRAWN BY: **GEJ**
CHECKED BY:
DRAWING NUMBER: **D-03**

Date Printed: 7/3/2025 1:02:09 PM

WATERSHED LEGEND	
SYMBOL	ITEM
	WATERSHED BOUNDARY
	PROPERTY BOUNDARY
	TC ROUTE
	DELINEATED WETLAND

SCALE IN FEET

0 200 400 600 1000

TC ROUTE (TYP)

WATERSHED TO DETENTION POND 1
AREA: 29.8 ACRES
CN: 87
Tc: 12.3 MIN

EXISTING DETENTION POND 1

LIDAR SURFACE

TC ROUTE (TYP)

WATERSHED TO DETENTION POND 2
AREA: 6.0 ACRES
CN: 92
Tc: 6.0 MIN

EXISTING DETENTION POND 2

TC ROUTE (TYP)

WATERSHED DIRECTLY TO PROJECT SITE
Area: 39.5 ACRES
CN: 84
Tc: 48.2 MIN

WATERSHED BOUNDARY

DELINEATED WETLAND STORAGE
PRE STREET CROSSING

2 BOX CULVERTS

PROJECT AREA

DELINEATED WETLAND STORAGE
DEVELOPMENT CENTER

1 BOX CULVERT

CURTIS AVENUE

EAST GENESEE STREET

SAUNA STREET

DETENTION BASIN 1

POA 1

DETENTION BASIN 2

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ORIGINAL DRAWING SIZE: ARCH D (24" X 36")

CLIENT / SUBCONSULTANT:

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Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **Bronze Foundry Lofts**

PROJECT LOCATION: **88 E Genessee St**

CLIENT:

DRAWING TITLE: **Post-Construction Full Watershed**

CONTRACT NO.

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
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2					
3					
4					
5					
6					

EDR JOB#: **23385**

DATE: **July 3, 2025**

SCALE: **1" : 200'**

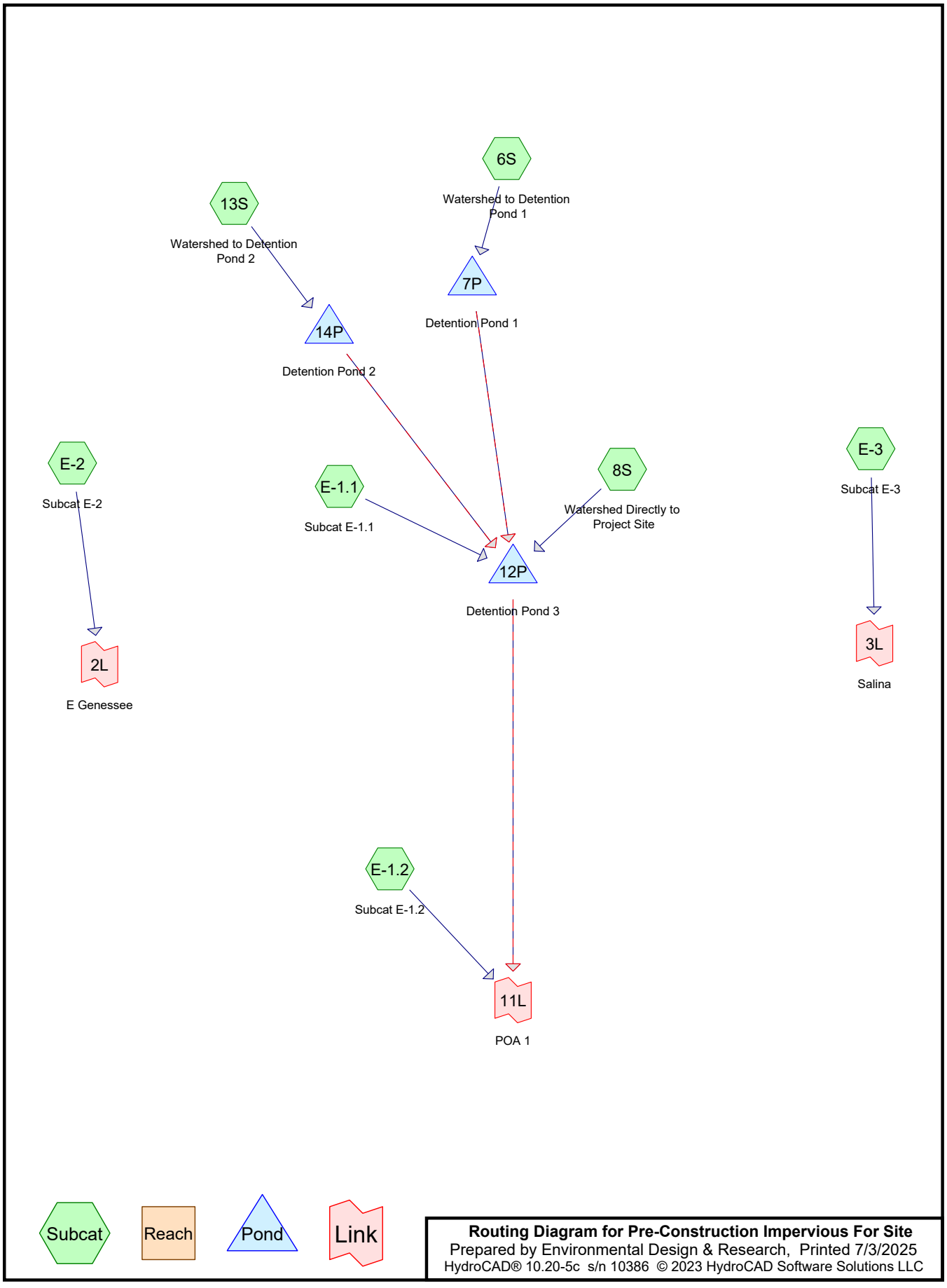
DRAWN BY: **GEJ**

CHECKED BY:

DRAWING NUMBER: **D-04**

Attachment 2

Watershed Hydrologic Modeling Reports
(Pre and Post-Construction)


6S
Watershed to Detention Pond 1
13S
Watershed to Detention Pond 2
7P
Detention Pond 1
14P
Detention Pond 2
E-2
Subcat E-2
E-1.1
Subcat E-1.1
8S
Watershed Directly to Project Site
E-3
Subcat E-3
12P
Detention Pond 3
2L
E Genessee
3L
Salina
E-1.2
Subcat E-1.2
11L
POA 1
Subcat
Reach
Pond
Link
Routing Diagram for Pre-Construction Impervious For Site
Prepared by Environmental Design & Research, Printed 7/3/2025
HydroCAD® 10.20-5c s/n 10386 © 2023 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
56.362	87	1/4 acre lots, 38% imp, HSG D (6S, 8S)
6.067	92	1/8 acre lots, 65% imp, HSG D (13S)
0.855	39	>75% Grass cover, Good, HSG A (E-1.1, E-1.2, E-3)
3.063	80	>75% Grass cover, Good, HSG D (E-1.1, E-1.2, E-2, E-3)
0.906	98	Paved parking, HSG A (E-1.1, E-1.2, E-3)
1.002	98	Paved parking, HSG D (E-1.1, E-1.2, E-2, E-3)
2.865	30	Woods, Good, HSG A (E-1.1, E-1.2)
21.929	77	Woods, Good, HSG D (8S, E-1.1, E-1.2, E-2)
93.049	**83**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.01 hrs, 1501 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 6S: Watershed to Detention Runoff Area=29.800 ac 38.00% Impervious Runoff Depth>0.83"
Flow Length=1,781' Tc=12.3 min CN=87 Runoff=38.31 cfs 2.055 af

Subcatchment 8S: Watershed Directly to Runoff Area=39.542 ac 25.53% Impervious Runoff Depth>0.66"
Flow Length=1,698' Tc=48.2 min CN=84 Runoff=17.52 cfs 2.182 af

Subcatchment 13S: Watershed to Runoff Area=6.067 ac 65.00% Impervious Runoff Depth>1.15"
Tc=6.0 min CN=92 Runoff=13.15 cfs 0.581 af

Subcatchment E-1.1: Subcat E-1.1 Runoff Area=6.123 ac 5.75% Impervious Runoff Depth>0.08"
Tc=16.0 min CN=63 Runoff=0.14 cfs 0.040 af

Subcatchment E-1.2: Subcat E-1.2 Runoff Area=9.018 ac 13.05% Impervious Runoff Depth>0.28"
Flow Length=486' Tc=20.6 min CN=73 Runoff=2.28 cfs 0.207 af

Subcatchment E-2: Subcat E-2 Runoff Area=1.887 ac 2.52% Impervious Runoff Depth>0.50"
Flow Length=572' Tc=20.0 min CN=80 Runoff=1.08 cfs 0.079 af

Subcatchment E-3: Subcat E-3 Runoff Area=0.613 ac 54.00% Impervious Runoff Depth>0.54"
Tc=6.0 min CN=81 Runoff=0.65 cfs 0.028 af

Pond 7P: Detention Pond 1 Peak Elev=439.51' Storage=17,686 cf Inflow=38.31 cfs 2.055 af
Primary=19.40 cfs 2.047 af Secondary=0.00 cfs 0.000 af Outflow=19.40 cfs 2.047 af

Pond 12P: Detention Pond 3 Peak Elev=393.58' Storage=32,973 cf Inflow=37.14 cfs 4.827 af
Primary=6.82 cfs 3.385 af Secondary=44.34 cfs 1.443 af Outflow=51.17 cfs 4.827 af

Pond 14P: Detention Pond 2 Peak Elev=419.11' Storage=9,699 cf Inflow=13.15 cfs 0.581 af
Primary=3.79 cfs 0.558 af Secondary=0.00 cfs 0.000 af Outflow=3.79 cfs 0.558 af

Link 2L: E Genessee Inflow=1.08 cfs 0.079 af
Primary=1.08 cfs 0.079 af

Link 3L: Salina Inflow=0.65 cfs 0.028 af
Primary=0.65 cfs 0.028 af

Link 11L: POA 1 Inflow=52.54 cfs 5.034 af
Primary=52.54 cfs 5.034 af

Total Runoff Area = 93.049 ac Runoff Volume = 5.172 af Average Runoff Depth = 0.67"
70.69% Pervious = 65.781 ac 29.31% Impervious = 27.269 ac

Summary for Subcatchment 6S: Watershed to Detention Pond 1

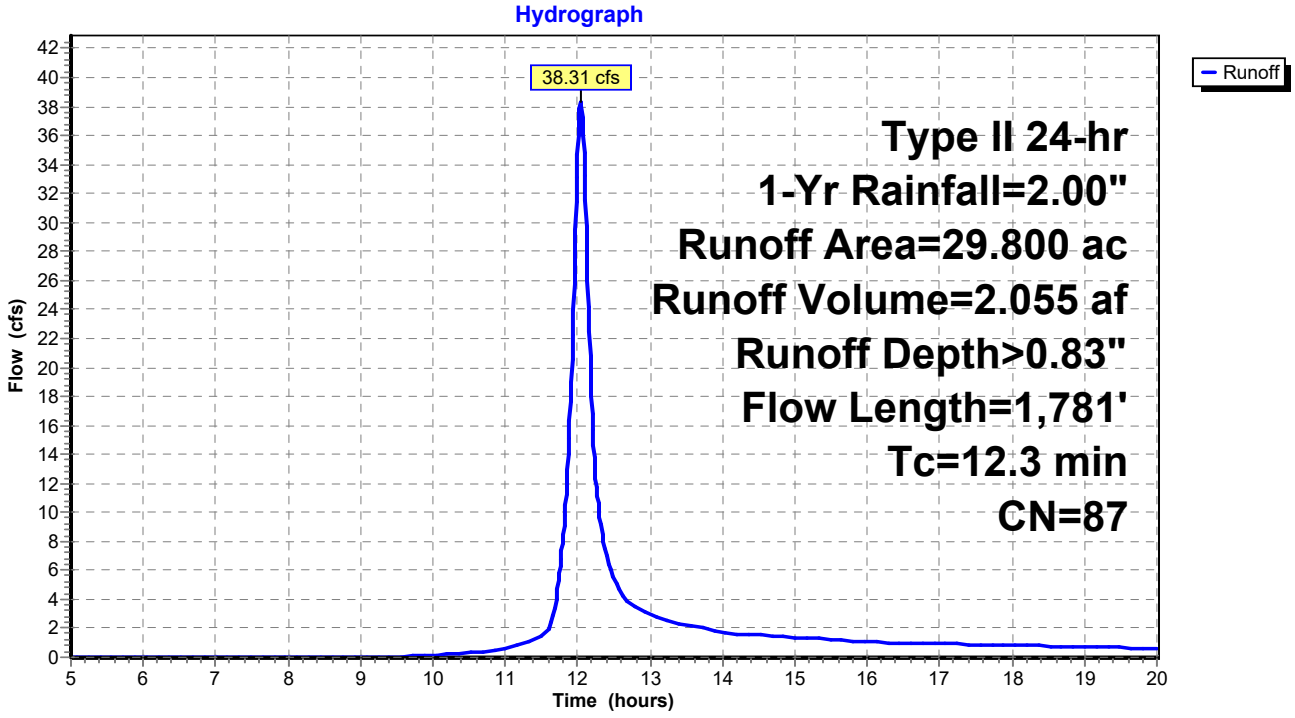
Runoff = 38.31 cfs @ 12.04 hrs, Volume= 2.055 af, Depth> 0.83"
Routed to Pond 7P : Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
29.800	87	1/4 acre lots, 38% imp, HSG D
18.476		62.00% Pervious Area
11.324		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0500	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.8	192	0.0680	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.6	1,489	0.2200	9.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.3	1,781	Total			

Subcatchment 6S: Watershed to Detention Pond 1



Summary for Subcatchment 8S: Watershed Directly to Project Site

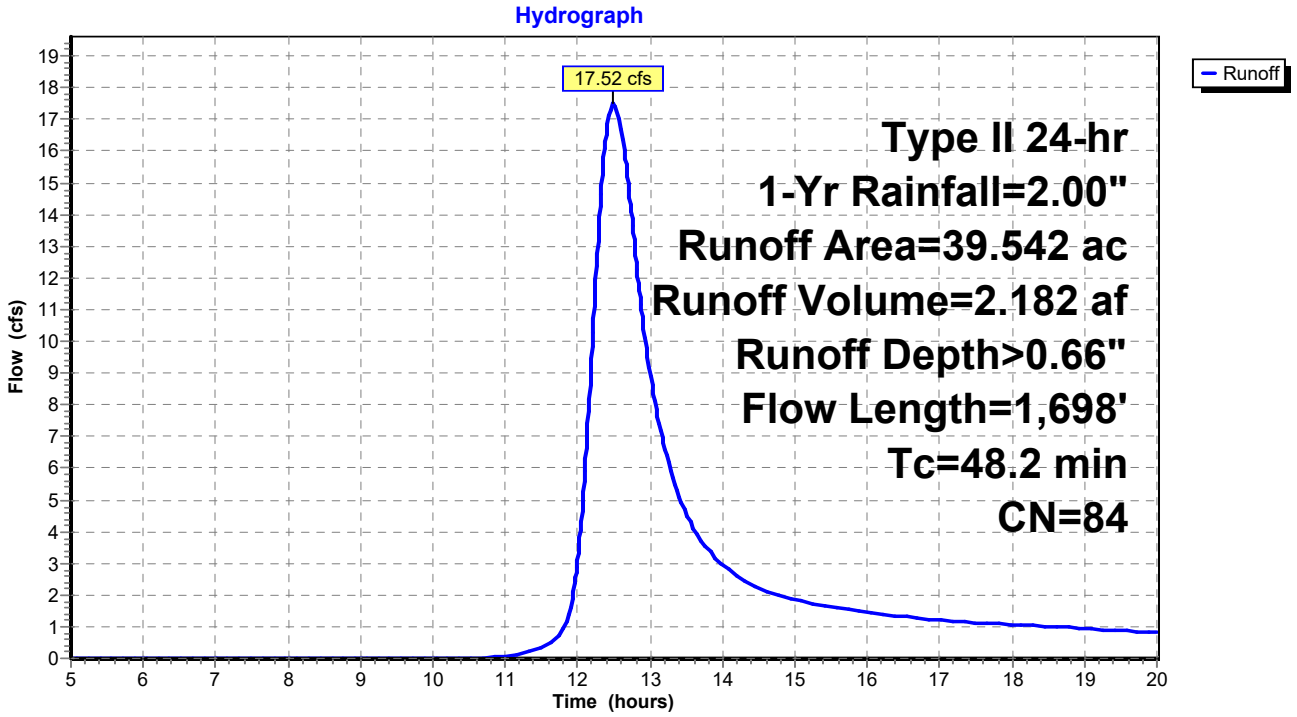
Runoff = 17.52 cfs @ 12.48 hrs, Volume= 2.182 af, Depth> 0.66"
Routed to Pond 12P : Detention Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
26.562	87	1/4 acre lots, 38% imp, HSG D
5.500	77	Woods, Good, HSG D
7.480	77	Woods, Good, HSG D
39.542	84	Weighted Average
29.448		74.47% Pervious Area
10.094		25.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
6.2	500	0.0720	1.34		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.2	240	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.8	450	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.9	408	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
48.2	1,698	Total			

Subcatchment 8S: Watershed Directly to Project Site



Summary for Subcatchment 13S: Watershed to Detention Pond 2

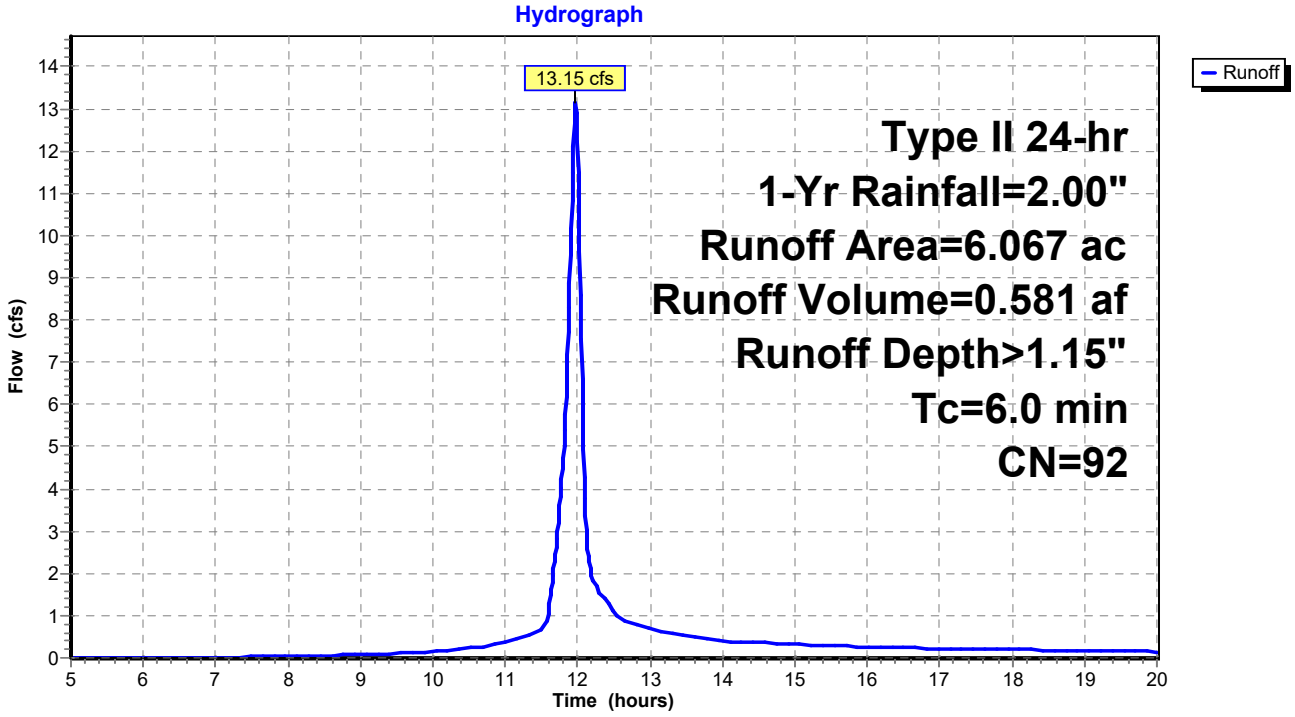
Runoff = 13.15 cfs @ 11.97 hrs, Volume= 0.581 af, Depth> 1.15"
Routed to Pond 14P : Detention Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
6.067	92	1/8 acre lots, 65% imp, HSG D
2.124		35.00% Pervious Area
3.944		65.00% Impervious Area

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

Subcatchment 13S: Watershed to Detention Pond 2



Summary for Subcatchment E-1.1: Subcat E-1.1

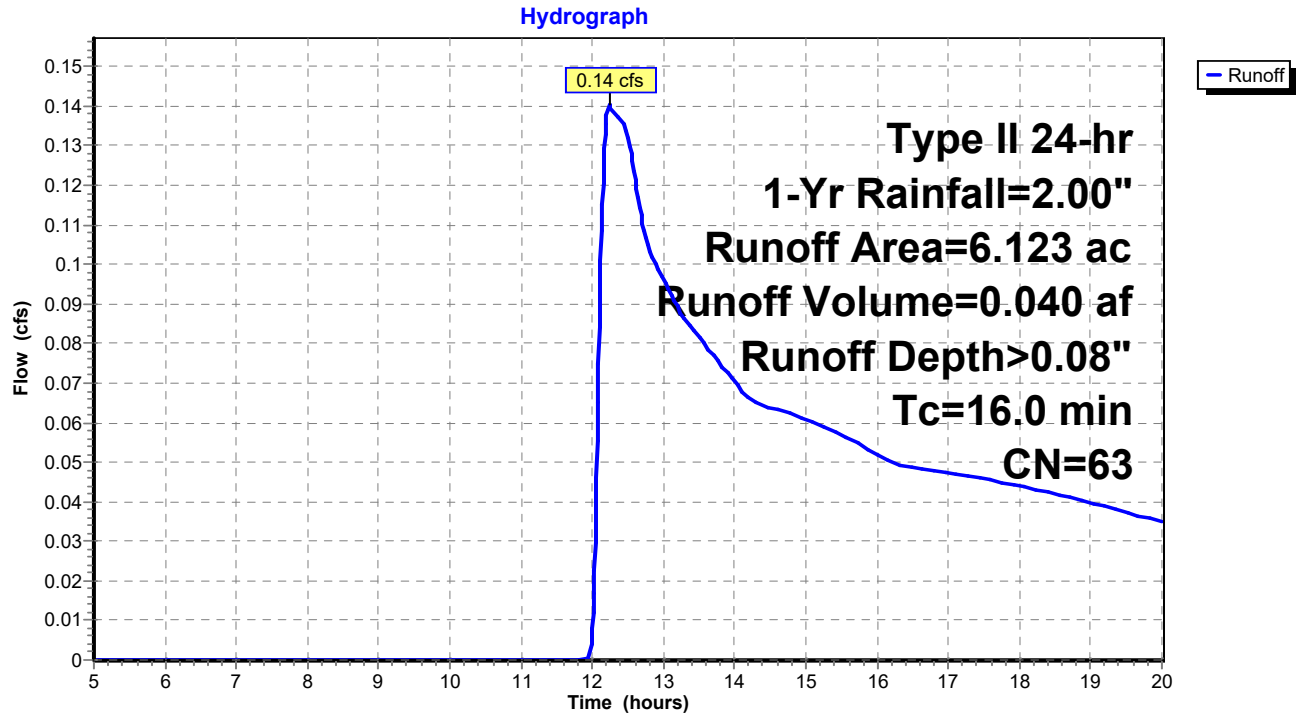
Runoff = 0.14 cfs @ 12.24 hrs, Volume= 0.040 af, Depth> 0.08"
Routed to Pond 12P : Detention Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.029	98	Paved parking, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.285	80	>75% Grass cover, Good, HSG D
0.759	80	>75% Grass cover, Good, HSG D
0.020	39	>75% Grass cover, Good, HSG A
1.403	77	Woods, Good, HSG D
1.251	77	Woods, Good, HSG D
2.046	30	Woods, Good, HSG A
0.312	98	Paved parking, HSG D
0.011	98	Paved parking, HSG D
6.123	63	Weighted Average
5.770		94.25% Pervious Area
0.352		5.75% Impervious Area

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

Subcatchment E-1.1: Subcat E-1.1



Summary for Subcatchment E-1.2: Subcat E-1.2

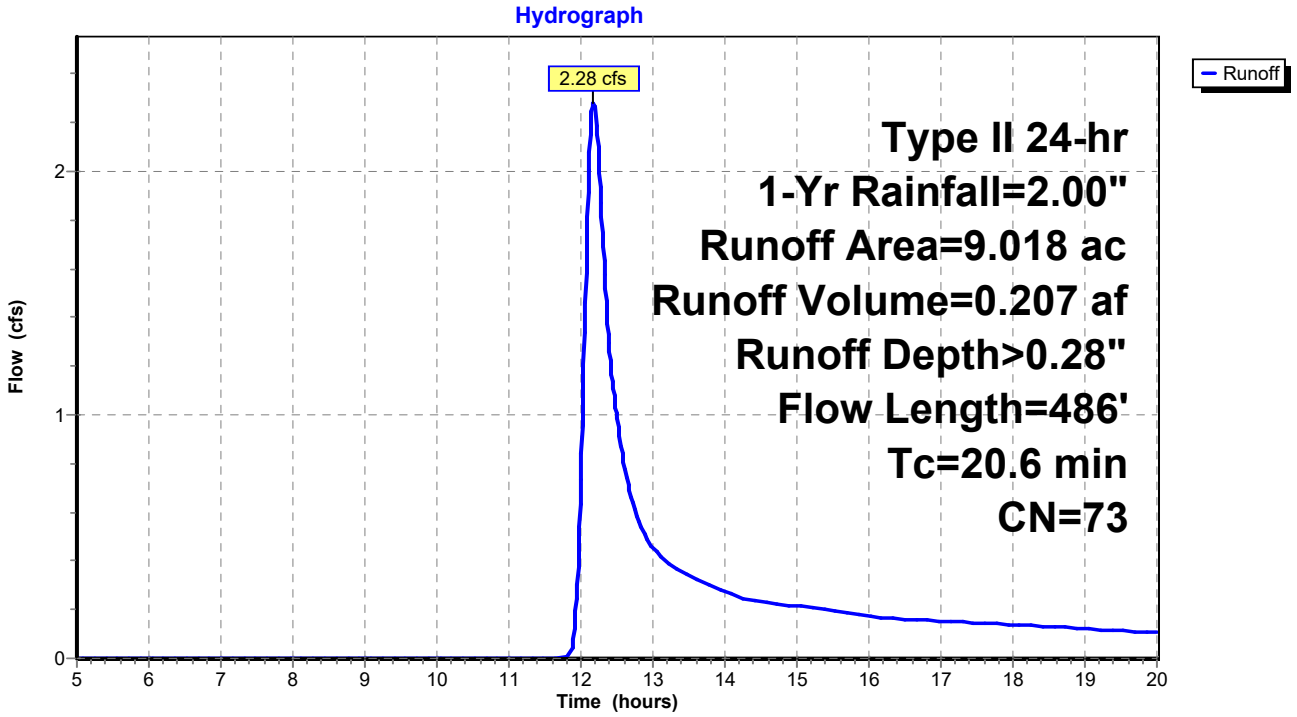
Runoff = 2.28 cfs @ 12.18 hrs, Volume= 0.207 af, Depth> 0.28"
Routed to Link 11L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.553	98	Paved parking, HSG A
0.691	39	>75% Grass cover, Good, HSG A
0.047	98	Paved parking, HSG D
0.295	98	Paved parking, HSG D
0.098	98	Paved parking, HSG A
3.262	77	Woods, Good, HSG D
2.516	77	Woods, Good, HSG D
0.819	30	Woods, Good, HSG A
0.004	80	>75% Grass cover, Good, HSG D
0.127	80	>75% Grass cover, Good, HSG D
0.013	39	>75% Grass cover, Good, HSG A
0.006	80	>75% Grass cover, Good, HSG D
0.403	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.161	98	Paved parking, HSG D
0.023	98	Paved parking, HSG D
9.018	73	Weighted Average
7.841		86.95% Pervious Area
1.177		13.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
5.2	245	0.0250	0.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	141	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
20.6	486	Total			

Subcatchment E-1.2: Subcat E-1.2



Summary for Subcatchment E-2: Subcat E-2

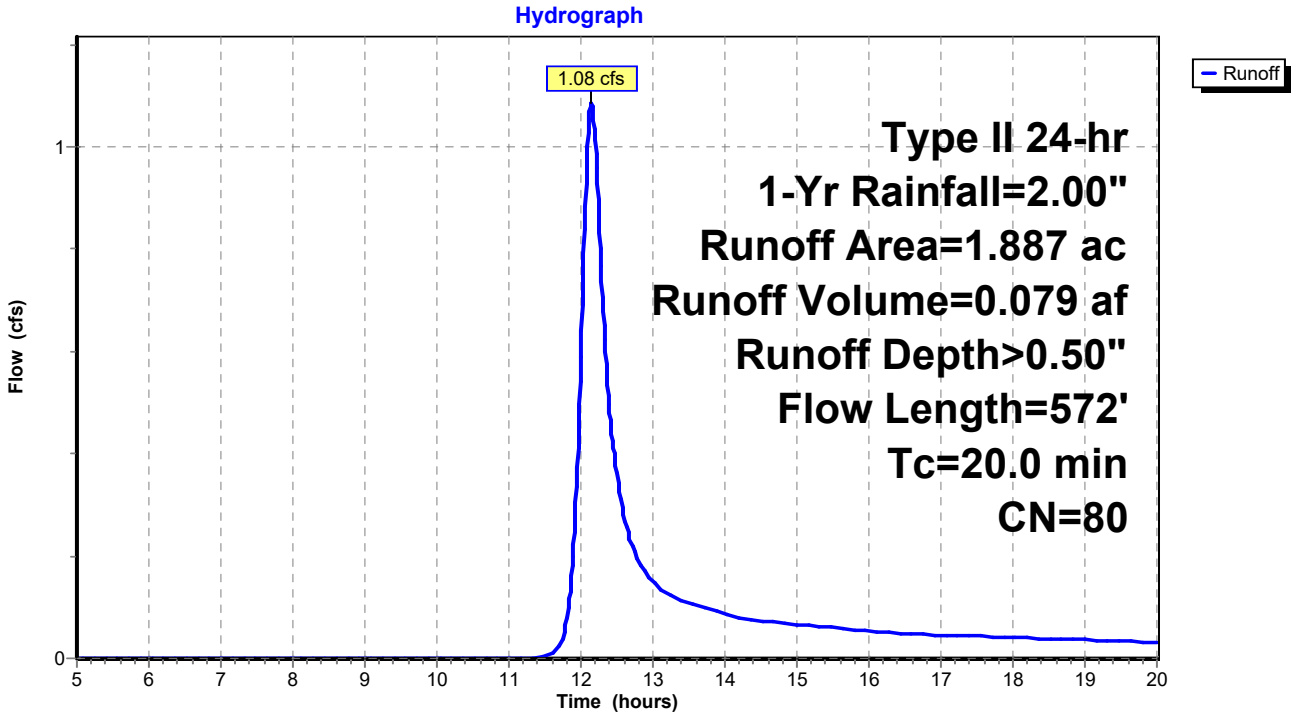
Runoff = 1.08 cfs @ 12.15 hrs, Volume= 0.079 af, Depth> 0.50"
Routed to Link 2L : E Genessee

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.227	80	>75% Grass cover, Good, HSG D
1.096	80	>75% Grass cover, Good, HSG D
0.020	98	Paved parking, HSG D
0.015	98	Paved parking, HSG D
0.012	98	Paved parking, HSG D
0.517	77	Woods, Good, HSG D
1.887	80	Weighted Average
1.839		97.48% Pervious Area
0.047		2.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
5.1	332	0.0240	1.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	140	0.0180	0.67		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.0	572	Total			

Subcatchment E-2: Subcat E-2



Summary for Subcatchment E-3: Subcat E-3

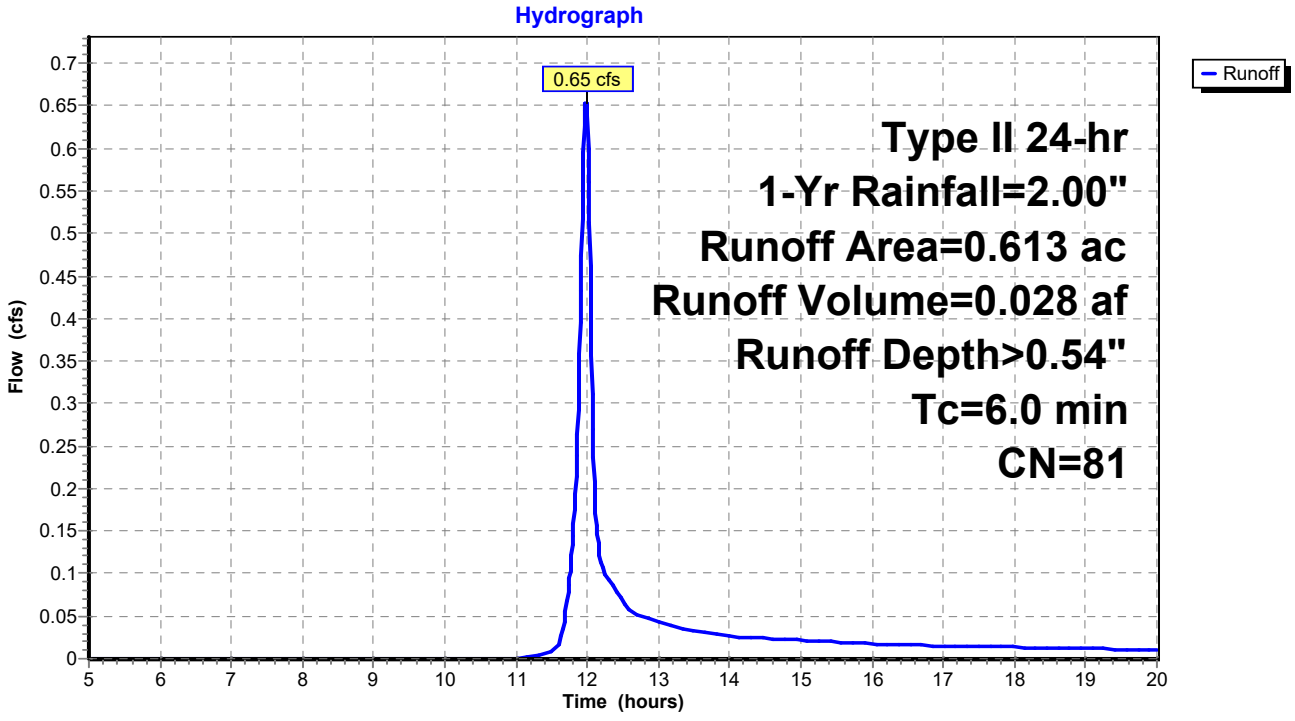
Runoff = 0.65 cfs @ 11.98 hrs, Volume= 0.028 af, Depth> 0.54"
Routed to Link 3L : Salina

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.189	98	Paved parking, HSG A
0.036	98	Paved parking, HSG A
0.070	39	>75% Grass cover, Good, HSG A
0.056	39	>75% Grass cover, Good, HSG A
0.013	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.142	80	>75% Grass cover, Good, HSG D
0.055	98	Paved parking, HSG D
0.051	98	Paved parking, HSG D
0.613	81	Weighted Average
0.282		46.00% Pervious Area
0.331		54.00% Impervious Area

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

Subcatchment E-3: Subcat E-3



Summary for Pond 7P: Detention Pond 1

Inflow Area = 29.800 ac, 38.00% Impervious, Inflow Depth > 0.83" for 1-Yr event
Inflow = 38.31 cfs @ 12.04 hrs, Volume= 2.055 af
Outflow = 19.40 cfs @ 12.18 hrs, Volume= 2.047 af, Atten= 49%, Lag= 8.2 min
Primary = 19.40 cfs @ 12.18 hrs, Volume= 2.047 af
Routed to Pond 12P : Detention Pond 3
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 12P : Detention Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 439.51' @ 12.18 hrs Surf.Area= 11,110 sf Storage= 17,686 cf

Plug-Flow detention time= 9.6 min calculated for 2.046 af (100% of inflow)
Center-of-Mass det. time= 8.1 min (805.9 - 797.8)

Volume	Invert	Avail.Storage	Storage Description
#1	436.00'	175,820 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

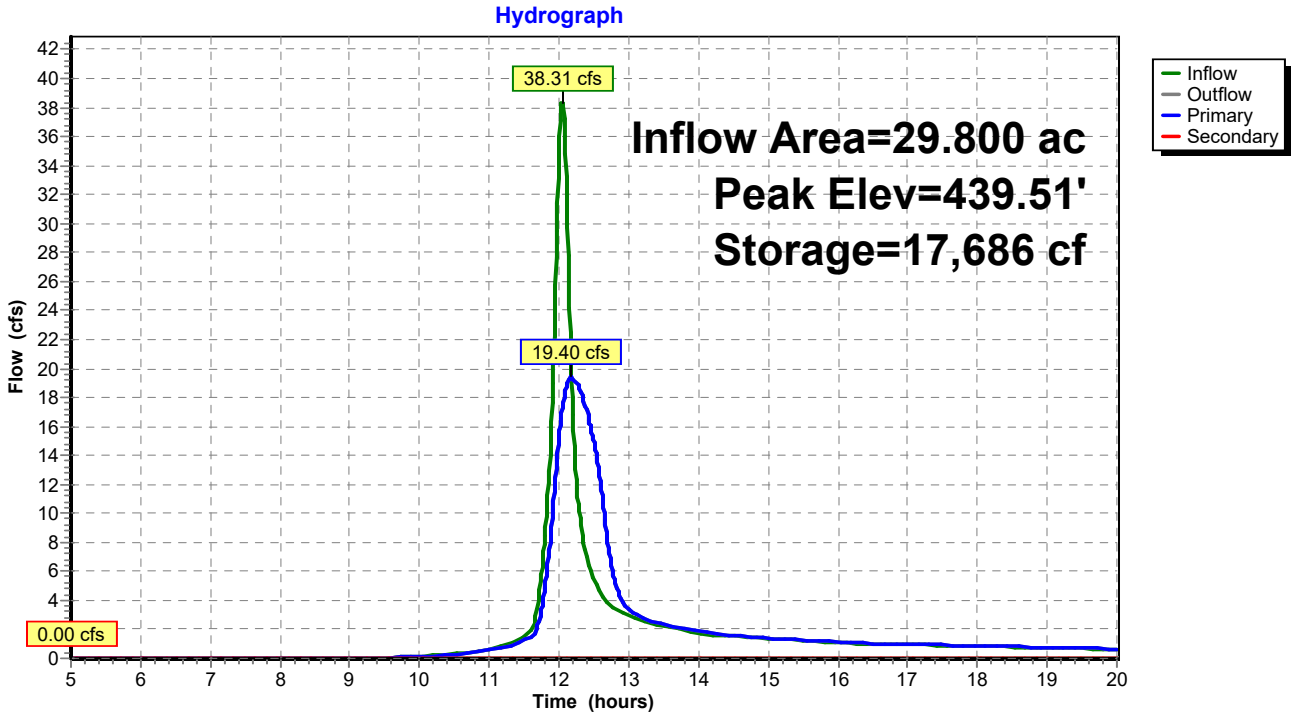
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
436.00	1,293	0	0
437.00	2,795	2,044	2,044
438.00	4,823	3,809	5,853
439.00	8,731	6,777	12,630
440.00	13,398	11,065	23,695
441.00	20,094	16,746	40,441
442.00	25,075	22,585	63,025
443.00	29,038	27,057	90,082
444.00	33,107	31,073	121,154
445.00	37,358	35,233	156,387
445.50	40,375	19,433	175,820

Device	Routing	Invert	Outlet Devices
#1	Primary	435.87'	**24.0" Round Culvert** L= 1,930.0' Ke= 0.900 Inlet / Outlet Invert= 435.87' / 395.00' S= 0.0212 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	444.50'	**48.0' long x 20.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=19.40 cfs @ 12.18 hrs HW=439.51' TW=392.52' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 19.40 cfs @ 6.18 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=436.00' TW=390.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: Detention Pond 1



Summary for Pond 12P: Detention Pond 3

Inflow Area = 81.532 ac, 31.54% Impervious, Inflow Depth > 0.71" for 1-Yr event
Inflow = 37.14 cfs @ 12.38 hrs, Volume= 4.827 af
Outflow = 51.17 cfs @ 12.37 hrs, Volume= 4.827 af, Atten= 0%, Lag= 0.0 min
Primary = 6.82 cfs @ 12.37 hrs, Volume= 3.385 af
Routed to Link 11L : POA 1
Secondary = 44.34 cfs @ 12.37 hrs, Volume= 1.443 af
Routed to Link 11L : POA 1

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 393.58' @ 12.37 hrs Surf.Area= 24,043 sf Storage= 32,973 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 38.0 min (857.9 - 820.0)

Volume	Invert	Avail.Storage	Storage Description
#1	390.00'	32,973 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

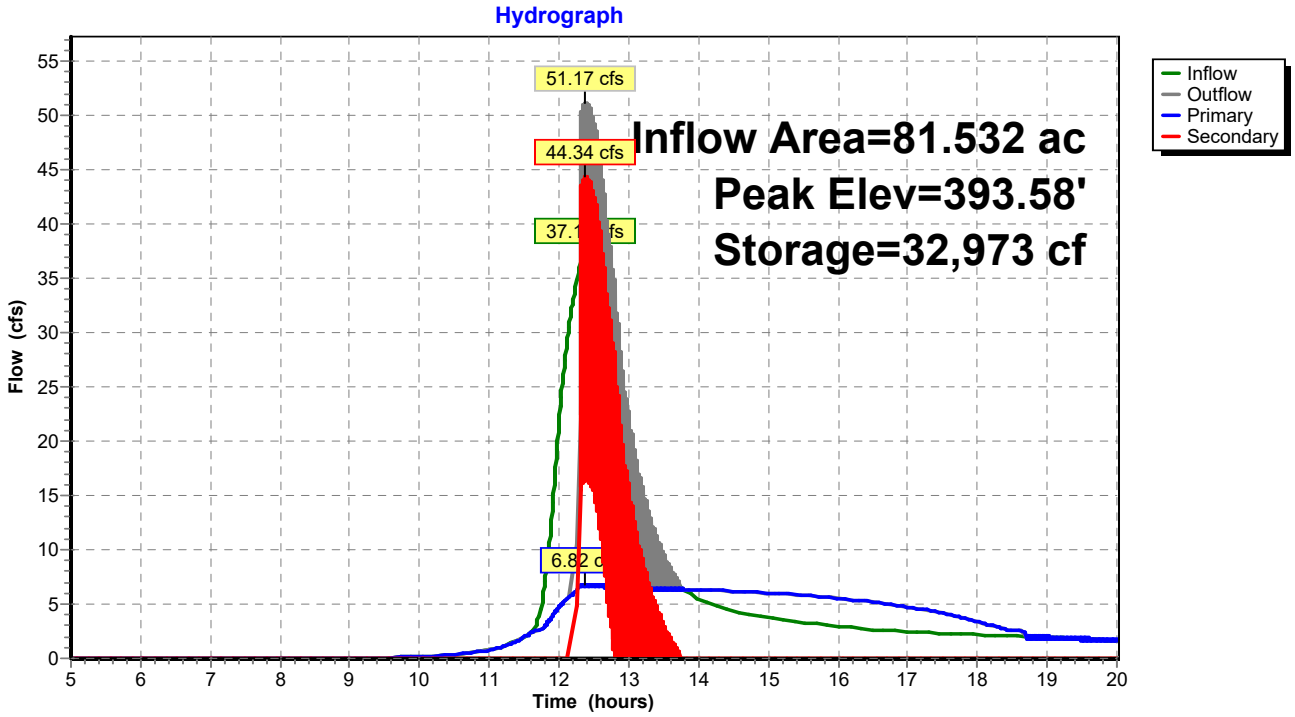
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
390.00	1,734	0	0
391.00	6,202	3,968	3,968
392.00	13,882	10,042	14,010
393.00	24,043	18,963	32,973

Device	Routing	Invert	Outlet Devices
#1	Primary	388.50'	**15.0" Round Culvert** L= 270.0' Ke= 0.900 Inlet / Outlet Invert= 388.50' / 388.39' S= 0.0004 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	393.10'	**50.0' long x 100.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=6.82 cfs @ 12.37 hrs HW=393.58' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 6.82 cfs @ 5.56 fps)

Secondary OutFlow Max=44.31 cfs @ 12.37 hrs HW=393.58' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 44.31 cfs @ 1.86 fps)

Pond 12P: Detention Pond 3



Summary for Pond 14P: Detention Pond 2

Inflow Area = 6.067 ac, 65.00% Impervious, Inflow Depth > 1.15" for 1-Yr event
Inflow = 13.15 cfs @ 11.97 hrs, Volume= 0.581 af
Outflow = 3.79 cfs @ 12.10 hrs, Volume= 0.558 af, Atten= 71%, Lag= 7.7 min
Primary = 3.79 cfs @ 12.10 hrs, Volume= 0.558 af
Routed to Pond 12P : Detention Pond 3
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 12P : Detention Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 419.11' @ 12.10 hrs Surf.Area= 4,592 sf Storage= 9,699 cf

Plug-Flow detention time= 51.5 min calculated for 0.557 af (96% of inflow)
Center-of-Mass det. time= 35.8 min (810.0 - 774.1)

Volume	Invert	Avail.Storage	Storage Description
#1	417.00'	41,328 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

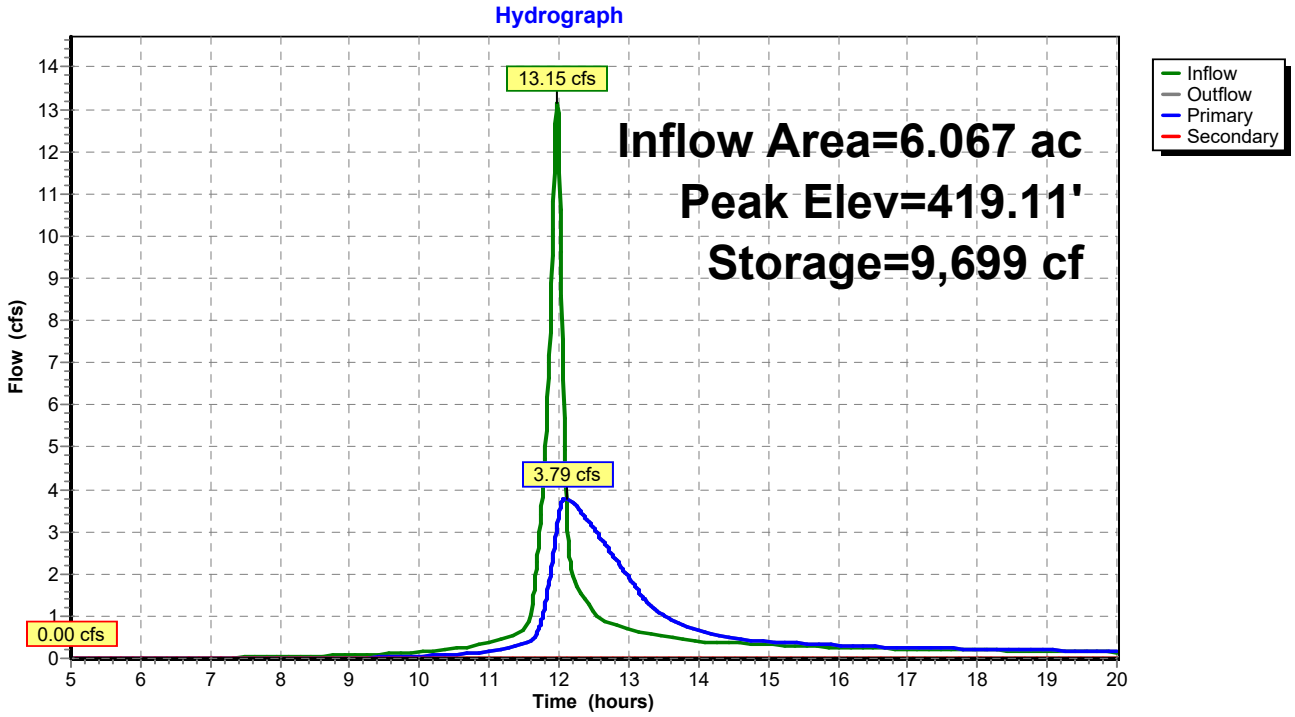
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
417.00	4,592	0	0
426.00	4,592	41,328	41,328

Device	Routing	Invert	Outlet Devices
#1	Primary	417.00'	**12.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 417.00' / 416.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Secondary	426.00'	**120.0' 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=3.79 cfs @ 12.10 hrs HW=419.11' TW=392.10' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.79 cfs @ 4.83 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=417.00' TW=390.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 14P: Detention Pond 2

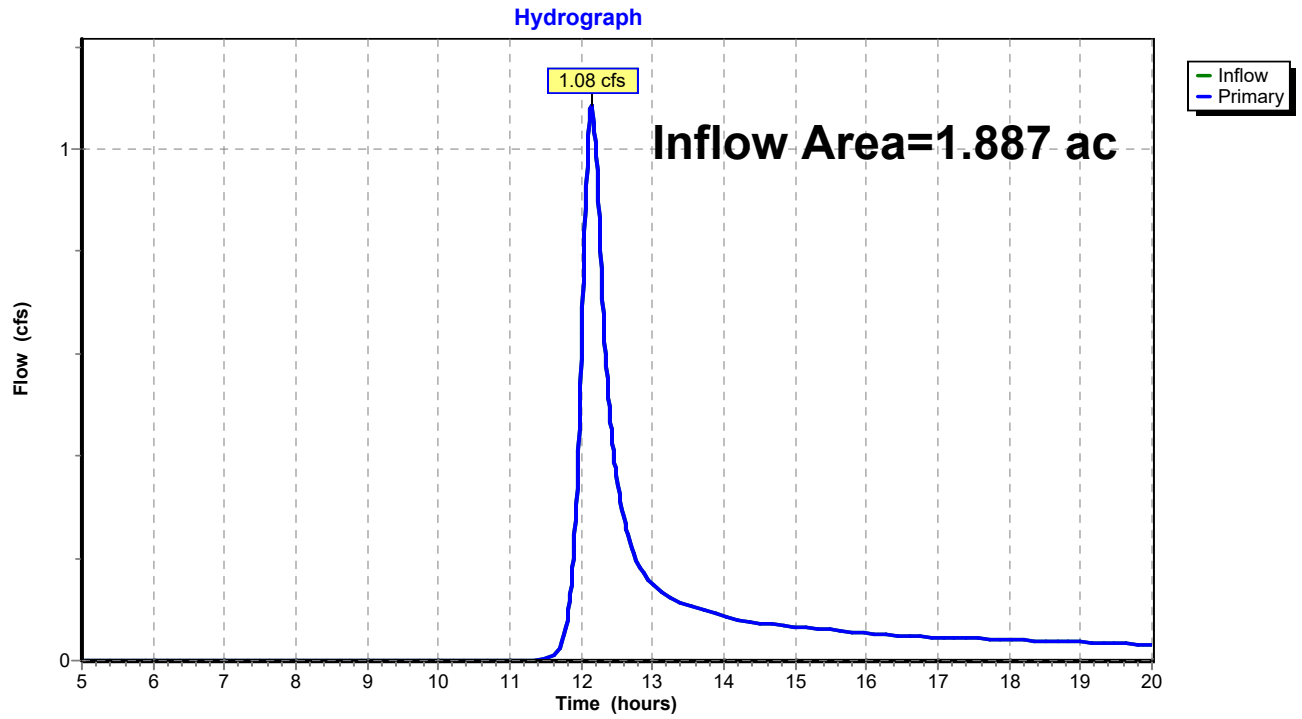


Summary for Link 2L: E Genessee

Inflow Area = 1.887 ac, 2.52% Impervious, Inflow Depth > 0.50" for 1-Yr event
Inflow = 1.08 cfs @ 12.15 hrs, Volume= 0.079 af
Primary = 1.08 cfs @ 12.15 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 2L: E Genessee

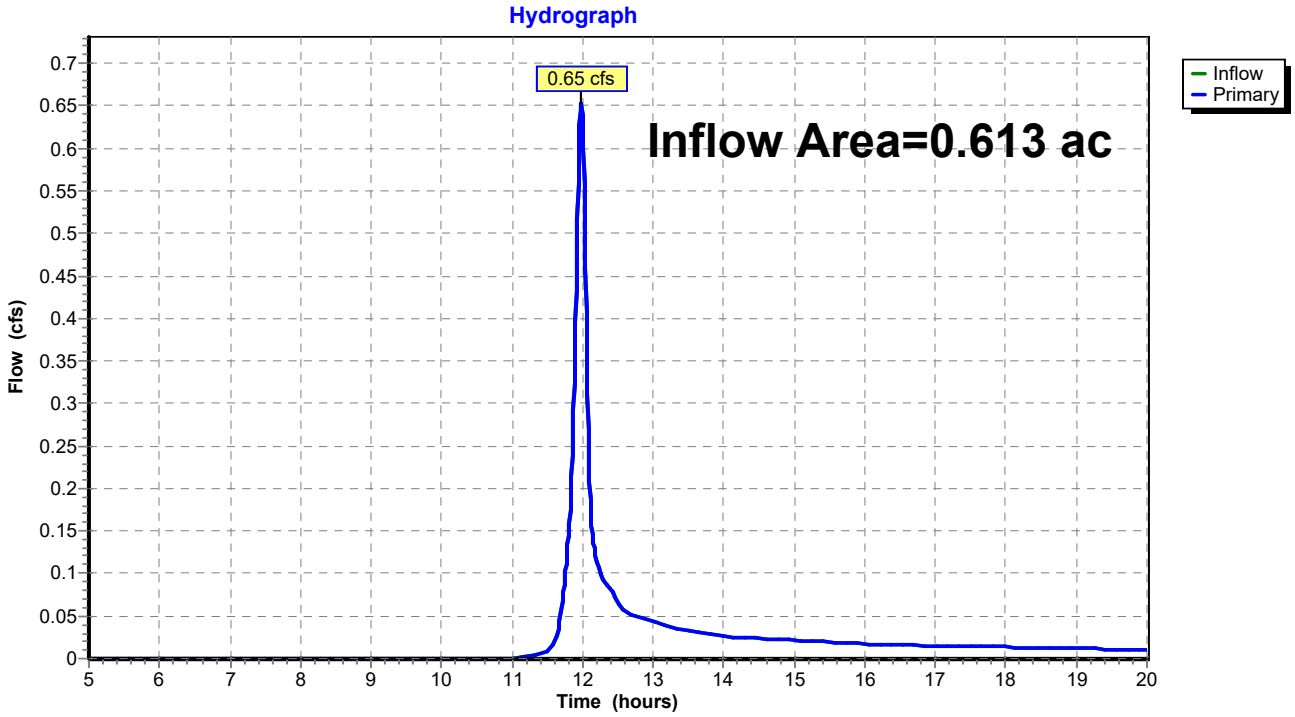


Summary for Link 3L: Salina

Inflow Area = 0.613 ac, 54.00% Impervious, Inflow Depth > 0.54" for 1-Yr event
Inflow = 0.65 cfs @ 11.98 hrs, Volume= 0.028 af
Primary = 0.65 cfs @ 11.98 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 3L: Salina

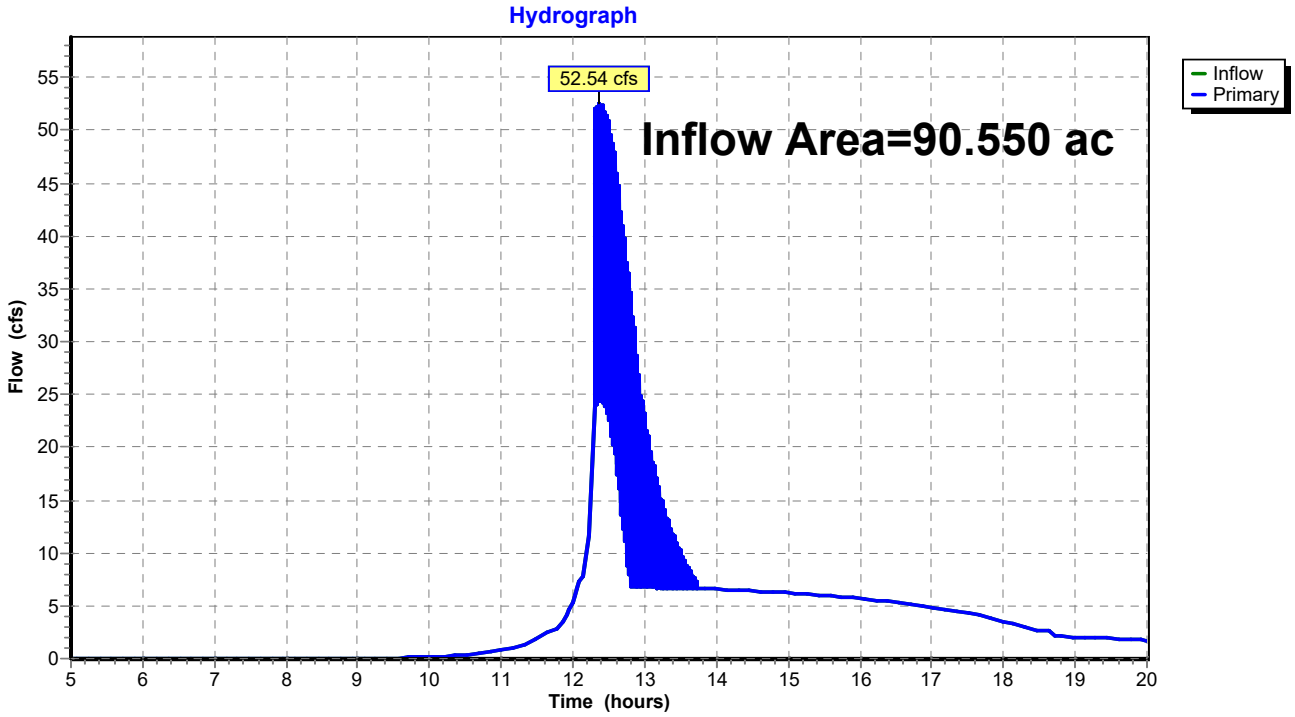


Summary for Link 11L: POA 1

Inflow Area = 90.550 ac, 29.70% Impervious, Inflow Depth > 0.67" for 1-Yr event
Inflow = 52.54 cfs @ 12.37 hrs, Volume= 5.034 af
Primary = 52.54 cfs @ 12.37 hrs, Volume= 5.034 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 11L: POA 1



Time span=5.00-20.00 hrs, dt=0.01 hrs, 1501 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 6S: Watershed to Detention Runoff Area=29.800 ac 38.00% Impervious Runoff Depth>1.86"
Flow Length=1,781' Tc=12.3 min CN=87 Runoff=84.30 cfs 4.609 af

Subcatchment 8S: Watershed Directly to Runoff Area=39.542 ac 25.53% Impervious Runoff Depth>1.60"
Flow Length=1,698' Tc=48.2 min CN=84 Runoff=43.73 cfs 5.288 af

Subcatchment 13S: Watershed to Runoff Area=6.067 ac 65.00% Impervious Runoff Depth>2.29"
Tc=6.0 min CN=92 Runoff=25.05 cfs 1.158 af

Subcatchment E-1.1: Subcat E-1.1 Runoff Area=6.123 ac 5.75% Impervious Runoff Depth>0.49"
Tc=16.0 min CN=63 Runoff=3.37 cfs 0.249 af

Subcatchment E-1.2: Subcat E-1.2 Runoff Area=9.018 ac 13.05% Impervious Runoff Depth>0.94"
Flow Length=486' Tc=20.6 min CN=73 Runoff=9.76 cfs 0.704 af

Subcatchment E-2: Subcat E-2 Runoff Area=1.887 ac 2.52% Impervious Runoff Depth>1.35"
Flow Length=572' Tc=20.0 min CN=80 Runoff=3.08 cfs 0.212 af

Subcatchment E-3: Subcat E-3 Runoff Area=0.613 ac 54.00% Impervious Runoff Depth>1.42"
Tc=6.0 min CN=81 Runoff=1.70 cfs 0.073 af

Pond 7P: Detention Pond 1 Peak Elev=441.75' Storage=57,023 cf Inflow=84.30 cfs 4.609 af
Primary=26.39 cfs 4.596 af Secondary=0.00 cfs 0.000 af Outflow=26.39 cfs 4.596 af

Pond 12P: Detention Pond 3 Peak Elev=393.78' Storage=32,973 cf Inflow=75.48 cfs 11.260 af
Primary=7.00 cfs 4.825 af Secondary=74.26 cfs 6.175 af Outflow=81.26 cfs 10.999 af

Pond 14P: Detention Pond 2 Peak Elev=421.27' Storage=19,627 cf Inflow=25.05 cfs 1.158 af
Primary=5.80 cfs 1.127 af Secondary=0.00 cfs 0.000 af Outflow=5.80 cfs 1.127 af

Link 2L: E Genessee Inflow=3.08 cfs 0.212 af
Primary=3.08 cfs 0.212 af

Link 3L: Salina Inflow=1.70 cfs 0.073 af
Primary=1.70 cfs 0.073 af

Link 11L: POA 1 Inflow=85.17 cfs 11.703 af
Primary=85.17 cfs 11.703 af

Total Runoff Area = 93.049 ac Runoff Volume = 12.294 af Average Runoff Depth = 1.59"
70.69% Pervious = 65.781 ac 29.31% Impervious = 27.269 ac

Summary for Subcatchment 6S: Watershed to Detention Pond 1

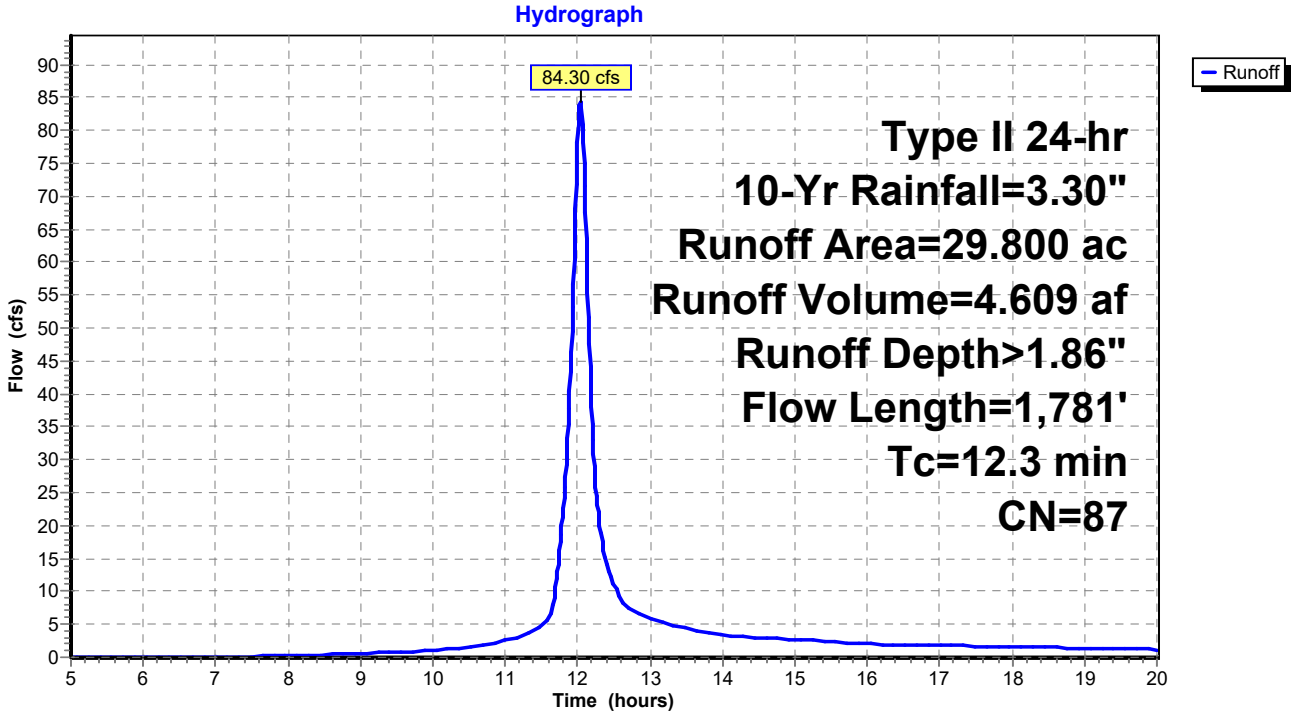
Runoff = 84.30 cfs @ 12.04 hrs, Volume= 4.609 af, Depth> 1.86"
Routed to Pond 7P : Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
29.800	87	1/4 acre lots, 38% imp, HSG D
18.476		62.00% Pervious Area
11.324		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0500	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.8	192	0.0680	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.6	1,489	0.2200	9.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.3	1,781	Total			

Subcatchment 6S: Watershed to Detention Pond 1



Summary for Subcatchment 8S: Watershed Directly to Project Site

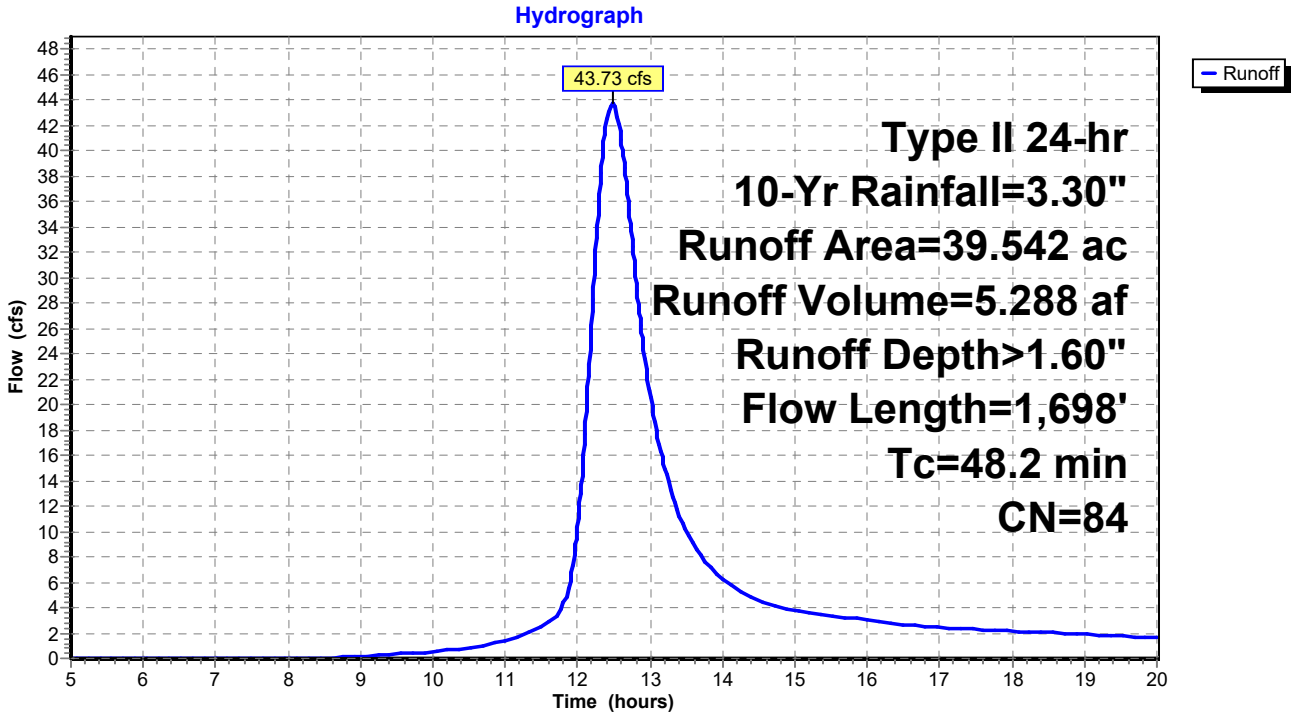
Runoff = 43.73 cfs @ 12.48 hrs, Volume= 5.288 af, Depth> 1.60"
Routed to Pond 12P : Detention Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
26.562	87	1/4 acre lots, 38% imp, HSG D
5.500	77	Woods, Good, HSG D
7.480	77	Woods, Good, HSG D
39.542	84	Weighted Average
29.448		74.47% Pervious Area
10.094		25.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
6.2	500	0.0720	1.34		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.2	240	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.8	450	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.9	408	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
48.2	1,698	Total			

Subcatchment 8S: Watershed Directly to Project Site



Summary for Subcatchment 13S: Watershed to Detention Pond 2

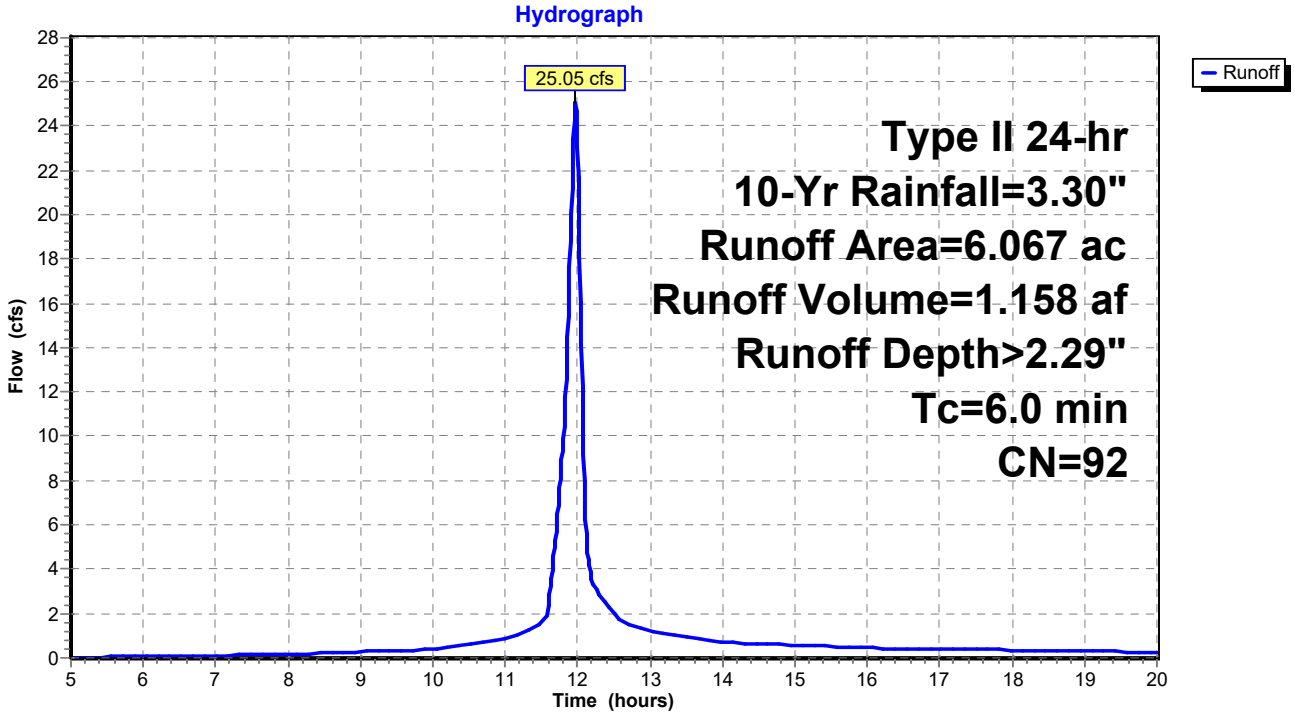
Runoff = 25.05 cfs @ 11.97 hrs, Volume= 1.158 af, Depth> 2.29"
Routed to Pond 14P : Detention Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
6.067	92	1/8 acre lots, 65% imp, HSG D
2.124		35.00% Pervious Area
3.944		65.00% Impervious Area

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

Subcatchment 13S: Watershed to Detention Pond 2



Summary for Subcatchment E-1.1: Subcat E-1.1

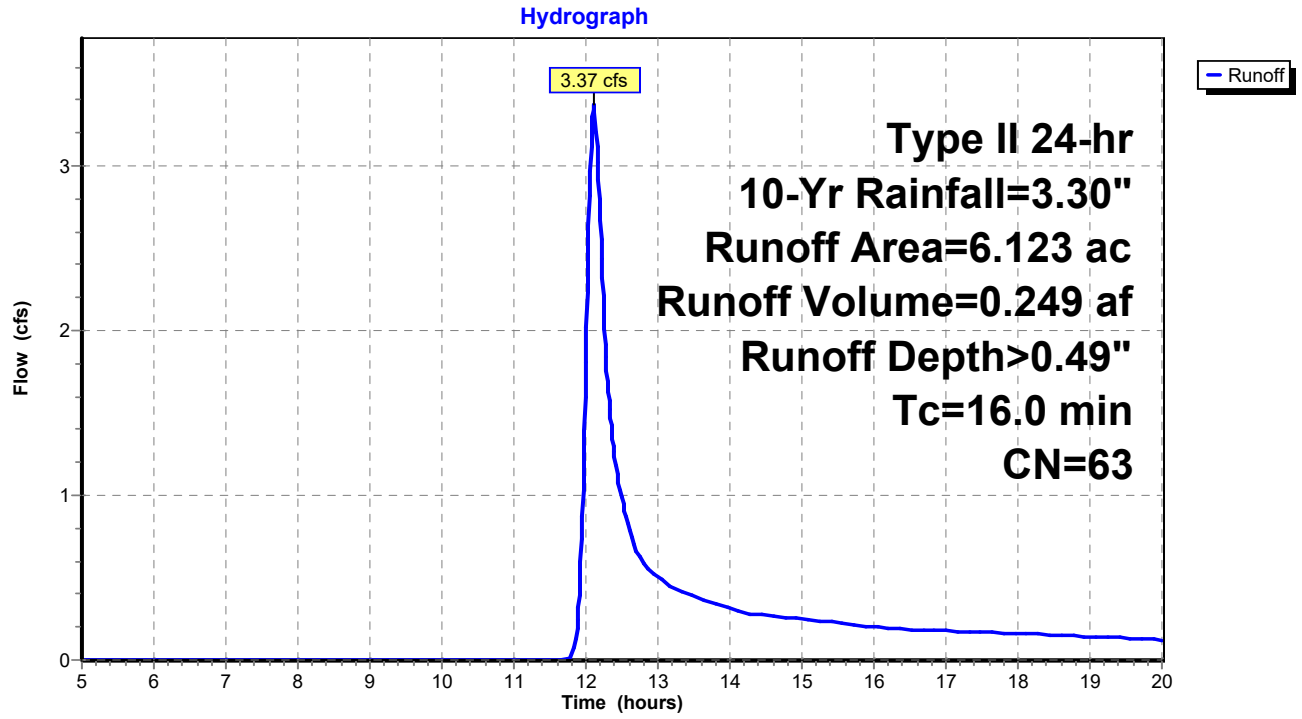
Runoff = 3.37 cfs @ 12.11 hrs, Volume= 0.249 af, Depth> 0.49"
Routed to Pond 12P : Detention Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.029	98	Paved parking, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.285	80	>75% Grass cover, Good, HSG D
0.759	80	>75% Grass cover, Good, HSG D
0.020	39	>75% Grass cover, Good, HSG A
1.403	77	Woods, Good, HSG D
1.251	77	Woods, Good, HSG D
2.046	30	Woods, Good, HSG A
0.312	98	Paved parking, HSG D
0.011	98	Paved parking, HSG D
6.123	63	Weighted Average
5.770		94.25% Pervious Area
0.352		5.75% Impervious Area

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

Subcatchment E-1.1: Subcat E-1.1



Summary for Subcatchment E-1.2: Subcat E-1.2

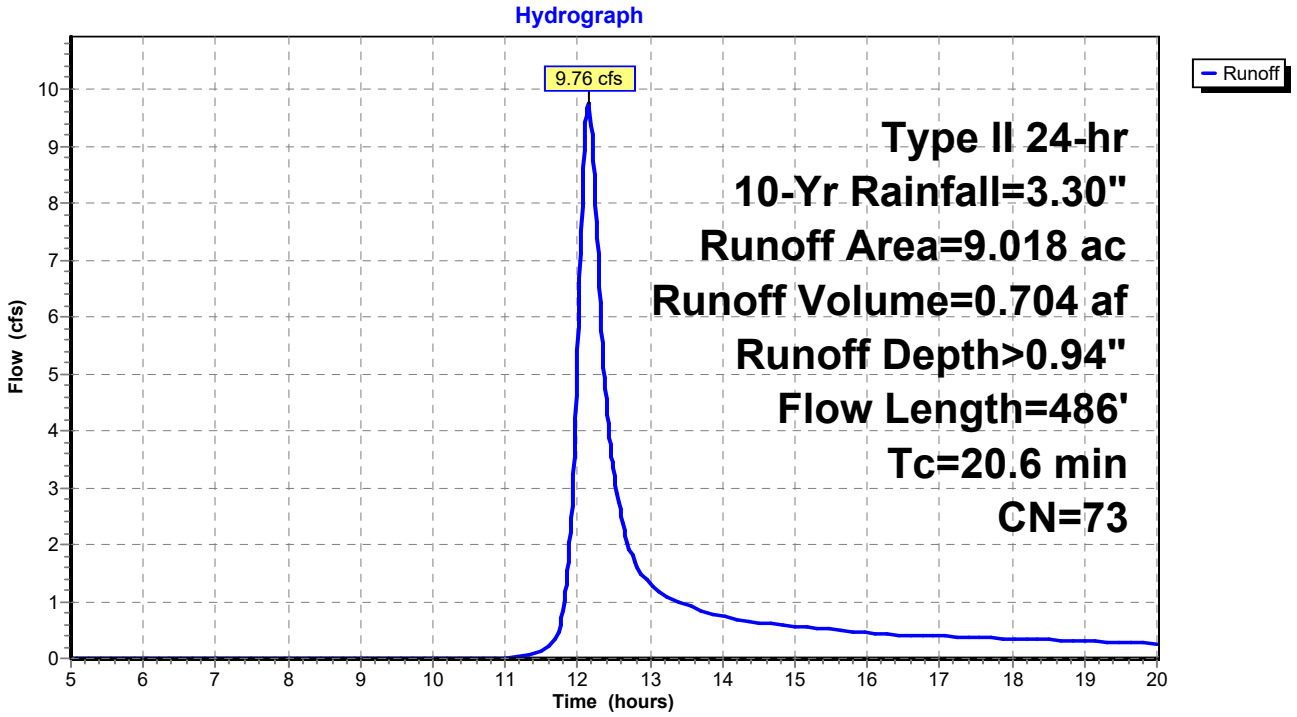
Runoff = 9.76 cfs @ 12.15 hrs, Volume= 0.704 af, Depth> 0.94"
Routed to Link 11L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.553	98	Paved parking, HSG A
0.691	39	>75% Grass cover, Good, HSG A
0.047	98	Paved parking, HSG D
0.295	98	Paved parking, HSG D
0.098	98	Paved parking, HSG A
3.262	77	Woods, Good, HSG D
2.516	77	Woods, Good, HSG D
0.819	30	Woods, Good, HSG A
0.004	80	>75% Grass cover, Good, HSG D
0.127	80	>75% Grass cover, Good, HSG D
0.013	39	>75% Grass cover, Good, HSG A
0.006	80	>75% Grass cover, Good, HSG D
0.403	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.161	98	Paved parking, HSG D
0.023	98	Paved parking, HSG D
9.018	73	Weighted Average
7.841		86.95% Pervious Area
1.177		13.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
5.2	245	0.0250	0.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	141	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
20.6	486	Total			

Subcatchment E-1.2: Subcat E-1.2



Summary for Subcatchment E-2: Subcat E-2

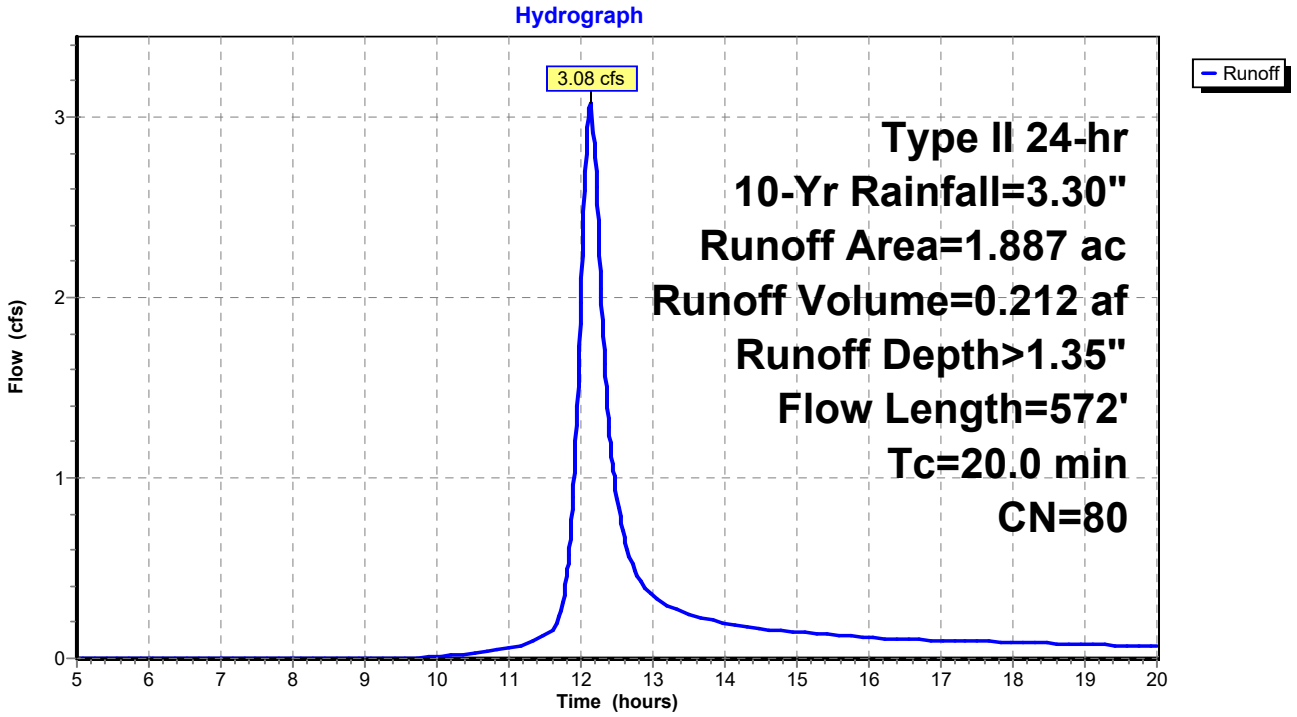
Runoff = 3.08 cfs @ 12.13 hrs, Volume= 0.212 af, Depth> 1.35"
Routed to Link 2L : E Genessee

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.227	80	>75% Grass cover, Good, HSG D
1.096	80	>75% Grass cover, Good, HSG D
0.020	98	Paved parking, HSG D
0.015	98	Paved parking, HSG D
0.012	98	Paved parking, HSG D
0.517	77	Woods, Good, HSG D
1.887	80	Weighted Average
1.839		97.48% Pervious Area
0.047		2.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
5.1	332	0.0240	1.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	140	0.0180	0.67		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.0	572	Total			

Subcatchment E-2: Subcat E-2



Summary for Subcatchment E-3: Subcat E-3

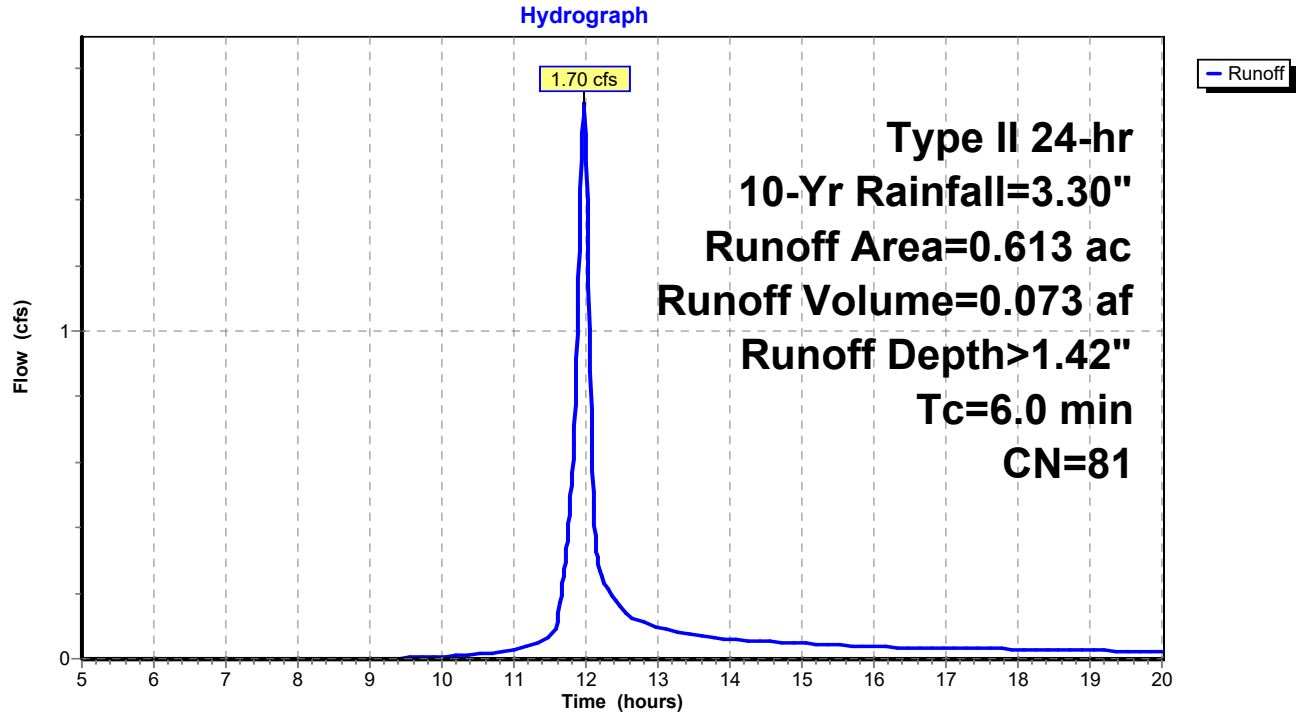
Runoff = 1.70 cfs @ 11.98 hrs, Volume= 0.073 af, Depth> 1.42"
Routed to Link 3L : Salina

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.189	98	Paved parking, HSG A
0.036	98	Paved parking, HSG A
0.070	39	>75% Grass cover, Good, HSG A
0.056	39	>75% Grass cover, Good, HSG A
0.013	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.142	80	>75% Grass cover, Good, HSG D
0.055	98	Paved parking, HSG D
0.051	98	Paved parking, HSG D
0.613	81	Weighted Average
0.282		46.00% Pervious Area
0.331		54.00% Impervious Area

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

Subcatchment E-3: Subcat E-3



Summary for Pond 7P: Detention Pond 1

Inflow Area = 29.800 ac, 38.00% Impervious, Inflow Depth > 1.86" for 10-Yr event
Inflow = 84.30 cfs @ 12.04 hrs, Volume= 4.609 af
Outflow = 26.39 cfs @ 12.25 hrs, Volume= 4.596 af, Atten= 69%, Lag= 12.3 min
Primary = 26.39 cfs @ 12.25 hrs, Volume= 4.596 af
Routed to Pond 12P : Detention Pond 3
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 12P : Detention Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 441.75' @ 12.25 hrs Surf.Area= 23,853 sf Storage= 57,023 cf

Plug-Flow detention time= 17.6 min calculated for 4.593 af (100% of inflow)
Center-of-Mass det. time= 16.4 min (796.9 - 780.5)

Volume	Invert	Avail.Storage	Storage Description
#1	436.00'	175,820 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

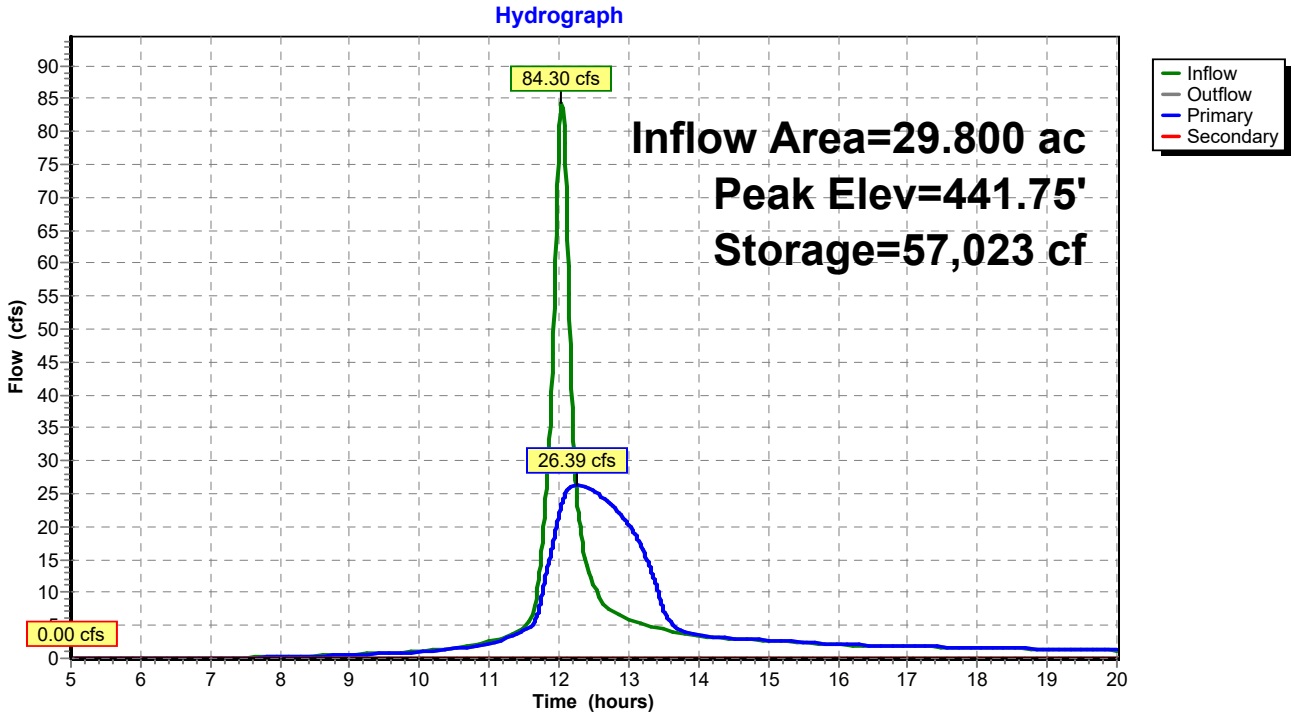
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
436.00	1,293	0	0
437.00	2,795	2,044	2,044
438.00	4,823	3,809	5,853
439.00	8,731	6,777	12,630
440.00	13,398	11,065	23,695
441.00	20,094	16,746	40,441
442.00	25,075	22,585	63,025
443.00	29,038	27,057	90,082
444.00	33,107	31,073	121,154
445.00	37,358	35,233	156,387
445.50	40,375	19,433	175,820

Device	Routing	Invert	Outlet Devices
#1	Primary	435.87'	**24.0" Round Culvert** L= 1,930.0' Ke= 0.900 Inlet / Outlet Invert= 435.87' / 395.00' S= 0.0212 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	444.50'	**48.0' long x 20.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=26.39 cfs @ 12.25 hrs HW=441.75' TW=393.68' (Dynamic Tailwater)
1=Culvert (Inlet Controls 26.39 cfs @ 8.40 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=436.00' TW=390.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 7P: Detention Pond 1



Summary for Pond 12P: Detention Pond 3

Inflow Area = 81.532 ac, 31.54% Impervious, Inflow Depth > 1.66" for 10-Yr event
Inflow = 75.48 cfs @ 12.47 hrs, Volume= 11.260 af
Outflow = 81.26 cfs @ 12.47 hrs, Volume= 10.999 af, Atten= 0%, Lag= 0.1 min
Primary = 7.00 cfs @ 12.47 hrs, Volume= 4.825 af
Routed to Link 11L : POA 1
Secondary = 74.26 cfs @ 12.47 hrs, Volume= 6.175 af
Routed to Link 11L : POA 1

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 393.78' @ 12.47 hrs Surf.Area= 24,043 sf Storage= 32,973 cf

Plug-Flow detention time= 28.6 min calculated for 10.992 af (98% of inflow)
Center-of-Mass det. time= 19.9 min (827.2 - 807.2)

Volume	Invert	Avail.Storage	Storage Description
#1	390.00'	32,973 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

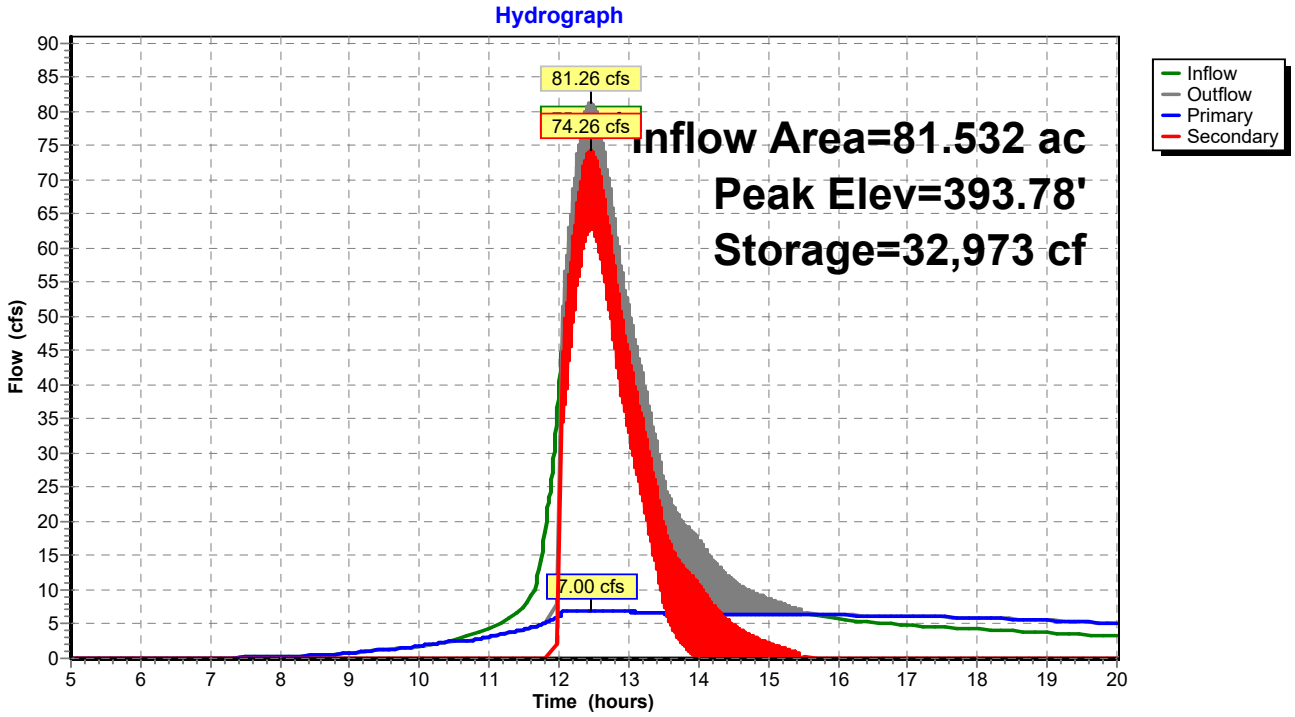
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
390.00	1,734	0	0
391.00	6,202	3,968	3,968
392.00	13,882	10,042	14,010
393.00	24,043	18,963	32,973

Device	Routing	Invert	Outlet Devices
#1	Primary	388.50'	**15.0" Round Culvert** L= 270.0' Ke= 0.900 Inlet / Outlet Invert= 388.50' / 388.39' S= 0.0004 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	393.10'	**50.0' long x 100.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=7.00 cfs @ 12.47 hrs HW=393.78' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 7.00 cfs @ 5.70 fps)

Secondary OutFlow Max=74.25 cfs @ 12.47 hrs HW=393.78' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 74.25 cfs @ 2.20 fps)

Pond 12P: Detention Pond 3



Summary for Pond 14P: Detention Pond 2

Inflow Area = 6.067 ac, 65.00% Impervious, Inflow Depth > 2.29" for 10-Yr event
Inflow = 25.05 cfs @ 11.97 hrs, Volume= 1.158 af
Outflow = 5.80 cfs @ 12.12 hrs, Volume= 1.127 af, Atten= 77%, Lag= 8.9 min
Primary = 5.80 cfs @ 12.12 hrs, Volume= 1.127 af
Routed to Pond 12P : Detention Pond 3
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 12P : Detention Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 421.27' @ 12.12 hrs Surf.Area= 4,592 sf Storage= 19,627 cf

Plug-Flow detention time= 51.0 min calculated for 1.126 af (97% of inflow)
Center-of-Mass det. time= 39.9 min (798.2 - 758.3)

Volume	Invert	Avail.Storage	Storage Description
#1	417.00'	41,328 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

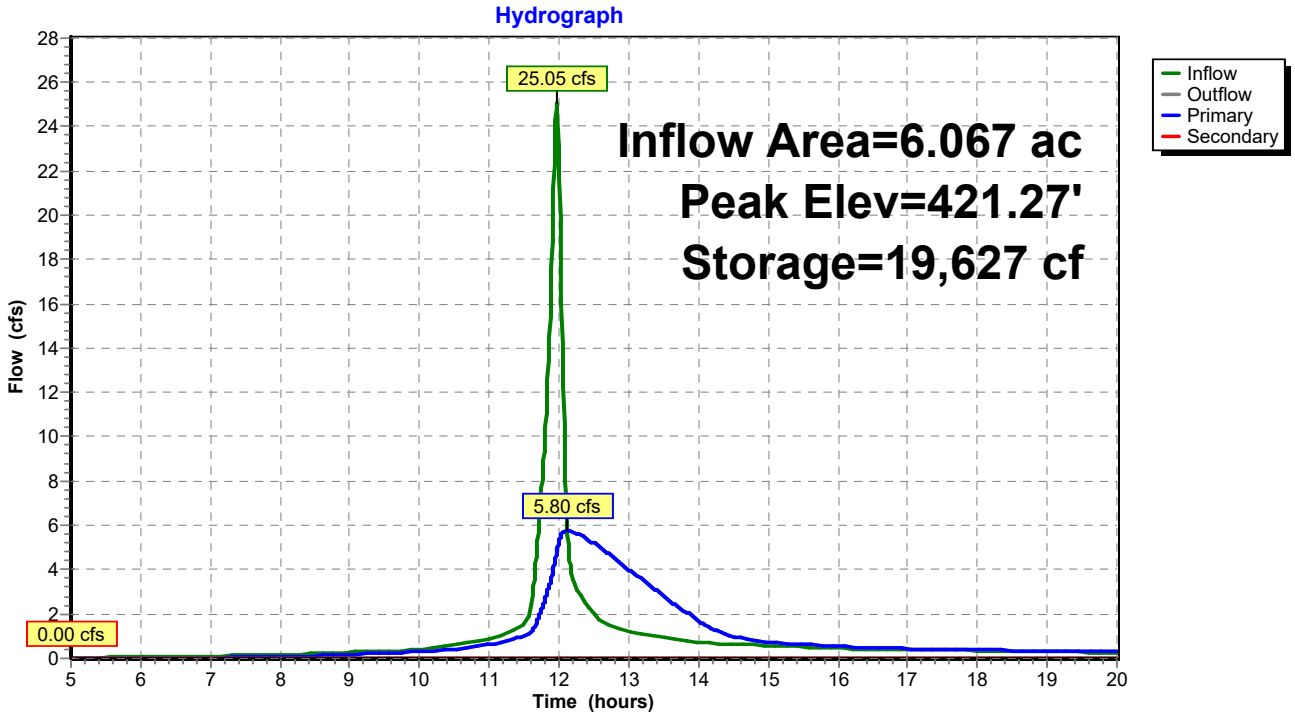
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
417.00	4,592	0	0
426.00	4,592	41,328	41,328

Device	Routing	Invert	Outlet Devices
#1	Primary	417.00'	**12.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 417.00' / 416.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Secondary	426.00'	**120.0' 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=5.80 cfs @ 12.12 hrs HW=421.27' TW=393.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 5.80 cfs @ 7.38 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=417.00' TW=390.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 14P: Detention Pond 2

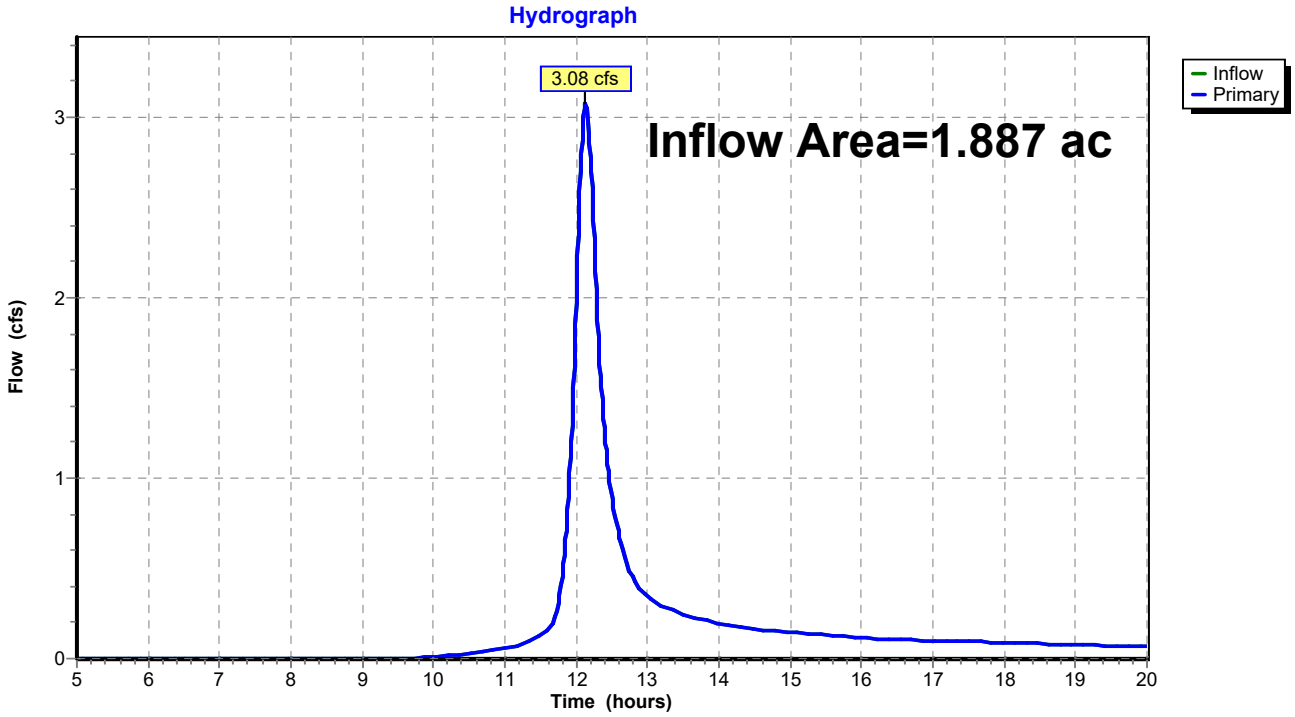


Summary for Link 2L: E Genessee

Inflow Area = 1.887 ac, 2.52% Impervious, Inflow Depth > 1.35" for 10-Yr event
Inflow = 3.08 cfs @ 12.13 hrs, Volume= 0.212 af
Primary = 3.08 cfs @ 12.13 hrs, Volume= 0.212 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 2L: E Genessee

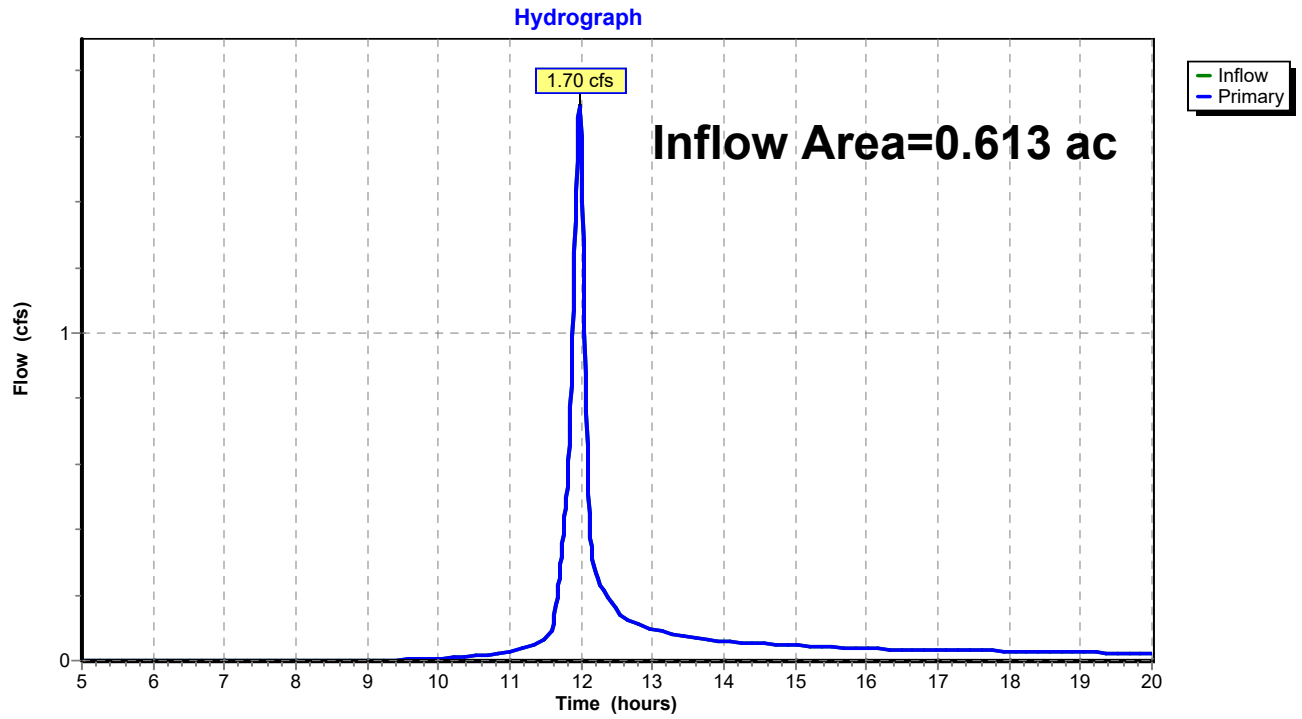


Summary for Link 3L: Salina

Inflow Area = 0.613 ac, 54.00% Impervious, Inflow Depth > 1.42" for 10-Yr event
Inflow = 1.70 cfs @ 11.98 hrs, Volume= 0.073 af
Primary = 1.70 cfs @ 11.98 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 3L: Salina

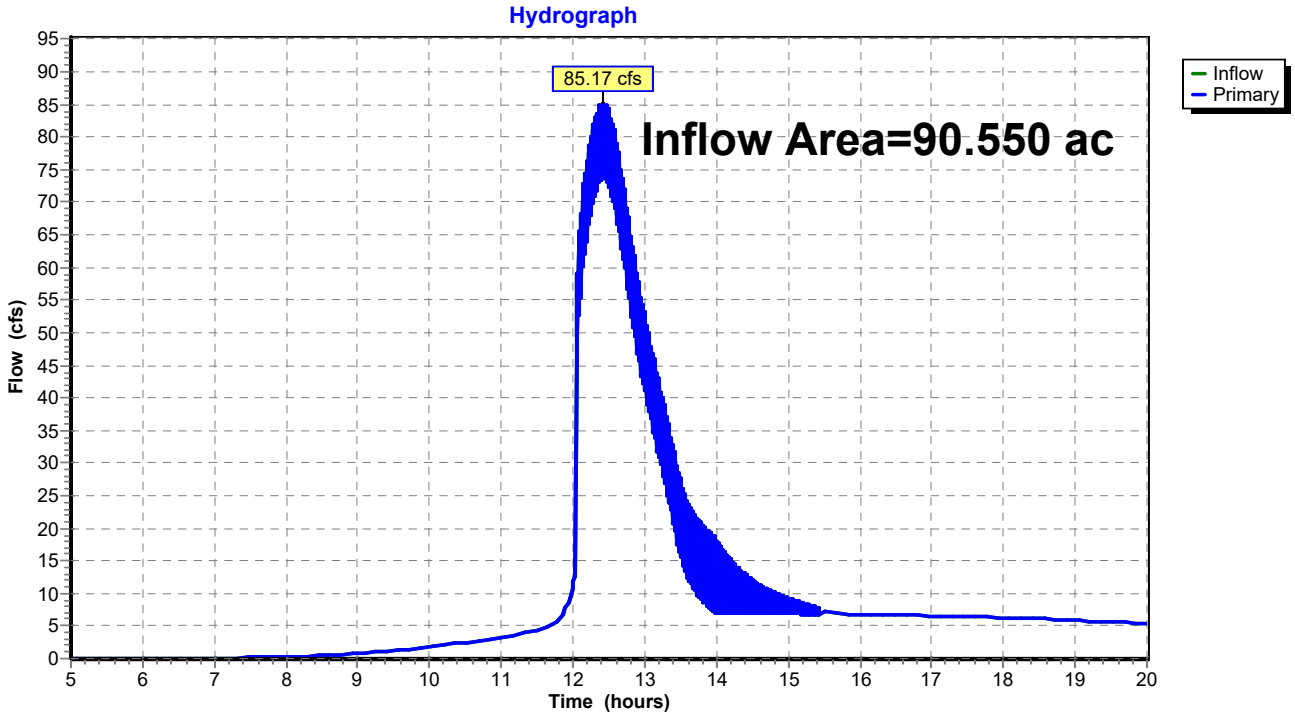


Summary for Link 11L: POA 1

Inflow Area = 90.550 ac, 29.70% Impervious, Inflow Depth > 1.55" for 10-Yr event
Inflow = 85.17 cfs @ 12.43 hrs, Volume= 11.703 af
Primary = 85.17 cfs @ 12.43 hrs, Volume= 11.703 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 11L: POA 1



Time span=5.00-20.00 hrs, dt=0.01 hrs, 1501 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 6S: Watershed to Detention Runoff Area=29.800 ac 38.00% Impervious Runoff Depth>3.78"
Flow Length=1,781' Tc=12.3 min CN=87 Runoff=165.34 cfs 9.379 af

Subcatchment 8S: Watershed Directly to Runoff Area=39.542 ac 25.53% Impervious Runoff Depth>3.43"
Flow Length=1,698' Tc=48.2 min CN=84 Runoff=92.56 cfs 11.316 af

Subcatchment 13S: Watershed to Runoff Area=6.067 ac 65.00% Impervious Runoff Depth>4.29"
Tc=6.0 min CN=92 Runoff=44.99 cfs 2.168 af

Subcatchment E-1.1: Subcat E-1.1 Runoff Area=6.123 ac 5.75% Impervious Runoff Depth>1.65"
Tc=16.0 min CN=63 Runoff=13.57 cfs 0.841 af

Subcatchment E-1.2: Subcat E-1.2 Runoff Area=9.018 ac 13.05% Impervious Runoff Depth>2.45"
Flow Length=486' Tc=20.6 min CN=73 Runoff=26.32 cfs 1.840 af

Subcatchment E-2: Subcat E-2 Runoff Area=1.887 ac 2.52% Impervious Runoff Depth>3.08"
Flow Length=572' Tc=20.0 min CN=80 Runoff=6.98 cfs 0.484 af

Subcatchment E-3: Subcat E-3 Runoff Area=0.613 ac 54.00% Impervious Runoff Depth>3.19"
Tc=6.0 min CN=81 Runoff=3.68 cfs 0.163 af

Pond 7P: Detention Pond 1 Peak Elev=444.62' Storage=142,433 cf Inflow=165.34 cfs 9.379 af
Primary=33.24 cfs 9.294 af Secondary=5.23 cfs 0.062 af Outflow=38.47 cfs 9.357 af

Pond 12P: Detention Pond 3 Peak Elev=394.15' Storage=32,973 cf Inflow=137.58 cfs 23.640 af
Primary=7.30 cfs 6.063 af Secondary=140.69 cfs 16.827 af Outflow=147.99 cfs 22.889 af

Pond 14P: Detention Pond 2 Peak Elev=425.22' Storage=37,739 cf Inflow=44.99 cfs 2.168 af
Primary=8.29 cfs 2.127 af Secondary=0.00 cfs 0.000 af Outflow=8.29 cfs 2.127 af

Link 2L: E Genessee Inflow=6.98 cfs 0.484 af
Primary=6.98 cfs 0.484 af

Link 3L: Salina Inflow=3.68 cfs 0.163 af
Primary=3.68 cfs 0.163 af

Link 11L: POA 1 Inflow=160.31 cfs 24.729 af
Primary=160.31 cfs 24.729 af

Total Runoff Area = 93.049 ac Runoff Volume = 26.191 af Average Runoff Depth = 3.38"
70.69% Pervious = 65.781 ac 29.31% Impervious = 27.269 ac

Summary for Subcatchment 6S: Watershed to Detention Pond 1

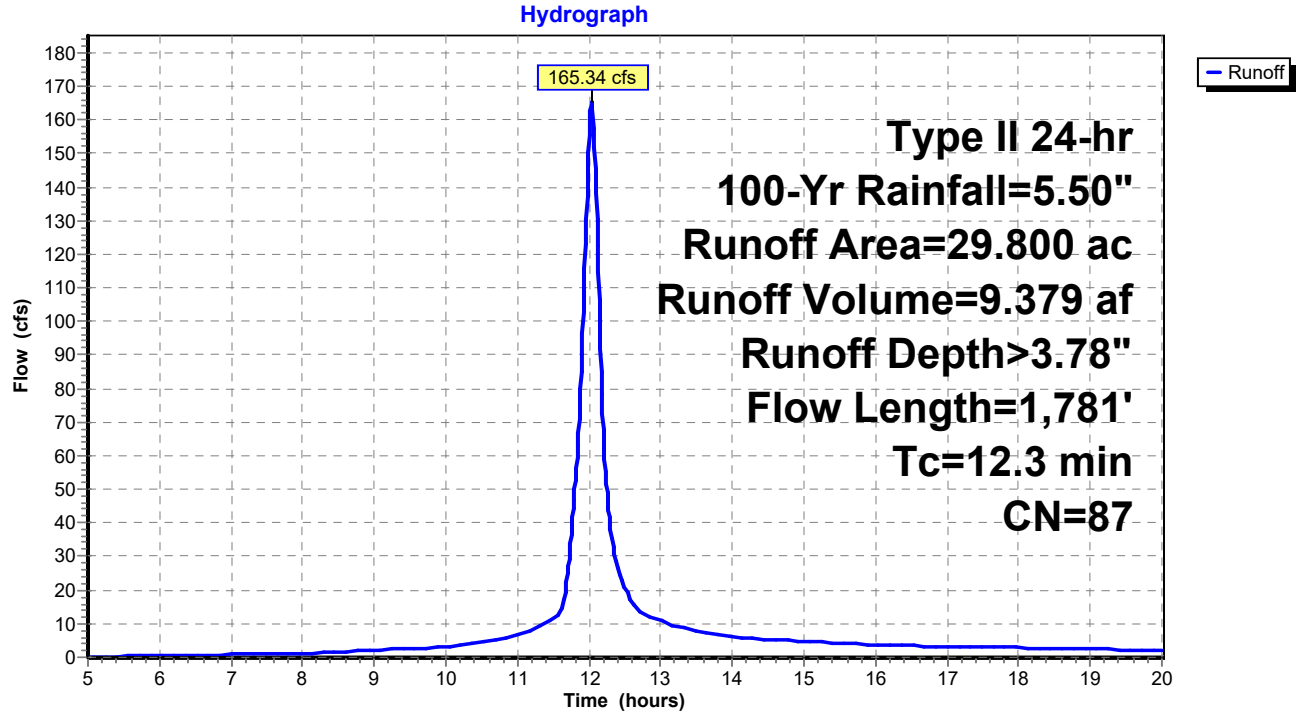
Runoff = 165.34 cfs @ 12.04 hrs, Volume= 9.379 af, Depth> 3.78"
Routed to Pond 7P : Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
29.800	87	1/4 acre lots, 38% imp, HSG D
18.476		62.00% Pervious Area
11.324		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0500	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.8	192	0.0680	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.6	1,489	0.2200	9.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.3	1,781	Total			

Subcatchment 6S: Watershed to Detention Pond 1



Summary for Subcatchment 8S: Watershed Directly to Project Site

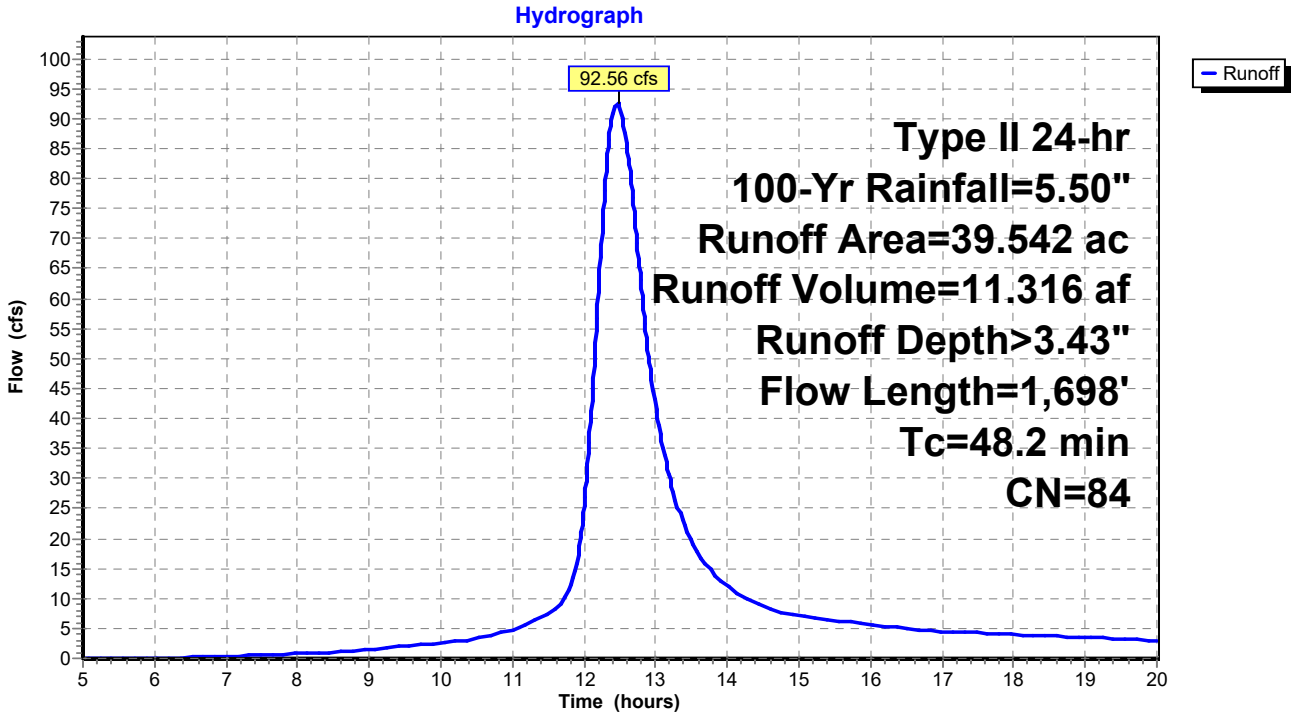
Runoff = 92.56 cfs @ 12.48 hrs, Volume= 11.316 af, Depth> 3.43"
Routed to Pond 12P : Detention Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
26.562	87	1/4 acre lots, 38% imp, HSG D
5.500	77	Woods, Good, HSG D
7.480	77	Woods, Good, HSG D
39.542	84	Weighted Average
29.448		74.47% Pervious Area
10.094		25.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
6.2	500	0.0720	1.34		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.2	240	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.8	450	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.9	408	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
48.2	1,698	Total			

Subcatchment 8S: Watershed Directly to Project Site



Summary for Subcatchment 13S: Watershed to Detention Pond 2

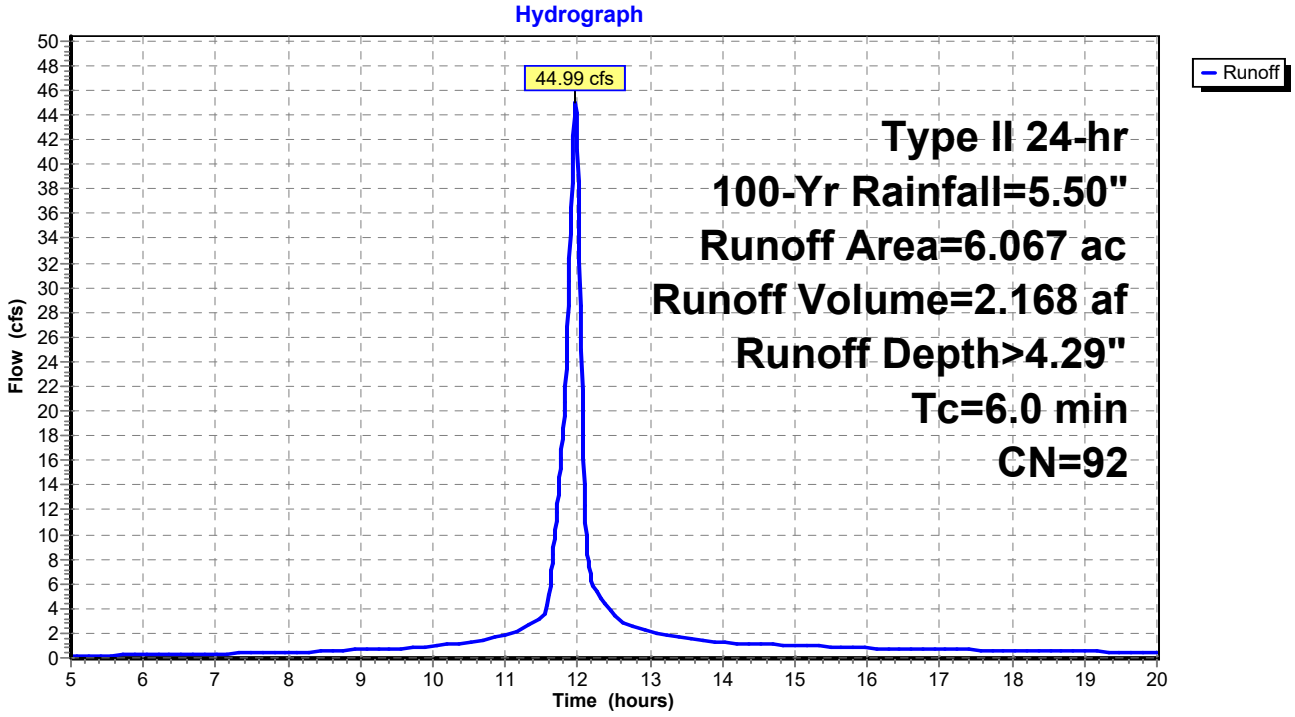
Runoff = 44.99 cfs @ 11.97 hrs, Volume= 2.168 af, Depth> 4.29"
Routed to Pond 14P : Detention Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
6.067	92	1/8 acre lots, 65% imp, HSG D
2.124		35.00% Pervious Area
3.944		65.00% Impervious Area

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

Subcatchment 13S: Watershed to Detention Pond 2



Summary for Subcatchment E-1.1: Subcat E-1.1

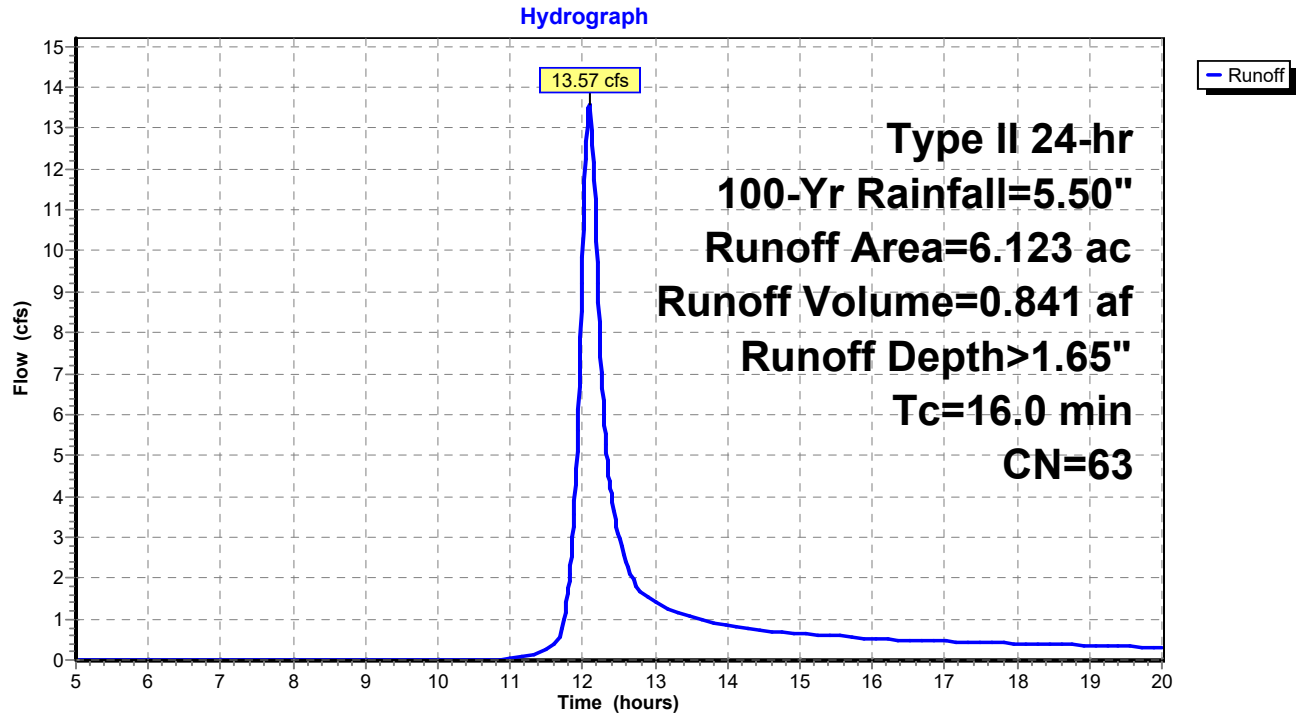
Runoff = 13.57 cfs @ 12.09 hrs, Volume= 0.841 af, Depth> 1.65"
Routed to Pond 12P : Detention Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.029	98	Paved parking, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.285	80	>75% Grass cover, Good, HSG D
0.759	80	>75% Grass cover, Good, HSG D
0.020	39	>75% Grass cover, Good, HSG A
1.403	77	Woods, Good, HSG D
1.251	77	Woods, Good, HSG D
2.046	30	Woods, Good, HSG A
0.312	98	Paved parking, HSG D
0.011	98	Paved parking, HSG D
6.123	63	Weighted Average
5.770		94.25% Pervious Area
0.352		5.75% Impervious Area

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

Subcatchment E-1.1: Subcat E-1.1



Summary for Subcatchment E-1.2: Subcat E-1.2

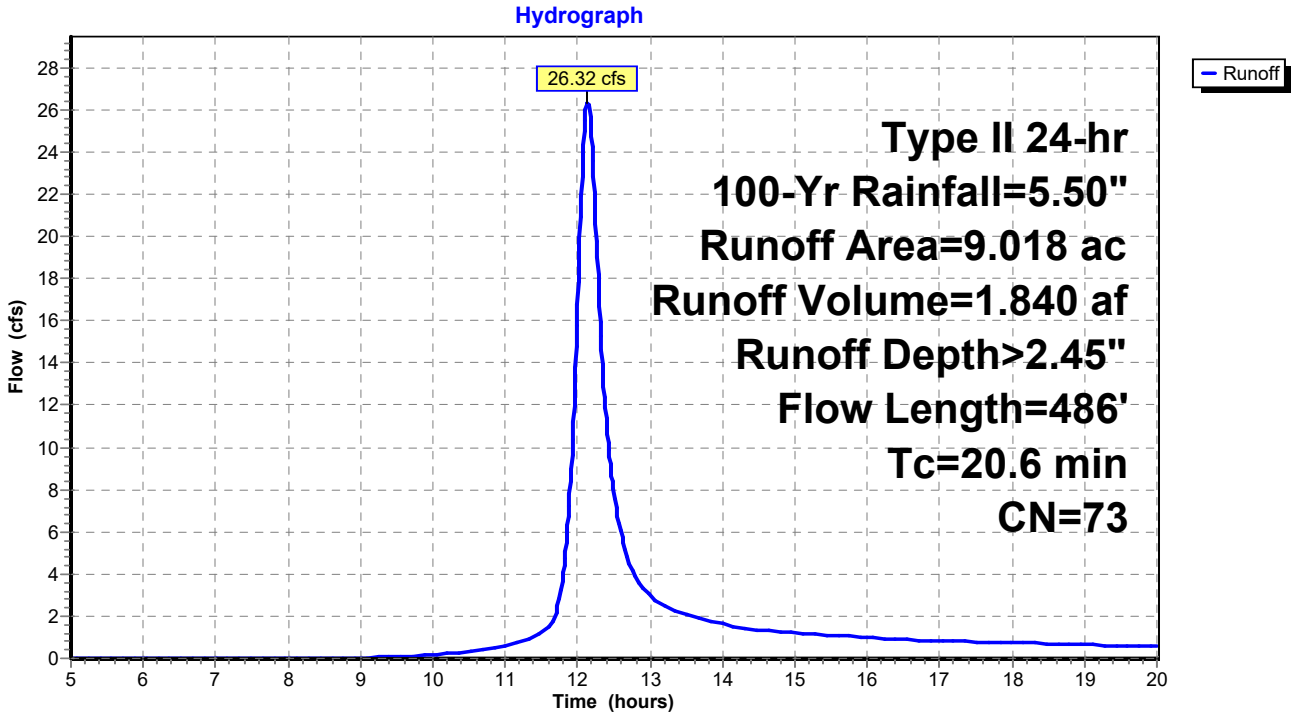
Runoff = 26.32 cfs @ 12.14 hrs, Volume= 1.840 af, Depth> 2.45"
Routed to Link 11L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.553	98	Paved parking, HSG A
0.691	39	>75% Grass cover, Good, HSG A
0.047	98	Paved parking, HSG D
0.295	98	Paved parking, HSG D
0.098	98	Paved parking, HSG A
3.262	77	Woods, Good, HSG D
2.516	77	Woods, Good, HSG D
0.819	30	Woods, Good, HSG A
0.004	80	>75% Grass cover, Good, HSG D
0.127	80	>75% Grass cover, Good, HSG D
0.013	39	>75% Grass cover, Good, HSG A
0.006	80	>75% Grass cover, Good, HSG D
0.403	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.161	98	Paved parking, HSG D
0.023	98	Paved parking, HSG D
9.018	73	Weighted Average
7.841		86.95% Pervious Area
1.177		13.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
5.2	245	0.0250	0.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	141	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
20.6	486	Total			

Subcatchment E-1.2: Subcat E-1.2



Summary for Subcatchment E-2: Subcat E-2

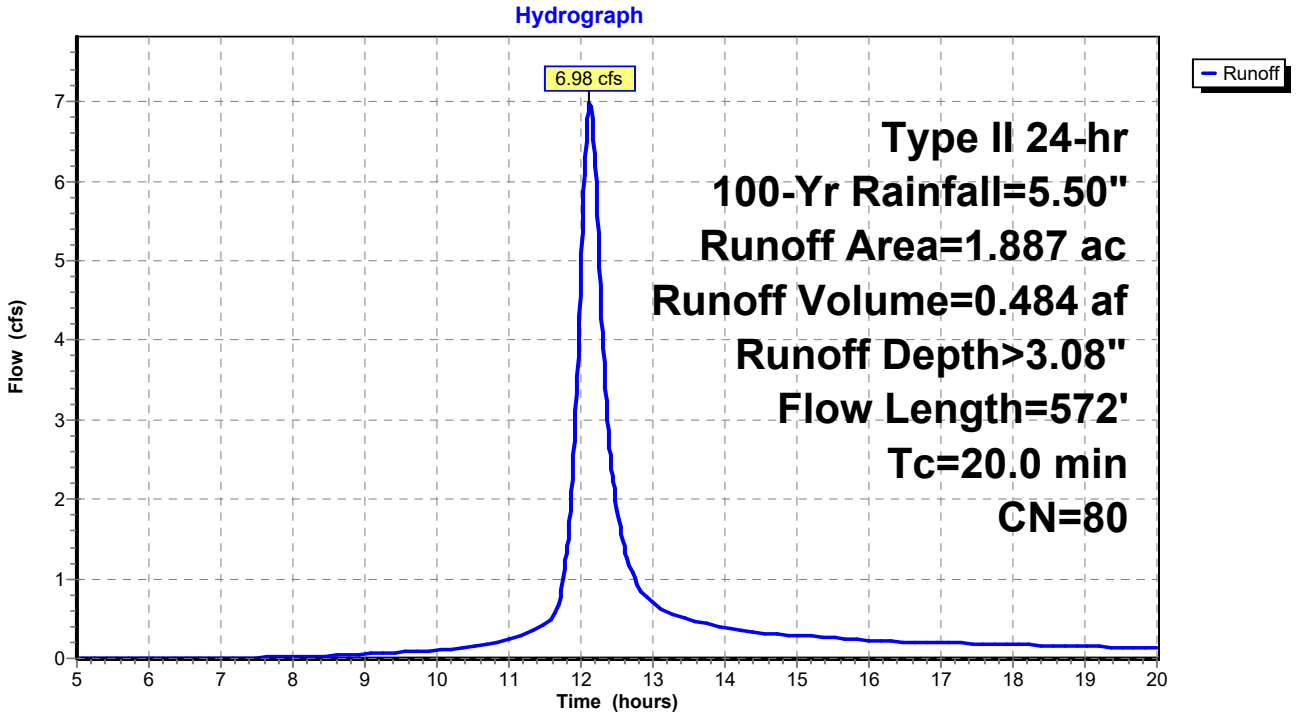
Runoff = 6.98 cfs @ 12.12 hrs, Volume= 0.484 af, Depth> 3.08"
Routed to Link 2L : E Genessee

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.227	80	>75% Grass cover, Good, HSG D
1.096	80	>75% Grass cover, Good, HSG D
0.020	98	Paved parking, HSG D
0.015	98	Paved parking, HSG D
0.012	98	Paved parking, HSG D
0.517	77	Woods, Good, HSG D
1.887	80	Weighted Average
1.839		97.48% Pervious Area
0.047		2.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
5.1	332	0.0240	1.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	140	0.0180	0.67		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.0	572	Total			

Subcatchment E-2: Subcat E-2



Summary for Subcatchment E-3: Subcat E-3

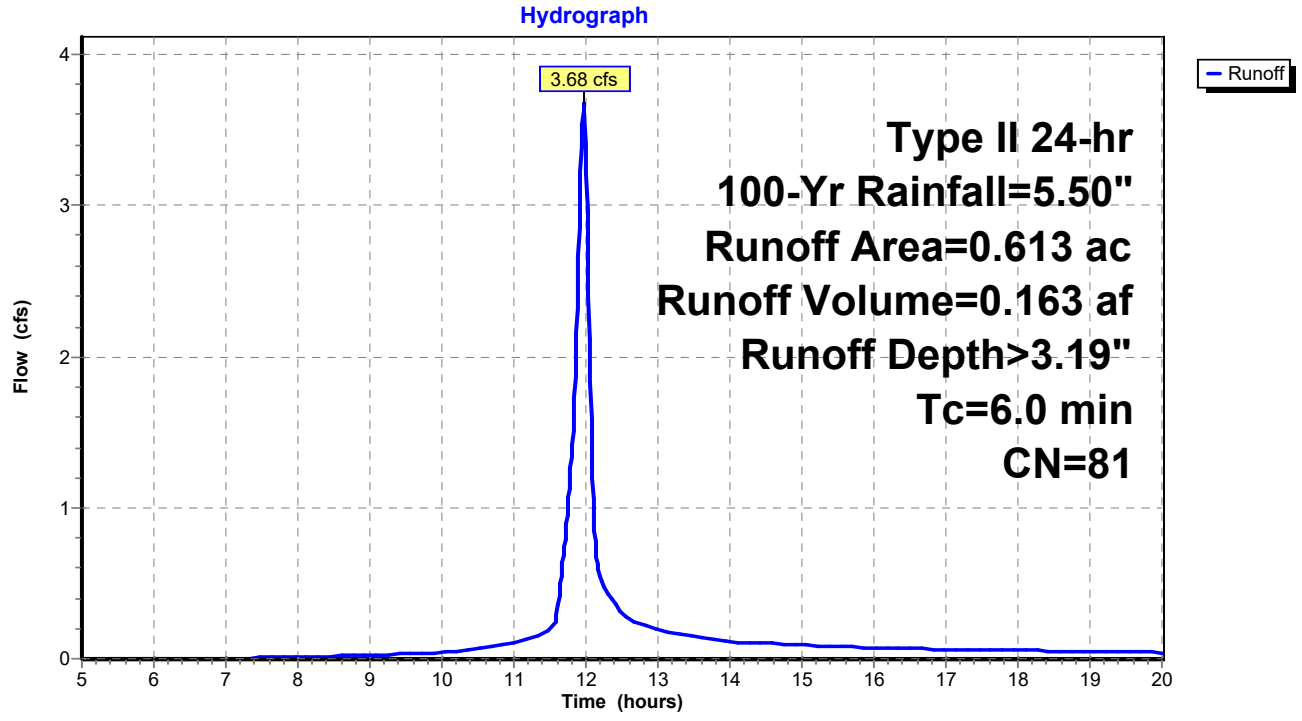
Runoff = 3.68 cfs @ 11.97 hrs, Volume= 0.163 af, Depth> 3.19"
Routed to Link 3L : Salina

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.189	98	Paved parking, HSG A
0.036	98	Paved parking, HSG A
0.070	39	>75% Grass cover, Good, HSG A
0.056	39	>75% Grass cover, Good, HSG A
0.013	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.142	80	>75% Grass cover, Good, HSG D
0.055	98	Paved parking, HSG D
0.051	98	Paved parking, HSG D
0.613	81	Weighted Average
0.282		46.00% Pervious Area
0.331		54.00% Impervious Area

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

Subcatchment E-3: Subcat E-3



Summary for Pond 7P: Detention Pond 1

Inflow Area = 29.800 ac, 38.00% Impervious, Inflow Depth > 3.78" for 100-Yr event
Inflow = 165.34 cfs @ 12.04 hrs, Volume= 9.379 af
Outflow = 38.47 cfs @ 12.30 hrs, Volume= 9.357 af, Atten= 77%, Lag= 15.6 min
Primary = 33.24 cfs @ 12.30 hrs, Volume= 9.294 af
Routed to Pond 12P : Detention Pond 3
Secondary = 5.23 cfs @ 12.30 hrs, Volume= 0.062 af
Routed to Pond 12P : Detention Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 444.62' @ 12.30 hrs Surf.Area= 35,735 sf Storage= 142,433 cf

Plug-Flow detention time= 33.5 min calculated for 9.357 af (100% of inflow)
Center-of-Mass det. time= 32.5 min (796.7 - 764.2)

Volume	Invert	Avail.Storage	Storage Description
#1	436.00'	175,820 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

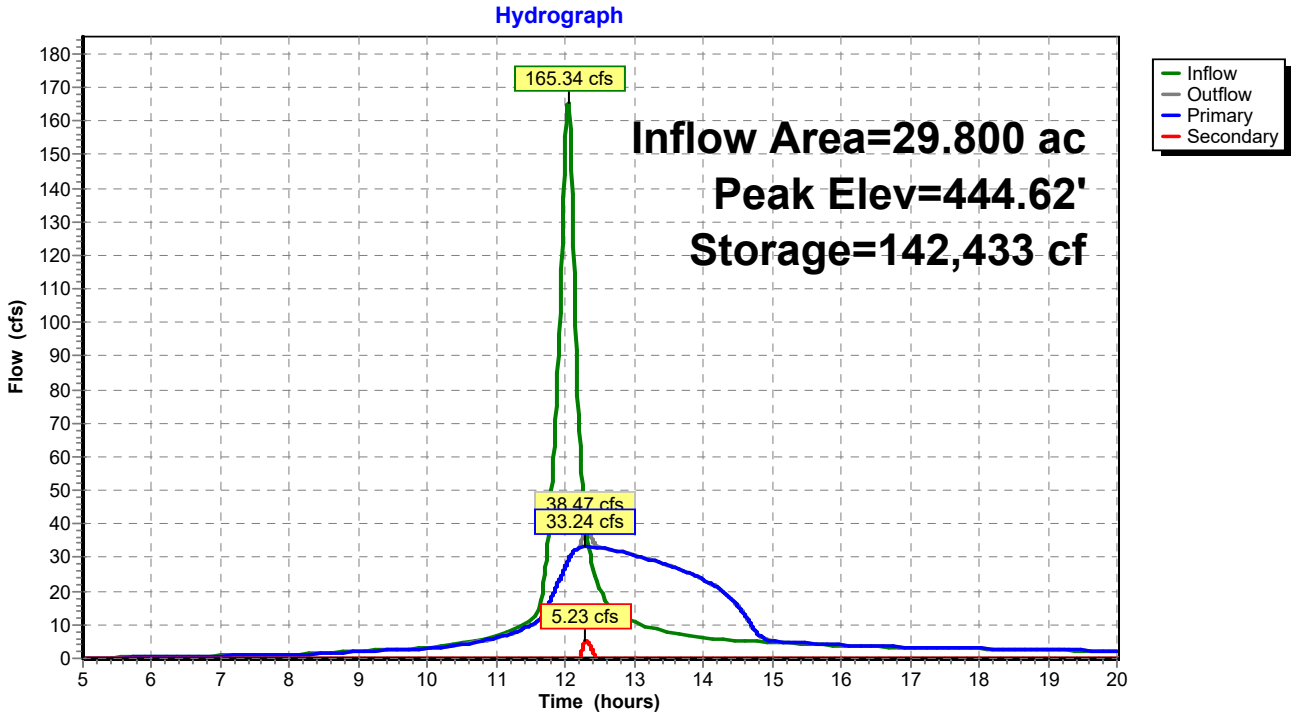
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
436.00	1,293	0	0
437.00	2,795	2,044	2,044
438.00	4,823	3,809	5,853
439.00	8,731	6,777	12,630
440.00	13,398	11,065	23,695
441.00	20,094	16,746	40,441
442.00	25,075	22,585	63,025
443.00	29,038	27,057	90,082
444.00	33,107	31,073	121,154
445.00	37,358	35,233	156,387
445.50	40,375	19,433	175,820

Device	Routing	Invert	Outlet Devices
#1	Primary	435.87'	**24.0" Round Culvert** L= 1,930.0' Ke= 0.900 Inlet / Outlet Invert= 435.87' / 395.00' S= 0.0212 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	444.50'	**48.0' long x 20.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=33.24 cfs @ 12.30 hrs HW=444.62' TW=394.04' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 33.24 cfs @ 10.58 fps)

Secondary OutFlow Max=5.22 cfs @ 12.30 hrs HW=444.62' TW=394.04' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 5.22 cfs @ 0.92 fps)

Pond 7P: Detention Pond 1



Summary for Pond 12P: Detention Pond 3

Inflow Area = 81.532 ac, 31.54% Impervious, Inflow Depth > 3.48" for 100-Yr event
Inflow = 137.58 cfs @ 12.38 hrs, Volume= 23.640 af
Outflow = 147.99 cfs @ 12.39 hrs, Volume= 22.889 af, Atten= 0%, Lag= 0.6 min
Primary = 7.30 cfs @ 12.39 hrs, Volume= 6.063 af
Routed to Link 11L : POA 1
Secondary = 140.69 cfs @ 12.39 hrs, Volume= 16.827 af
Routed to Link 11L : POA 1

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 394.15' @ 12.39 hrs Surf.Area= 24,043 sf Storage= 32,973 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 5.4 min (804.1 - 798.7)

Volume	Invert	Avail.Storage	Storage Description
#1	390.00'	32,973 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

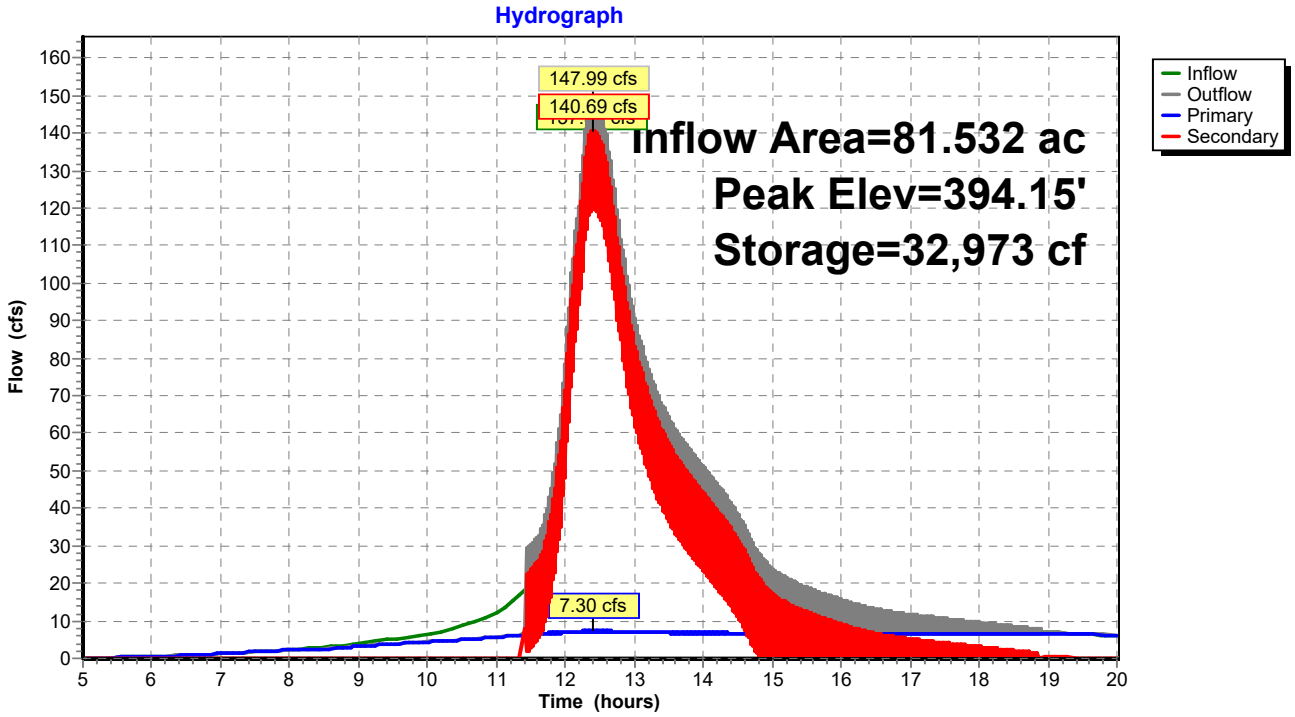
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
390.00	1,734	0	0
391.00	6,202	3,968	3,968
392.00	13,882	10,042	14,010
393.00	24,043	18,963	32,973

Device	Routing	Invert	Outlet Devices
#1	Primary	388.50'	**15.0" Round Culvert** L= 270.0' Ke= 0.900 Inlet / Outlet Invert= 388.50' / 388.39' S= 0.0004 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	393.10'	**50.0' long x 100.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=7.30 cfs @ 12.39 hrs HW=394.15' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 7.30 cfs @ 5.95 fps)

Secondary OutFlow Max=140.66 cfs @ 12.39 hrs HW=394.15' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 140.66 cfs @ 2.69 fps)

Pond 12P: Detention Pond 3



Summary for Pond 14P: Detention Pond 2

Inflow Area = 6.067 ac, 65.00% Impervious, Inflow Depth > 4.29" for 100-Yr event
Inflow = 44.99 cfs @ 11.97 hrs, Volume= 2.168 af
Outflow = 8.29 cfs @ 12.14 hrs, Volume= 2.127 af, Atten= 82%, Lag= 10.4 min
Primary = 8.29 cfs @ 12.14 hrs, Volume= 2.127 af
Routed to Pond 12P : Detention Pond 3
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 12P : Detention Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 425.22' @ 12.14 hrs Surf.Area= 4,592 sf Storage= 37,739 cf

Plug-Flow detention time= 55.9 min calculated for 2.127 af (98% of inflow)
Center-of-Mass det. time= 47.7 min (793.7 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	417.00'	41,328 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

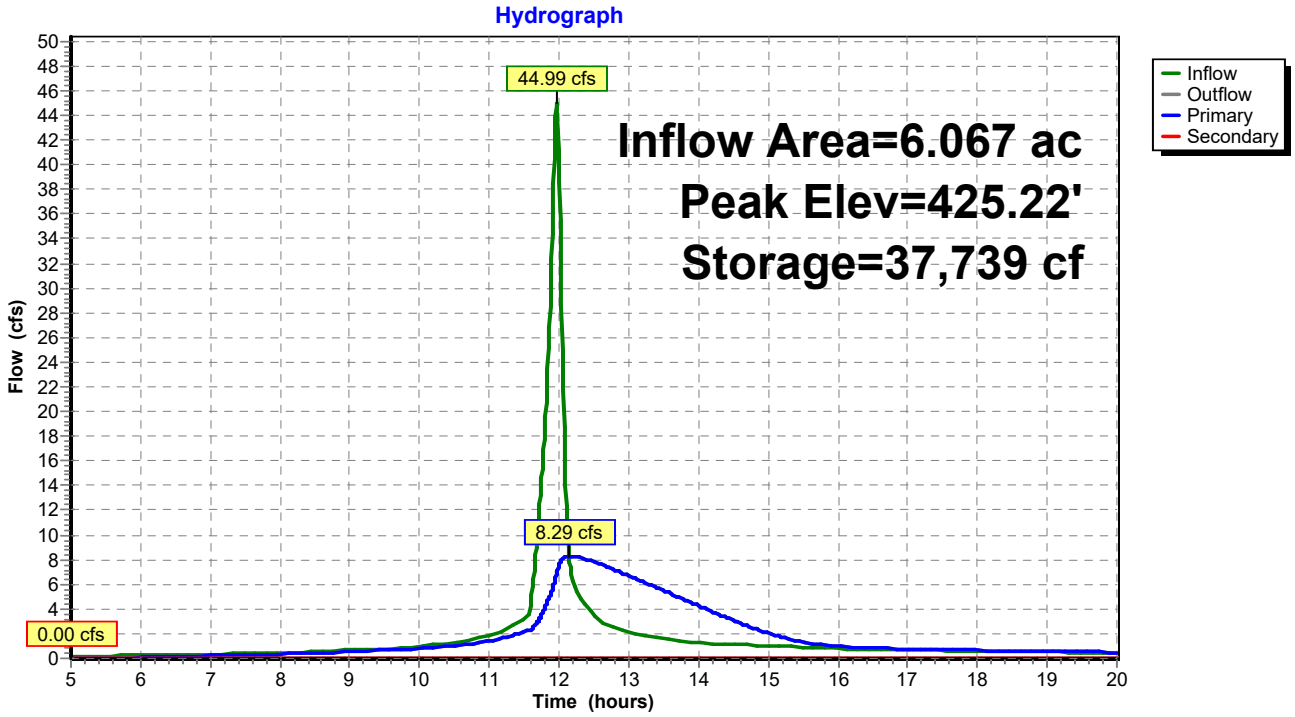
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
417.00	4,592	0	0
426.00	4,592	41,328	41,328

Device	Routing	Invert	Outlet Devices
#1	Primary	417.00'	**12.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 417.00' / 416.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Secondary	426.00'	**120.0' 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=8.29 cfs @ 12.14 hrs HW=425.22' TW=393.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 8.29 cfs @ 10.56 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=417.00' TW=390.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 14P: Detention Pond 2

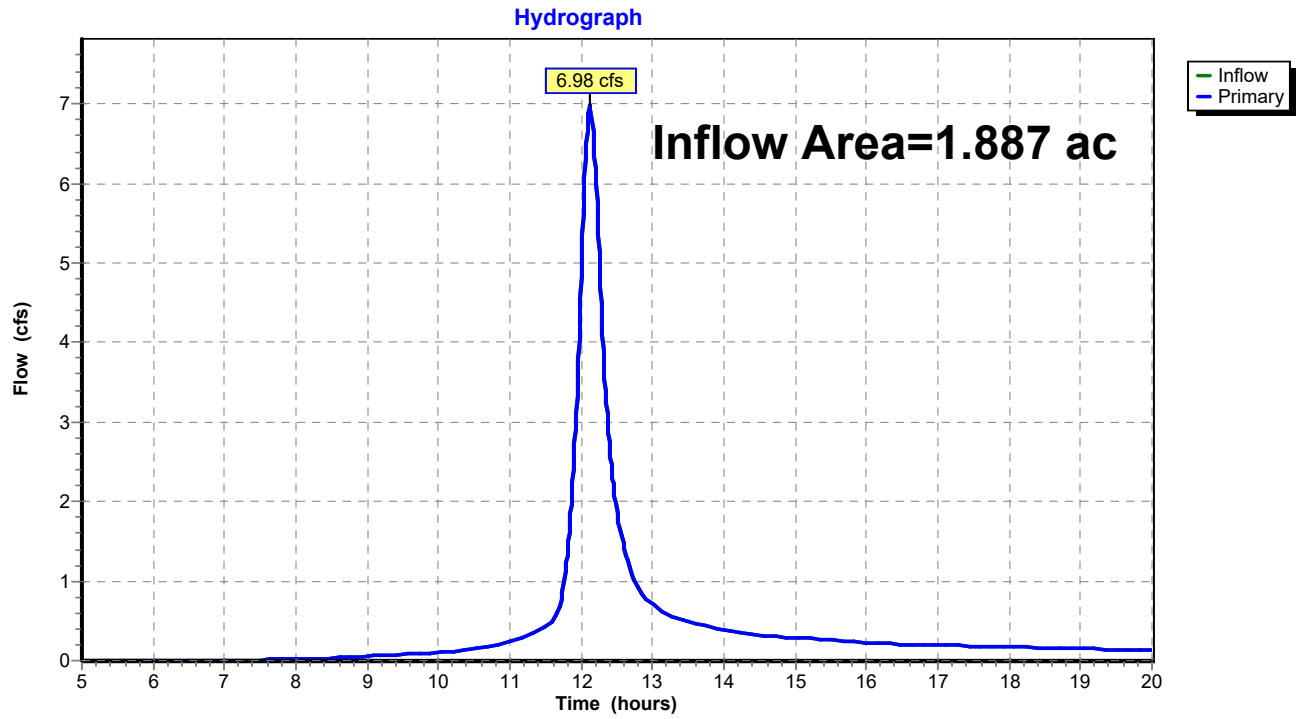


Summary for Link 2L: E Genessee

Inflow Area = 1.887 ac, 2.52% Impervious, Inflow Depth > 3.08" for 100-Yr event
Inflow = 6.98 cfs @ 12.12 hrs, Volume= 0.484 af
Primary = 6.98 cfs @ 12.12 hrs, Volume= 0.484 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 2L: E Genessee

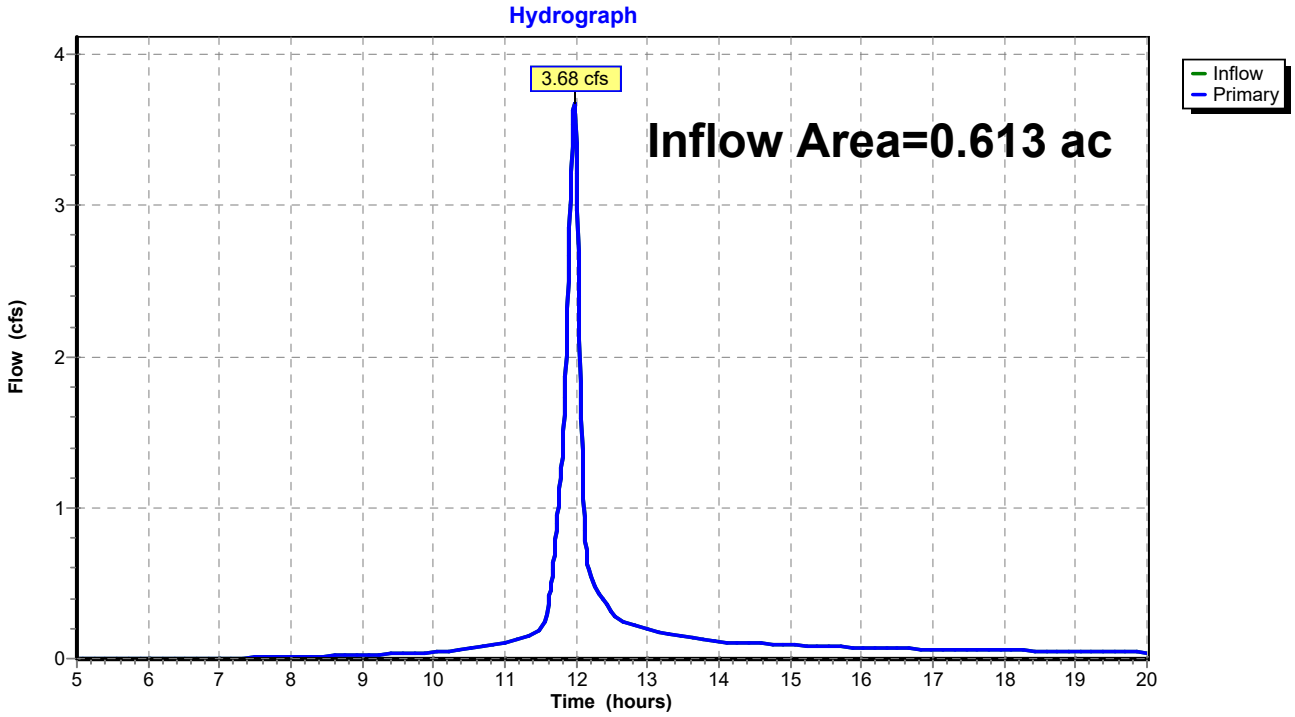


Summary for Link 3L: Salina

Inflow Area = 0.613 ac, 54.00% Impervious, Inflow Depth > 3.19" for 100-Yr event
Inflow = 3.68 cfs @ 11.97 hrs, Volume= 0.163 af
Primary = 3.68 cfs @ 11.97 hrs, Volume= 0.163 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 3L: Salina

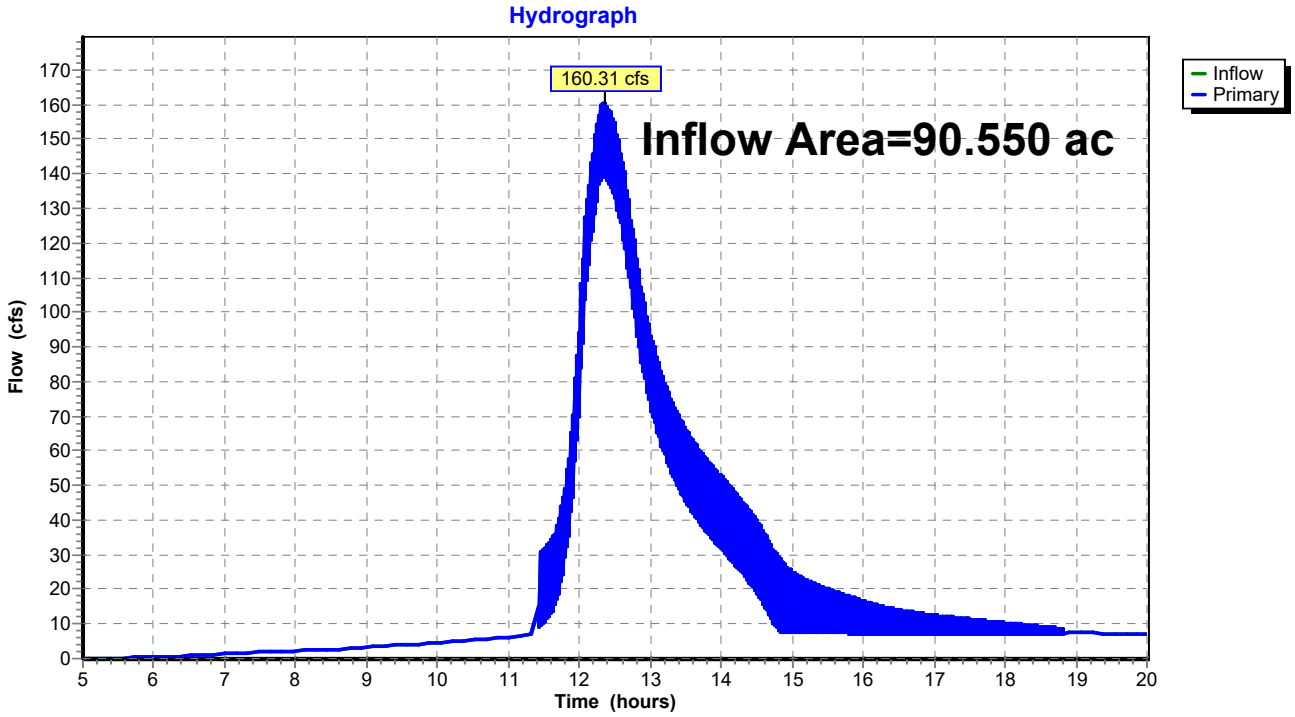


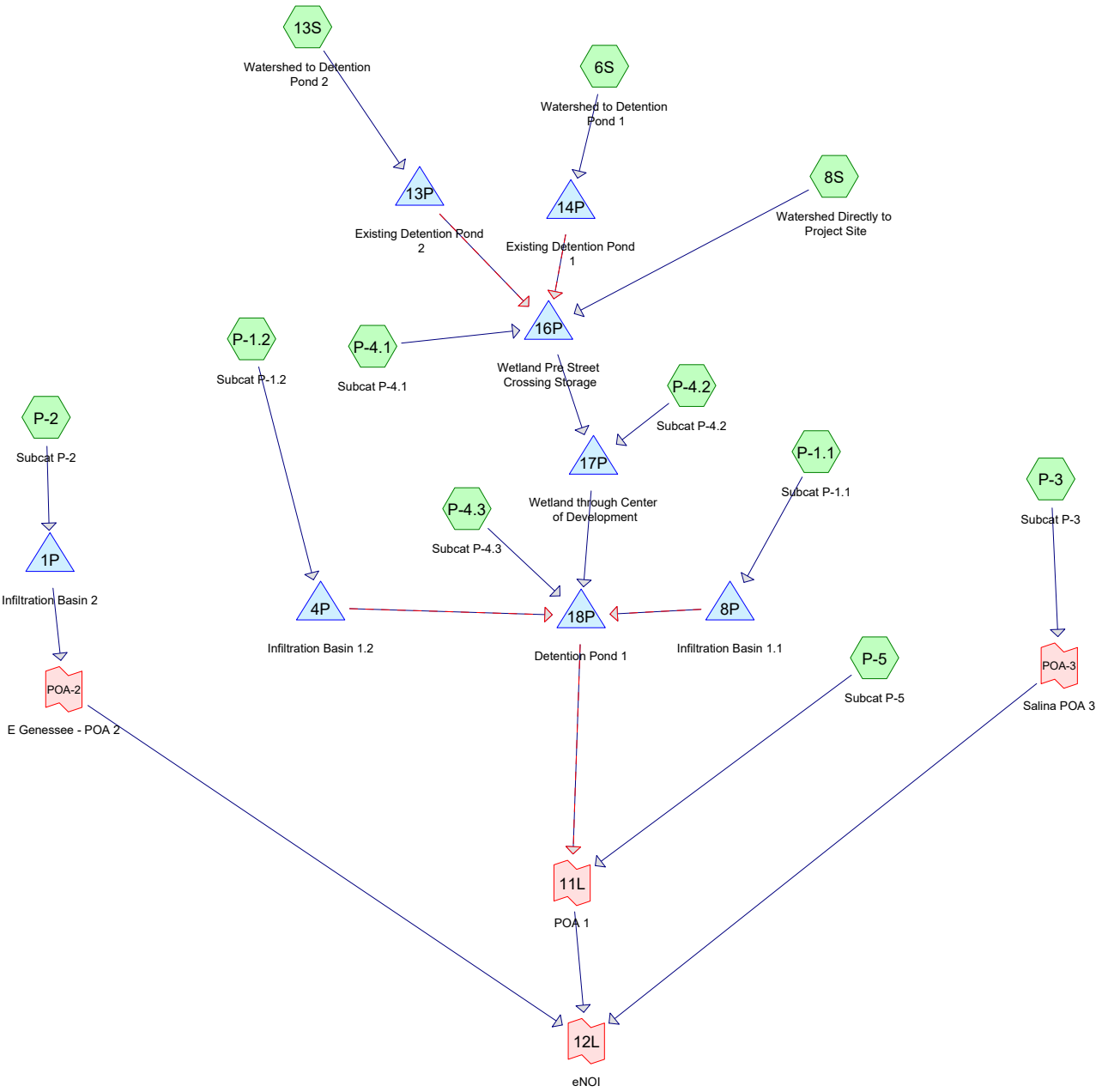
Summary for Link 11L: POA 1

Inflow Area = 90.550 ac, 29.70% Impervious, Inflow Depth > 3.28" for 100-Yr event
Inflow = 160.31 cfs @ 12.37 hrs, Volume= 24.729 af
Primary = 160.31 cfs @ 12.37 hrs, Volume= 24.729 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Link 11L: POA 1





Routing Diagram for Post-Construction Complete 2025 0.5 in Infiltration

Prepared by Environmental Design & Research, Printed 7/3/2025

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
56.362	87	1/4 acre lots, 38% imp, HSG D (6S, 8S)
6.067	92	1/8 acre lots, 65% imp, HSG D (13S)
2.412	39	>75% Grass cover, Good, HSG A (P-1.1, P-1.2, P-3, P-4.1, P-4.2, P-5)
6.429	80	>75% Grass cover, Good, HSG D (P-1.1, P-1.2, P-2, P-3, P-4.1, P-4.2, P-4.3, P-5)
2.044	98	Paved parking, HSG A (P-1.1, P-1.2, P-3, P-4.2, P-5)
6.462	98	Paved parking, HSG D (P-1.1, P-1.2, P-2, P-3, P-4.1, P-4.2, P-5)
0.200	30	Woods, Good, HSG A (P-1.1, P-1.2, P-4.1)
13.060	77	Woods, Good, HSG D (8S, P-1.2, P-4.1)
93.036	**85**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 6S: Watershed to Detention Runoff Area=29.800 ac 38.00% Impervious Runoff Depth=0.91"
Flow Length=1,781' Tc=12.3 min CN=87 Runoff=38.31 cfs 2.249 af

Subcatchment 8S: Watershed Directly to Runoff Area=39.542 ac 25.53% Impervious Runoff Depth=0.74"
Flow Length=1,698' Tc=48.2 min CN=84 Runoff=17.52 cfs 2.451 af

Subcatchment 13S: Watershed to Runoff Area=6.067 ac 65.00% Impervious Runoff Depth=1.24"
Tc=6.0 min CN=92 Runoff=13.15 cfs 0.625 af

Subcatchment P-1.1: Subcat P-1.1 Runoff Area=4.787 ac 70.72% Impervious Runoff Depth=1.16"
Tc=6.0 min CN=91 Runoff=9.83 cfs 0.464 af

Subcatchment P-1.2: Subcat P-1.2 Runoff Area=6.130 ac 73.71% Impervious Runoff Depth=1.16"
Tc=6.0 min CN=91 Runoff=12.59 cfs 0.594 af

Subcatchment P-2: Subcat P-2 Runoff Area=2.046 ac 21.76% Impervious Runoff Depth=0.74"
Tc=20.0 min CN=84 Runoff=1.64 cfs 0.127 af

Subcatchment P-3: Subcat P-3 Runoff Area=0.435 ac 0.74% Impervious Runoff Depth=0.05"
Tc=6.0 min CN=59 Runoff=0.00 cfs 0.002 af

Subcatchment P-4.1: Subcat P-4.1 Runoff Area=1.910 ac 1.66% Impervious Runoff Depth=0.27"
Flow Length=489' Tc=11.8 min CN=71 Runoff=0.51 cfs 0.042 af

Subcatchment P-4.2: Subcat P-4.2 Runoff Area=0.538 ac 2.30% Impervious Runoff Depth=0.00"
Flow Length=340' Tc=7.2 min CN=45 Runoff=0.00 cfs 0.000 af

Subcatchment P-4.3: Subcat P-4.3 Runoff Area=0.187 ac 0.00% Impervious Runoff Depth=0.56"
Tc=6.0 min CN=80 Runoff=0.18 cfs 0.009 af

Subcatchment P-5: Subcat P-5 Runoff Area=1.594 ac 6.84% Impervious Runoff Depth=0.02"
Flow Length=169' Tc=10.5 min CN=55 Runoff=0.00 cfs 0.002 af

Pond 1P: Infiltration Basin 2 Peak Elev=392.19' Storage=1,718 cf Inflow=1.64 cfs 0.127 af
Discarded=0.02 cfs 0.036 af Primary=0.84 cfs 0.086 af Outflow=0.85 cfs 0.122 af

Pond 4P: Infiltration Basin 1.2 Peak Elev=391.41' Storage=13,947 cf Inflow=12.59 cfs 0.594 af
Discarded=0.09 cfs 0.243 af Primary=0.76 cfs 0.228 af Secondary=0.00 cfs 0.000 af Outflow=0.86 cfs 0.471 af

Pond 8P: Infiltration Basin 1.1 Peak Elev=392.23' Storage=7,529 cf Inflow=9.83 cfs 0.464 af
Discarded=0.05 cfs 0.091 af Primary=5.20 cfs 0.336 af Secondary=0.00 cfs 0.000 af Outflow=5.25 cfs 0.427 af

Pond 13P: Existing Detention Pond 2 Peak Elev=419.11' Storage=9,698 cf Inflow=13.15 cfs 0.625 af
Primary=3.79 cfs 0.624 af Secondary=0.00 cfs 0.000 af Outflow=3.79 cfs 0.624 af

Pond 14P: Existing Detention Pond 1 Peak Elev=439.51' Storage=17,686 cf Inflow=38.31 cfs 2.249 af
Primary=19.40 cfs 2.249 af Secondary=0.00 cfs 0.000 af Outflow=19.40 cfs 2.249 af

Pond 16P: Wetland Pre Street Crossing Peak Elev=392.03' Storage=1,380 cf Inflow=37.15 cfs 5.367 af
Outflow=37.13 cfs 5.367 af

Pond 17P: Wetland through Center of Peak Elev=390.71' Storage=3,106 cf Inflow=37.13 cfs 5.367 af
144.0" x 48.0" Box Culvert w/ 12.0" inside fill n=0.013 L=116.0' S=0.0000 '/' Outflow=37.10 cfs 5.366 af

Pond 18P: Detention Pond 1 Peak Elev=390.56' Storage=5,536 cf Inflow=39.60 cfs 5.939 af
Primary=5.78 cfs 3.197 af Secondary=33.81 cfs 2.742 af Outflow=39.58 cfs 5.939 af

Link 11L: POA 1 Inflow=39.58 cfs 5.941 af
Primary=39.58 cfs 5.941 af

Link 12L: eNOI Inflow=40.38 cfs 6.029 af
Primary=40.38 cfs 6.029 af

Link POA-2: E Genessee - POA 2 Inflow=0.84 cfs 0.086 af
Primary=0.84 cfs 0.086 af

Link POA-3: Salina POA 3 Inflow=0.00 cfs 0.002 af
Primary=0.00 cfs 0.002 af

Total Runoff Area = 93.036 ac Runoff Volume = 6.566 af Average Runoff Depth = 0.85"
63.60% Pervious = 59.169 ac 36.40% Impervious = 33.867 ac

Summary for Subcatchment 6S: Watershed to Detention Pond 1

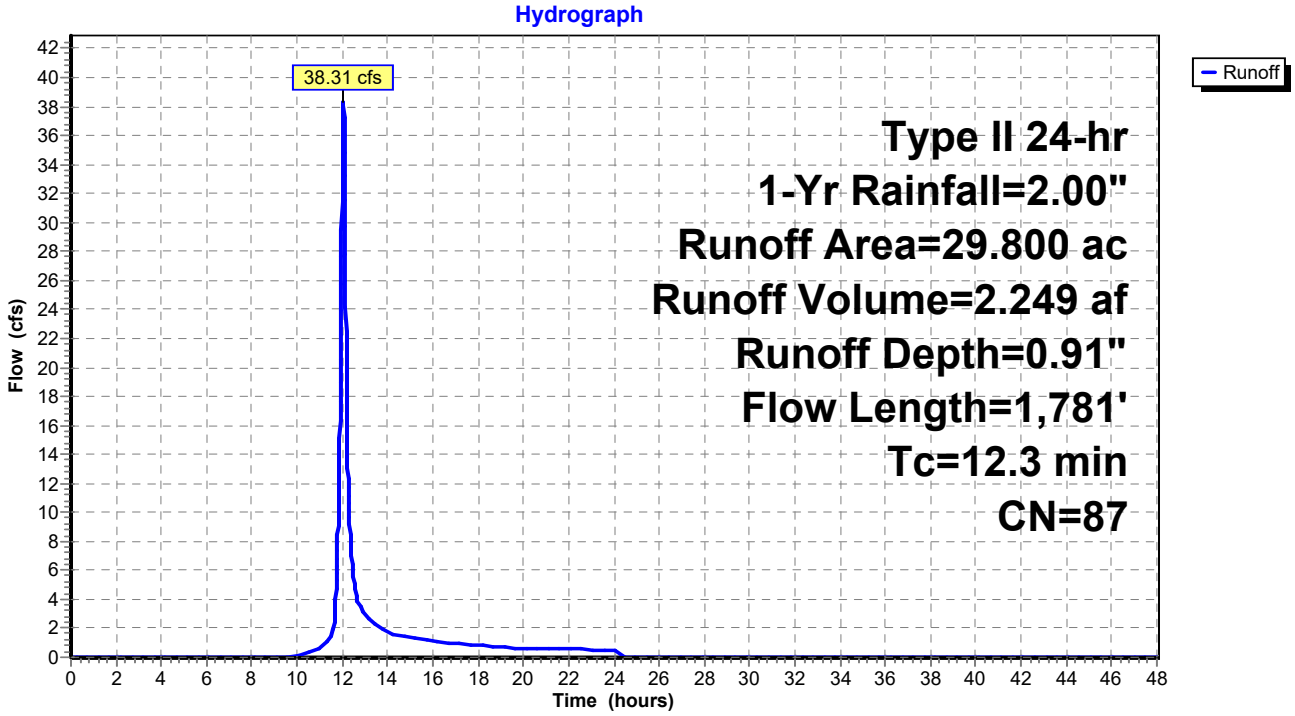
Runoff = 38.31 cfs @ 12.04 hrs, Volume= 2.249 af, Depth= 0.91"
Routed to Pond 14P : Existing Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
29.800	87	1/4 acre lots, 38% imp, HSG D
18.476		62.00% Pervious Area
11.324		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0500	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.8	192	0.0680	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.6	1,489	0.2200	9.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.3	1,781	Total			

Subcatchment 6S: Watershed to Detention Pond 1



Summary for Subcatchment 8S: Watershed Directly to Project Site

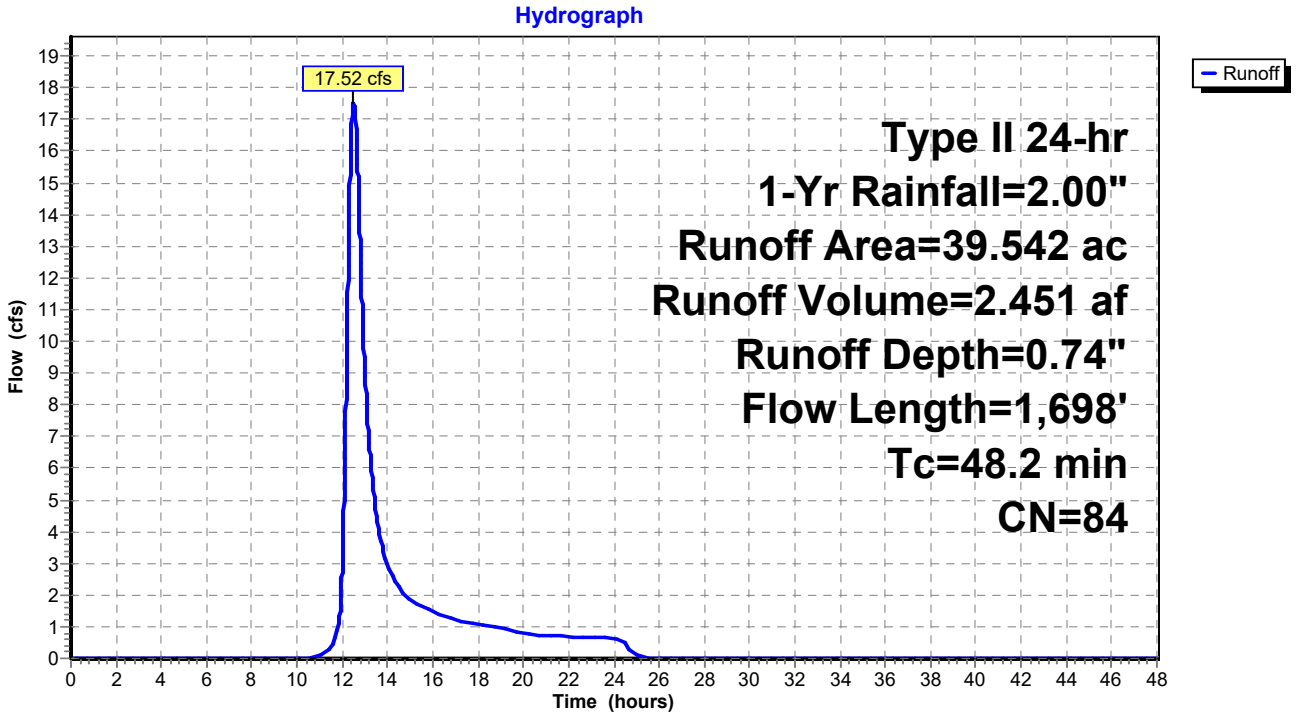
Runoff = 17.52 cfs @ 12.48 hrs, Volume= 2.451 af, Depth= 0.74"
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
26.562	87	1/4 acre lots, 38% imp, HSG D
5.500	77	Woods, Good, HSG D
7.480	77	Woods, Good, HSG D
39.542	84	Weighted Average
29.448		74.47% Pervious Area
10.094		25.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
6.2	500	0.0720	1.34		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.2	240	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.8	450	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.9	408	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
48.2	1,698	Total			

Subcatchment 8S: Watershed Directly to Project Site



Summary for Subcatchment 13S: Watershed to Detention Pond 2

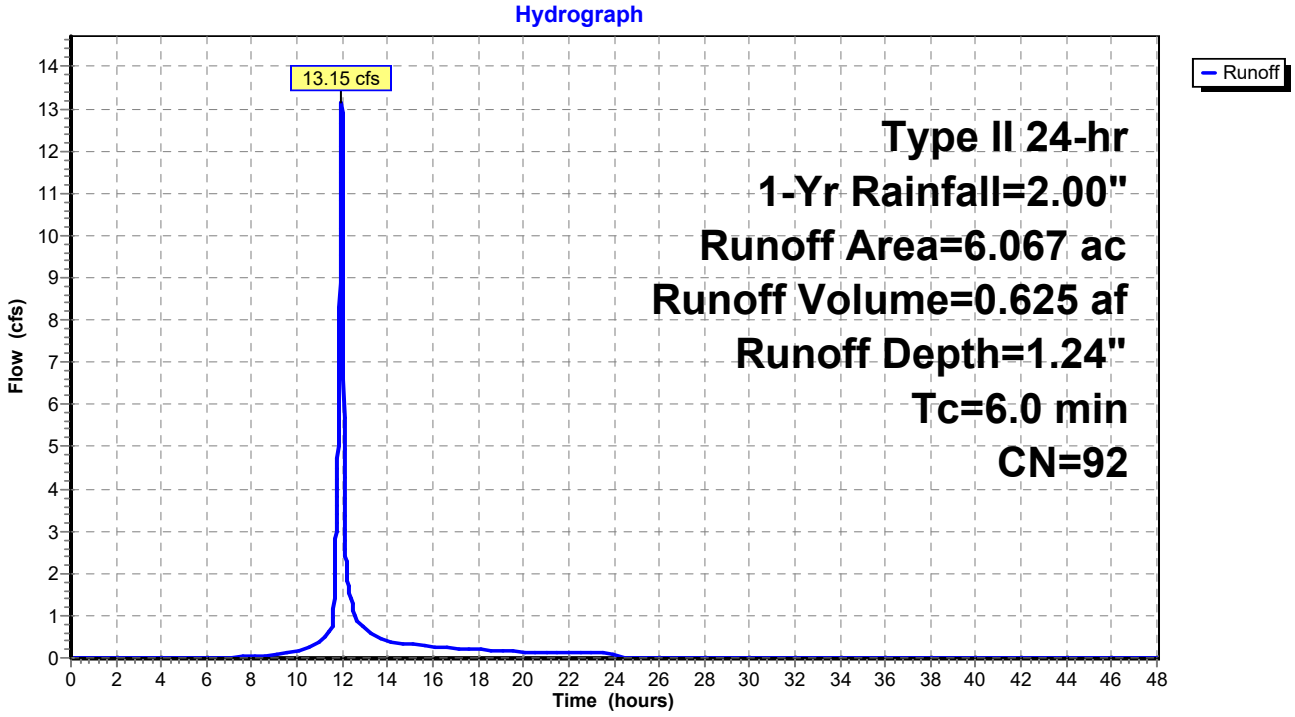
Runoff = 13.15 cfs @ 11.97 hrs, Volume= 0.625 af, Depth= 1.24"
Routed to Pond 13P : Existing Detention Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
6.067	92	1/8 acre lots, 65% imp, HSG D
2.123		35.00% Pervious Area
3.944		65.00% Impervious Area

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

Subcatchment 13S: Watershed to Detention Pond 2



Summary for Subcatchment P-1.1: Subcat P-1.1

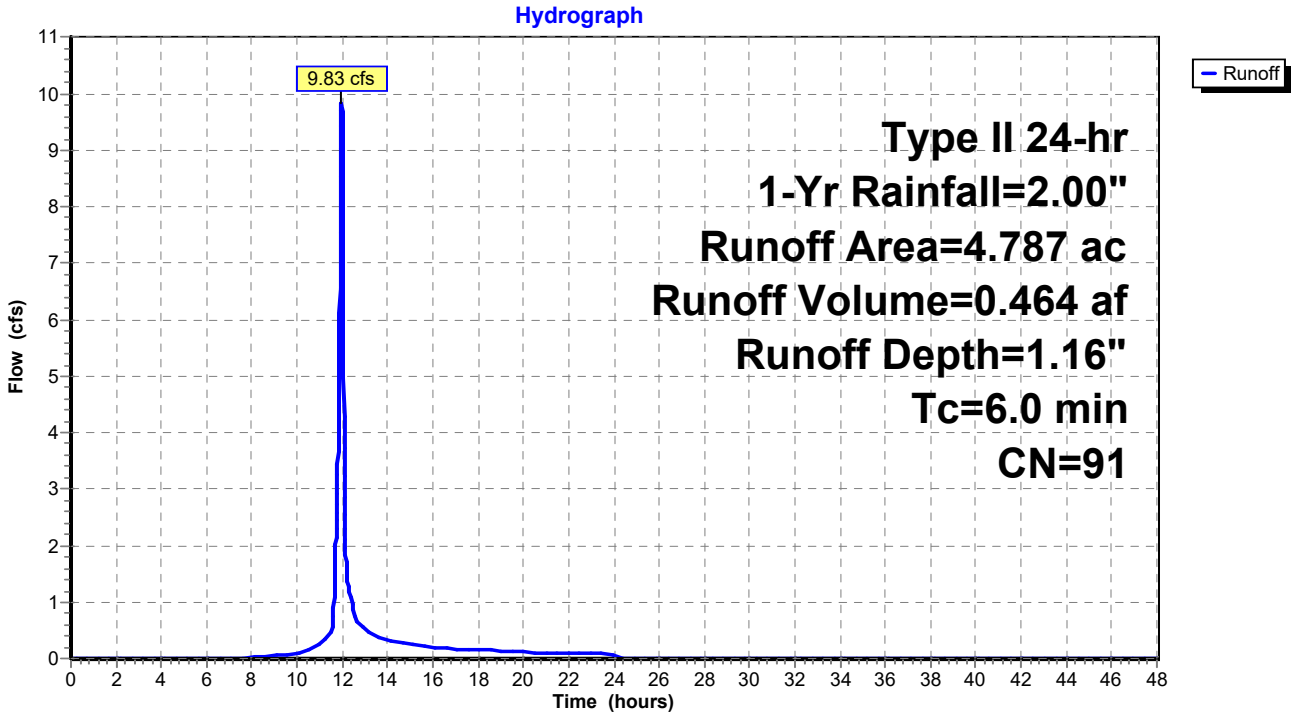
Runoff = 9.83 cfs @ 11.97 hrs, Volume= 0.464 af, Depth= 1.16"
Routed to Pond 8P : Infiltration Basin 1.1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG A
0.001	98	Paved parking, HSG A
0.000	98	Paved parking, HSG D
0.012	98	Paved parking, HSG D
0.007	98	Paved parking, HSG D
0.201	98	Paved parking, HSG A
0.045	98	Paved parking, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.122	80	>75% Grass cover, Good, HSG D
0.011	80	>75% Grass cover, Good, HSG D
0.955	80	>75% Grass cover, Good, HSG D
0.006	80	>75% Grass cover, Good, HSG D
0.066	39	>75% Grass cover, Good, HSG A
0.033	98	Paved parking, HSG D
0.017	98	Paved parking, HSG D
0.242	98	Paved parking, HSG D
0.448	98	Paved parking, HSG D
0.195	98	Paved parking, HSG A
0.132	98	Paved parking, HSG A
0.006	30	Woods, Good, HSG A
0.082	80	>75% Grass cover, Good, HSG D
0.010	80	>75% Grass cover, Good, HSG D
0.056	39	>75% Grass cover, Good, HSG A
0.000	80	>75% Grass cover, Good, HSG D
0.085	39	>75% Grass cover, Good, HSG A
0.002	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.129	98	Paved parking, HSG A
0.256	98	Paved parking, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.425	98	Paved parking, HSG D
0.378	98	Paved parking, HSG D
0.843	98	Paved parking, HSG D
4.787	91	Weighted Average
1.402		29.28% Pervious Area
3.386		70.72% Impervious Area

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

Subcatchment P-1.1: Subcat P-1.1



Summary for Subcatchment P-1.2: Subcat P-1.2

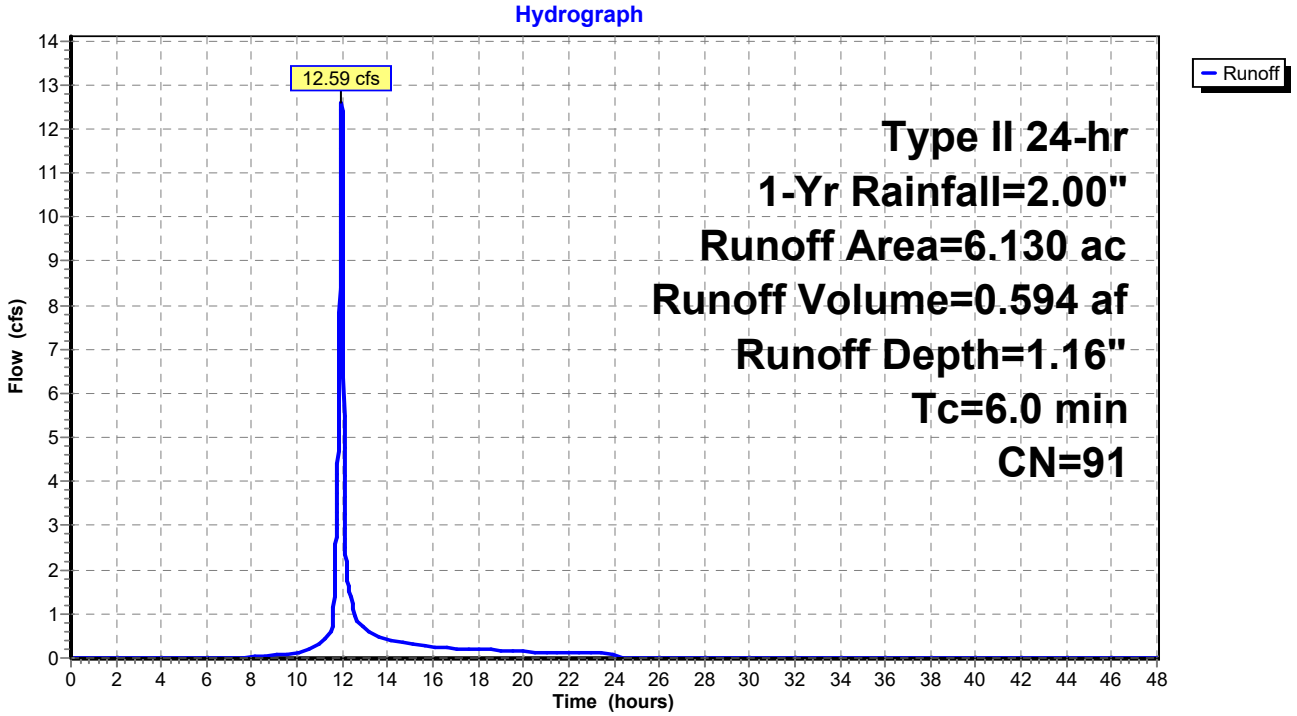
Runoff = 12.59 cfs @ 11.97 hrs, Volume= 0.594 af, Depth= 1.16"
Routed to Pond 4P : Infiltration Basin 1.2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.163	98	Paved parking, HSG D
0.197	98	Paved parking, HSG D
0.260	98	Paved parking, HSG A
0.100	98	Paved parking, HSG A
0.001	98	Paved parking, HSG A
0.199	98	Paved parking, HSG A
0.003	98	Paved parking, HSG A
0.284	98	Paved parking, HSG D
0.329	98	Paved parking, HSG D
0.258	98	Paved parking, HSG A
0.289	98	Paved parking, HSG A
0.110	98	Paved parking, HSG A
0.004	30	Woods, Good, HSG A
0.255	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.783	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.018	80	>75% Grass cover, Good, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.177	80	>75% Grass cover, Good, HSG D
0.306	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.003	39	>75% Grass cover, Good, HSG A
0.045	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.005	80	>75% Grass cover, Good, HSG D
0.002	77	Woods, Good, HSG D
0.001	98	Paved parking, HSG D
0.117	98	Paved parking, HSG D
0.150	98	Paved parking, HSG D
1.067	98	Paved parking, HSG D
0.042	98	Paved parking, HSG D
0.854	98	Paved parking, HSG D
0.095	98	Paved parking, HSG D
6.130	91	Weighted Average
1.612		26.29% Pervious Area
4.518		73.71% Impervious Area

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

Subcatchment P-1.2: Subcat P-1.2



Summary for Subcatchment P-2: Subcat P-2

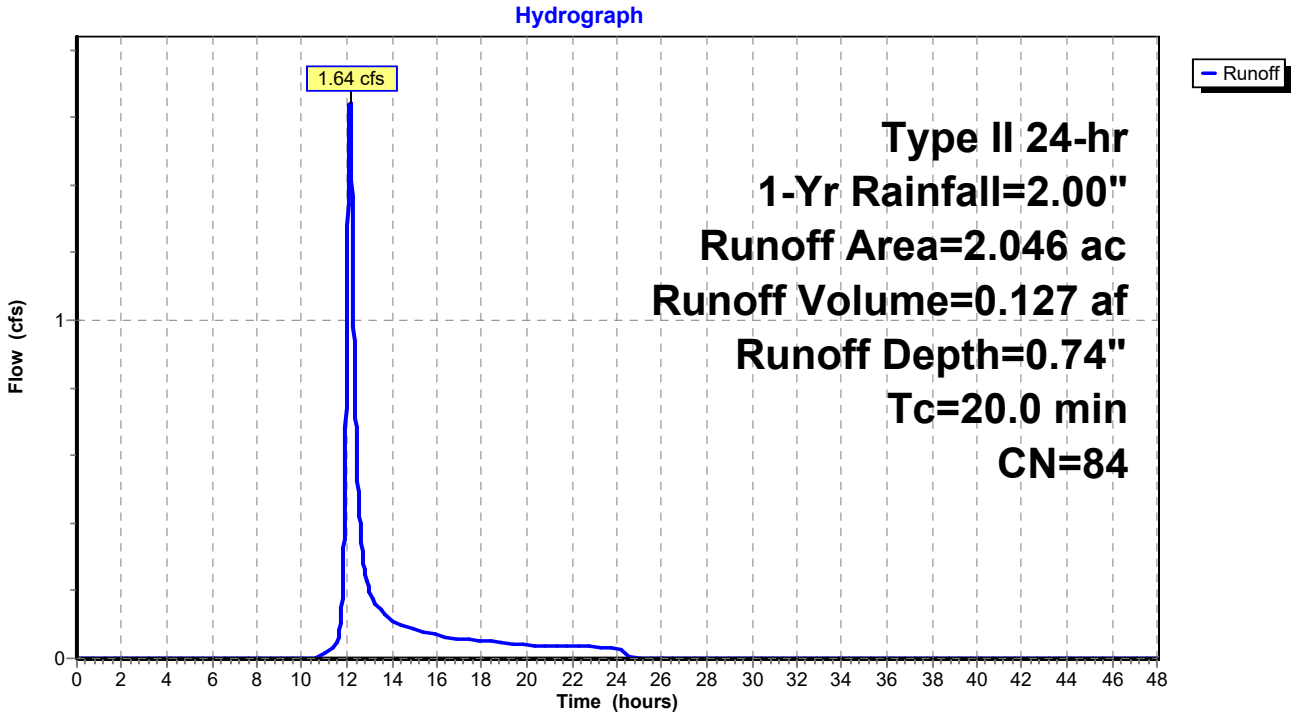
Runoff = 1.64 cfs @ 12.14 hrs, Volume= 0.127 af, Depth= 0.74"
Routed to Pond 1P : Infiltration Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
1.480	80	>75% Grass cover, Good, HSG D
0.039	80	>75% Grass cover, Good, HSG D
0.082	80	>75% Grass cover, Good, HSG D
0.018	98	Paved parking, HSG D
0.018	98	Paved parking, HSG D
0.015	98	Paved parking, HSG D
0.022	98	Paved parking, HSG D
0.062	98	Paved parking, HSG D
0.040	98	Paved parking, HSG D
0.269	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
2.046	84	Weighted Average
1.601		78.24% Pervious Area
0.445		21.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, Same as Existing**

Subcatchment P-2: Subcat P-2



Summary for Subcatchment P-3: Subcat P-3

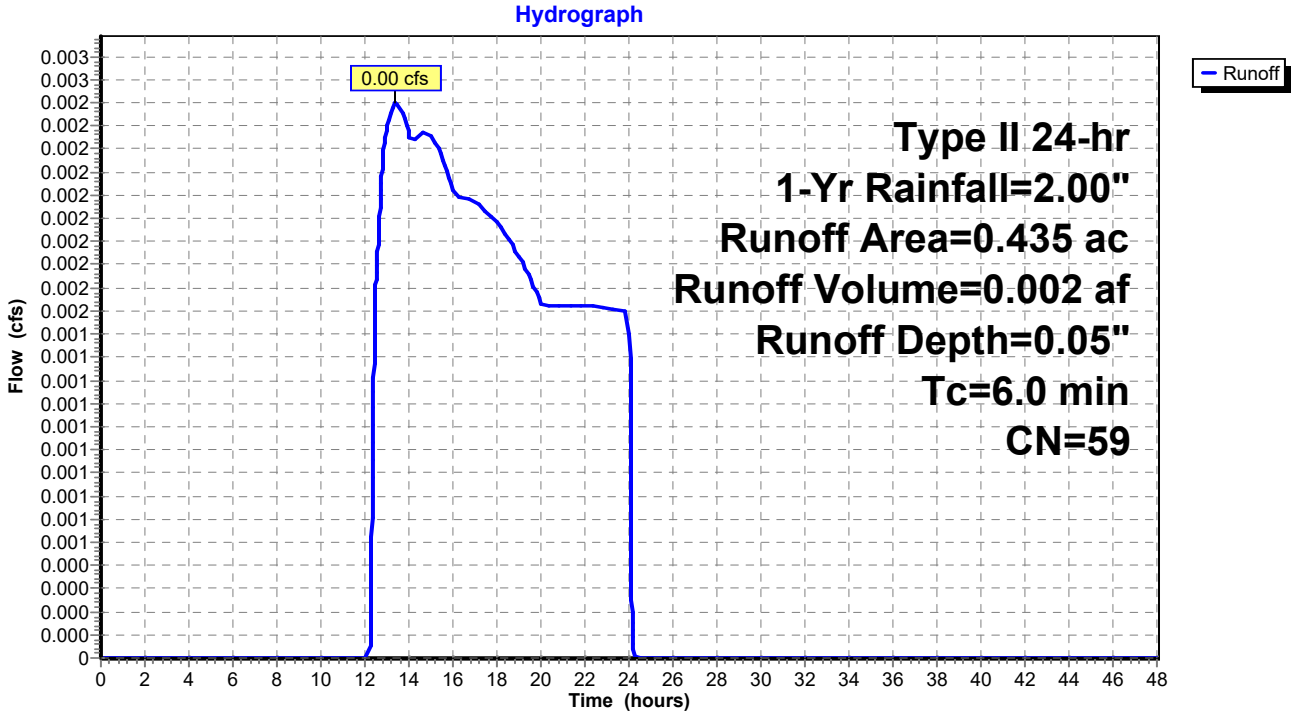
Runoff = 0.00 cfs @ 13.38 hrs, Volume= 0.002 af, Depth= 0.05"
Routed to Link POA-3 : Salina POA 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.002	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.098	39	>75% Grass cover, Good, HSG A
0.125	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.209	80	>75% Grass cover, Good, HSG D
0.000	98	Paved parking, HSG D
0.435	59	Weighted Average
0.432		99.26% Pervious Area
0.003		0.74% Impervious Area

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

Subcatchment P-3: Subcat P-3



Summary for Subcatchment P-4.1: Subcat P-4.1

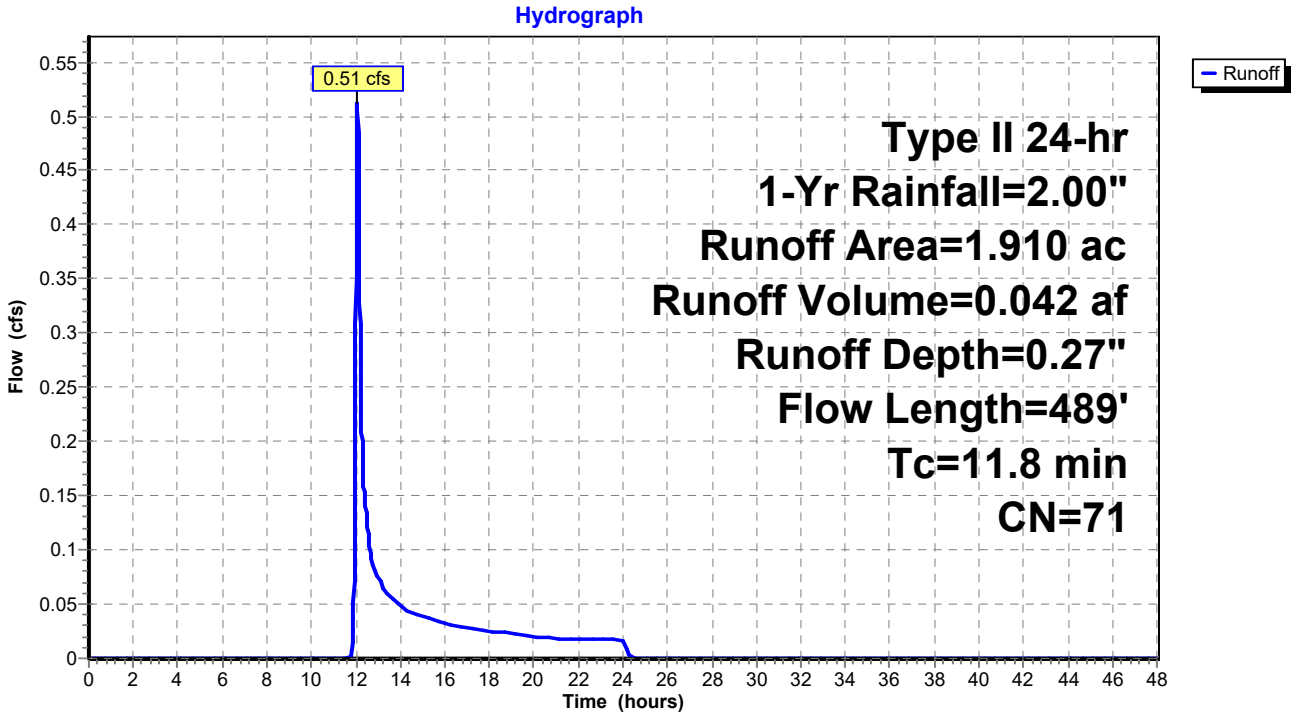
Runoff = 0.51 cfs @ 12.07 hrs, Volume= 0.042 af, Depth= 0.27"
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.078	77	Woods, Good, HSG D
0.000	77	Woods, Good, HSG D
0.189	30	Woods, Good, HSG A
0.034	39	>75% Grass cover, Good, HSG A
0.162	39	>75% Grass cover, Good, HSG A
0.558	80	>75% Grass cover, Good, HSG D
0.857	80	>75% Grass cover, Good, HSG D
0.031	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.001	98	Paved parking, HSG D
1.910	71	Weighted Average
1.878		98.34% Pervious Area
0.032		1.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.0450	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.6	110	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	279	0.0270	2.46		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
11.8	489	Total			

Subcatchment P-4.1: Subcat P-4.1



Summary for Subcatchment P-4.2: Subcat P-4.2

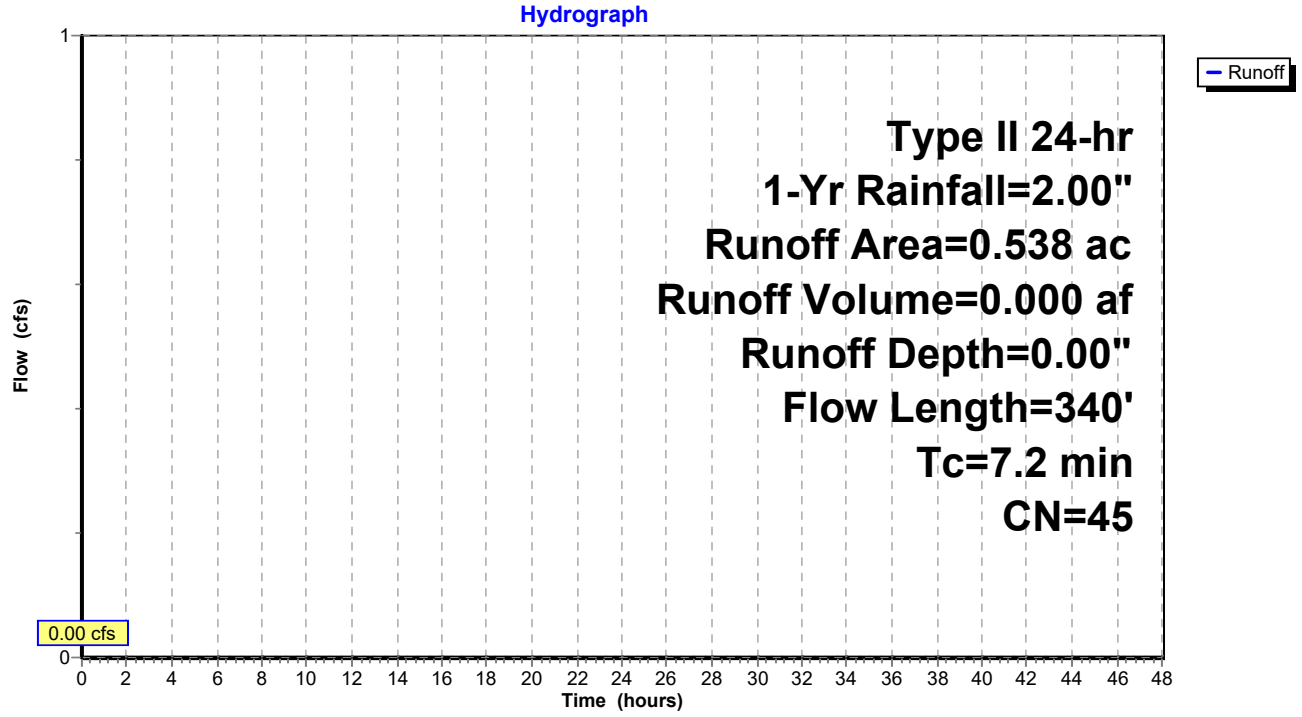
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 17P : Wetland through Center of Development

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.459	39	>75% Grass cover, Good, HSG A
0.000	98	Paved parking, HSG A
0.011	98	Paved parking, HSG A
0.000	98	Paved parking, HSG D
0.001	98	Paved parking, HSG D
0.066	80	>75% Grass cover, Good, HSG D
0.538	45	Weighted Average
0.525		97.70% Pervious Area
0.012		2.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	68	0.0730	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
2.2	272	0.0190	2.07		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.2	340	Total			

Subcatchment P-4.2: Subcat P-4.2



Summary for Subcatchment P-4.3: Subcat P-4.3

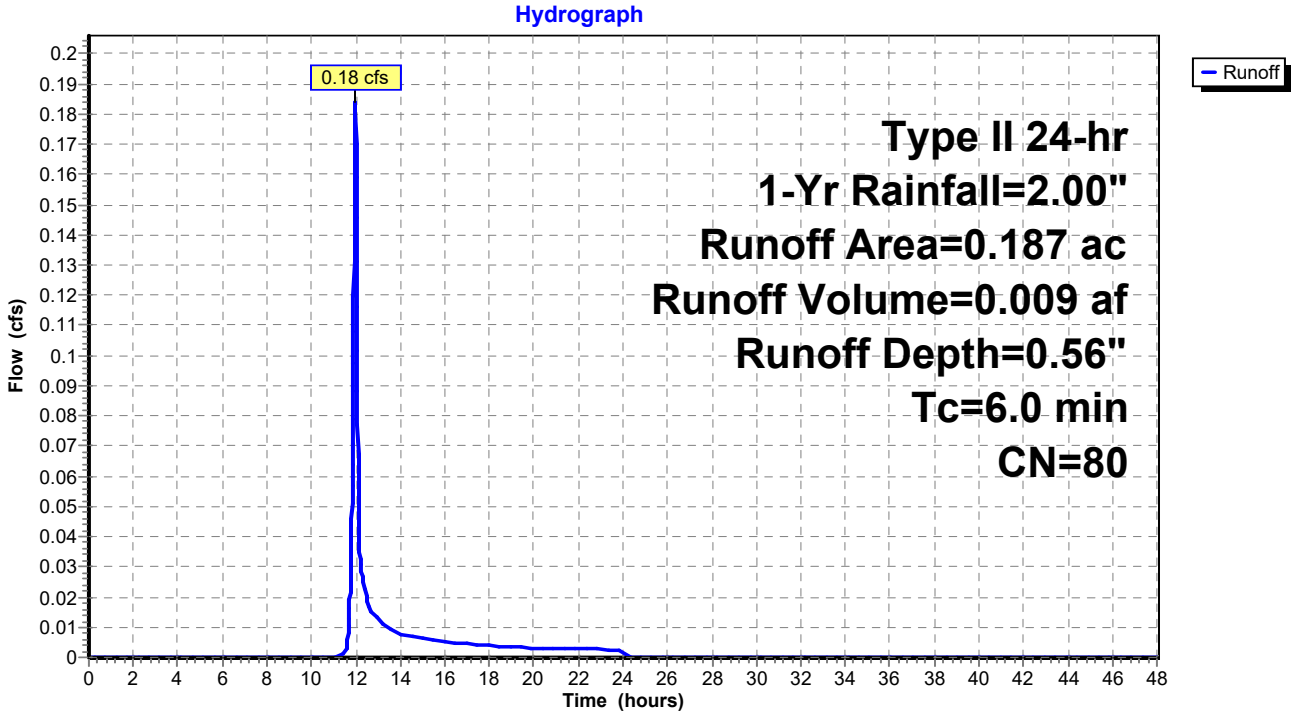
Runoff = 0.18 cfs @ 11.98 hrs, Volume= 0.009 af, Depth= 0.56"
Routed to Pond 18P : Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
0.187	80	>75% Grass cover, Good, HSG D
0.187		100.00% Pervious Area

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

Subcatchment P-4.3: Subcat P-4.3



Summary for Subcatchment P-5: Subcat P-5

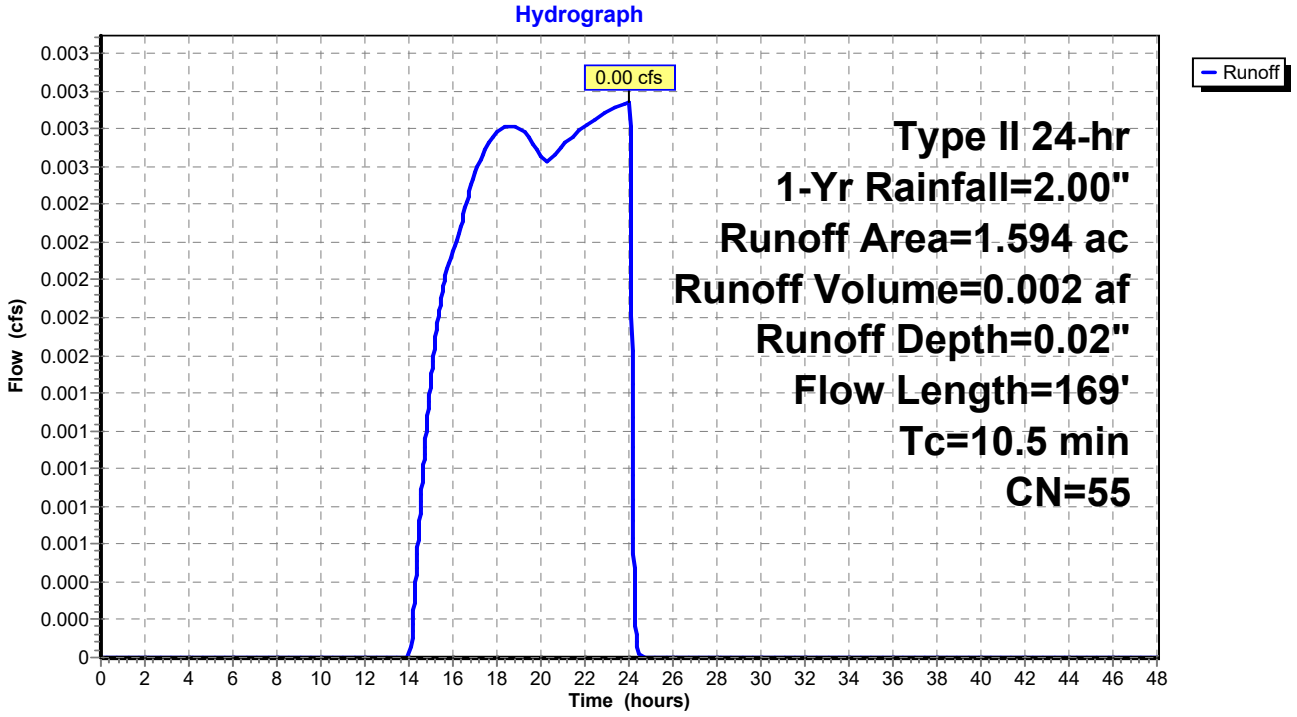
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.002 af, Depth= 0.02"
Routed to Link 11L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Yr Rainfall=2.00"

Area (ac)	CN	Description
1.017	39	>75% Grass cover, Good, HSG A
0.085	98	Paved parking, HSG A
0.001	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.023	98	Paved parking, HSG D
0.468	80	>75% Grass cover, Good, HSG D
1.594	55	Weighted Average
1.485		93.16% Pervious Area
0.109		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.0350	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.4	69	0.0140	0.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	169	Total			

Subcatchment P-5: Subcat P-5



Summary for Pond 1P: Infiltration Basin 2

Inflow Area = 2.046 ac, 21.76% Impervious, Inflow Depth = 0.74" for 1-Yr event
Inflow = 1.64 cfs @ 12.14 hrs, Volume= 0.127 af
Outflow = 0.85 cfs @ 12.34 hrs, Volume= 0.122 af, Atten= 48%, Lag= 12.4 min
Discarded = 0.02 cfs @ 12.34 hrs, Volume= 0.036 af
Primary = 0.84 cfs @ 12.34 hrs, Volume= 0.086 af
Routed to Link POA-2 : E Genessee - POA 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 392.19' @ 12.34 hrs Surf.Area= 1,524 sf Storage= 1,718 cf

Plug-Flow detention time= 275.5 min calculated for 0.122 af (96% of inflow)
Center-of-Mass det. time= 252.0 min (1,115.2 - 863.1)

Volume	Invert	Avail.Storage	Storage Description
#1	390.25'	5,960 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

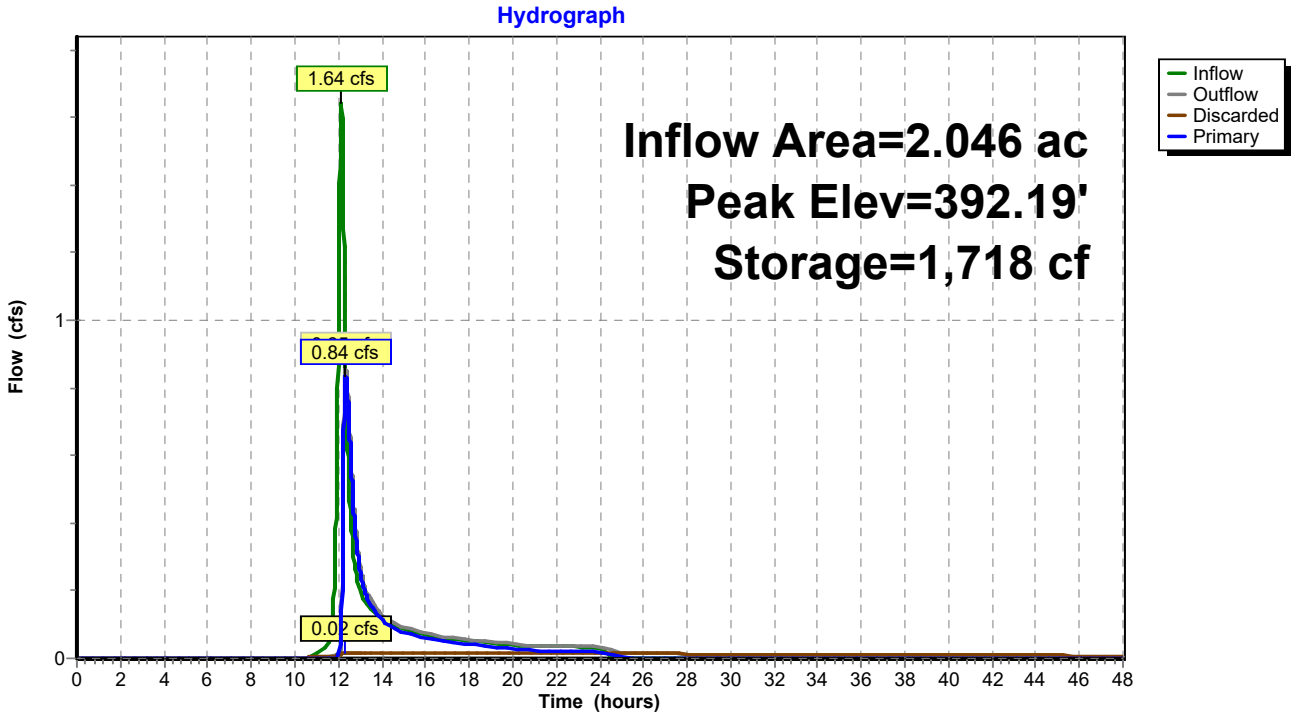
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
390.25	290	0	0
391.00	752	391	391
392.00	1,358	1,055	1,446
393.00	2,234	1,796	3,242
394.00	3,202	2,718	5,960

Device	Routing	Invert	Outlet Devices
#1	Discarded	390.25'	**0.500 in/hr Exfiltration over Surface area**
#2	Primary	391.70'	**15.0" Round Culvert** L= 30.0' Ke= 0.900 Inlet / Outlet Invert= 391.70' / 390.57' S= 0.0377 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.02 cfs @ 12.34 hrs HW=392.19' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.84 cfs @ 12.34 hrs HW=392.19' TW=0.00' (Dynamic Tailwater)
↑**2=Culvert** (Inlet Controls 0.84 cfs @ 1.88 fps)

Pond 1P: Infiltration Basin 2



Summary for Pond 4P: Infiltration Basin 1.2

Inflow Area = 6.130 ac, 73.71% Impervious, Inflow Depth = 1.16" for 1-Yr event
Inflow = 12.59 cfs @ 11.97 hrs, Volume= 0.594 af
Outflow = 0.86 cfs @ 12.64 hrs, Volume= 0.471 af, Atten= 93%, Lag= 39.9 min
Discarded = 0.09 cfs @ 12.64 hrs, Volume= 0.243 af
Primary = 0.76 cfs @ 12.64 hrs, Volume= 0.228 af
Routed to Pond 18P : Detention Pond 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 391.41' @ 12.64 hrs Surf.Area= 7,994 sf Storage= 13,947 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 489.0 min (1,307.2 - 818.2)

Volume	Invert	Avail.Storage	Storage Description
#1	389.00'	41,844 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
389.00	4,292	0	0
390.00	5,410	4,851	4,851
391.00	6,705	6,058	10,909
392.00	9,824	8,265	19,173
393.00	11,959	10,892	30,065
394.00	11,600	11,780	41,844

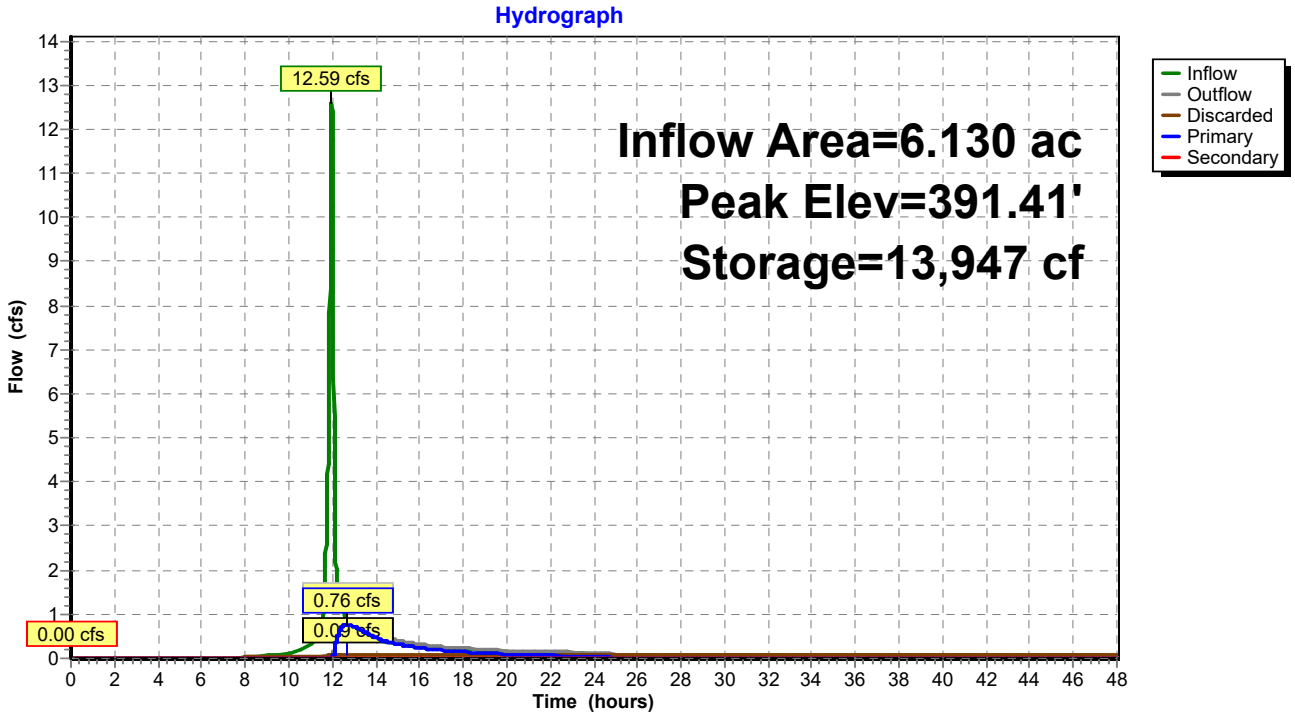
Device	Routing	Invert	Outlet Devices
#1	Primary	391.00'	**24.0" Round Culvert** L= 100.0' Ke= 0.900 Inlet / Outlet Invert= 391.00' / 390.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	393.50'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	389.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.09 cfs @ 12.64 hrs HW=391.41' (Free Discharge)
↑—**3=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.76 cfs @ 12.64 hrs HW=391.41' TW=390.49' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 0.76 cfs @ 2.47 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=389.00' TW=388.55' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Infiltration Basin 1.2



Summary for Pond 8P: Infiltration Basin 1.1

Inflow Area = 4.787 ac, 70.72% Impervious, Inflow Depth = 1.16" for 1-Yr event
Inflow = 9.83 cfs @ 11.97 hrs, Volume= 0.464 af
Outflow = 5.25 cfs @ 12.06 hrs, Volume= 0.427 af, Atten= 47%, Lag= 5.0 min
Discarded = 0.05 cfs @ 12.06 hrs, Volume= 0.091 af
Primary = 5.20 cfs @ 12.06 hrs, Volume= 0.336 af
Routed to Pond 18P : Detention Pond 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 392.23' @ 12.06 hrs Surf.Area= 4,325 sf Storage= 7,529 cf

Plug-Flow detention time= 243.1 min calculated for 0.427 af (92% of inflow)
Center-of-Mass det. time= 200.5 min (1,018.8 - 818.2)

Volume	Invert	Avail.Storage	Storage Description
#1	389.00'	27,071 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
389.00	961	0	0
390.00	1,644	1,303	1,303
391.00	2,522	2,083	3,386
392.00	3,904	3,213	6,599
393.00	5,764	4,834	11,433
394.00	7,810	6,787	18,220
395.00	9,892	8,851	27,071

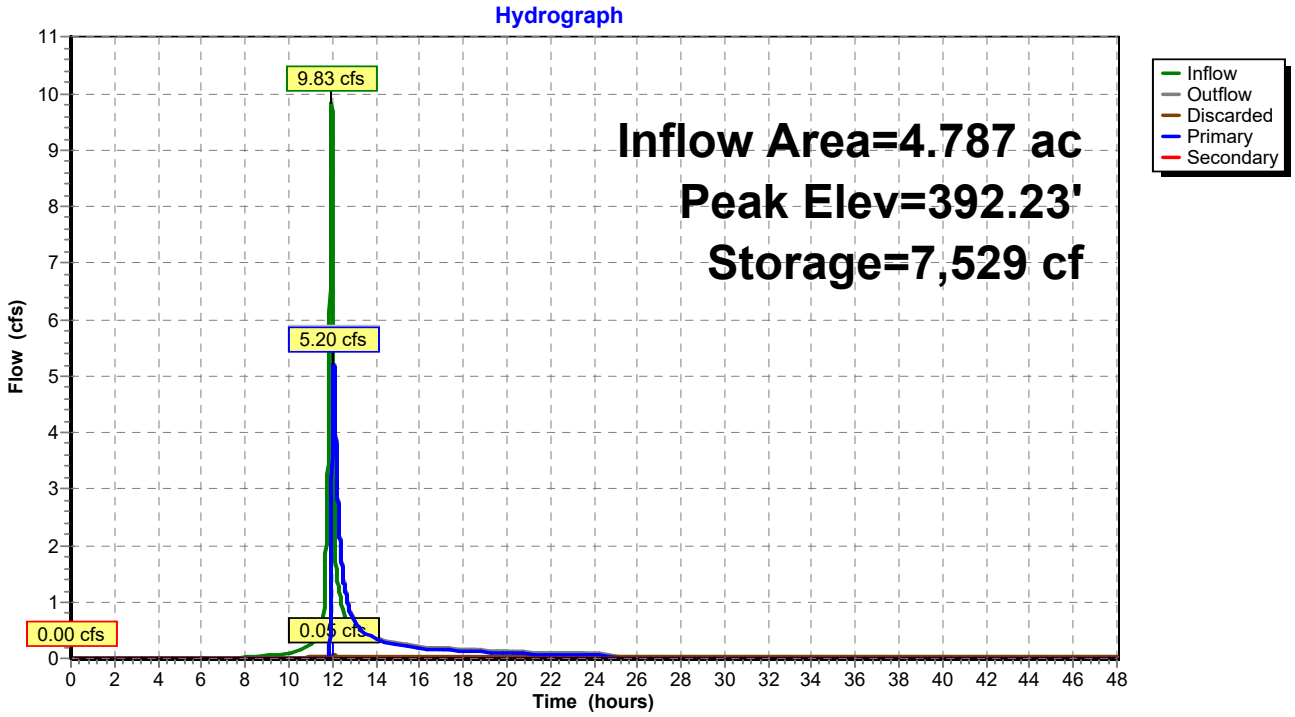
Device	Routing	Invert	Outlet Devices
#1	Primary	391.10'	**24.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 391.10' / 390.50' S= 0.0120 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	394.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	389.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.05 cfs @ 12.06 hrs HW=392.23' (Free Discharge)
↑└**3=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=5.19 cfs @ 12.06 hrs HW=392.23' TW=390.43' (Dynamic Tailwater)
↑└**1=Culvert** (Inlet Controls 5.19 cfs @ 2.85 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=389.00' TW=388.55' (Dynamic Tailwater)
↑└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 8P: Infiltration Basin 1.1



Summary for Pond 13P: Existing Detention Pond 2

Inflow Area = 6.067 ac, 65.00% Impervious, Inflow Depth = 1.24" for 1-Yr event
Inflow = 13.15 cfs @ 11.97 hrs, Volume= 0.625 af
Outflow = 3.79 cfs @ 12.10 hrs, Volume= 0.624 af, Atten= 71%, Lag= 7.7 min
Primary = 3.79 cfs @ 12.10 hrs, Volume= 0.624 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 419.11' @ 12.10 hrs Surf.Area= 4,592 sf Storage= 9,698 cf

Plug-Flow detention time= 62.6 min calculated for 0.624 af (100% of inflow)
Center-of-Mass det. time= 61.4 min (874.2 - 812.8)

Volume	Invert	Avail.Storage	Storage Description
#1	417.00'	41,328 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

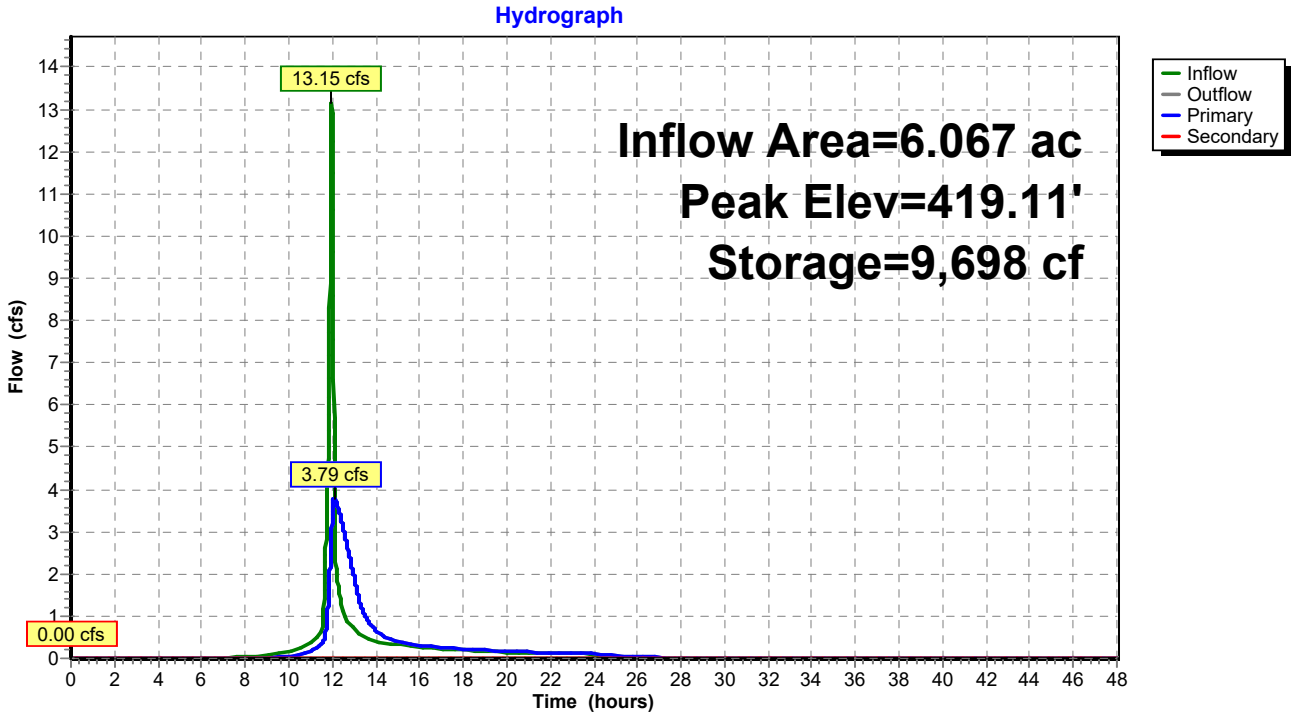
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
417.00	4,592	0	0
426.00	4,592	41,328	41,328

Device	Routing	Invert	Outlet Devices
#1	Primary	417.00'	**12.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 417.00' / 416.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Secondary	425.99'	**120.0' 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=3.79 cfs @ 12.10 hrs HW=419.11' TW=391.92' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.79 cfs @ 4.83 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=417.00' TW=391.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 13P: Existing Detention Pond 2



Summary for Pond 14P: Existing Detention Pond 1

Inflow Area = 29.800 ac, 38.00% Impervious, Inflow Depth = 0.91" for 1-Yr event
Inflow = 38.31 cfs @ 12.04 hrs, Volume= 2.249 af
Outflow = 19.40 cfs @ 12.18 hrs, Volume= 2.249 af, Atten= 49%, Lag= 8.2 min
Primary = 19.40 cfs @ 12.18 hrs, Volume= 2.249 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 439.51' @ 12.18 hrs Surf.Area= 11,110 sf Storage= 17,686 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 9.6 min (852.7 - 843.1)

Volume	Invert	Avail.Storage	Storage Description
#1	436.00'	175,820 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

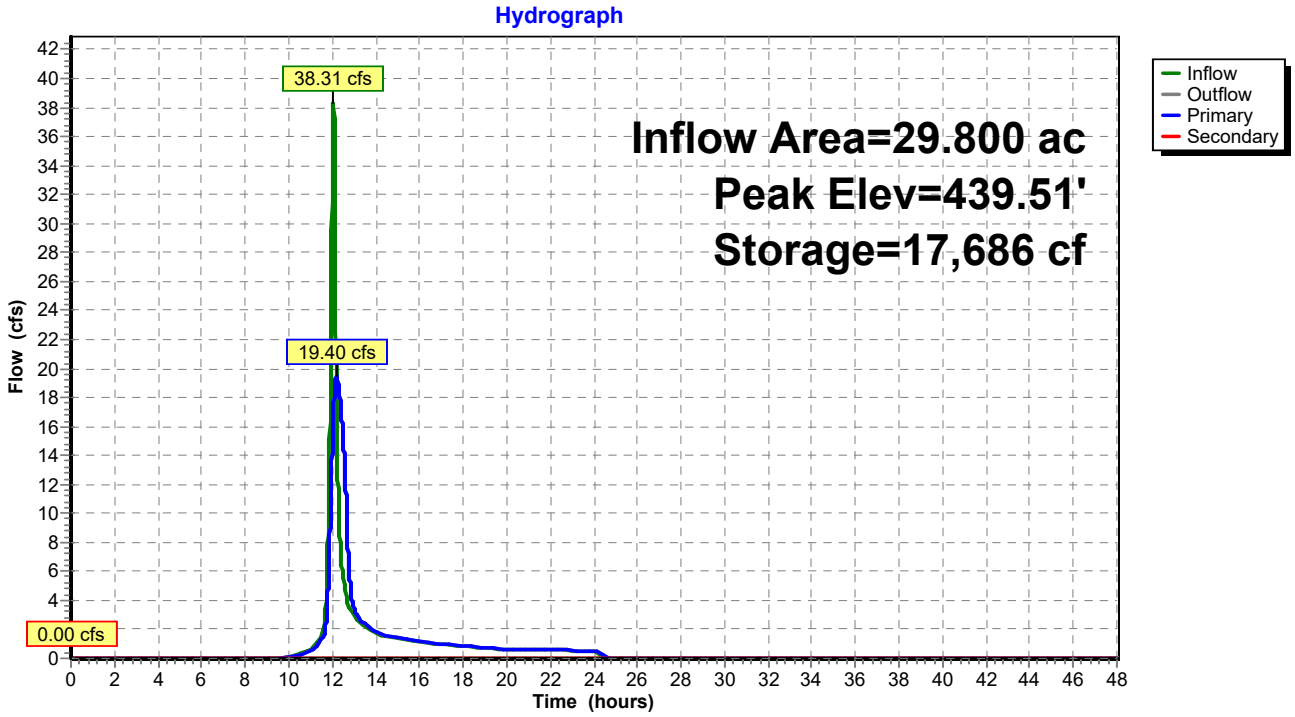
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
436.00	1,293	0	0
437.00	2,795	2,044	2,044
438.00	4,823	3,809	5,853
439.00	8,731	6,777	12,630
440.00	13,398	11,065	23,695
441.00	20,094	16,746	40,441
442.00	25,075	22,585	63,025
443.00	29,038	27,057	90,082
444.00	33,107	31,073	121,154
445.00	37,358	35,233	156,387
445.50	40,375	19,433	175,820

Device	Routing	Invert	Outlet Devices
#1	Primary	435.87'	**24.0" Round Culvert** L= 1,930.0' Ke= 0.900 Inlet / Outlet Invert= 435.87' / 395.00' S= 0.0212 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	444.50'	**48.0' long x 20.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=19.40 cfs @ 12.18 hrs HW=439.51' TW=391.96' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 19.40 cfs @ 6.18 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=436.00' TW=391.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 14P: Existing Detention Pond 1



Summary for Pond 16P: Wetland Pre Street Crossing Storage

Inflow Area = 77.319 ac, 32.84% Impervious, Inflow Depth = 0.83" for 1-Yr event
Inflow = 37.15 cfs @ 12.38 hrs, Volume= 5.367 af
Outflow = 37.13 cfs @ 12.39 hrs, Volume= 5.367 af, Atten= 0%, Lag= 0.8 min
Primary = 37.13 cfs @ 12.39 hrs, Volume= 5.367 af
Routed to Pond 17P : Wetland through Center of Development

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 392.03' @ 12.39 hrs Surf.Area= 2,711 sf Storage= 1,380 cf

Plug-Flow detention time= 0.8 min calculated for 5.365 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (873.2 - 872.4)

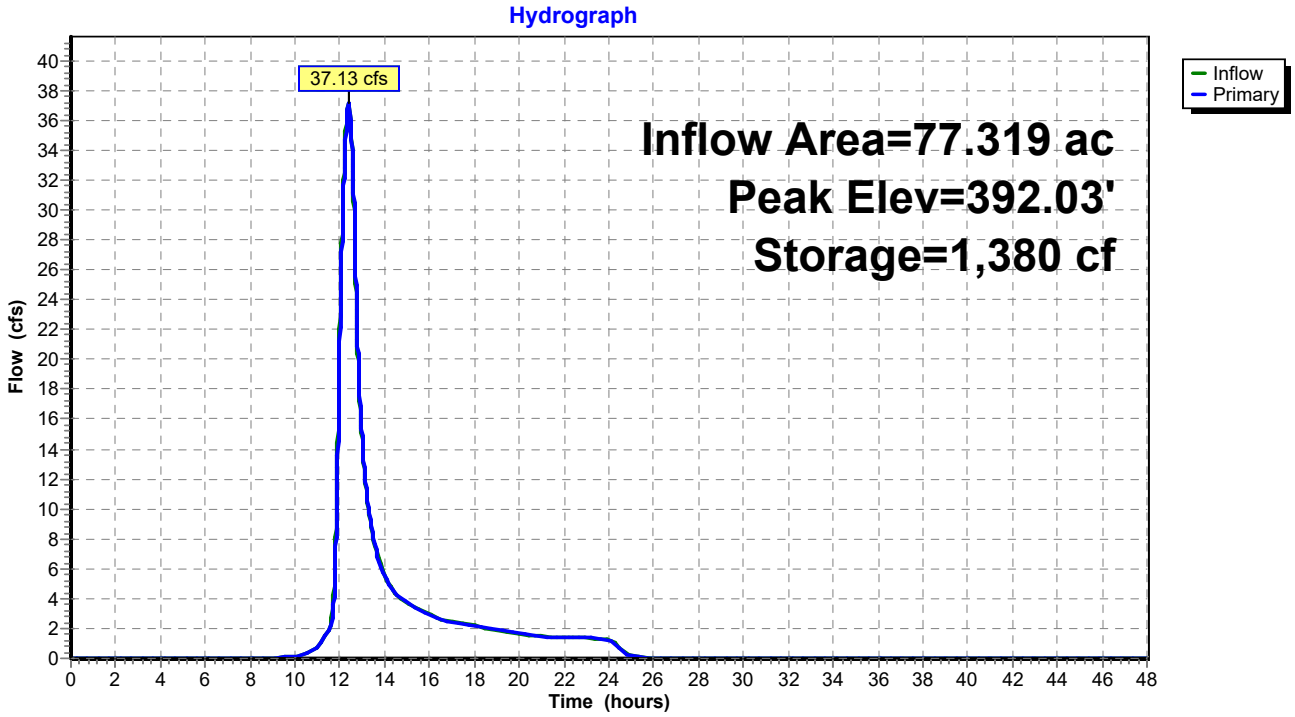
Volume	Invert	Avail.Storage	Storage Description
#1	391.00'	15,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
391.00	0	0	0
392.00	2,603	1,302	1,302
393.00	6,272	4,438	5,739
394.00	12,566	9,419	15,158

Device	Routing	Invert	Outlet Devices
#1	Primary	391.00'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 166.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 390.00' / 390.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 36.00 sf
#2	Primary	391.50'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 94.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 390.50' / 390.00' S= 0.0053 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 36.00 sf

Primary OutFlow Max=37.13 cfs @ 12.39 hrs HW=392.03' TW=390.71' (Dynamic Tailwater)
1=Culvert (Barrel Controls 22.29 cfs @ 2.41 fps)
2=Culvert (Inlet Controls 14.84 cfs @ 2.34 fps)

Pond 16P: Wetland Pre Street Crossing Storage



Summary for Pond 17P: Wetland through Center of Development

Inflow Area = 77.856 ac, 32.63% Impervious, Inflow Depth = 0.83" for 1-Yr event
Inflow = 37.13 cfs @ 12.39 hrs, Volume= 5.367 af
Outflow = 37.10 cfs @ 12.41 hrs, Volume= 5.366 af, Atten= 0%, Lag= 1.4 min
Primary = 37.10 cfs @ 12.41 hrs, Volume= 5.366 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 390.71' @ 12.41 hrs Surf.Area= 4,064 sf Storage= 3,106 cf

Plug-Flow detention time= 2.7 min calculated for 5.366 af (100% of inflow)
Center-of-Mass det. time= 2.7 min (875.9 - 873.2)

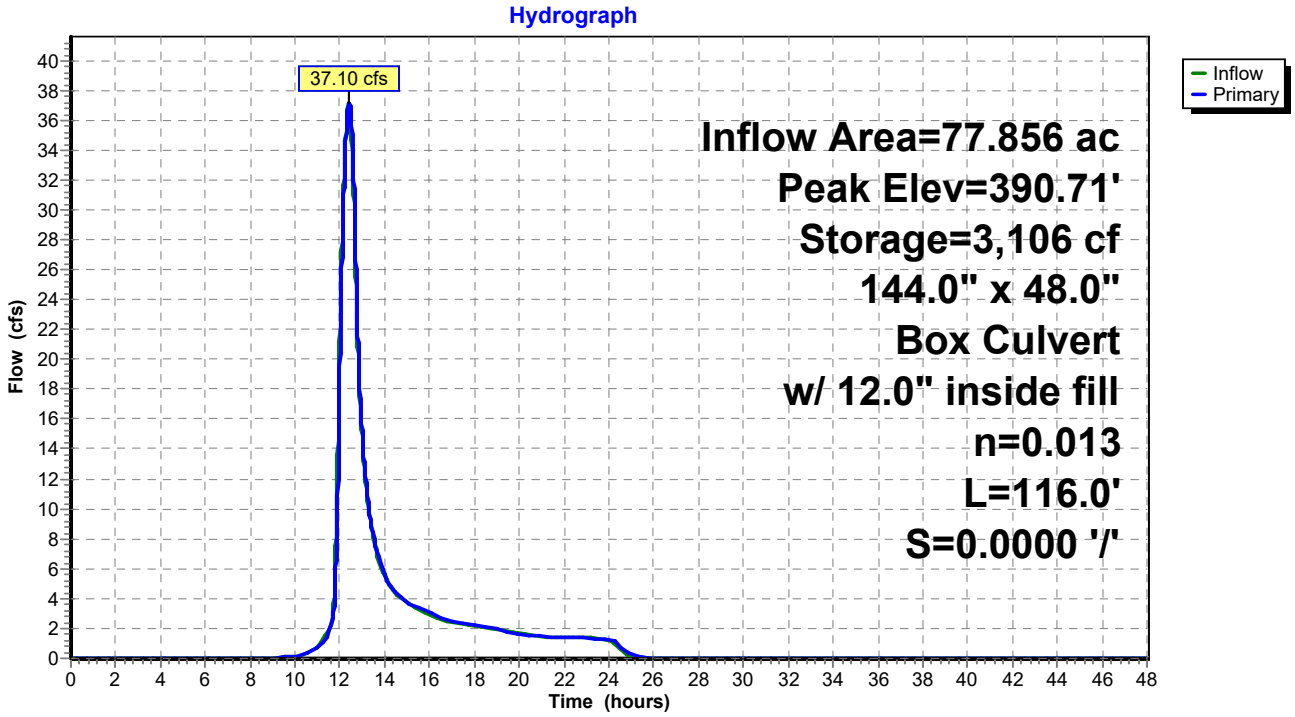
Volume	Invert	Avail.Storage	Storage Description
#1	388.50'	26,403 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.50	0	0	0
390.00	1,512	1,134	1,134
391.00	5,119	3,316	4,450
392.00	6,563	5,841	10,291
393.00	7,968	7,266	17,556
394.00	9,725	8,847	26,403

Device	Routing	Invert	Outlet Devices
#1	Primary	388.55'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 116.0' Ke= 0.900 Inlet / Outlet Invert= 387.55' / 387.55' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 36.00 sf

Primary OutFlow Max=37.09 cfs @ 12.41 hrs HW=390.71' TW=390.56' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 37.09 cfs @ 1.43 fps)

Pond 17P: Wetland through Center of Development



Summary for Pond 18P: Detention Pond 1

Inflow Area = 88.961 ac, 37.44% Impervious, Inflow Depth = 0.80" for 1-Yr event
Inflow = 39.60 cfs @ 12.40 hrs, Volume= 5.939 af
Outflow = 39.58 cfs @ 12.41 hrs, Volume= 5.939 af, Atten= 0%, Lag= 0.7 min
Primary = 5.78 cfs @ 12.41 hrs, Volume= 3.197 af
Routed to Link 11L : POA 1
Secondary = 33.81 cfs @ 12.41 hrs, Volume= 2.742 af
Routed to Link 11L : POA 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 390.56' @ 12.41 hrs Surf.Area= 3,391 sf Storage= 5,536 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 8.6 min (885.2 - 876.6)

Volume	Invert	Avail.Storage	Storage Description
#1	388.55'	7,084 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

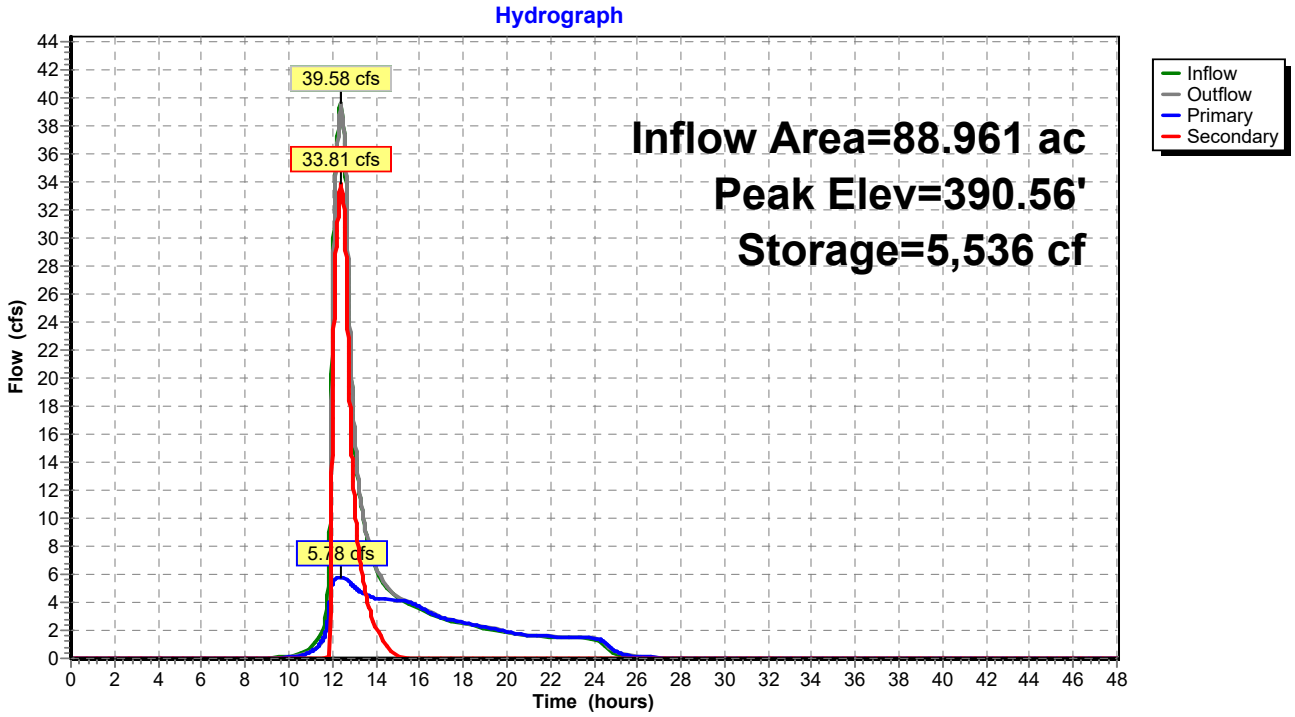
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.55	2,068	0	0
389.00	2,354	995	995
390.00	3,102	2,728	3,723
391.00	3,620	3,361	7,084

Device	Routing	Invert	Outlet Devices
#1	Primary	388.40'	**15.0" Round Culvert** L= 20.0' Ke= 0.900 Inlet / Outlet Invert= 388.40' / 388.39' S= 0.0005 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	390.00'	**30.0' long x 15.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=5.78 cfs @ 12.41 hrs HW=390.56' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 5.78 cfs @ 4.71 fps)

Secondary OutFlow Max=33.80 cfs @ 12.41 hrs HW=390.56' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 33.80 cfs @ 2.02 fps)

Pond 18P: Detention Pond 1

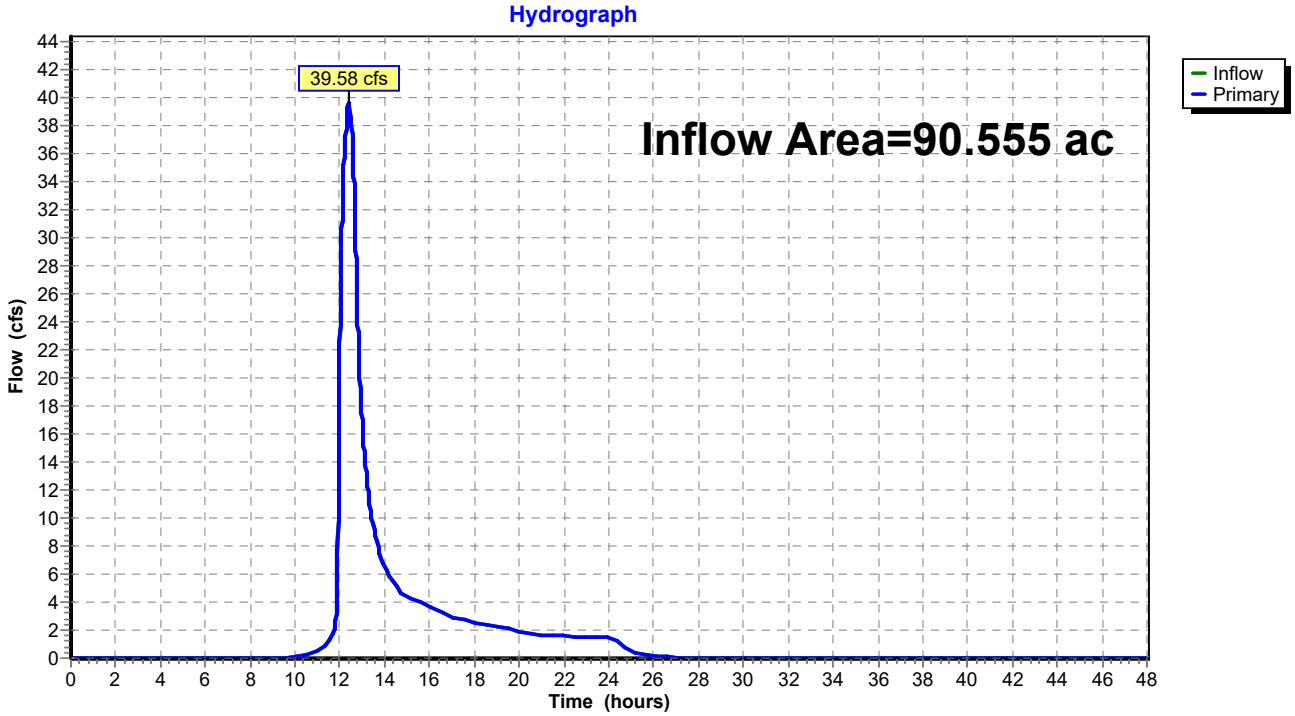


Summary for Link 11L: POA 1

Inflow Area = 90.555 ac, 36.90% Impervious, Inflow Depth = 0.79" for 1-Yr event
Inflow = 39.58 cfs @ 12.41 hrs, Volume= 5.941 af
Primary = 39.58 cfs @ 12.41 hrs, Volume= 5.941 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 11L: POA 1

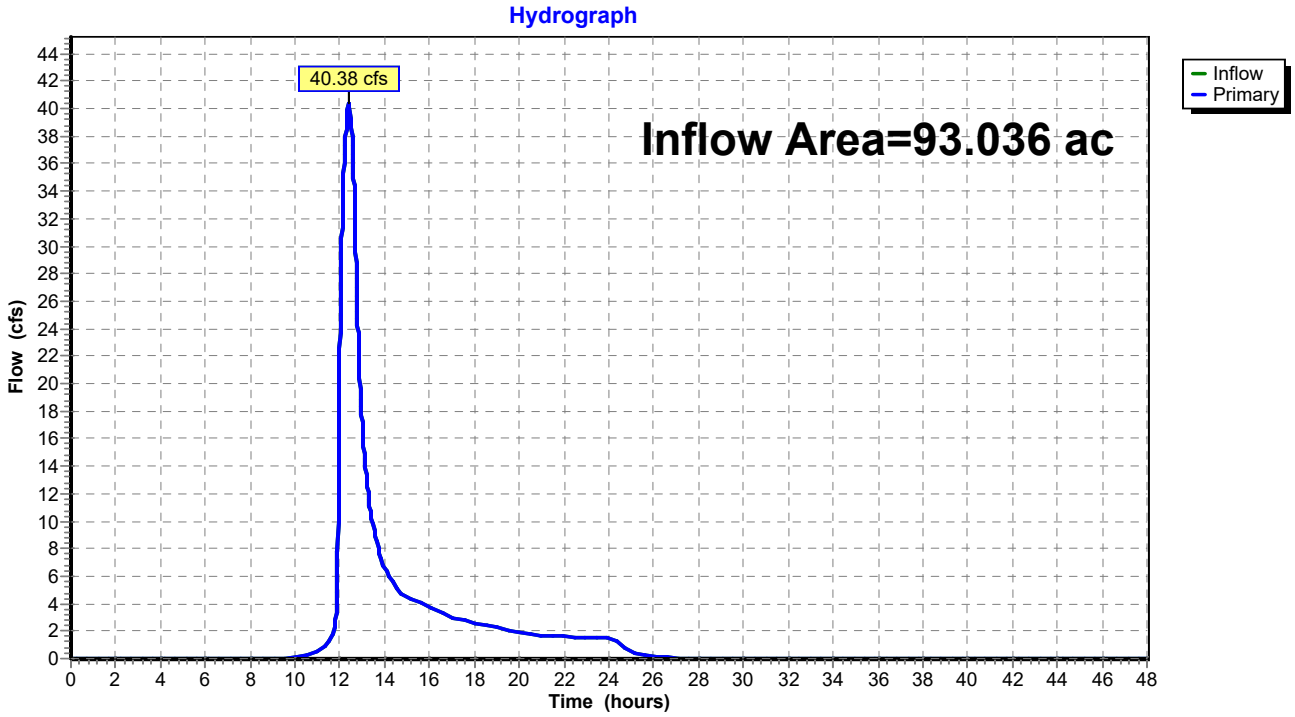


Summary for Link 12L: eNOI

Inflow Area = 93.036 ac, 36.40% Impervious, Inflow Depth = 0.78" for 1-Yr event
Inflow = 40.38 cfs @ 12.40 hrs, Volume= 6.029 af
Primary = 40.38 cfs @ 12.40 hrs, Volume= 6.029 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 12L: eNOI

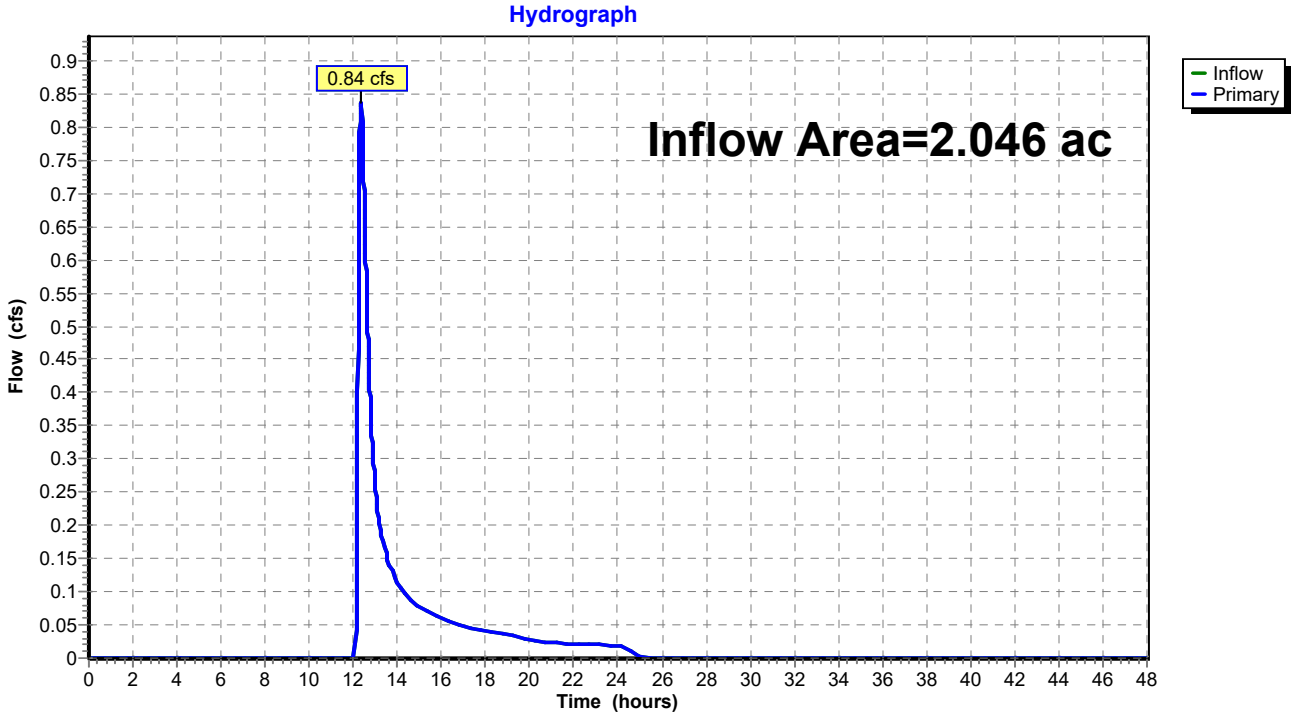


Summary for Link POA-2: E Genessee - POA 2

Inflow Area = 2.046 ac, 21.76% Impervious, Inflow Depth = 0.50" for 1-Yr event
Inflow = 0.84 cfs @ 12.34 hrs, Volume= 0.086 af
Primary = 0.84 cfs @ 12.34 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link POA-2: E Genessee - POA 2

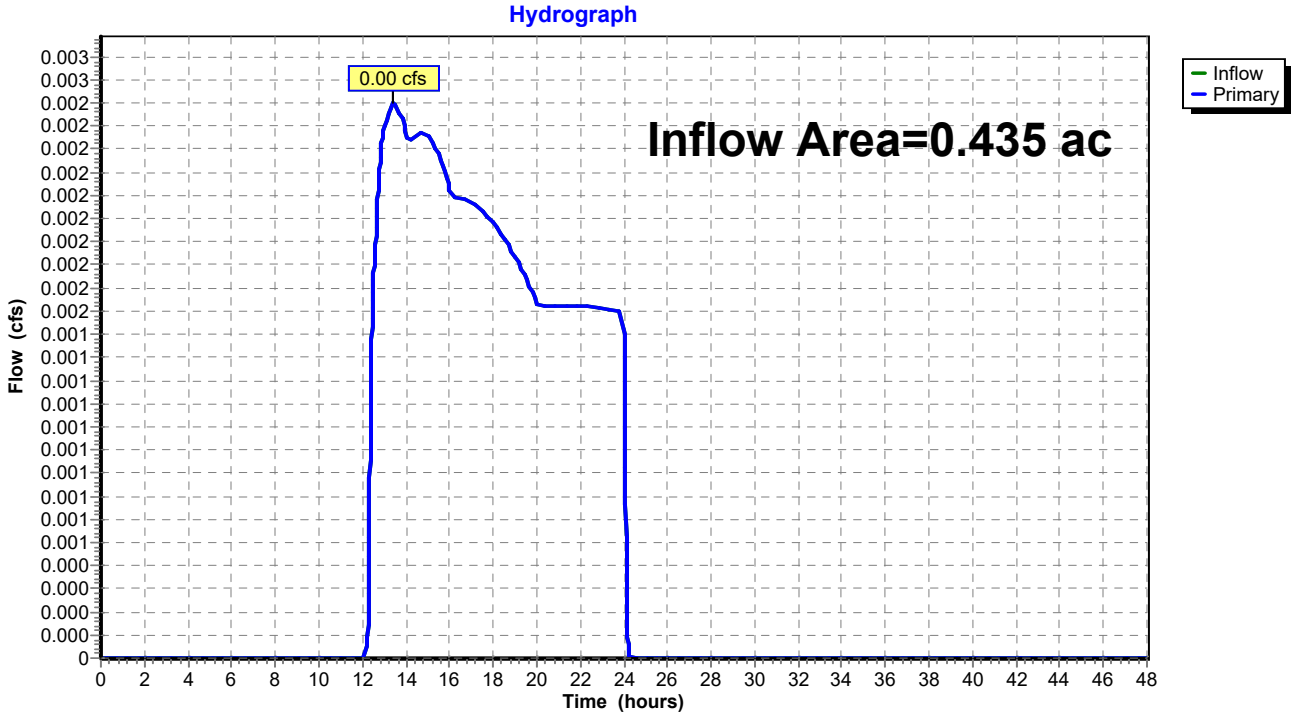


Summary for Link POA-3: Salina POA 3

Inflow Area = 0.435 ac, 0.74% Impervious, Inflow Depth = 0.05" for 1-Yr event
Inflow = 0.00 cfs @ 13.38 hrs, Volume= 0.002 af
Primary = 0.00 cfs @ 13.38 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link POA-3: Salina POA 3



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 6S: Watershed to Detention Runoff Area=29.800 ac 38.00% Impervious Runoff Depth=2.00"
Flow Length=1,781' Tc=12.3 min CN=87 Runoff=84.30 cfs 4.976 af

Subcatchment 8S: Watershed Directly to Runoff Area=39.542 ac 25.53% Impervious Runoff Depth=1.77"
Flow Length=1,698' Tc=48.2 min CN=84 Runoff=43.73 cfs 5.821 af

Subcatchment 13S: Watershed to Runoff Area=6.067 ac 65.00% Impervious Runoff Depth=2.45"
Tc=6.0 min CN=92 Runoff=25.05 cfs 1.237 af

Subcatchment P-1.1: Subcat P-1.1 Runoff Area=4.787 ac 70.72% Impervious Runoff Depth=2.35"
Tc=6.0 min CN=91 Runoff=19.20 cfs 0.938 af

Subcatchment P-1.2: Subcat P-1.2 Runoff Area=6.130 ac 73.71% Impervious Runoff Depth=2.35"
Tc=6.0 min CN=91 Runoff=24.59 cfs 1.202 af

Subcatchment P-2: Subcat P-2 Runoff Area=2.046 ac 21.76% Impervious Runoff Depth=1.77"
Tc=20.0 min CN=84 Runoff=4.02 cfs 0.301 af

Subcatchment P-3: Subcat P-3 Runoff Area=0.435 ac 0.74% Impervious Runoff Depth=0.41"
Tc=6.0 min CN=59 Runoff=0.24 cfs 0.015 af

Subcatchment P-4.1: Subcat P-4.1 Runoff Area=1.910 ac 1.66% Impervious Runoff Depth=0.94"
Flow Length=489' Tc=11.8 min CN=71 Runoff=2.47 cfs 0.149 af

Subcatchment P-4.2: Subcat P-4.2 Runoff Area=0.538 ac 2.30% Impervious Runoff Depth=0.06"
Flow Length=340' Tc=7.2 min CN=45 Runoff=0.00 cfs 0.003 af

Subcatchment P-4.3: Subcat P-4.3 Runoff Area=0.187 ac 0.00% Impervious Runoff Depth=1.48"
Tc=6.0 min CN=80 Runoff=0.50 cfs 0.023 af

Subcatchment P-5: Subcat P-5 Runoff Area=1.594 ac 6.84% Impervious Runoff Depth=0.28"
Flow Length=169' Tc=10.5 min CN=55 Runoff=0.32 cfs 0.037 af

Pond 1P: Infiltration Basin 2 Peak Elev=392.79' Storage=2,800 cf Inflow=4.02 cfs 0.301 af
Discarded=0.02 cfs 0.038 af Primary=3.20 cfs 0.257 af Outflow=3.23 cfs 0.296 af

Pond 4P: Infiltration Basin 1.2 Peak Elev=392.48' Storage=24,086 cf Inflow=24.59 cfs 1.202 af
Discarded=0.13 cfs 0.262 af Primary=7.64 cfs 0.812 af Secondary=0.00 cfs 0.000 af Outflow=7.77 cfs 1.074 af

Pond 8P: Infiltration Basin 1.1 Peak Elev=393.09' Storage=11,962 cf Inflow=19.20 cfs 0.938 af
Discarded=0.07 cfs 0.098 af Primary=11.91 cfs 0.803 af Secondary=0.00 cfs 0.000 af Outflow=11.98 cfs 0.901 af

Pond 13P: Existing Detention Pond 2 Peak Elev=421.27' Storage=19,626 cf Inflow=25.05 cfs 1.237 af
Primary=5.80 cfs 1.235 af Secondary=0.00 cfs 0.000 af Outflow=5.80 cfs 1.235 af

Pond 14P: Existing Detention Pond 1 Peak Elev=441.75' Storage=57,023 cf Inflow=84.30 cfs 4.976 af
Primary=26.39 cfs 4.976 af Secondary=0.00 cfs 0.000 af Outflow=26.39 cfs 4.976 af

Pond 16P: Wetland Pre Street Crossing Peak Elev=392.44' Storage=2,788 cf Inflow=74.86 cfs 12.181 af
Outflow=74.84 cfs 12.181 af

Pond 17P: Wetland through Center of Peak Elev=391.35' Storage=6,328 cf Inflow=74.84 cfs 12.183 af
144.0" x 48.0" Box Culvert w/ 12.0" inside fill n=0.013 L=116.0' S=0.0000 '/' Outflow=74.86 cfs 12.183 af

Pond 18P: Detention Pond 1 Peak Elev=390.97' Storage=6,991 cf Inflow=82.44 cfs 13.821 af
Primary=6.51 cfs 5.036 af Secondary=75.91 cfs 8.784 af Outflow=82.42 cfs 13.821 af

Link 11L: POA 1 Inflow=82.53 cfs 13.858 af
Primary=82.53 cfs 13.858 af

Link 12L: eNOI Inflow=84.63 cfs 14.130 af
Primary=84.63 cfs 14.130 af

Link POA-2: E Genessee - POA 2 Inflow=3.20 cfs 0.257 af
Primary=3.20 cfs 0.257 af

Link POA-3: Salina POA 3 Inflow=0.24 cfs 0.015 af
Primary=0.24 cfs 0.015 af

Total Runoff Area = 93.036 ac Runoff Volume = 14.701 af Average Runoff Depth = 1.90"
63.60% Pervious = 59.169 ac 36.40% Impervious = 33.867 ac

Summary for Subcatchment 6S: Watershed to Detention Pond 1

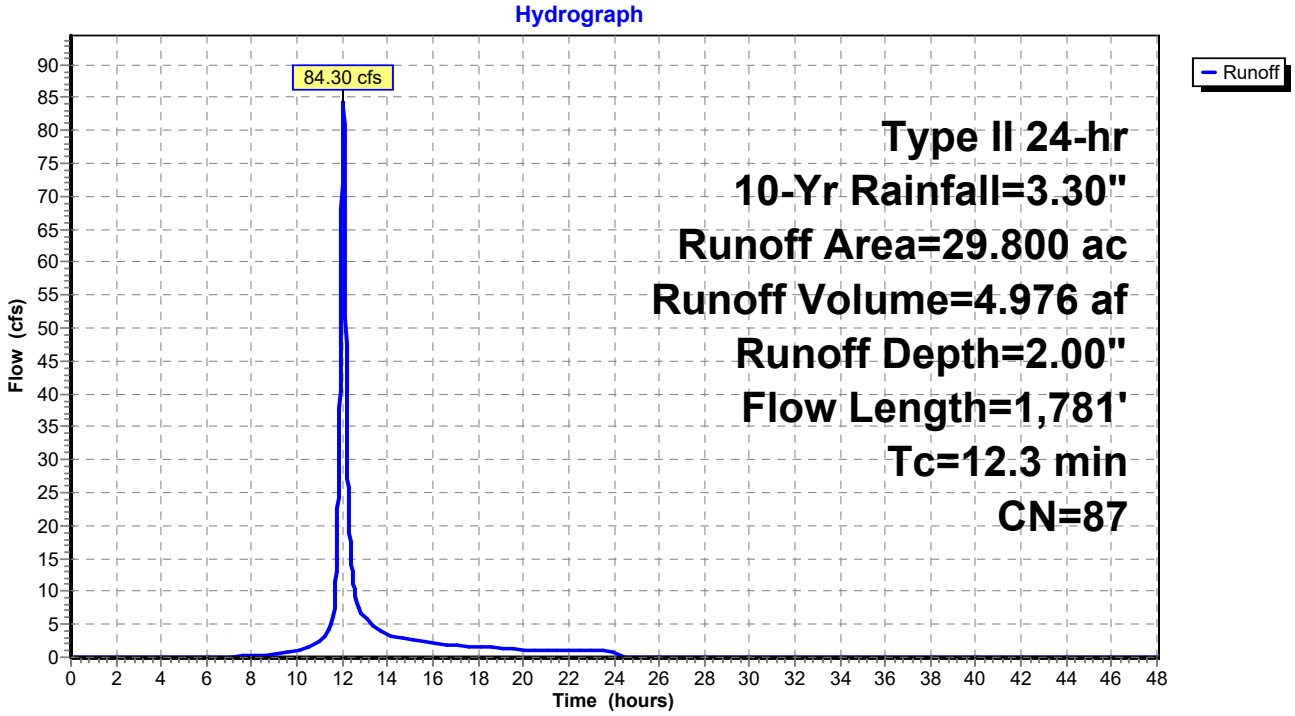
Runoff = 84.30 cfs @ 12.04 hrs, Volume= 4.976 af, Depth= 2.00"
Routed to Pond 14P : Existing Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
29.800	87	1/4 acre lots, 38% imp, HSG D
18.476		62.00% Pervious Area
11.324		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0500	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.8	192	0.0680	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.6	1,489	0.2200	9.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.3	1,781	Total			

Subcatchment 6S: Watershed to Detention Pond 1



Summary for Subcatchment 8S: Watershed Directly to Project Site

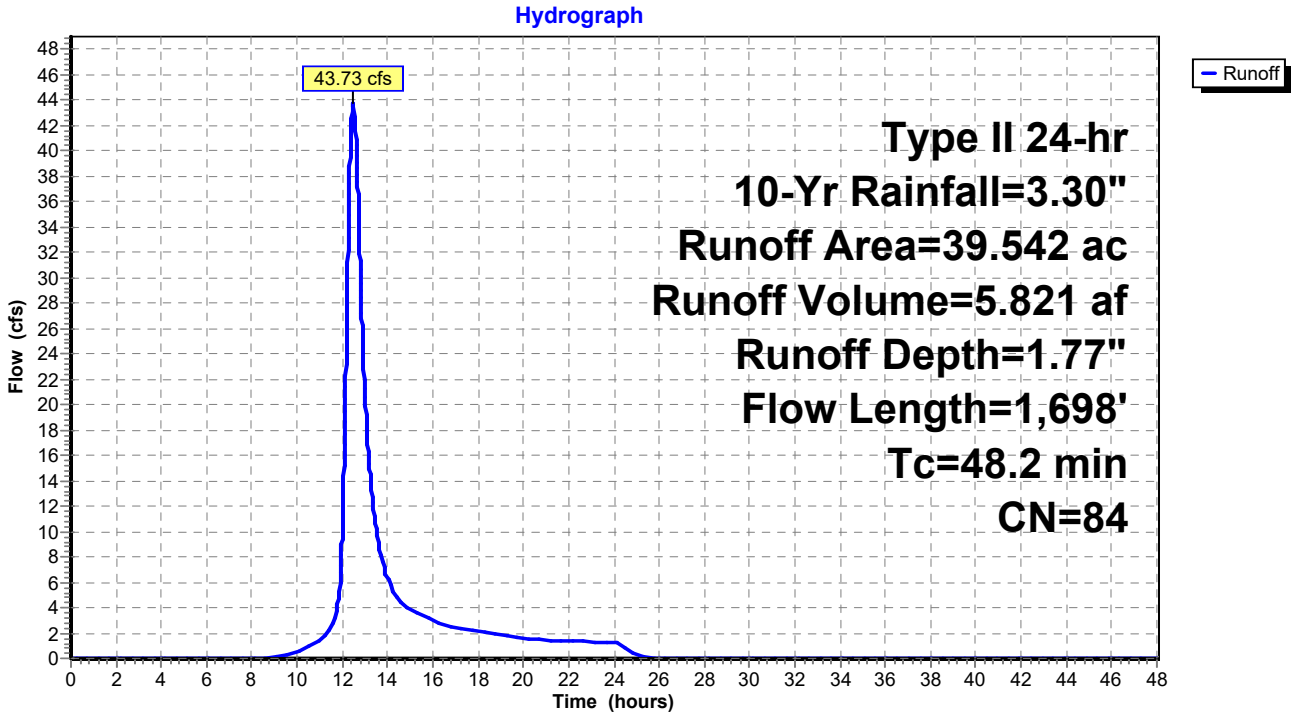
Runoff = 43.73 cfs @ 12.48 hrs, Volume= 5.821 af, Depth= 1.77"
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
26.562	87	1/4 acre lots, 38% imp, HSG D
5.500	77	Woods, Good, HSG D
7.480	77	Woods, Good, HSG D
39.542	84	Weighted Average
29.448		74.47% Pervious Area
10.094		25.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
6.2	500	0.0720	1.34		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.2	240	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.8	450	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.9	408	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
48.2	1,698	Total			

Subcatchment 8S: Watershed Directly to Project Site



Summary for Subcatchment 13S: Watershed to Detention Pond 2

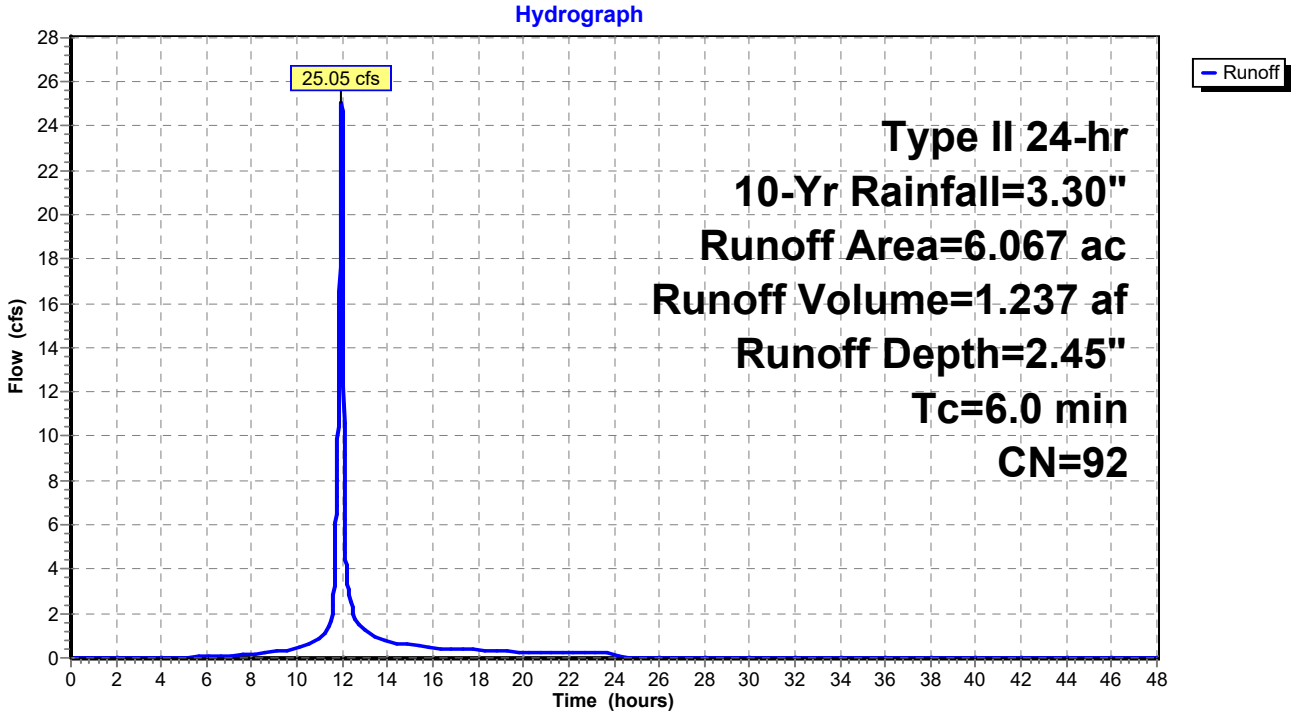
Runoff = 25.05 cfs @ 11.97 hrs, Volume= 1.237 af, Depth= 2.45"
Routed to Pond 13P : Existing Detention Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
6.067	92	1/8 acre lots, 65% imp, HSG D
2.123		35.00% Pervious Area
3.944		65.00% Impervious Area

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

Subcatchment 13S: Watershed to Detention Pond 2



Summary for Subcatchment P-1.1: Subcat P-1.1

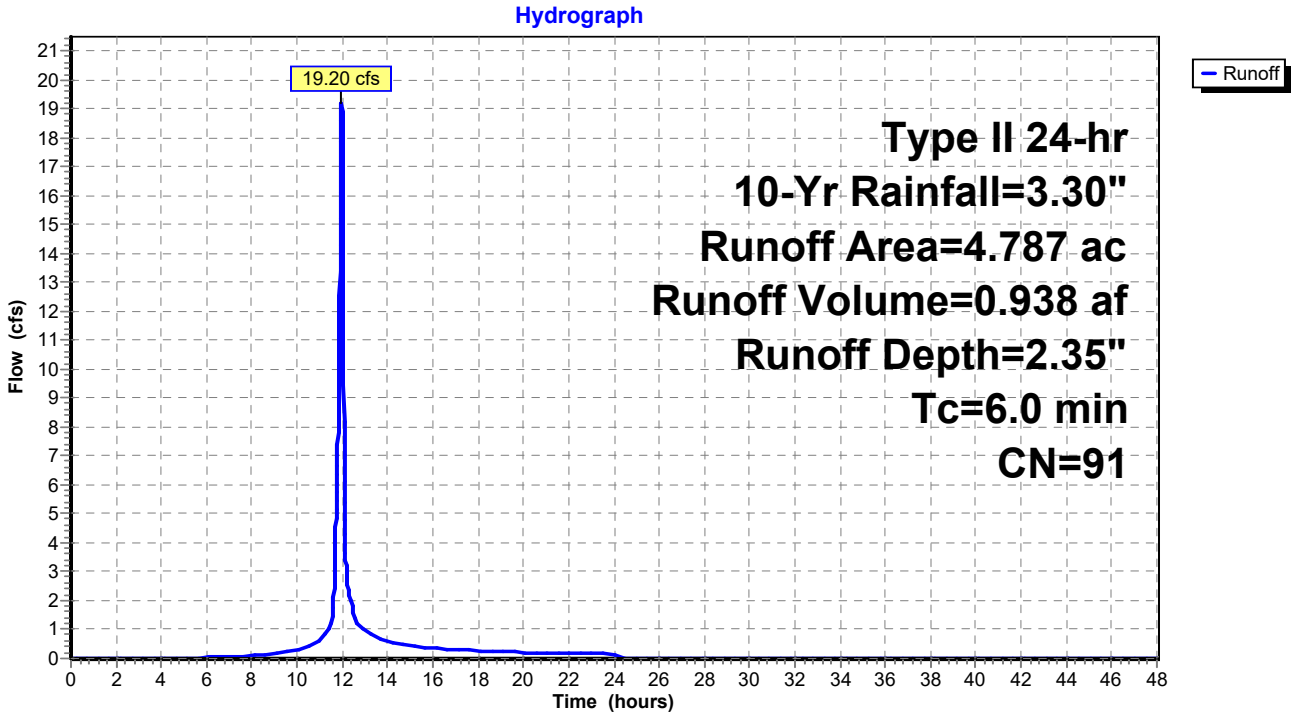
Runoff = 19.20 cfs @ 11.97 hrs, Volume= 0.938 af, Depth= 2.35"
Routed to Pond 8P : Infiltration Basin 1.1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG A
0.001	98	Paved parking, HSG A
0.000	98	Paved parking, HSG D
0.012	98	Paved parking, HSG D
0.007	98	Paved parking, HSG D
0.201	98	Paved parking, HSG A
0.045	98	Paved parking, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.122	80	>75% Grass cover, Good, HSG D
0.011	80	>75% Grass cover, Good, HSG D
0.955	80	>75% Grass cover, Good, HSG D
0.006	80	>75% Grass cover, Good, HSG D
0.066	39	>75% Grass cover, Good, HSG A
0.033	98	Paved parking, HSG D
0.017	98	Paved parking, HSG D
0.242	98	Paved parking, HSG D
0.448	98	Paved parking, HSG D
0.195	98	Paved parking, HSG A
0.132	98	Paved parking, HSG A
0.006	30	Woods, Good, HSG A
0.082	80	>75% Grass cover, Good, HSG D
0.010	80	>75% Grass cover, Good, HSG D
0.056	39	>75% Grass cover, Good, HSG A
0.000	80	>75% Grass cover, Good, HSG D
0.085	39	>75% Grass cover, Good, HSG A
0.002	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.129	98	Paved parking, HSG A
0.256	98	Paved parking, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.425	98	Paved parking, HSG D
0.378	98	Paved parking, HSG D
0.843	98	Paved parking, HSG D
4.787	91	Weighted Average
1.402		29.28% Pervious Area
3.386		70.72% Impervious Area

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

Subcatchment P-1.1: Subcat P-1.1



Summary for Subcatchment P-1.2: Subcat P-1.2

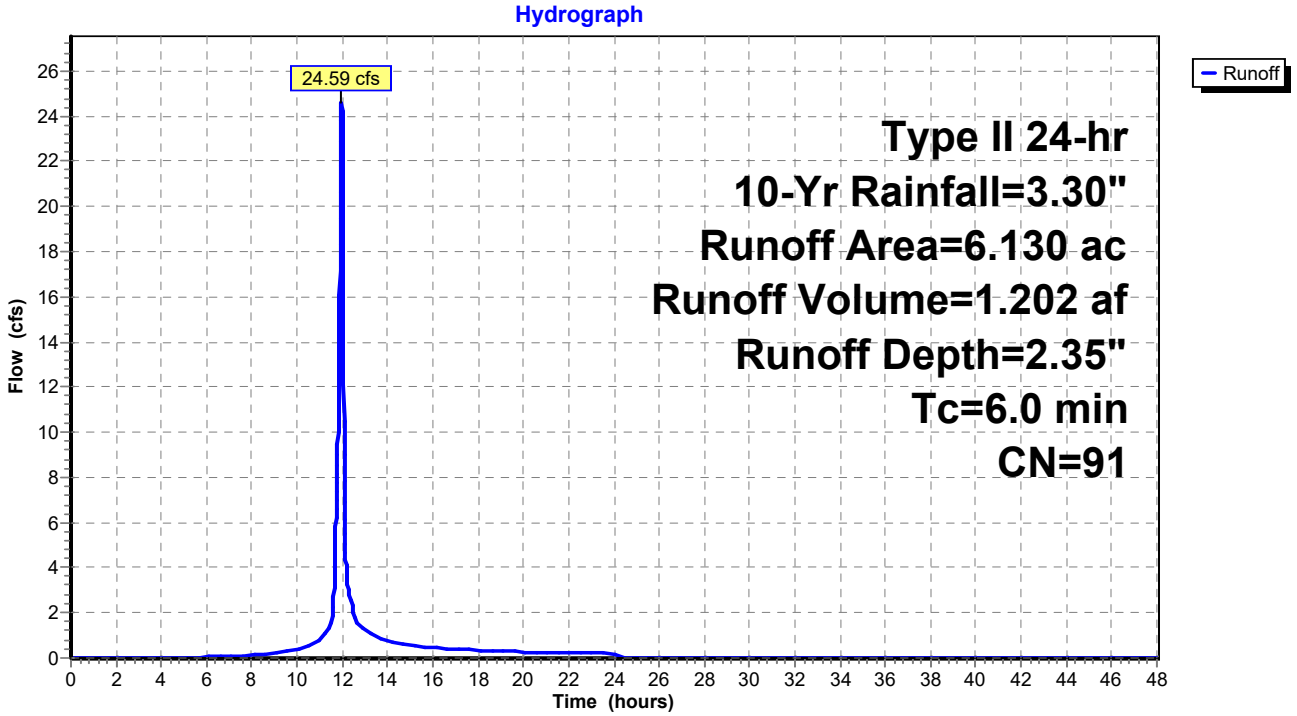
Runoff = 24.59 cfs @ 11.97 hrs, Volume= 1.202 af, Depth= 2.35"
Routed to Pond 4P : Infiltration Basin 1.2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.163	98	Paved parking, HSG D
0.197	98	Paved parking, HSG D
0.260	98	Paved parking, HSG A
0.100	98	Paved parking, HSG A
0.001	98	Paved parking, HSG A
0.199	98	Paved parking, HSG A
0.003	98	Paved parking, HSG A
0.284	98	Paved parking, HSG D
0.329	98	Paved parking, HSG D
0.258	98	Paved parking, HSG A
0.289	98	Paved parking, HSG A
0.110	98	Paved parking, HSG A
0.004	30	Woods, Good, HSG A
0.255	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.783	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.018	80	>75% Grass cover, Good, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.177	80	>75% Grass cover, Good, HSG D
0.306	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.003	39	>75% Grass cover, Good, HSG A
0.045	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.005	80	>75% Grass cover, Good, HSG D
0.002	77	Woods, Good, HSG D
0.001	98	Paved parking, HSG D
0.117	98	Paved parking, HSG D
0.150	98	Paved parking, HSG D
1.067	98	Paved parking, HSG D
0.042	98	Paved parking, HSG D
0.854	98	Paved parking, HSG D
0.095	98	Paved parking, HSG D
6.130	91	Weighted Average
1.612		26.29% Pervious Area
4.518		73.71% Impervious Area

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

Subcatchment P-1.2: Subcat P-1.2



Summary for Subcatchment P-2: Subcat P-2

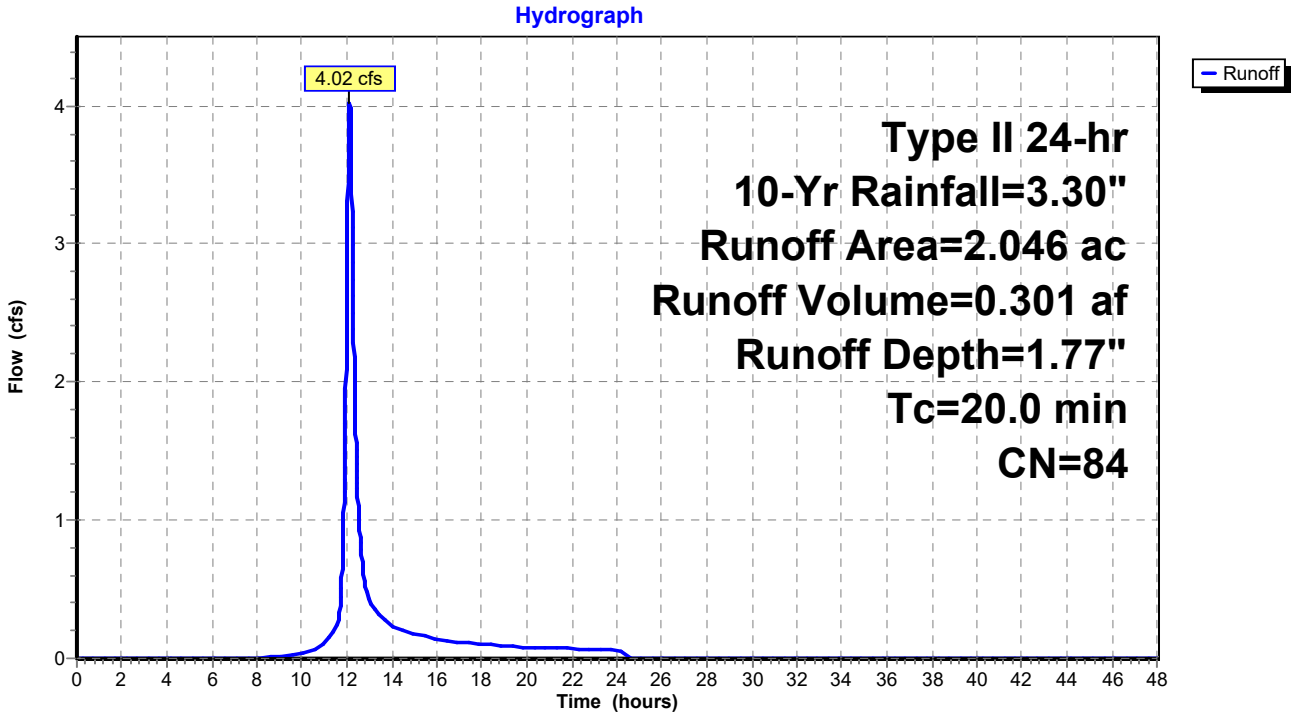
Runoff = 4.02 cfs @ 12.13 hrs, Volume= 0.301 af, Depth= 1.77"
Routed to Pond 1P : Infiltration Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
1.480	80	>75% Grass cover, Good, HSG D
0.039	80	>75% Grass cover, Good, HSG D
0.082	80	>75% Grass cover, Good, HSG D
0.018	98	Paved parking, HSG D
0.018	98	Paved parking, HSG D
0.015	98	Paved parking, HSG D
0.022	98	Paved parking, HSG D
0.062	98	Paved parking, HSG D
0.040	98	Paved parking, HSG D
0.269	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
2.046	84	Weighted Average
1.601		78.24% Pervious Area
0.445		21.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, Same as Existing**

Subcatchment P-2: Subcat P-2



Summary for Subcatchment P-3: Subcat P-3

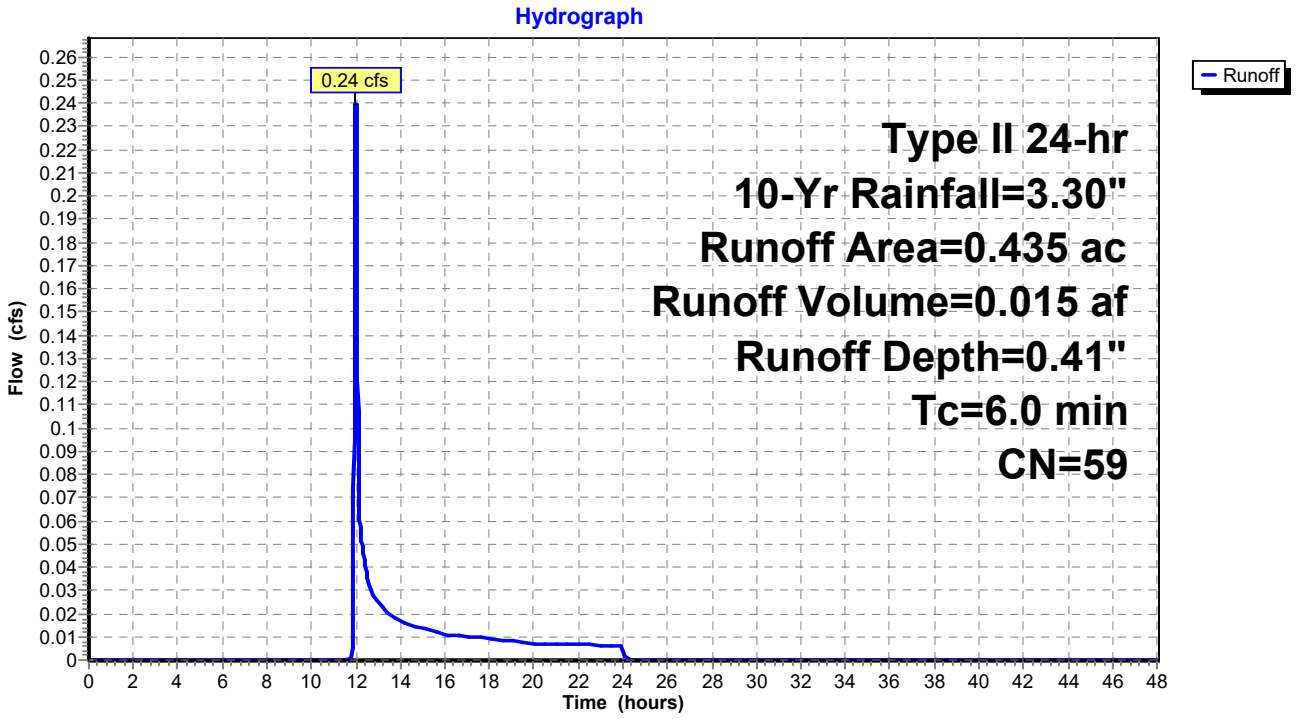
Runoff = 0.24 cfs @ 12.00 hrs, Volume= 0.015 af, Depth= 0.41"
Routed to Link POA-3 : Salina POA 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.002	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.098	39	>75% Grass cover, Good, HSG A
0.125	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.209	80	>75% Grass cover, Good, HSG D
0.000	98	Paved parking, HSG D
0.435	59	Weighted Average
0.432		99.26% Pervious Area
0.003		0.74% Impervious Area

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

Subcatchment P-3: Subcat P-3



Summary for Subcatchment P-4.1: Subcat P-4.1

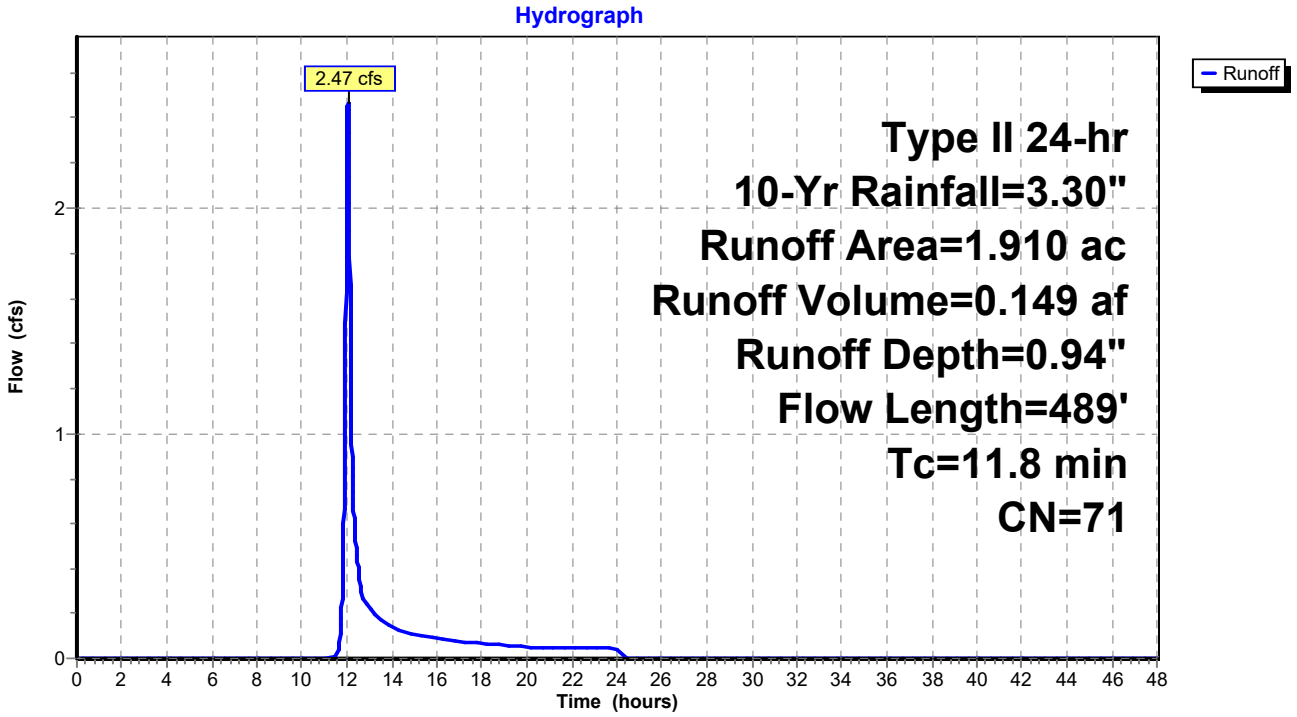
Runoff = 2.47 cfs @ 12.05 hrs, Volume= 0.149 af, Depth= 0.94"
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.078	77	Woods, Good, HSG D
0.000	77	Woods, Good, HSG D
0.189	30	Woods, Good, HSG A
0.034	39	>75% Grass cover, Good, HSG A
0.162	39	>75% Grass cover, Good, HSG A
0.558	80	>75% Grass cover, Good, HSG D
0.857	80	>75% Grass cover, Good, HSG D
0.031	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.001	98	Paved parking, HSG D
1.910	71	Weighted Average
1.878		98.34% Pervious Area
0.032		1.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.0450	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.6	110	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	279	0.0270	2.46		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
11.8	489	Total			

Subcatchment P-4.1: Subcat P-4.1



Summary for Subcatchment P-4.2: Subcat P-4.2

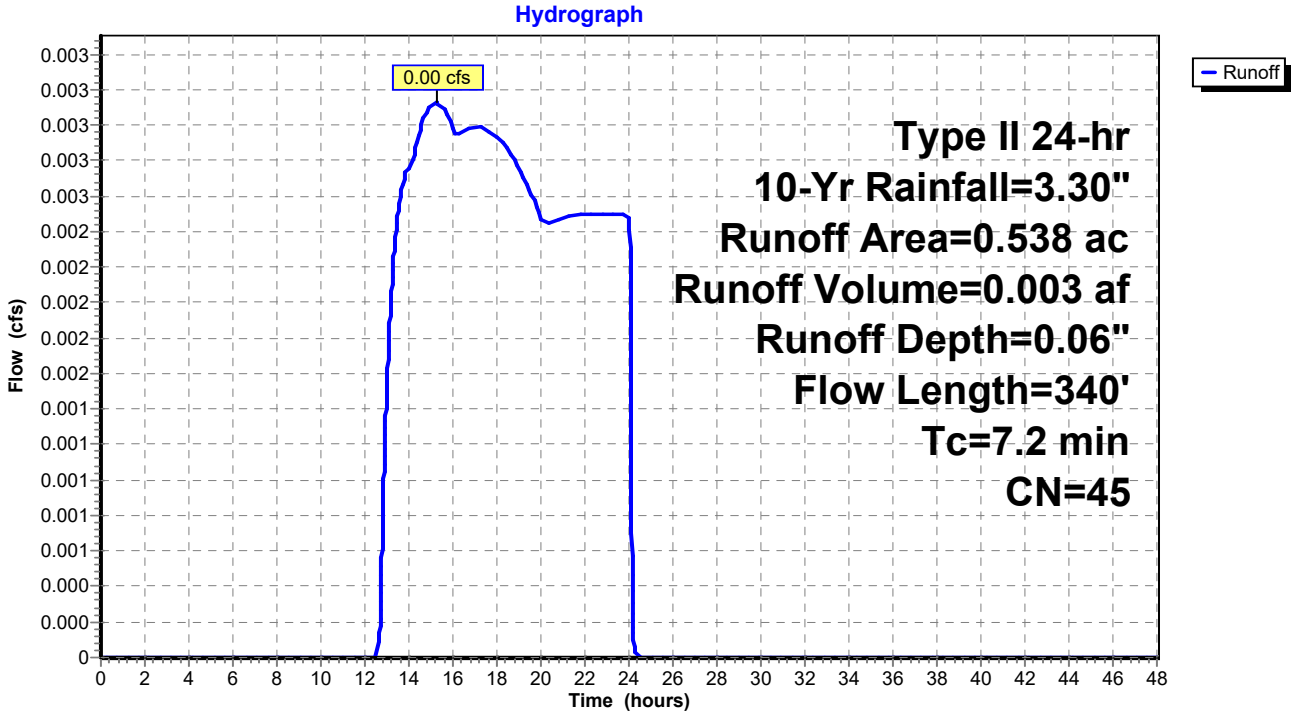
Runoff = 0.00 cfs @ 15.24 hrs, Volume= 0.003 af, Depth= 0.06"
Routed to Pond 17P : Wetland through Center of Development

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.459	39	>75% Grass cover, Good, HSG A
0.000	98	Paved parking, HSG A
0.011	98	Paved parking, HSG A
0.000	98	Paved parking, HSG D
0.001	98	Paved parking, HSG D
0.066	80	>75% Grass cover, Good, HSG D
0.538	45	Weighted Average
0.525		97.70% Pervious Area
0.012		2.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	68	0.0730	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
2.2	272	0.0190	2.07		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.2	340	Total			

Subcatchment P-4.2: Subcat P-4.2



Summary for Subcatchment P-4.3: Subcat P-4.3

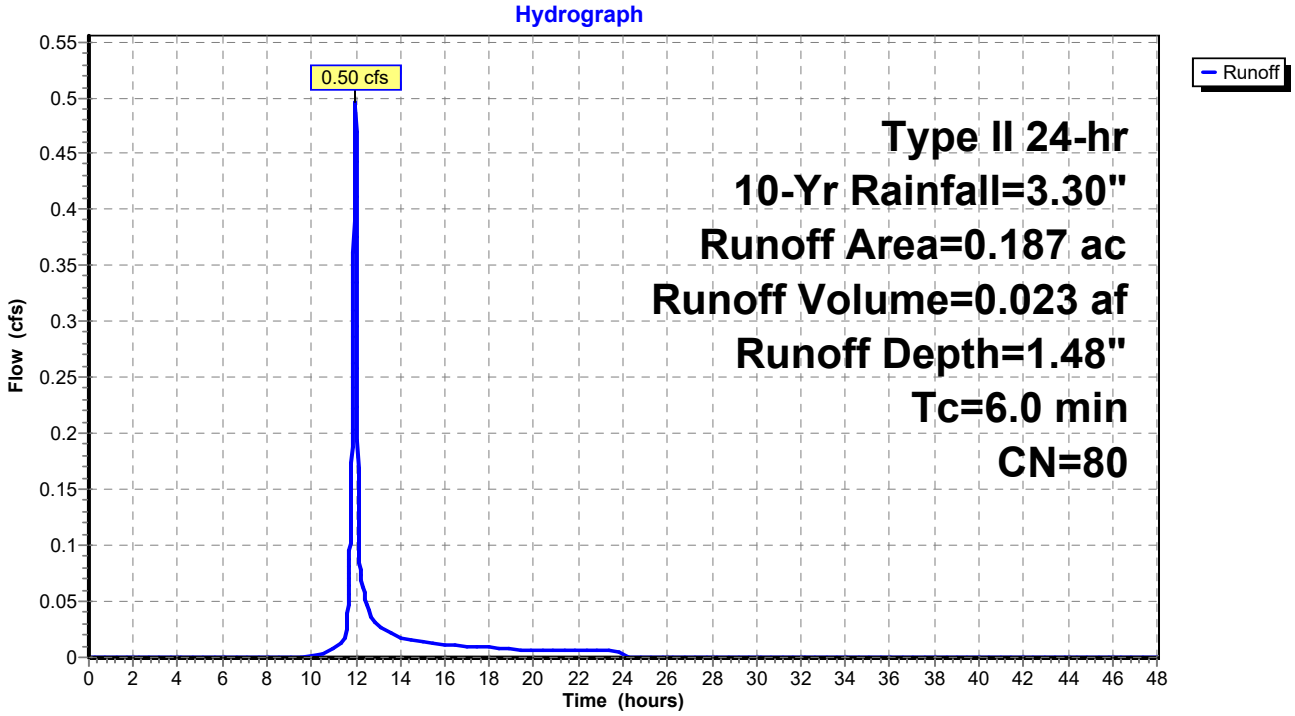
Runoff = 0.50 cfs @ 11.98 hrs, Volume= 0.023 af, Depth= 1.48"
Routed to Pond 18P : Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
0.187	80	>75% Grass cover, Good, HSG D
0.187		100.00% Pervious Area

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

Subcatchment P-4.3: Subcat P-4.3



Summary for Subcatchment P-5: Subcat P-5

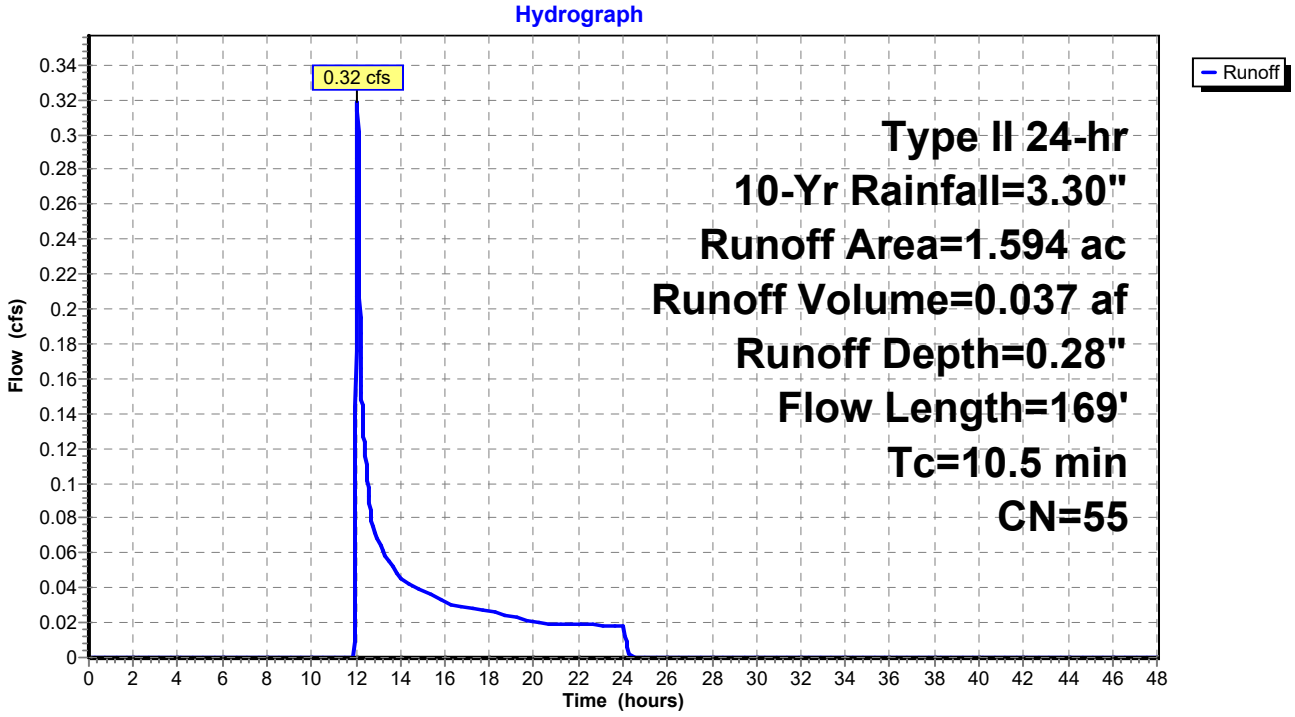
Runoff = 0.32 cfs @ 12.07 hrs, Volume= 0.037 af, Depth= 0.28"
Routed to Link 11L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=3.30"

Area (ac)	CN	Description
1.017	39	>75% Grass cover, Good, HSG A
0.085	98	Paved parking, HSG A
0.001	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.023	98	Paved parking, HSG D
0.468	80	>75% Grass cover, Good, HSG D
1.594	55	Weighted Average
1.485		93.16% Pervious Area
0.109		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.0350	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.4	69	0.0140	0.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	169	Total			

Subcatchment P-5: Subcat P-5



Summary for Pond 1P: Infiltration Basin 2

Inflow Area = 2.046 ac, 21.76% Impervious, Inflow Depth = 1.77" for 10-Yr event
Inflow = 4.02 cfs @ 12.13 hrs, Volume= 0.301 af
Outflow = 3.23 cfs @ 12.23 hrs, Volume= 0.296 af, Atten= 20%, Lag= 6.3 min
Discarded = 0.02 cfs @ 12.23 hrs, Volume= 0.038 af
Primary = 3.20 cfs @ 12.23 hrs, Volume= 0.257 af
Routed to Link POA-2 : E Genessee - POA 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 392.79' @ 12.23 hrs Surf.Area= 2,054 sf Storage= 2,800 cf

Plug-Flow detention time= 124.8 min calculated for 0.296 af (98% of inflow)
Center-of-Mass det. time= 114.1 min (952.1 - 838.0)

Volume	Invert	Avail.Storage	Storage Description
#1	390.25'	5,960 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

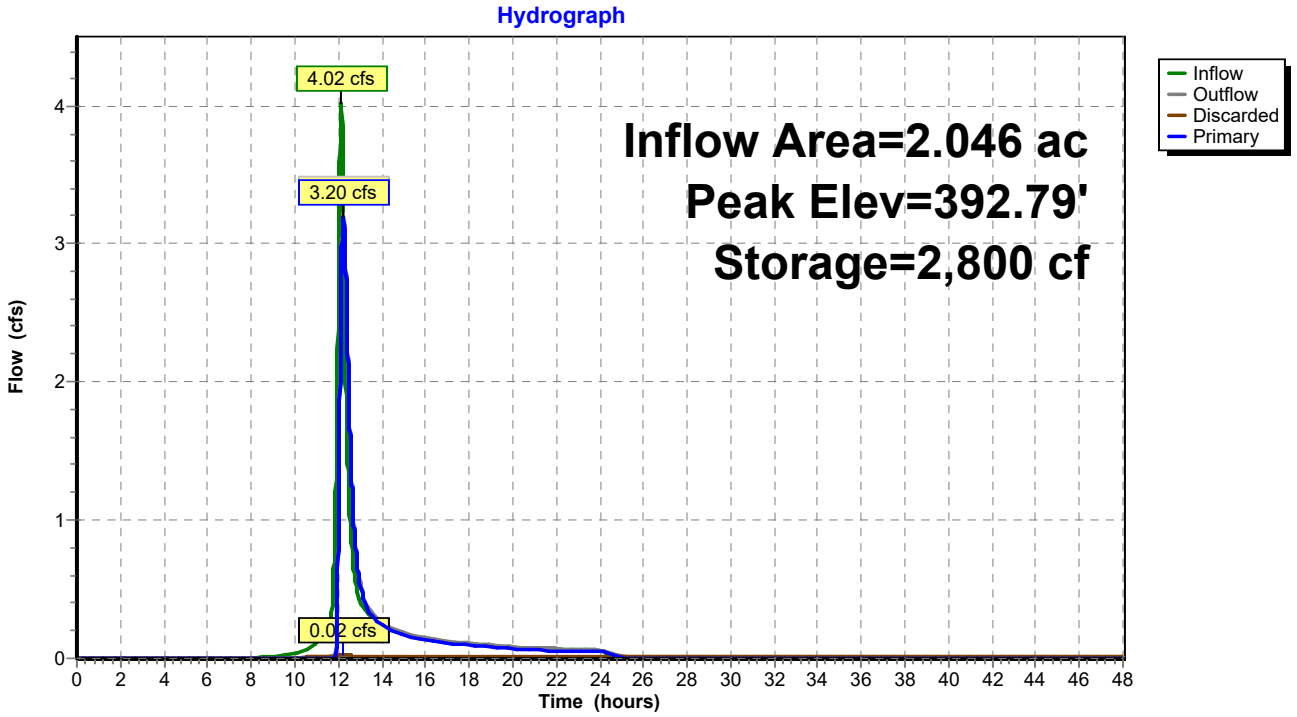
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
390.25	290	0	0
391.00	752	391	391
392.00	1,358	1,055	1,446
393.00	2,234	1,796	3,242
394.00	3,202	2,718	5,960

Device	Routing	Invert	Outlet Devices
#1	Discarded	390.25'	**0.500 in/hr Exfiltration over Surface area**
#2	Primary	391.70'	**15.0" Round Culvert** L= 30.0' Ke= 0.900 Inlet / Outlet Invert= 391.70' / 390.57' S= 0.0377 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.02 cfs @ 12.23 hrs HW=392.79' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=3.20 cfs @ 12.23 hrs HW=392.79' TW=0.00' (Dynamic Tailwater)
↑**2=Culvert** (Inlet Controls 3.20 cfs @ 2.81 fps)

Pond 1P: Infiltration Basin 2



Summary for Pond 4P: Infiltration Basin 1.2

Inflow Area = 6.130 ac, 73.71% Impervious, Inflow Depth = 2.35" for 10-Yr event
Inflow = 24.59 cfs @ 11.97 hrs, Volume= 1.202 af
Outflow = 7.77 cfs @ 12.09 hrs, Volume= 1.074 af, Atten= 68%, Lag= 7.3 min
Discarded = 0.13 cfs @ 12.09 hrs, Volume= 0.262 af
Primary = 7.64 cfs @ 12.09 hrs, Volume= 0.812 af
Routed to Pond 18P : Detention Pond 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 392.48' @ 12.09 hrs Surf.Area= 10,839 sf Storage= 24,086 cf

Plug-Flow detention time= 293.6 min calculated for 1.074 af (89% of inflow)
Center-of-Mass det. time= 240.1 min (1,038.3 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	389.00'	41,844 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
389.00	4,292	0	0
390.00	5,410	4,851	4,851
391.00	6,705	6,058	10,909
392.00	9,824	8,265	19,173
393.00	11,959	10,892	30,065
394.00	11,600	11,780	41,844

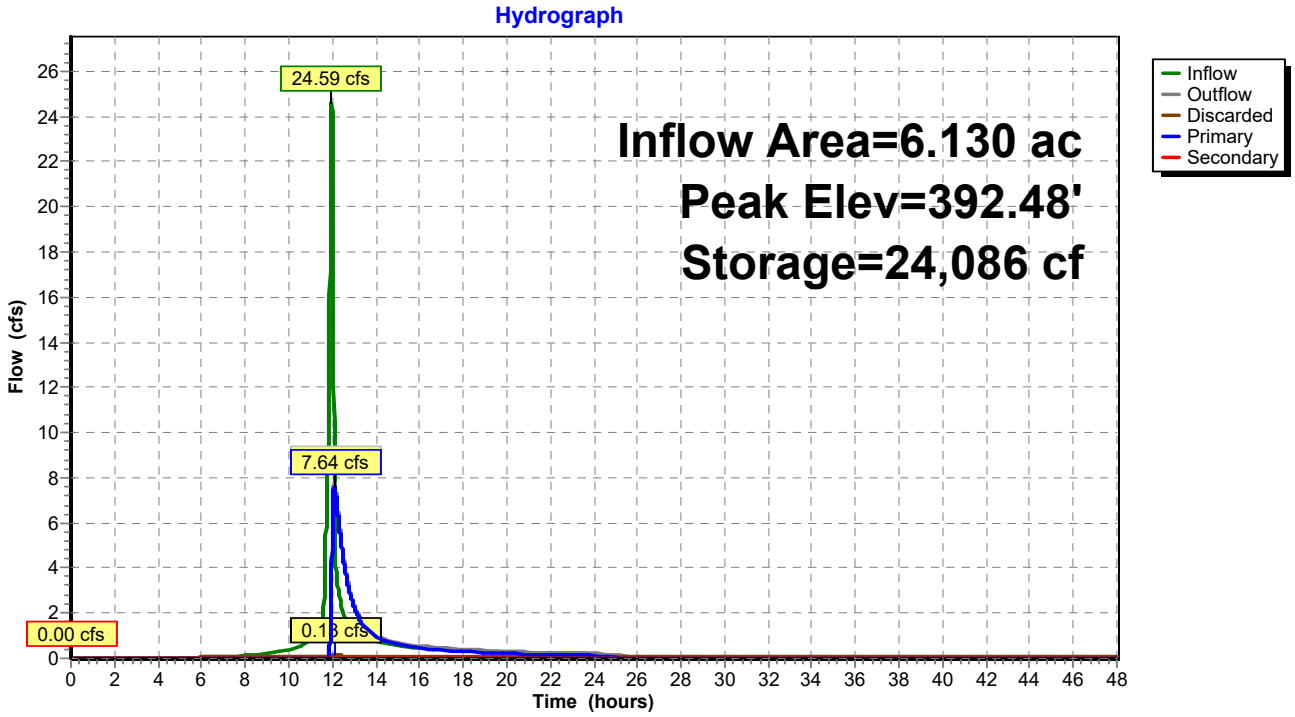
Device	Routing	Invert	Outlet Devices
#1	Primary	391.00'	**24.0" Round Culvert** L= 100.0' Ke= 0.900 Inlet / Outlet Invert= 391.00' / 390.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	393.50'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	389.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.13 cfs @ 12.09 hrs HW=392.48' (Free Discharge)
↑—**3=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=7.64 cfs @ 12.09 hrs HW=392.48' TW=390.82' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 7.64 cfs @ 4.28 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=389.00' TW=388.55' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Infiltration Basin 1.2



Summary for Pond 8P: Infiltration Basin 1.1

Inflow Area = 4.787 ac, 70.72% Impervious, Inflow Depth = 2.35" for 10-Yr event
Inflow = 19.20 cfs @ 11.97 hrs, Volume= 0.938 af
Outflow = 11.98 cfs @ 12.04 hrs, Volume= 0.901 af, Atten= 38%, Lag= 4.4 min
Discarded = 0.07 cfs @ 12.04 hrs, Volume= 0.098 af
Primary = 11.91 cfs @ 12.04 hrs, Volume= 0.803 af
Routed to Pond 18P : Detention Pond 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 393.09' @ 12.04 hrs Surf.Area= 5,949 sf Storage= 11,962 cf

Plug-Flow detention time= 134.3 min calculated for 0.901 af (96% of inflow)
Center-of-Mass det. time= 110.6 min (908.8 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	389.00'	27,071 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
389.00	961	0	0
390.00	1,644	1,303	1,303
391.00	2,522	2,083	3,386
392.00	3,904	3,213	6,599
393.00	5,764	4,834	11,433
394.00	7,810	6,787	18,220
395.00	9,892	8,851	27,071

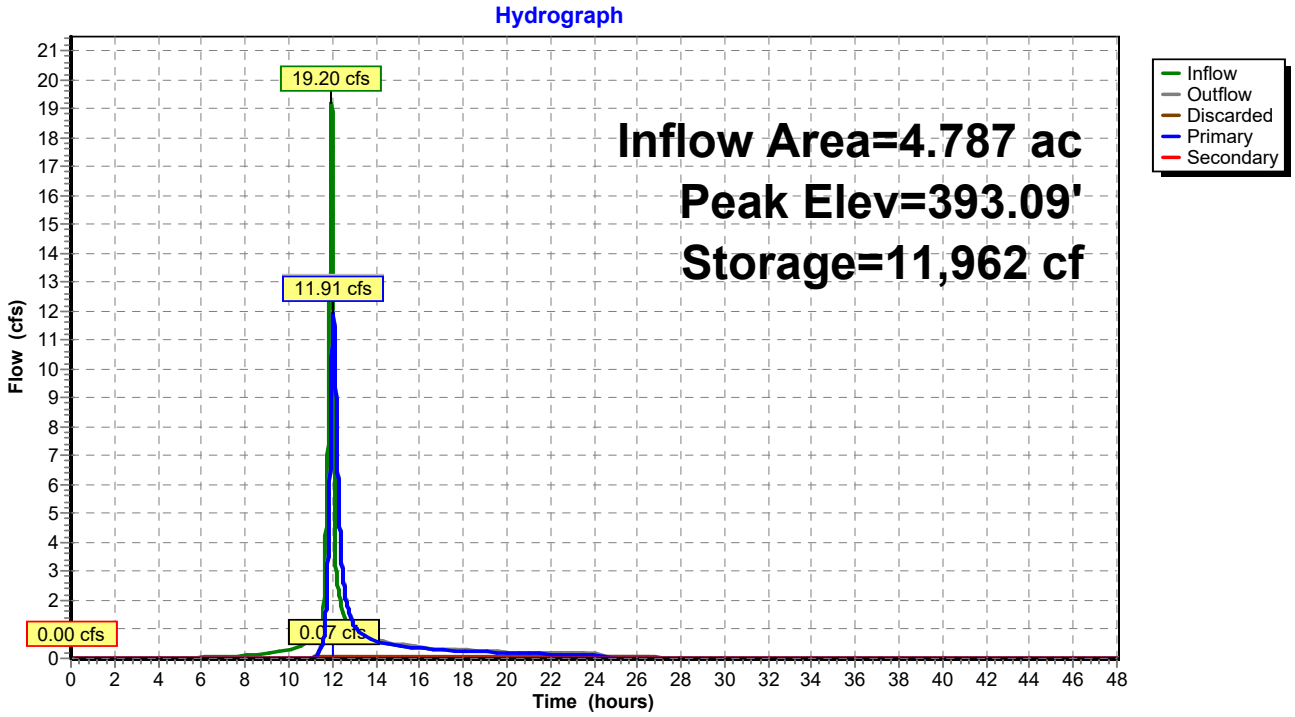
Device	Routing	Invert	Outlet Devices
#1	Primary	391.10'	**24.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 391.10' / 390.50' S= 0.0120 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	394.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	389.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.07 cfs @ 12.04 hrs HW=393.09' (Free Discharge)
↑└**3=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=11.90 cfs @ 12.04 hrs HW=393.09' TW=390.76' (Dynamic Tailwater)
↑└**1=Culvert** (Inlet Controls 11.90 cfs @ 3.79 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=389.00' TW=388.55' (Dynamic Tailwater)
↑└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 8P: Infiltration Basin 1.1



Summary for Pond 13P: Existing Detention Pond 2

Inflow Area = 6.067 ac, 65.00% Impervious, Inflow Depth = 2.45" for 10-Yr event
Inflow = 25.05 cfs @ 11.97 hrs, Volume= 1.237 af
Outflow = 5.80 cfs @ 12.12 hrs, Volume= 1.235 af, Atten= 77%, Lag= 8.9 min
Primary = 5.80 cfs @ 12.12 hrs, Volume= 1.235 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 421.27' @ 12.12 hrs Surf.Area= 4,592 sf Storage= 19,626 cf

Plug-Flow detention time= 57.0 min calculated for 1.235 af (100% of inflow)
Center-of-Mass det. time= 56.2 min (849.7 - 793.5)

Volume	Invert	Avail.Storage	Storage Description
#1	417.00'	41,328 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

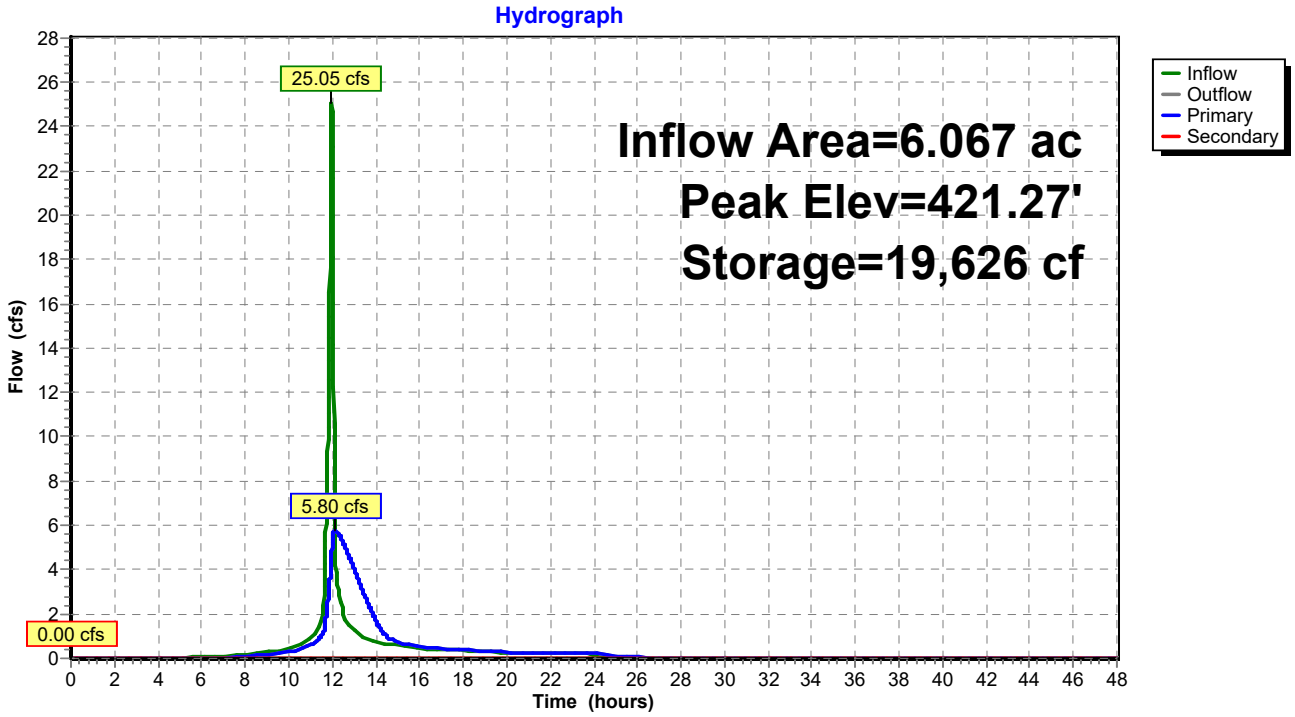
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
417.00	4,592	0	0
426.00	4,592	41,328	41,328

Device	Routing	Invert	Outlet Devices
#1	Primary	417.00'	**12.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 417.00' / 416.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Secondary	425.99'	**120.0' 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=5.80 cfs @ 12.12 hrs HW=421.27' TW=392.20' (Dynamic Tailwater)
1=Culvert (Inlet Controls 5.80 cfs @ 7.38 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=417.00' TW=391.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 13P: Existing Detention Pond 2



Summary for Pond 14P: Existing Detention Pond 1

Inflow Area = 29.800 ac, 38.00% Impervious, Inflow Depth = 2.00" for 10-Yr event
Inflow = 84.30 cfs @ 12.04 hrs, Volume= 4.976 af
Outflow = 26.39 cfs @ 12.25 hrs, Volume= 4.976 af, Atten= 69%, Lag= 12.3 min
Primary = 26.39 cfs @ 12.25 hrs, Volume= 4.976 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 441.75' @ 12.25 hrs Surf.Area= 23,853 sf Storage= 57,023 cf

Plug-Flow detention time= 16.9 min calculated for 4.975 af (100% of inflow)
Center-of-Mass det. time= 16.9 min (837.3 - 820.3)

Volume	Invert	Avail.Storage	Storage Description
#1	436.00'	175,820 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

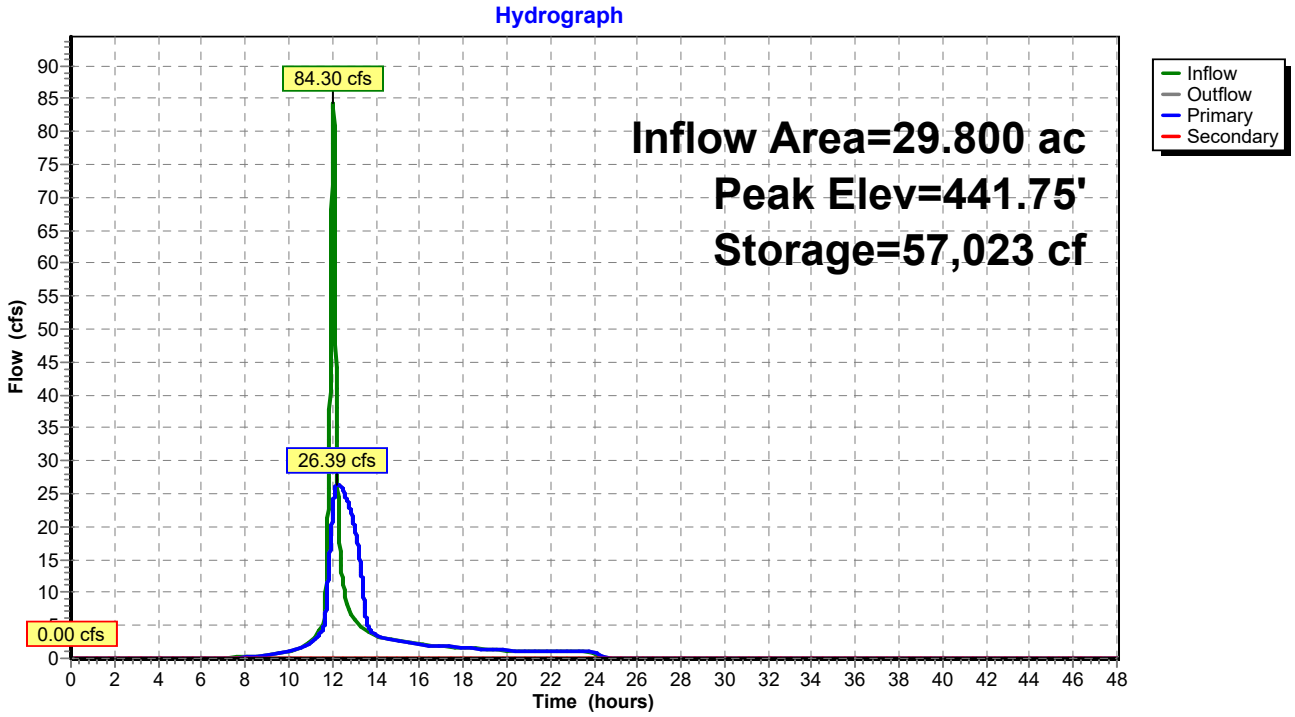
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
436.00	1,293	0	0
437.00	2,795	2,044	2,044
438.00	4,823	3,809	5,853
439.00	8,731	6,777	12,630
440.00	13,398	11,065	23,695
441.00	20,094	16,746	40,441
442.00	25,075	22,585	63,025
443.00	29,038	27,057	90,082
444.00	33,107	31,073	121,154
445.00	37,358	35,233	156,387
445.50	40,375	19,433	175,820

Device	Routing	Invert	Outlet Devices
#1	Primary	435.87'	**24.0" Round Culvert** L= 1,930.0' Ke= 0.900 Inlet / Outlet Invert= 435.87' / 395.00' S= 0.0212 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	444.50'	**48.0' long x 20.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=26.39 cfs @ 12.25 hrs HW=441.75' TW=392.33' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 26.39 cfs @ 8.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=436.00' TW=391.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 14P: Existing Detention Pond 1



Summary for Pond 16P: Wetland Pre Street Crossing Storage

Inflow Area = 77.319 ac, 32.84% Impervious, Inflow Depth = 1.89" for 10-Yr event
Inflow = 74.86 cfs @ 12.47 hrs, Volume= 12.181 af
Outflow = 74.84 cfs @ 12.48 hrs, Volume= 12.181 af, Atten= 0%, Lag= 0.4 min
Primary = 74.84 cfs @ 12.48 hrs, Volume= 12.181 af
Routed to Pond 17P : Wetland through Center of Development

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 392.44' @ 12.48 hrs Surf.Area= 4,205 sf Storage= 2,788 cf

Plug-Flow detention time= 0.7 min calculated for 12.178 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (852.5 - 851.8)

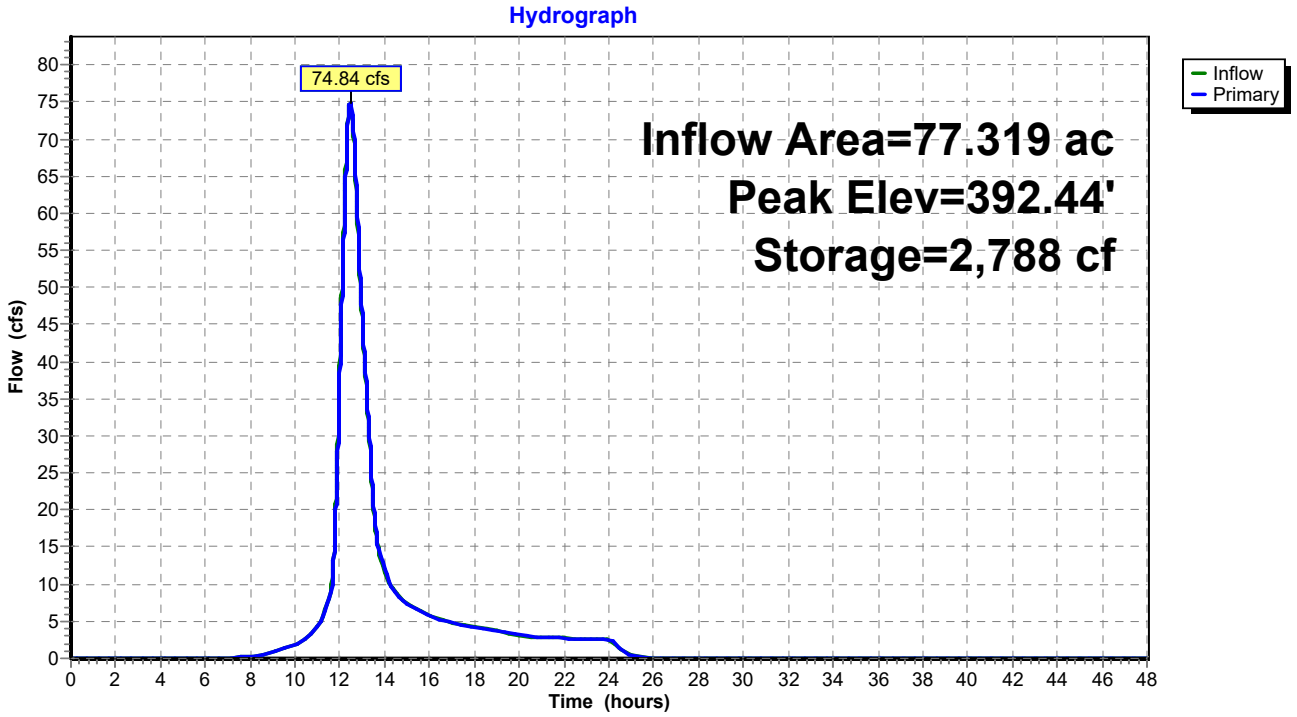
Volume	Invert	Avail.Storage	Storage Description
#1	391.00'	15,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
391.00	0	0	0
392.00	2,603	1,302	1,302
393.00	6,272	4,438	5,739
394.00	12,566	9,419	15,158

Device	Routing	Invert	Outlet Devices
#1	Primary	391.00'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 166.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 390.00' / 390.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 36.00 sf
#2	Primary	391.50'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 94.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 390.50' / 390.00' S= 0.0053 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 36.00 sf

Primary OutFlow Max=74.83 cfs @ 12.48 hrs HW=392.44' TW=391.35' (Dynamic Tailwater)
1=Culvert (Barrel Controls 39.92 cfs @ 3.09 fps)
2=Culvert (Inlet Controls 34.92 cfs @ 3.11 fps)

Pond 16P: Wetland Pre Street Crossing Storage



Summary for Pond 17P: Wetland through Center of Development

Inflow Area = 77.856 ac, 32.63% Impervious, Inflow Depth = 1.88" for 10-Yr event
Inflow = 74.84 cfs @ 12.48 hrs, Volume= 12.183 af
Outflow = 74.86 cfs @ 12.49 hrs, Volume= 12.183 af, Atten= 0%, Lag= 0.8 min
Primary = 74.86 cfs @ 12.49 hrs, Volume= 12.183 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 391.35' @ 12.48 hrs Surf.Area= 5,624 sf Storage= 6,328 cf

Plug-Flow detention time= 2.4 min calculated for 12.181 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (855.0 - 852.6)

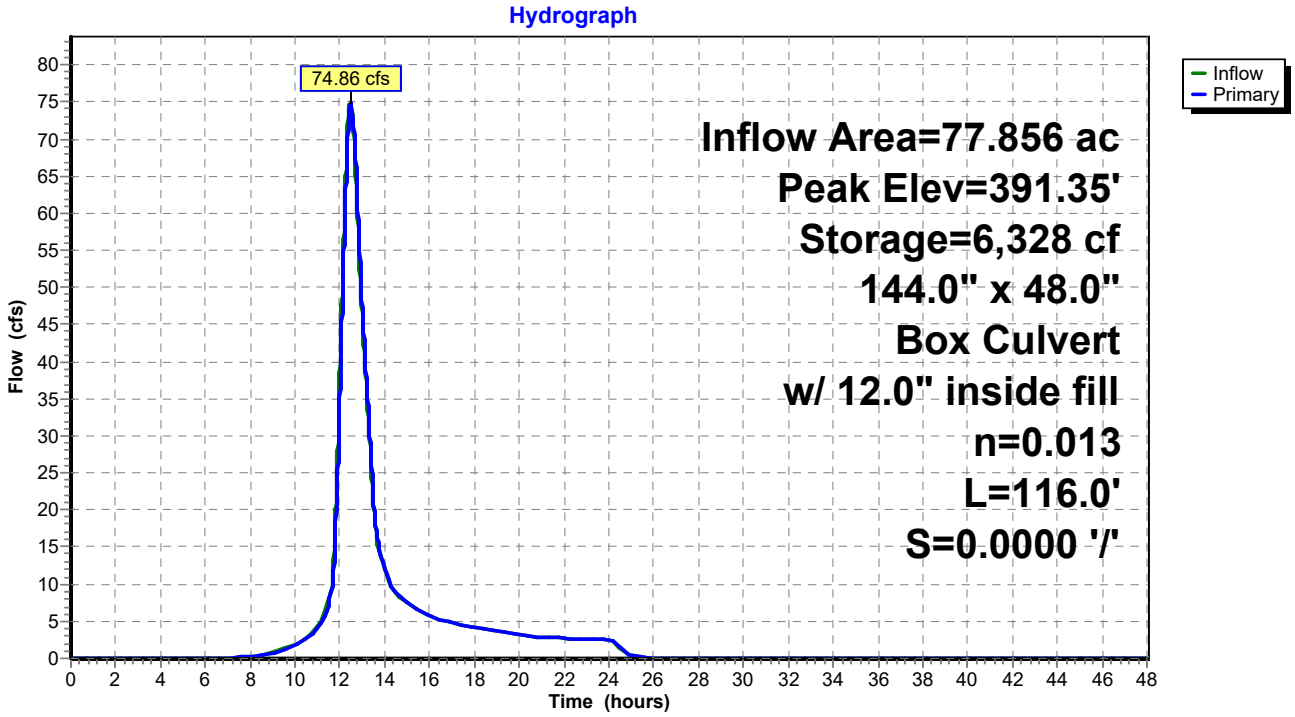
Volume	Invert	Avail.Storage	Storage Description
#1	388.50'	26,403 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.50	0	0	0
390.00	1,512	1,134	1,134
391.00	5,119	3,316	4,450
392.00	6,563	5,841	10,291
393.00	7,968	7,266	17,556
394.00	9,725	8,847	26,403

Device	Routing	Invert	Outlet Devices
#1	Primary	388.55'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 116.0' Ke= 0.900 Inlet / Outlet Invert= 387.55' / 387.55' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 36.00 sf

Primary OutFlow Max=74.84 cfs @ 12.49 hrs HW=391.35' TW=390.97' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 74.84 cfs @ 2.23 fps)

Pond 17P: Wetland through Center of Development



Summary for Pond 18P: Detention Pond 1

Inflow Area = 88.961 ac, 37.44% Impervious, Inflow Depth = 1.86" for 10-Yr event
Inflow = 82.44 cfs @ 12.45 hrs, Volume= 13.821 af
Outflow = 82.42 cfs @ 12.46 hrs, Volume= 13.821 af, Atten= 0%, Lag= 0.6 min
Primary = 6.51 cfs @ 12.46 hrs, Volume= 5.036 af
Routed to Link 11L : POA 1
Secondary = 75.91 cfs @ 12.46 hrs, Volume= 8.784 af
Routed to Link 11L : POA 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 390.97' @ 12.46 hrs Surf.Area= 3,607 sf Storage= 6,991 cf

Plug-Flow detention time= 5.7 min calculated for 13.818 af (100% of inflow)
Center-of-Mass det. time= 5.7 min (859.4 - 853.7)

Volume	Invert	Avail.Storage	Storage Description
#1	388.55'	7,084 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

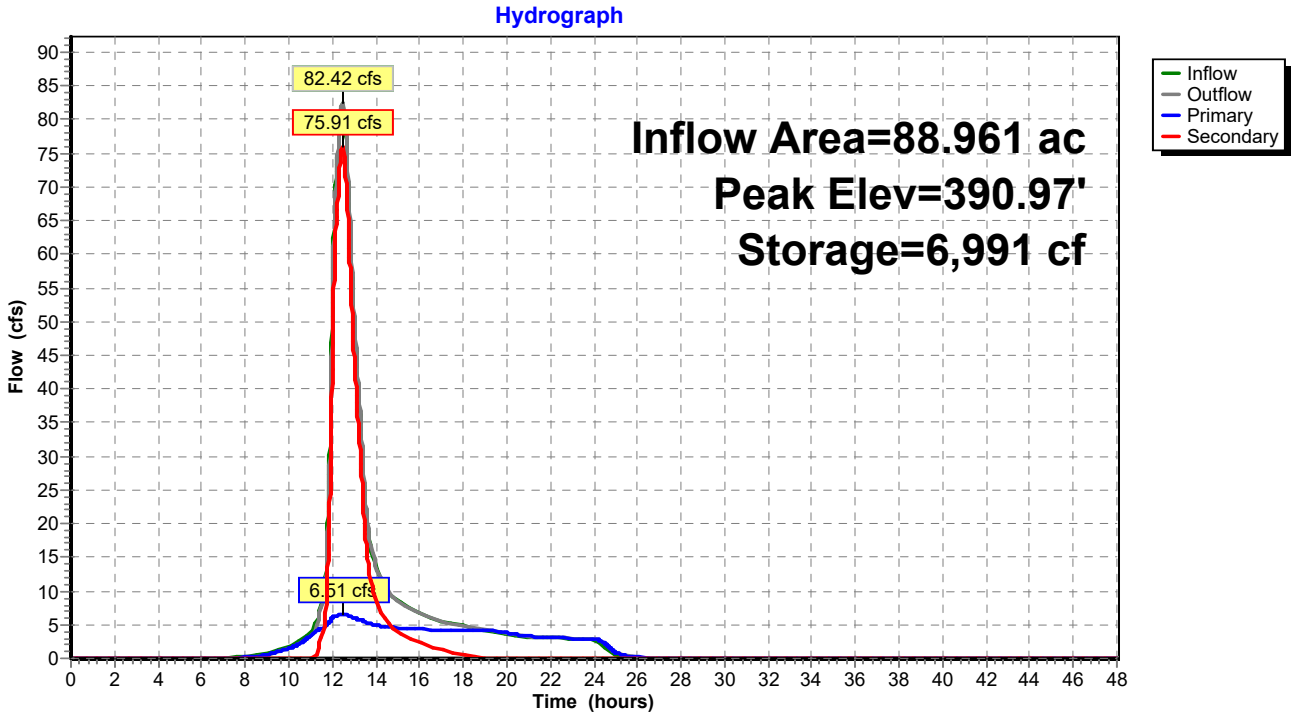
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.55	2,068	0	0
389.00	2,354	995	995
390.00	3,102	2,728	3,723
391.00	3,620	3,361	7,084

Device	Routing	Invert	Outlet Devices
#1	Primary	388.40'	**15.0" Round Culvert** L= 20.0' Ke= 0.900 Inlet / Outlet Invert= 388.40' / 388.39' S= 0.0005 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	390.00'	**30.0' long x 15.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=6.51 cfs @ 12.46 hrs HW=390.97' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 6.51 cfs @ 5.31 fps)

Secondary OutFlow Max=75.91 cfs @ 12.46 hrs HW=390.97' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 75.91 cfs @ 2.60 fps)

Pond 18P: Detention Pond 1

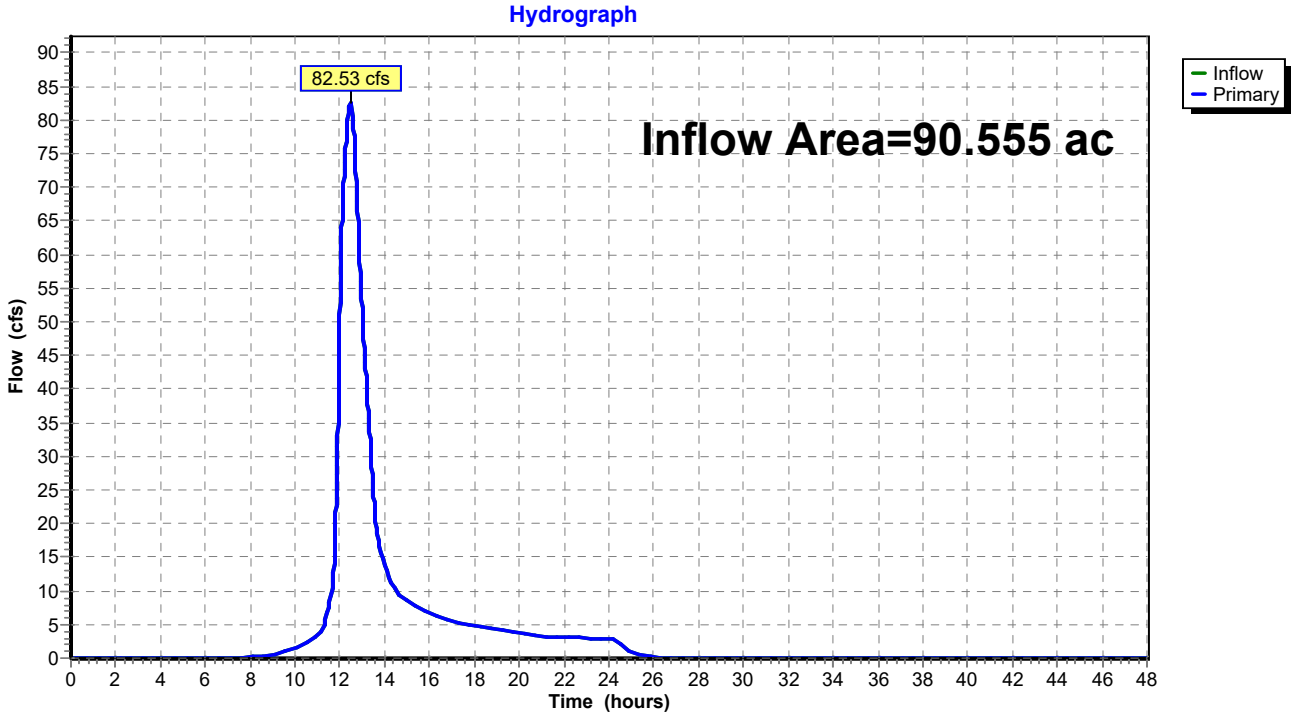


Summary for Link 11L: POA 1

Inflow Area = 90.555 ac, 36.90% Impervious, Inflow Depth = 1.84" for 10-Yr event
Inflow = 82.53 cfs @ 12.46 hrs, Volume= 13.858 af
Primary = 82.53 cfs @ 12.46 hrs, Volume= 13.858 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 11L: POA 1

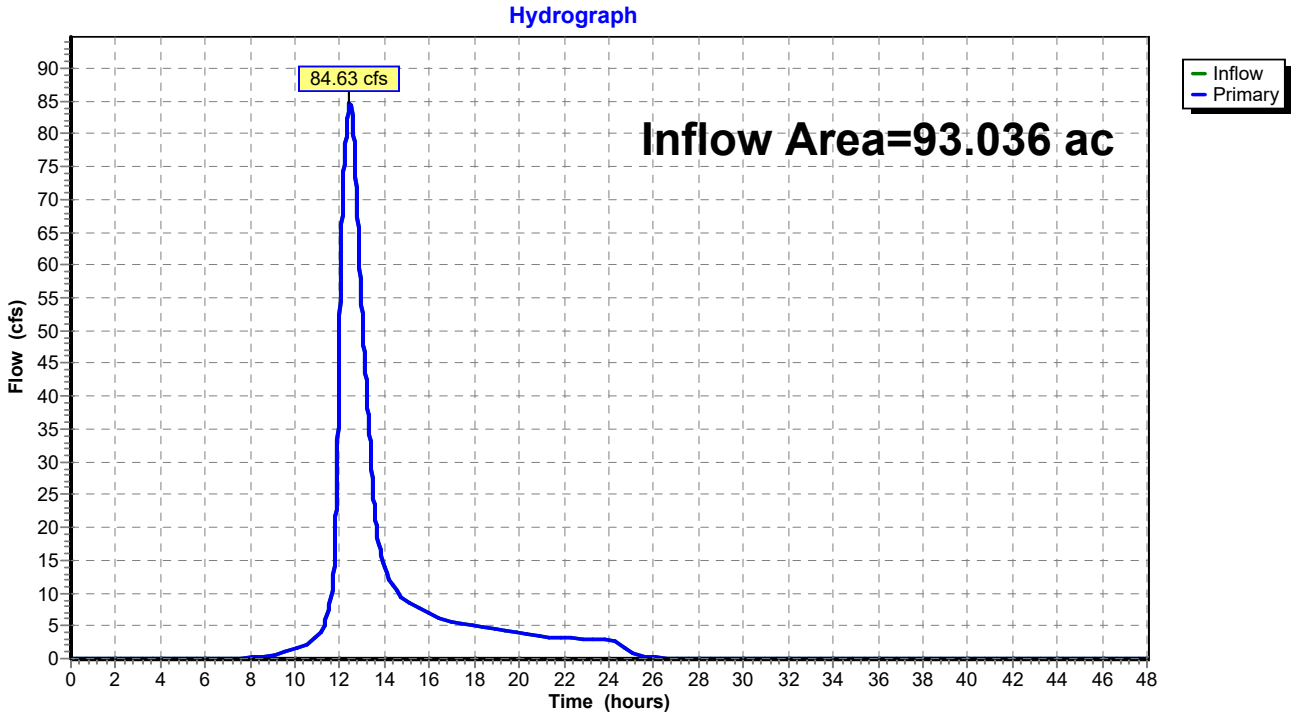


Summary for Link 12L: eNOI

Inflow Area = 93.036 ac, 36.40% Impervious, Inflow Depth = 1.82" for 10-Yr event
Inflow = 84.63 cfs @ 12.44 hrs, Volume= 14.130 af
Primary = 84.63 cfs @ 12.44 hrs, Volume= 14.130 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 12L: eNOI

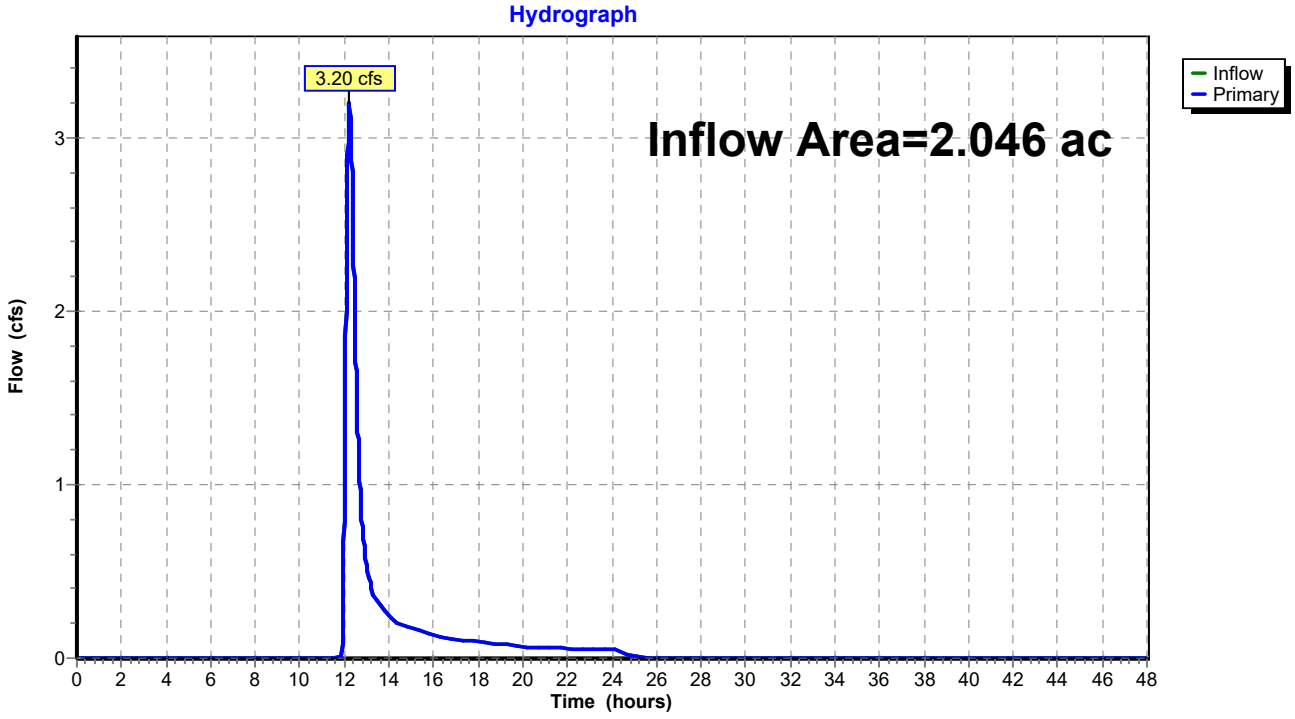


Summary for Link POA-2: E Genessee - POA 2

Inflow Area = 2.046 ac, 21.76% Impervious, Inflow Depth = 1.51" for 10-Yr event
Inflow = 3.20 cfs @ 12.23 hrs, Volume= 0.257 af
Primary = 3.20 cfs @ 12.23 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link POA-2: E Genessee - POA 2

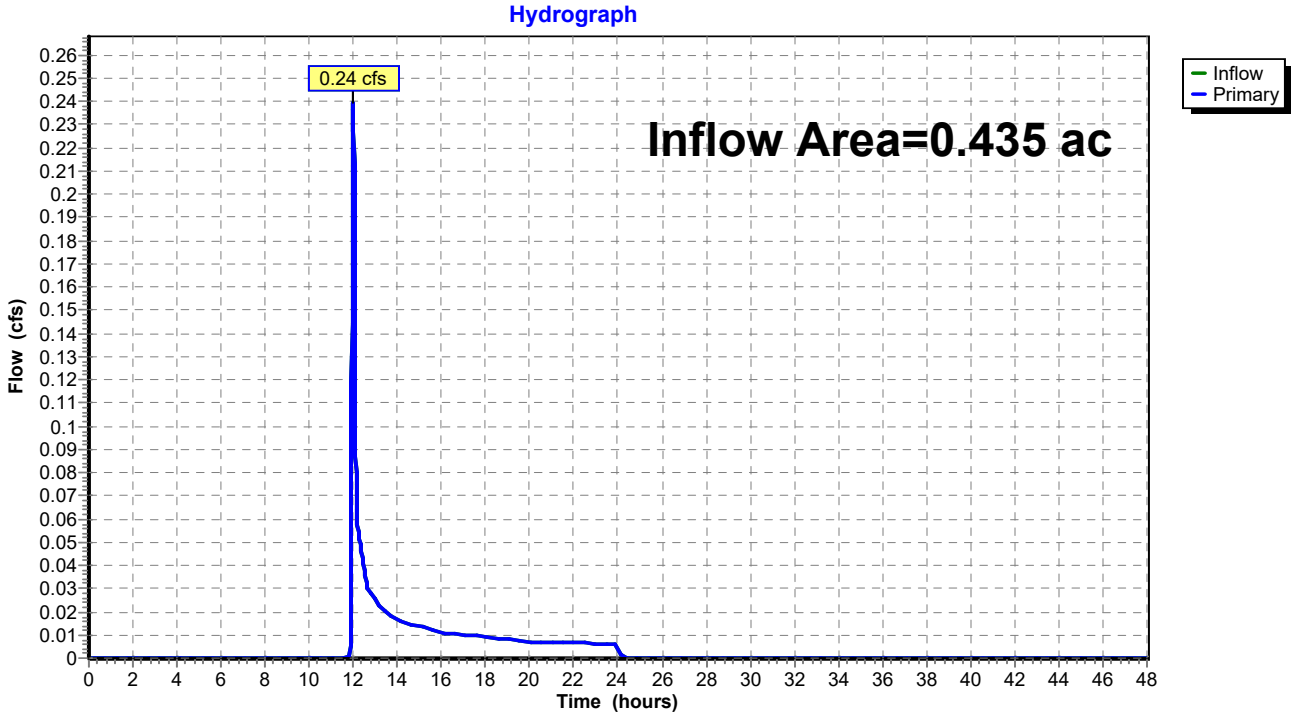


Summary for Link POA-3: Salina POA 3

Inflow Area = 0.435 ac, 0.74% Impervious, Inflow Depth = 0.41" for 10-Yr event
Inflow = 0.24 cfs @ 12.00 hrs, Volume= 0.015 af
Primary = 0.24 cfs @ 12.00 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link POA-3: Salina POA 3



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 6S: Watershed to Detention Runoff Area=29.800 ac 38.00% Impervious Runoff Depth=4.04"
Flow Length=1,781' Tc=12.3 min CN=87 Runoff=165.34 cfs 10.034 af

Subcatchment 8S: Watershed Directly to Runoff Area=39.542 ac 25.53% Impervious Runoff Depth=3.73"
Flow Length=1,698' Tc=48.2 min CN=84 Runoff=92.56 cfs 12.294 af

Subcatchment 13S: Watershed to Runoff Area=6.067 ac 65.00% Impervious Runoff Depth=4.58"
Tc=6.0 min CN=92 Runoff=44.98 cfs 2.315 af

Subcatchment P-1.1: Subcat P-1.1 Runoff Area=4.787 ac 70.72% Impervious Runoff Depth=4.47"
Tc=6.0 min CN=91 Runoff=35.00 cfs 1.783 af

Subcatchment P-1.2: Subcat P-1.2 Runoff Area=6.130 ac 73.71% Impervious Runoff Depth=4.47"
Tc=6.0 min CN=91 Runoff=44.82 cfs 2.283 af

Subcatchment P-2: Subcat P-2 Runoff Area=2.046 ac 21.76% Impervious Runoff Depth=3.73"
Tc=20.0 min CN=84 Runoff=8.41 cfs 0.636 af

Subcatchment P-3: Subcat P-3 Runoff Area=0.435 ac 0.74% Impervious Runoff Depth=1.53"
Tc=6.0 min CN=59 Runoff=1.16 cfs 0.055 af

Subcatchment P-4.1: Subcat P-4.1 Runoff Area=1.910 ac 1.66% Impervious Runoff Depth=2.50"
Flow Length=489' Tc=11.8 min CN=71 Runoff=6.90 cfs 0.398 af

Subcatchment P-4.2: Subcat P-4.2 Runoff Area=0.538 ac 2.30% Impervious Runoff Depth=0.61"
Flow Length=340' Tc=7.2 min CN=45 Runoff=0.38 cfs 0.027 af

Subcatchment P-4.3: Subcat P-4.3 Runoff Area=0.187 ac 0.00% Impervious Runoff Depth=3.33"
Tc=6.0 min CN=80 Runoff=1.10 cfs 0.052 af

Subcatchment P-5: Subcat P-5 Runoff Area=1.594 ac 6.84% Impervious Runoff Depth=1.24"
Flow Length=169' Tc=10.5 min CN=55 Runoff=2.72 cfs 0.165 af

Pond 1P: Infiltration Basin 2 Peak Elev=393.79' Storage=5,314 cf Inflow=8.41 cfs 0.636 af
Discarded=0.03 cfs 0.042 af Primary=5.65 cfs 0.588 af Outflow=5.68 cfs 0.630 af

Pond 4P: Infiltration Basin 1.2 Peak Elev=393.80' Storage=39,558 cf Inflow=44.82 cfs 2.283 af
Discarded=0.14 cfs 0.282 af Primary=16.04 cfs 1.800 af Secondary=8.45 cfs 0.071 af Outflow=24.62 cfs 2.152 af

Pond 8P: Infiltration Basin 1.1 Peak Elev=394.26' Storage=20,357 cf Inflow=35.00 cfs 1.783 af
Discarded=0.10 cfs 0.108 af Primary=17.57 cfs 1.637 af Secondary=0.00 cfs 0.000 af Outflow=17.67 cfs 1.745 af

Pond 13P: Existing Detention Pond 2 Peak Elev=425.22' Storage=37,738 cf Inflow=44.98 cfs 2.315 af
Primary=8.29 cfs 2.313 af Secondary=0.00 cfs 0.000 af Outflow=8.29 cfs 2.313 af

Pond 14P: Existing Detention Pond 1 Peak Elev=444.62' Storage=142,433 cf Inflow=165.34 cfs 10.034 af
Primary=33.24 cfs 9.971 af Secondary=5.23 cfs 0.062 af Outflow=38.47 cfs 10.034 af

Pond 16P: Wetland Pre Street Crossing Peak Elev=393.06' Storage=6,147 cf Inflow=134.91 cfs 25.039 af
Outflow=134.53 cfs 25.039 af

Pond 17P: Wetland through Center of Peak Elev=392.46' Storage=13,486 cf Inflow=134.61 cfs 25.066 af
144.0" x 48.0" Box Culvert w/ 12.0" inside fill n=0.013 L=116.0' S=0.0000 '/' Outflow=135.22 cfs 25.066 af

Pond 18P: Detention Pond 1 Peak Elev=391.51' Storage=7,084 cf Inflow=153.63 cfs 28.625 af
Primary=7.35 cfs 6.786 af Secondary=146.19 cfs 21.839 af Outflow=153.54 cfs 28.625 af

Link 11L: POA 1 Inflow=154.03 cfs 28.790 af
Primary=154.03 cfs 28.790 af

Link 12L: eNOI Inflow=159.33 cfs 29.433 af
Primary=159.33 cfs 29.433 af

Link POA-2: E Genessee - POA 2 Inflow=5.65 cfs 0.588 af
Primary=5.65 cfs 0.588 af

Link POA-3: Salina POA 3 Inflow=1.16 cfs 0.055 af
Primary=1.16 cfs 0.055 af

Total Runoff Area = 93.036 ac Runoff Volume = 30.041 af Average Runoff Depth = 3.87"
63.60% Pervious = 59.169 ac 36.40% Impervious = 33.867 ac

Summary for Subcatchment 6S: Watershed to Detention Pond 1

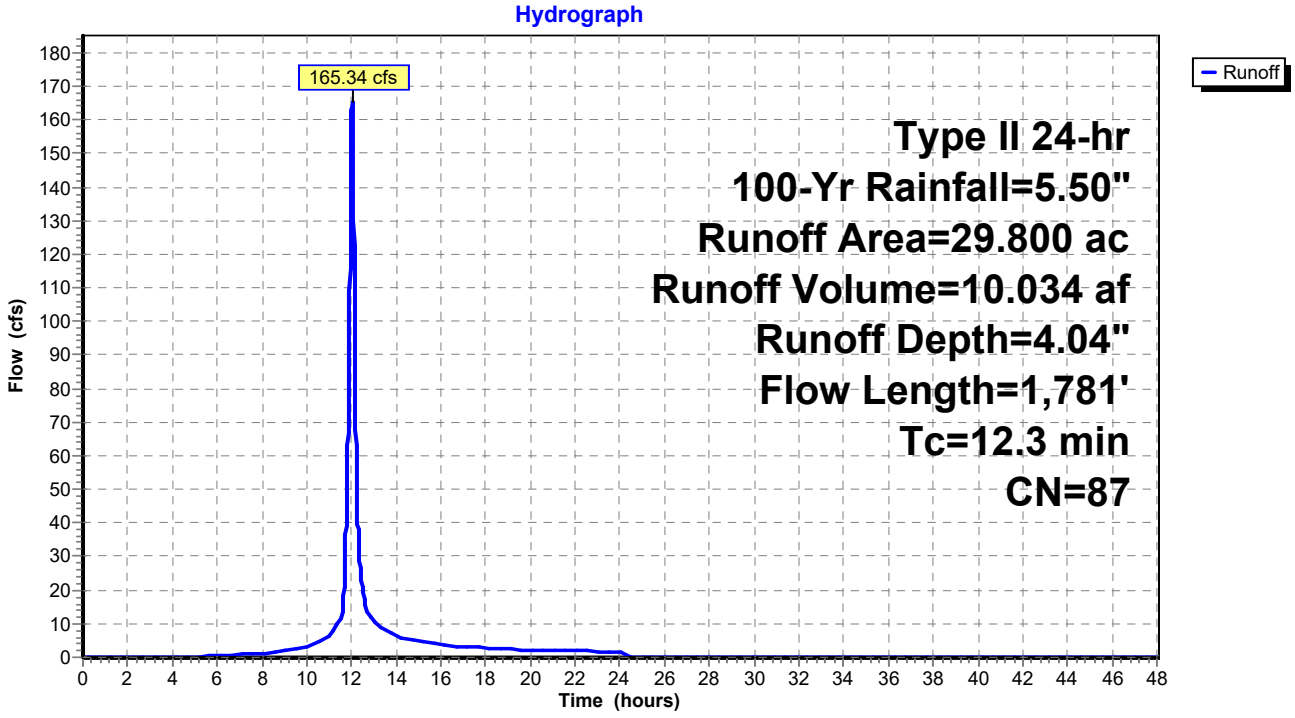
Runoff = 165.34 cfs @ 12.04 hrs, Volume= 10.034 af, Depth= 4.04"
Routed to Pond 14P : Existing Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
29.800	87	1/4 acre lots, 38% imp, HSG D
18.476		62.00% Pervious Area
11.324		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0500	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.8	192	0.0680	1.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.6	1,489	0.2200	9.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.3	1,781	Total			

Subcatchment 6S: Watershed to Detention Pond 1



Summary for Subcatchment 8S: Watershed Directly to Project Site

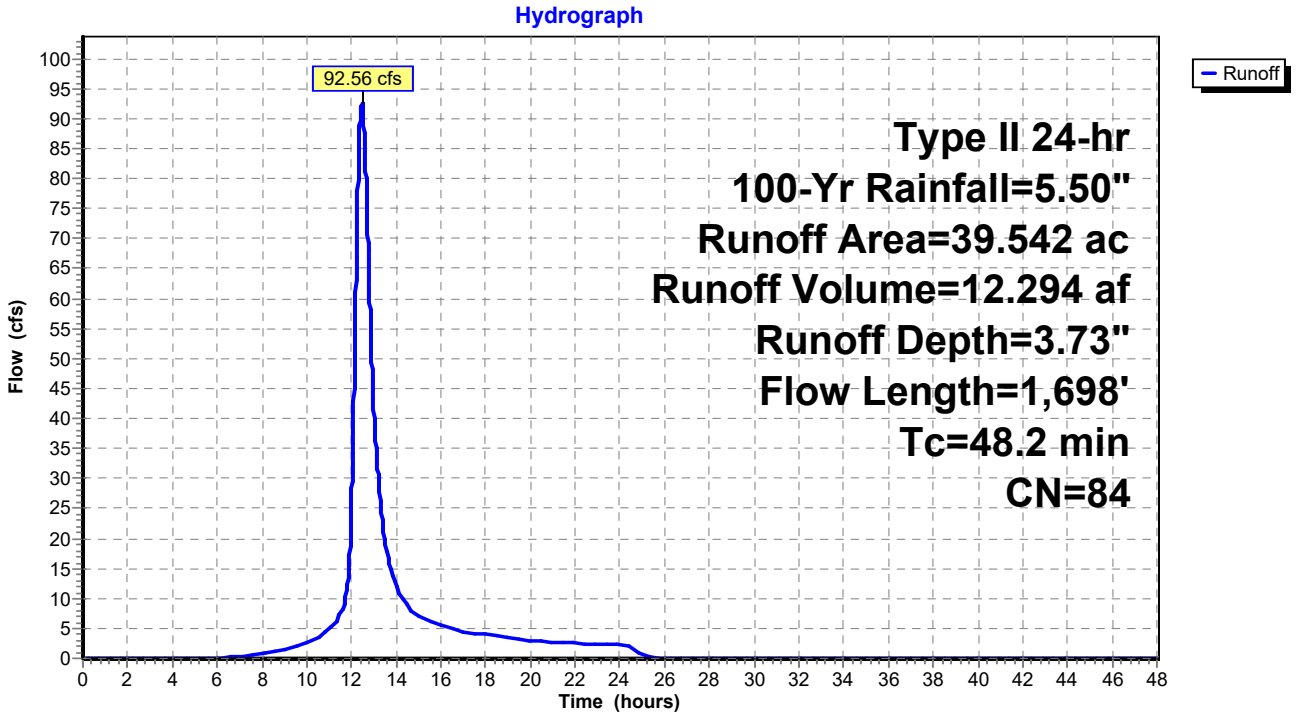
Runoff = 92.56 cfs @ 12.48 hrs, Volume= 12.294 af, Depth= 3.73"
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
26.562	87	1/4 acre lots, 38% imp, HSG D
5.500	77	Woods, Good, HSG D
7.480	77	Woods, Good, HSG D
39.542	84	Weighted Average
29.448		74.47% Pervious Area
10.094		25.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.35"
6.2	500	0.0720	1.34		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.2	240	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.8	450	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.9	408	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
48.2	1,698	Total			

Subcatchment 8S: Watershed Directly to Project Site



Summary for Subcatchment 13S: Watershed to Detention Pond 2

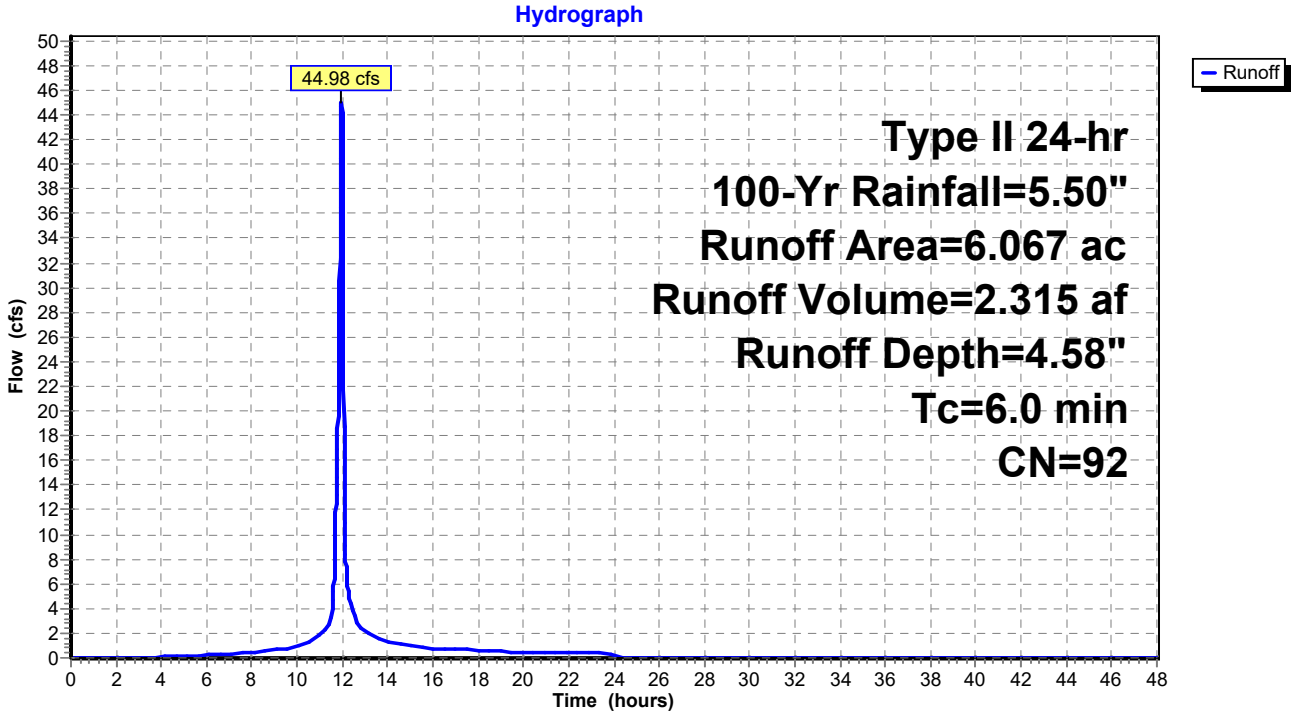
Runoff = 44.98 cfs @ 11.97 hrs, Volume= 2.315 af, Depth= 4.58"
Routed to Pond 13P : Existing Detention Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
6.067	92	1/8 acre lots, 65% imp, HSG D
2.123		35.00% Pervious Area
3.944		65.00% Impervious Area

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

Subcatchment 13S: Watershed to Detention Pond 2



Summary for Subcatchment P-1.1: Subcat P-1.1

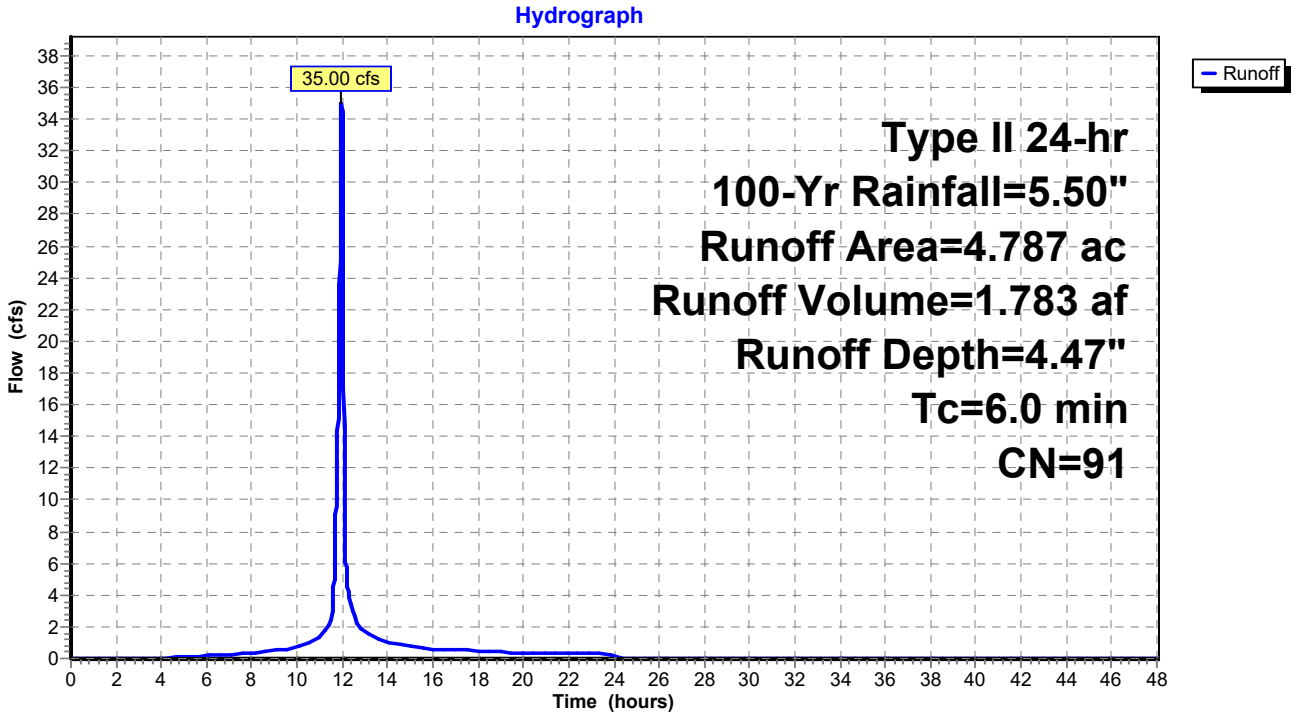
Runoff = 35.00 cfs @ 11.97 hrs, Volume= 1.783 af, Depth= 4.47"
Routed to Pond 8P : Infiltration Basin 1.1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG A
0.001	98	Paved parking, HSG A
0.000	98	Paved parking, HSG D
0.012	98	Paved parking, HSG D
0.007	98	Paved parking, HSG D
0.201	98	Paved parking, HSG A
0.045	98	Paved parking, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.122	80	>75% Grass cover, Good, HSG D
0.011	80	>75% Grass cover, Good, HSG D
0.955	80	>75% Grass cover, Good, HSG D
0.006	80	>75% Grass cover, Good, HSG D
0.066	39	>75% Grass cover, Good, HSG A
0.033	98	Paved parking, HSG D
0.017	98	Paved parking, HSG D
0.242	98	Paved parking, HSG D
0.448	98	Paved parking, HSG D
0.195	98	Paved parking, HSG A
0.132	98	Paved parking, HSG A
0.006	30	Woods, Good, HSG A
0.082	80	>75% Grass cover, Good, HSG D
0.010	80	>75% Grass cover, Good, HSG D
0.056	39	>75% Grass cover, Good, HSG A
0.000	80	>75% Grass cover, Good, HSG D
0.085	39	>75% Grass cover, Good, HSG A
0.002	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.129	98	Paved parking, HSG A
0.256	98	Paved parking, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.425	98	Paved parking, HSG D
0.378	98	Paved parking, HSG D
0.843	98	Paved parking, HSG D
4.787	91	Weighted Average
1.402		29.28% Pervious Area
3.386		70.72% Impervious Area

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

Subcatchment P-1.1: Subcat P-1.1



Summary for Subcatchment P-1.2: Subcat P-1.2

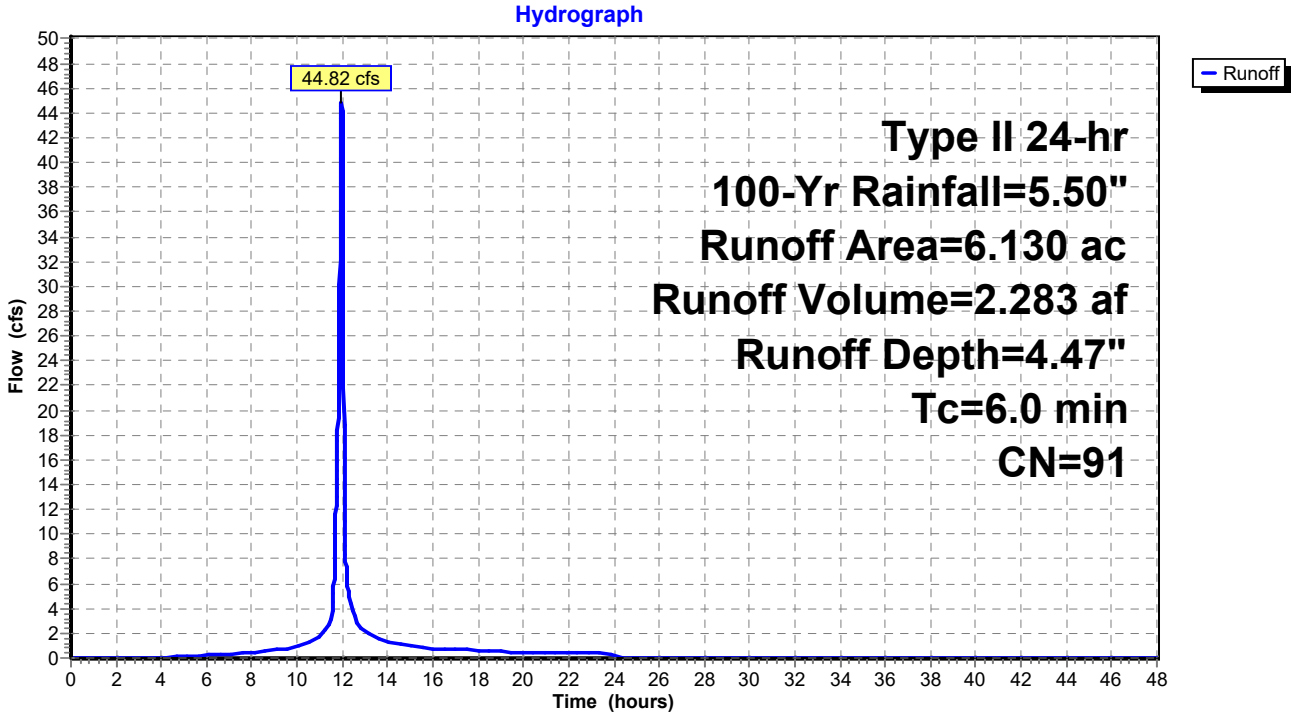
Runoff = 44.82 cfs @ 11.97 hrs, Volume= 2.283 af, Depth= 4.47"
Routed to Pond 4P : Infiltration Basin 1.2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.163	98	Paved parking, HSG D
0.197	98	Paved parking, HSG D
0.260	98	Paved parking, HSG A
0.100	98	Paved parking, HSG A
0.001	98	Paved parking, HSG A
0.199	98	Paved parking, HSG A
0.003	98	Paved parking, HSG A
0.284	98	Paved parking, HSG D
0.329	98	Paved parking, HSG D
0.258	98	Paved parking, HSG A
0.289	98	Paved parking, HSG A
0.110	98	Paved parking, HSG A
0.004	30	Woods, Good, HSG A
0.255	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.783	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.018	80	>75% Grass cover, Good, HSG D
0.001	80	>75% Grass cover, Good, HSG D
0.177	80	>75% Grass cover, Good, HSG D
0.306	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.003	39	>75% Grass cover, Good, HSG A
0.045	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.003	80	>75% Grass cover, Good, HSG D
0.000	80	>75% Grass cover, Good, HSG D
0.005	80	>75% Grass cover, Good, HSG D
0.002	77	Woods, Good, HSG D
0.001	98	Paved parking, HSG D
0.117	98	Paved parking, HSG D
0.150	98	Paved parking, HSG D
1.067	98	Paved parking, HSG D
0.042	98	Paved parking, HSG D
0.854	98	Paved parking, HSG D
0.095	98	Paved parking, HSG D
6.130	91	Weighted Average
1.612		26.29% Pervious Area
4.518		73.71% Impervious Area

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

Subcatchment P-1.2: Subcat P-1.2



Summary for Subcatchment P-2: Subcat P-2

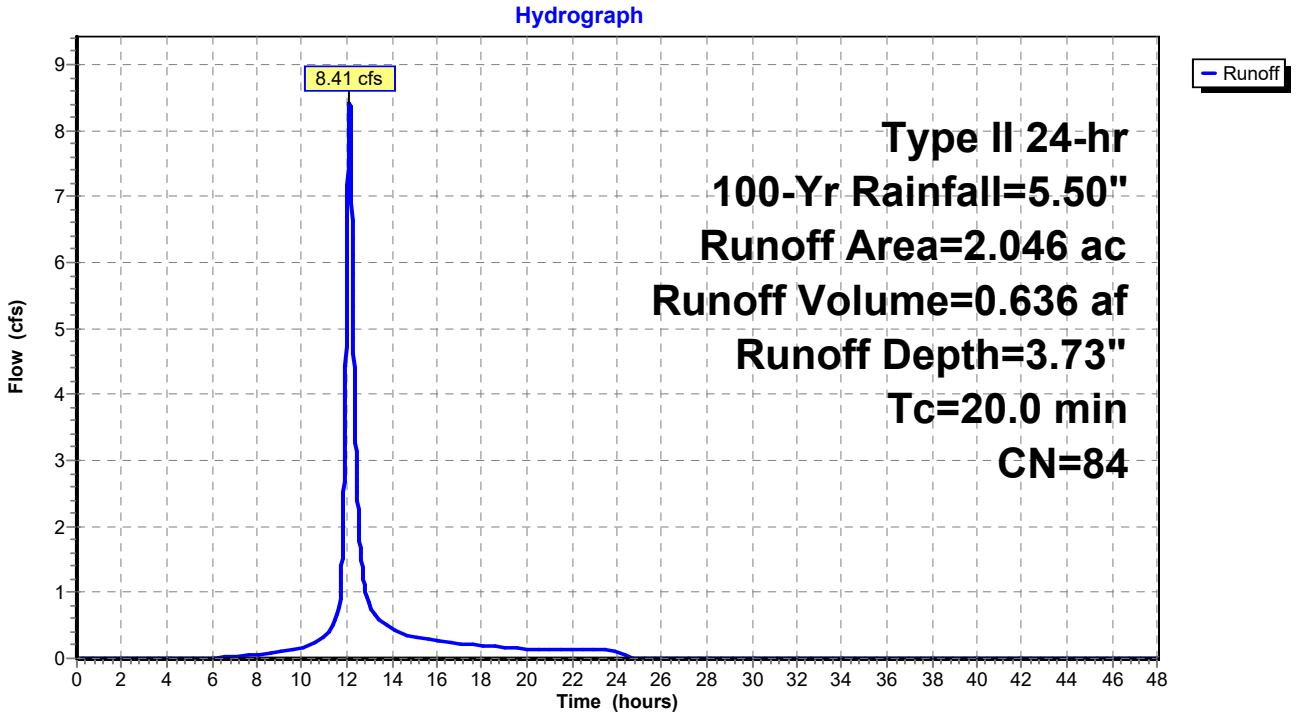
Runoff = 8.41 cfs @ 12.12 hrs, Volume= 0.636 af, Depth= 3.73"
Routed to Pond 1P : Infiltration Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
1.480	80	>75% Grass cover, Good, HSG D
0.039	80	>75% Grass cover, Good, HSG D
0.082	80	>75% Grass cover, Good, HSG D
0.018	98	Paved parking, HSG D
0.018	98	Paved parking, HSG D
0.015	98	Paved parking, HSG D
0.022	98	Paved parking, HSG D
0.062	98	Paved parking, HSG D
0.040	98	Paved parking, HSG D
0.269	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
2.046	84	Weighted Average
1.601		78.24% Pervious Area
0.445		21.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, Same as Existing**

Subcatchment P-2: Subcat P-2



Summary for Subcatchment P-3: Subcat P-3

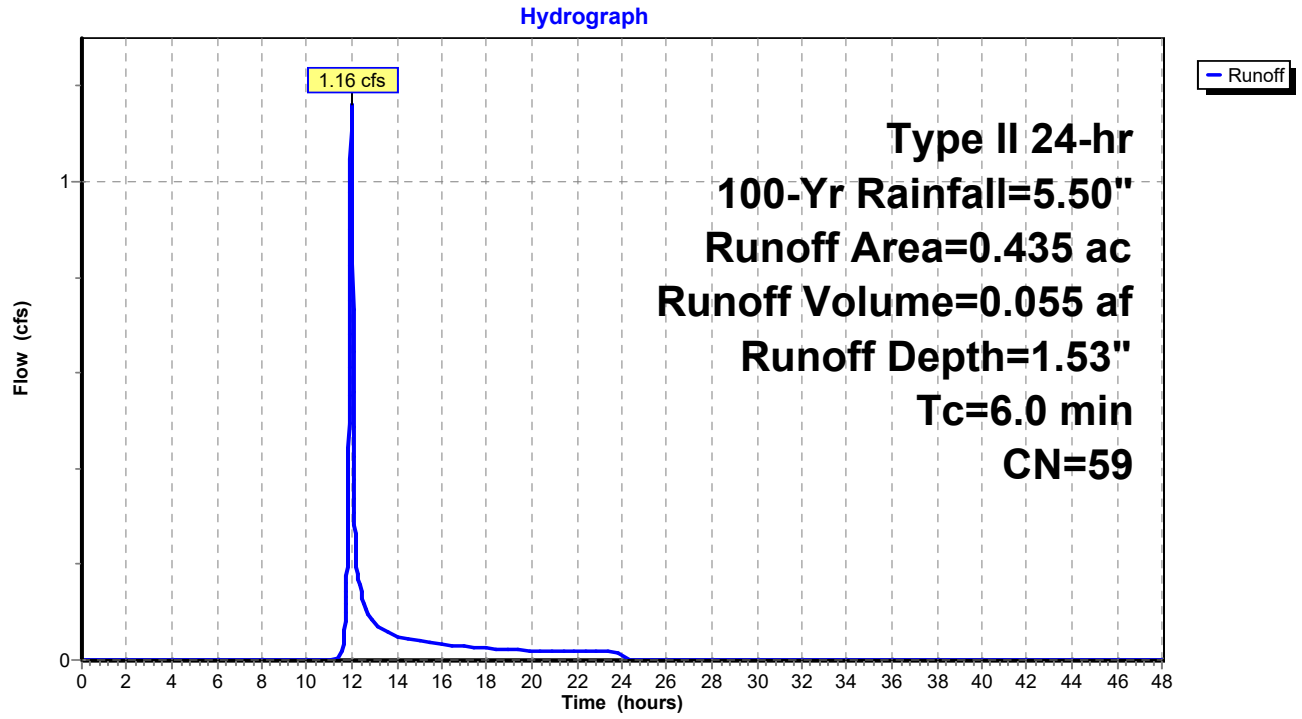
Runoff = 1.16 cfs @ 11.98 hrs, Volume= 0.055 af, Depth= 1.53"
Routed to Link POA-3 : Salina POA 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.002	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.000	98	Paved parking, HSG A
0.098	39	>75% Grass cover, Good, HSG A
0.125	39	>75% Grass cover, Good, HSG A
0.000	39	>75% Grass cover, Good, HSG A
0.209	80	>75% Grass cover, Good, HSG D
0.000	98	Paved parking, HSG D
0.435	59	Weighted Average
0.432		99.26% Pervious Area
0.003		0.74% Impervious Area

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

Subcatchment P-3: Subcat P-3



Summary for Subcatchment P-4.1: Subcat P-4.1

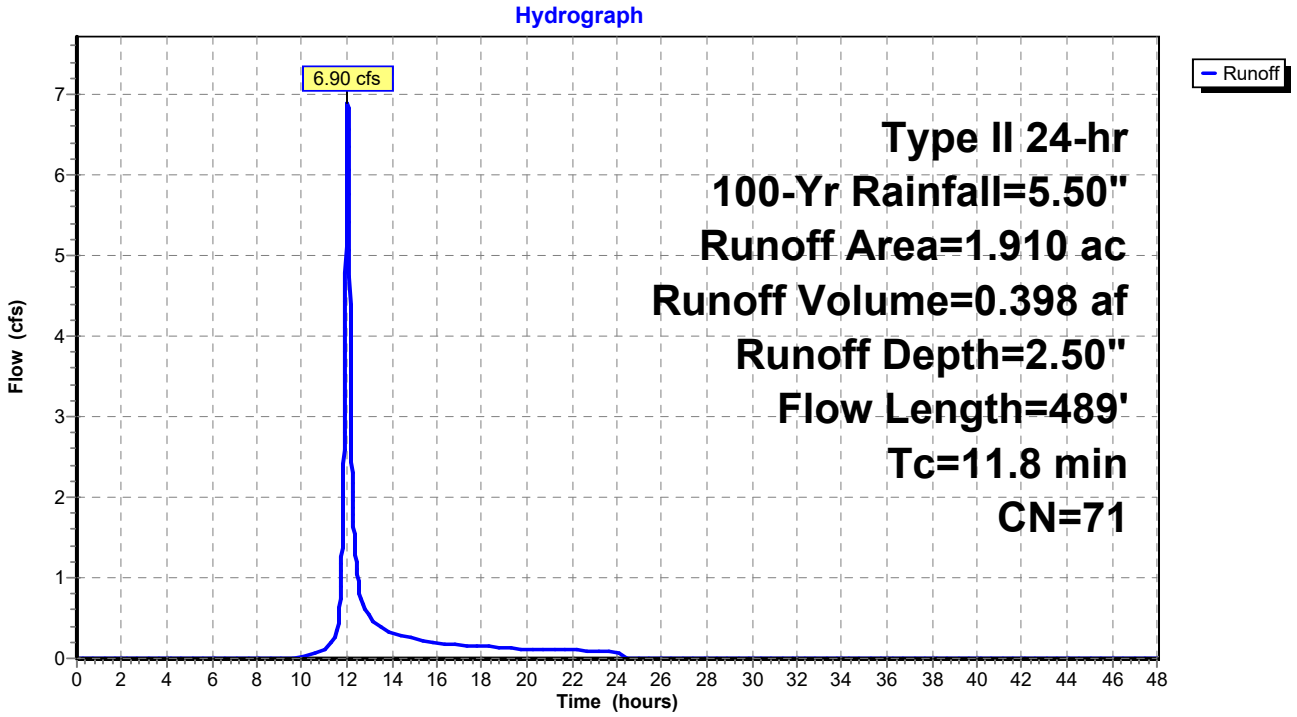
Runoff = 6.90 cfs @ 12.04 hrs, Volume= 0.398 af, Depth= 2.50"
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.078	77	Woods, Good, HSG D
0.000	77	Woods, Good, HSG D
0.189	30	Woods, Good, HSG A
0.034	39	>75% Grass cover, Good, HSG A
0.162	39	>75% Grass cover, Good, HSG A
0.558	80	>75% Grass cover, Good, HSG D
0.857	80	>75% Grass cover, Good, HSG D
0.031	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.001	98	Paved parking, HSG D
1.910	71	Weighted Average
1.878		98.34% Pervious Area
0.032		1.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.0450	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.6	110	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	279	0.0270	2.46		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
11.8	489	Total			

Subcatchment P-4.1: Subcat P-4.1



Summary for Subcatchment P-4.2: Subcat P-4.2

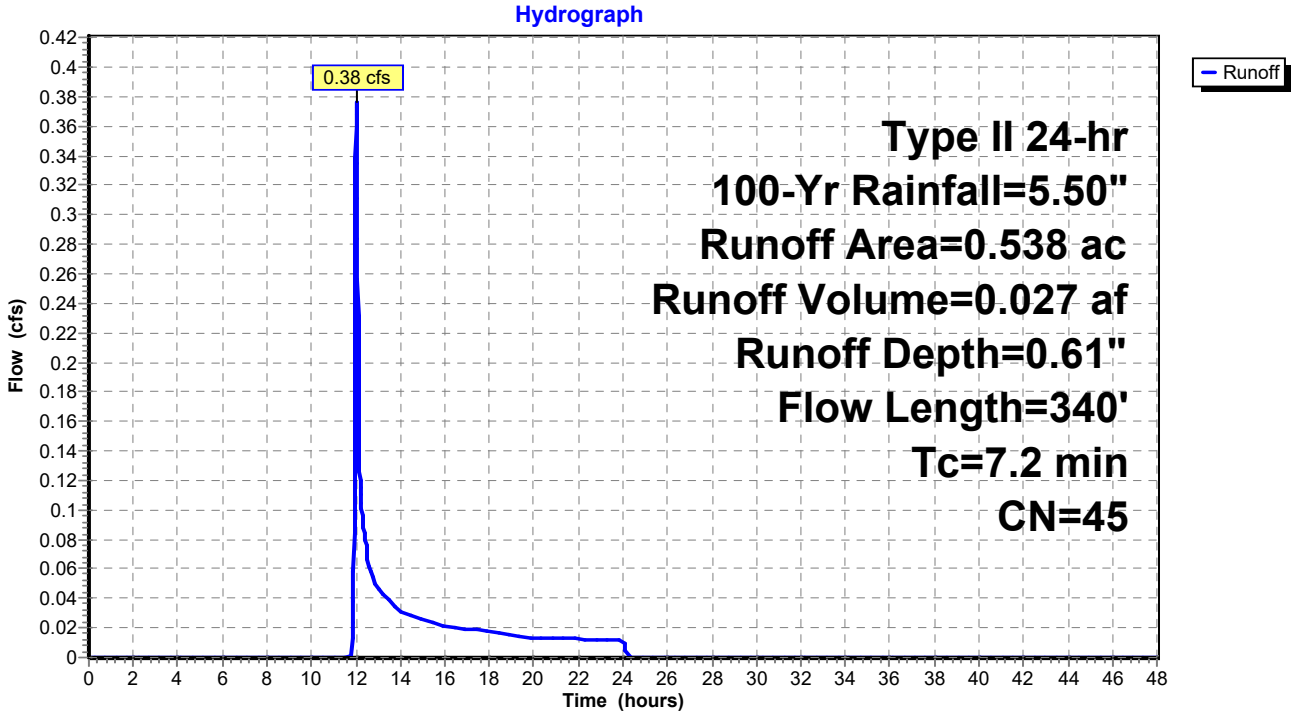
Runoff = 0.38 cfs @ 12.02 hrs, Volume= 0.027 af, Depth= 0.61"
Routed to Pond 17P : Wetland through Center of Development

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.459	39	>75% Grass cover, Good, HSG A
0.000	98	Paved parking, HSG A
0.011	98	Paved parking, HSG A
0.000	98	Paved parking, HSG D
0.001	98	Paved parking, HSG D
0.066	80	>75% Grass cover, Good, HSG D
0.538	45	Weighted Average
0.525		97.70% Pervious Area
0.012		2.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	68	0.0730	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
2.2	272	0.0190	2.07		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.2	340	Total			

Subcatchment P-4.2: Subcat P-4.2



Summary for Subcatchment P-4.3: Subcat P-4.3

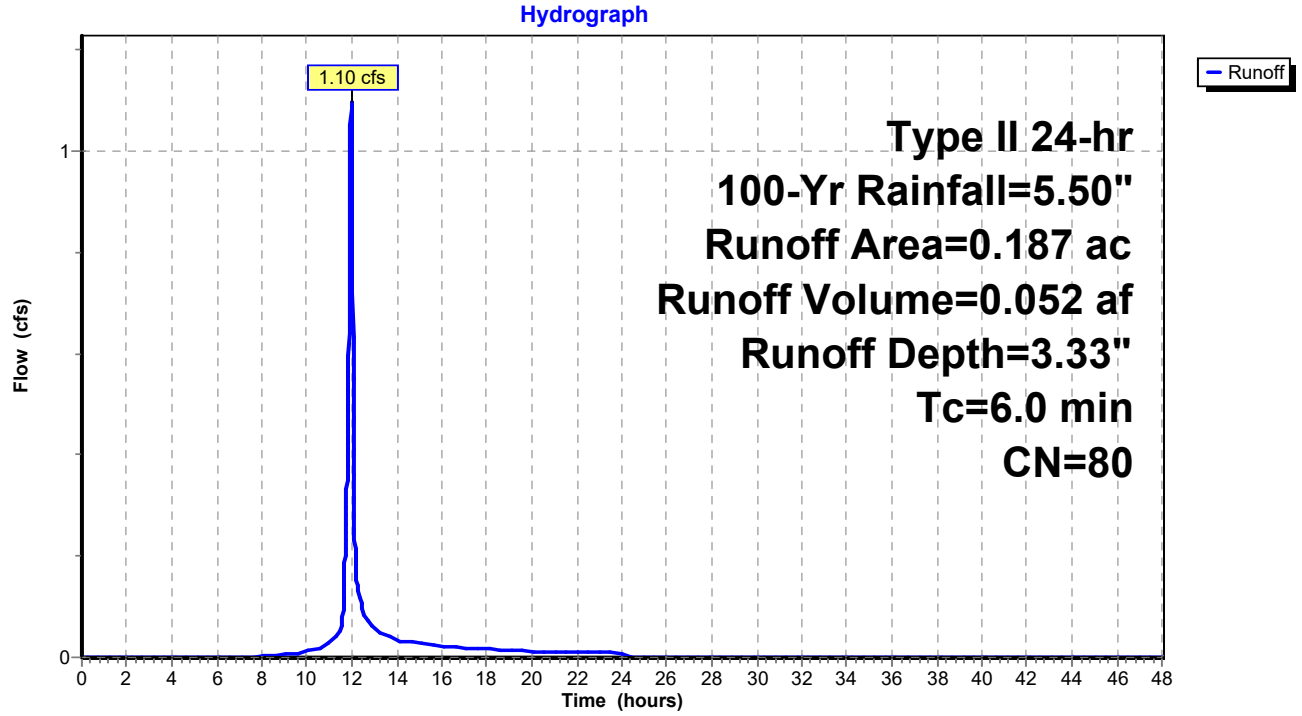
Runoff = 1.10 cfs @ 11.97 hrs, Volume= 0.052 af, Depth= 3.33"
Routed to Pond 18P : Detention Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
0.187	80	>75% Grass cover, Good, HSG D
0.187		100.00% Pervious Area

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

Subcatchment P-4.3: Subcat P-4.3



Summary for Subcatchment P-5: Subcat P-5

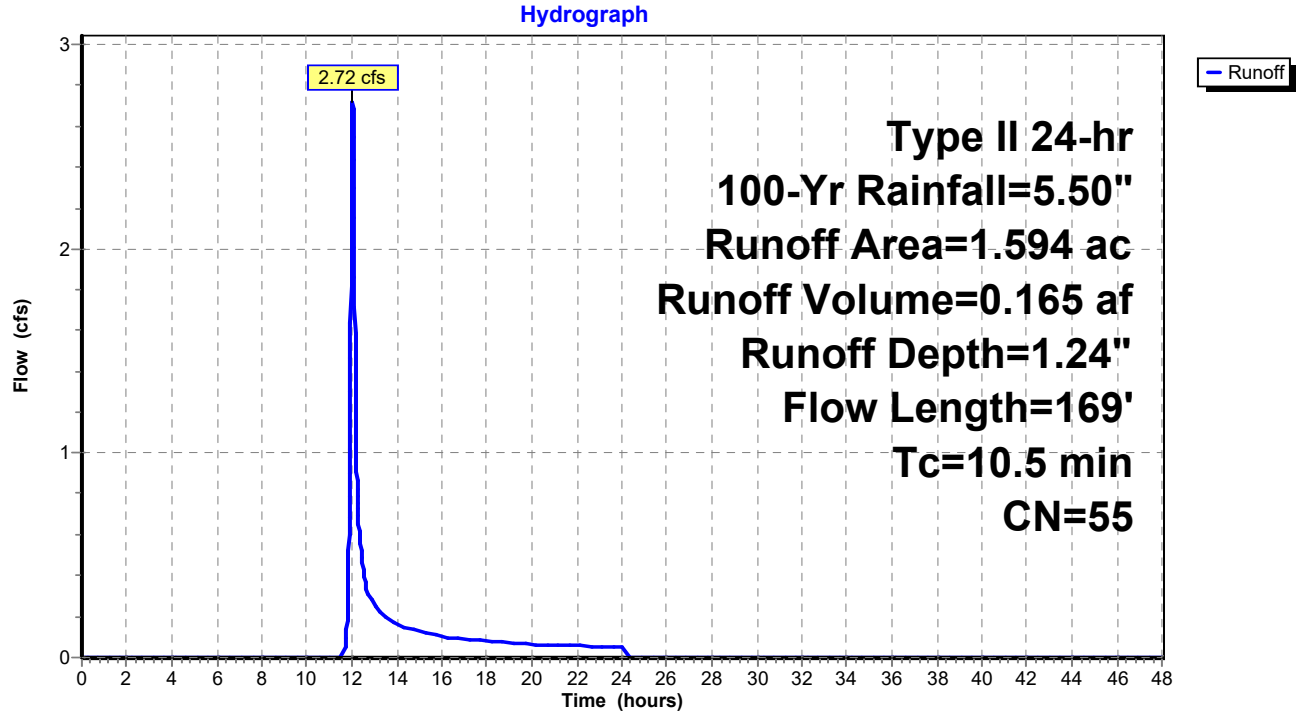
Runoff = 2.72 cfs @ 12.04 hrs, Volume= 0.165 af, Depth= 1.24"
Routed to Link 11L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=5.50"

Area (ac)	CN	Description
1.017	39	>75% Grass cover, Good, HSG A
0.085	98	Paved parking, HSG A
0.001	98	Paved parking, HSG D
0.000	98	Paved parking, HSG D
0.023	98	Paved parking, HSG D
0.468	80	>75% Grass cover, Good, HSG D
1.594	55	Weighted Average
1.485		93.16% Pervious Area
0.109		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.0350	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.35"
1.4	69	0.0140	0.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	169	Total			

Subcatchment P-5: Subcat P-5



Summary for Pond 1P: Infiltration Basin 2

Inflow Area = 2.046 ac, 21.76% Impervious, Inflow Depth = 3.73" for 100-Yr event
Inflow = 8.41 cfs @ 12.12 hrs, Volume= 0.636 af
Outflow = 5.68 cfs @ 12.27 hrs, Volume= 0.630 af, Atten= 32%, Lag= 8.9 min
Discarded = 0.03 cfs @ 12.27 hrs, Volume= 0.042 af
Primary = 5.65 cfs @ 12.27 hrs, Volume= 0.588 af
Routed to Link POA-2 : E Genessee - POA 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 393.79' @ 12.27 hrs Surf.Area= 3,000 sf Storage= 5,314 cf

Plug-Flow detention time= 70.4 min calculated for 0.630 af (99% of inflow)
Center-of-Mass det. time= 64.8 min (881.5 - 816.7)

Volume	Invert	Avail.Storage	Storage Description
#1	390.25'	5,960 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

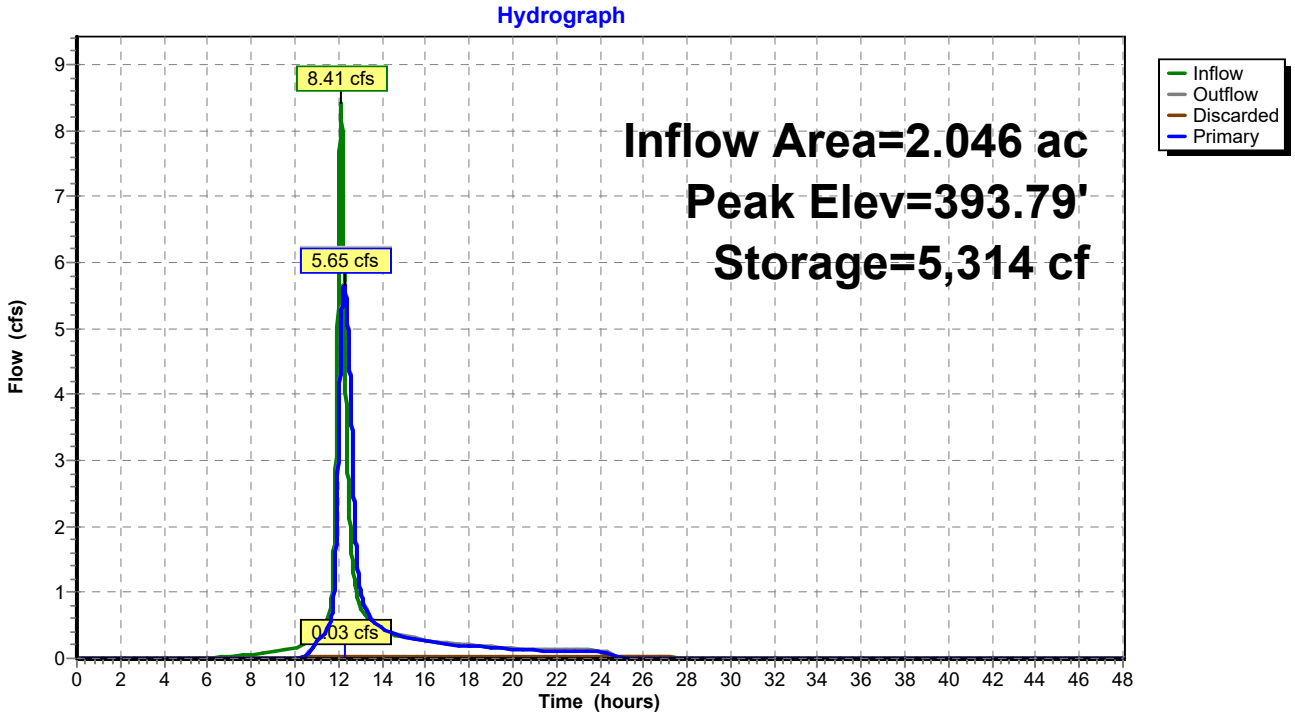
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
390.25	290	0	0
391.00	752	391	391
392.00	1,358	1,055	1,446
393.00	2,234	1,796	3,242
394.00	3,202	2,718	5,960

Device	Routing	Invert	Outlet Devices
#1	Discarded	390.25'	**0.500 in/hr Exfiltration over Surface area**
#2	Primary	391.70'	**15.0" Round Culvert** L= 30.0' Ke= 0.900 Inlet / Outlet Invert= 391.70' / 390.57' S= 0.0377 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.03 cfs @ 12.27 hrs HW=393.79' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=5.65 cfs @ 12.27 hrs HW=393.79' TW=0.00' (Dynamic Tailwater)
↑**2=Culvert** (Inlet Controls 5.65 cfs @ 4.60 fps)

Pond 1P: Infiltration Basin 2



Summary for Pond 4P: Infiltration Basin 1.2

Inflow Area = 6.130 ac, 73.71% Impervious, Inflow Depth = 4.47" for 100-Yr event
Inflow = 44.82 cfs @ 11.97 hrs, Volume= 2.283 af
Outflow = 24.62 cfs @ 12.05 hrs, Volume= 2.152 af, Atten= 45%, Lag= 5.0 min
Discarded = 0.14 cfs @ 11.93 hrs, Volume= 0.282 af
Primary = 16.04 cfs @ 12.05 hrs, Volume= 1.800 af
Routed to Pond 18P : Detention Pond 1
Secondary = 8.45 cfs @ 12.05 hrs, Volume= 0.071 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 393.80' @ 12.05 hrs Surf.Area= 11,671 sf Storage= 39,558 cf

Plug-Flow detention time= 178.0 min calculated for 2.152 af (94% of inflow)
Center-of-Mass det. time= 145.4 min (925.8 - 780.4)

Volume	Invert	Avail.Storage	Storage Description
#1	389.00'	41,844 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
389.00	4,292	0	0
390.00	5,410	4,851	4,851
391.00	6,705	6,058	10,909
392.00	9,824	8,265	19,173
393.00	11,959	10,892	30,065
394.00	11,600	11,780	41,844

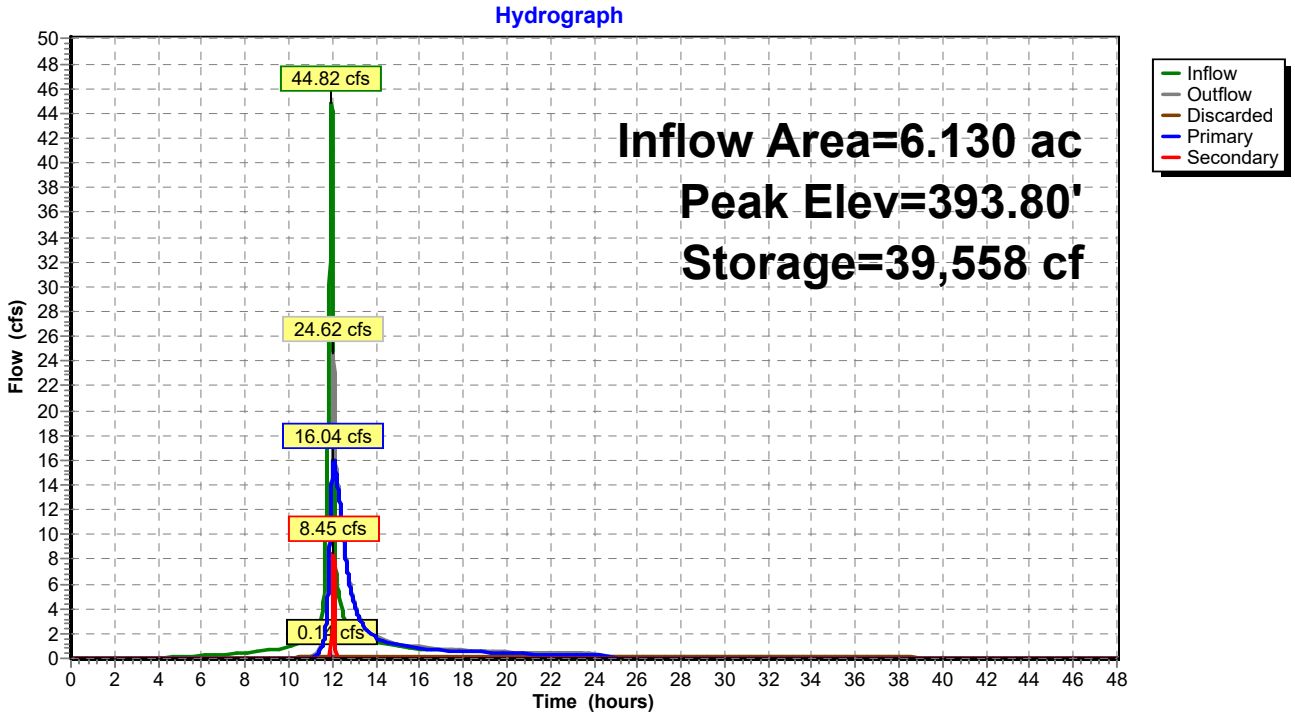
Device	Routing	Invert	Outlet Devices
#1	Primary	391.00'	**24.0" Round Culvert** L= 100.0' Ke= 0.900 Inlet / Outlet Invert= 391.00' / 390.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	393.50'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	389.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.14 cfs @ 11.93 hrs HW=393.04' (Free Discharge)
↑—**3=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=16.03 cfs @ 12.05 hrs HW=393.80' TW=391.22' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 16.03 cfs @ 5.10 fps)

Secondary OutFlow Max=8.42 cfs @ 12.05 hrs HW=393.80' TW=391.22' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 8.42 cfs @ 1.39 fps)

Pond 4P: Infiltration Basin 1.2



Summary for Pond 8P: Infiltration Basin 1.1

Inflow Area = 4.787 ac, 70.72% Impervious, Inflow Depth = 4.47" for 100-Yr event
Inflow = 35.00 cfs @ 11.97 hrs, Volume= 1.783 af
Outflow = 17.67 cfs @ 12.06 hrs, Volume= 1.745 af, Atten= 50%, Lag= 5.3 min
Discarded = 0.10 cfs @ 12.06 hrs, Volume= 0.108 af
Primary = 17.57 cfs @ 12.06 hrs, Volume= 1.637 af
Routed to Pond 18P : Detention Pond 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 394.26' @ 12.06 hrs Surf.Area= 8,361 sf Storage= 20,357 cf

Plug-Flow detention time= 84.8 min calculated for 1.744 af (98% of inflow)
Center-of-Mass det. time= 71.6 min (852.0 - 780.4)

Volume	Invert	Avail.Storage	Storage Description
#1	389.00'	27,071 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
389.00	961	0	0
390.00	1,644	1,303	1,303
391.00	2,522	2,083	3,386
392.00	3,904	3,213	6,599
393.00	5,764	4,834	11,433
394.00	7,810	6,787	18,220
395.00	9,892	8,851	27,071

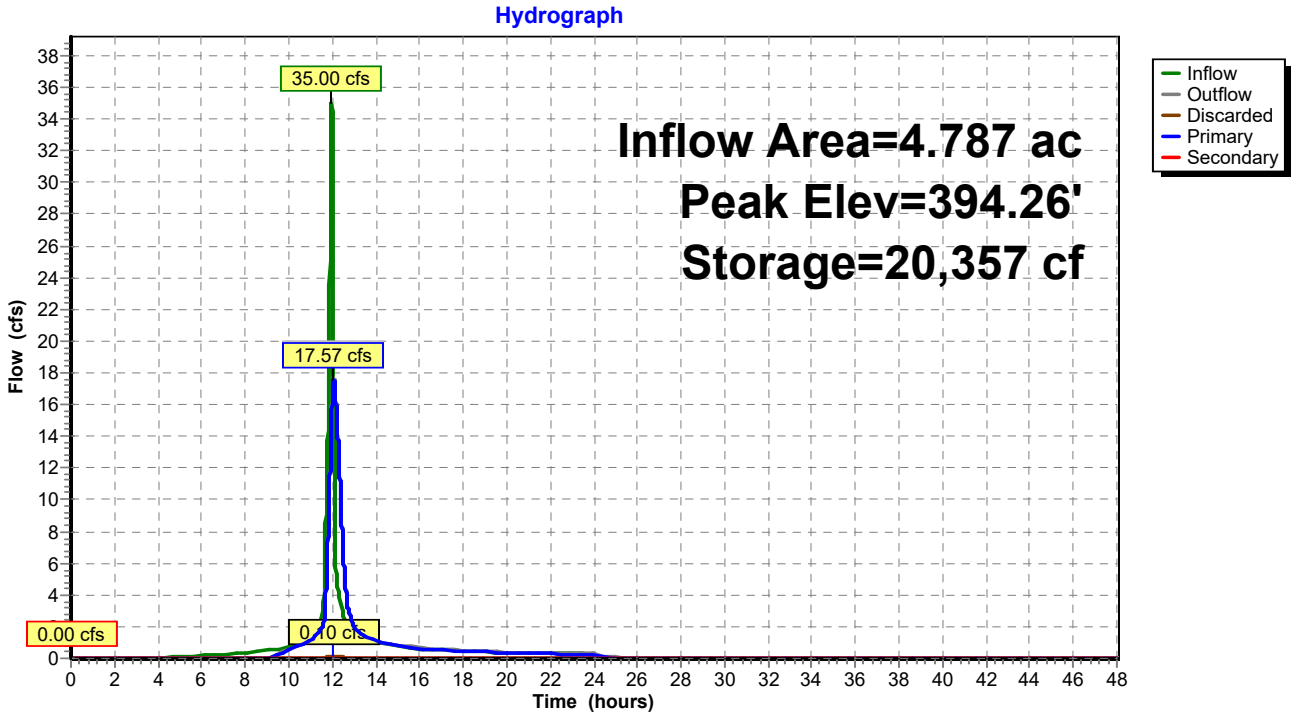
Device	Routing	Invert	Outlet Devices
#1	Primary	391.10'	**24.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 391.10' / 390.50' S= 0.0120 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	394.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	389.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.10 cfs @ 12.06 hrs HW=394.26' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=17.57 cfs @ 12.06 hrs HW=394.26' TW=391.23' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 17.57 cfs @ 5.59 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=389.00' TW=388.55' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 8P: Infiltration Basin 1.1



Summary for Pond 13P: Existing Detention Pond 2

Inflow Area = 6.067 ac, 65.00% Impervious, Inflow Depth = 4.58" for 100-Yr event
Inflow = 44.98 cfs @ 11.97 hrs, Volume= 2.315 af
Outflow = 8.29 cfs @ 12.14 hrs, Volume= 2.313 af, Atten= 82%, Lag= 10.4 min
Primary = 8.29 cfs @ 12.14 hrs, Volume= 2.313 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 425.22' @ 12.14 hrs Surf.Area= 4,592 sf Storage= 37,738 cf

Plug-Flow detention time= 58.6 min calculated for 2.313 af (100% of inflow)
Center-of-Mass det. time= 58.4 min (834.7 - 776.4)

Volume	Invert	Avail.Storage	Storage Description
#1	417.00'	41,328 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

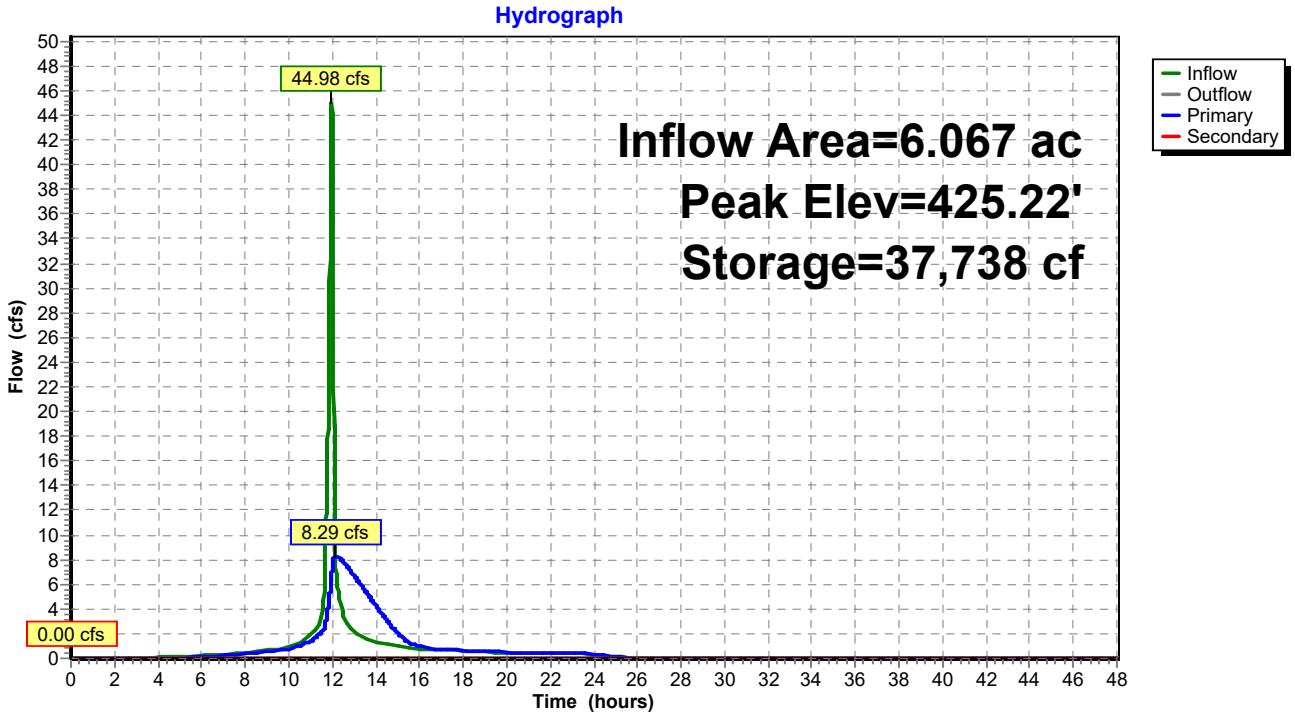
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
417.00	4,592	0	0
426.00	4,592	41,328	41,328

Device	Routing	Invert	Outlet Devices
#1	Primary	417.00'	**12.0" Round Culvert** L= 50.0' Ke= 0.900 Inlet / Outlet Invert= 417.00' / 416.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Secondary	425.99'	**120.0' 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=8.29 cfs @ 12.14 hrs HW=425.22' TW=392.60' (Dynamic Tailwater)
1=Culvert (Inlet Controls 8.29 cfs @ 10.56 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=417.00' TW=391.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 13P: Existing Detention Pond 2



Summary for Pond 14P: Existing Detention Pond 1

Inflow Area = 29.800 ac, 38.00% Impervious, Inflow Depth = 4.04" for 100-Yr event
Inflow = 165.34 cfs @ 12.04 hrs, Volume= 10.034 af
Outflow = 38.47 cfs @ 12.30 hrs, Volume= 10.034 af, Atten= 77%, Lag= 15.6 min
Primary = 33.24 cfs @ 12.30 hrs, Volume= 9.971 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage
Secondary = 5.23 cfs @ 12.30 hrs, Volume= 0.062 af
Routed to Pond 16P : Wetland Pre Street Crossing Storage

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 444.62' @ 12.30 hrs Surf.Area= 35,735 sf Storage= 142,433 cf

Plug-Flow detention time= 31.8 min calculated for 10.032 af (100% of inflow)
Center-of-Mass det. time= 31.8 min (832.2 - 800.4)

Volume	Invert	Avail.Storage	Storage Description
#1	436.00'	175,820 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

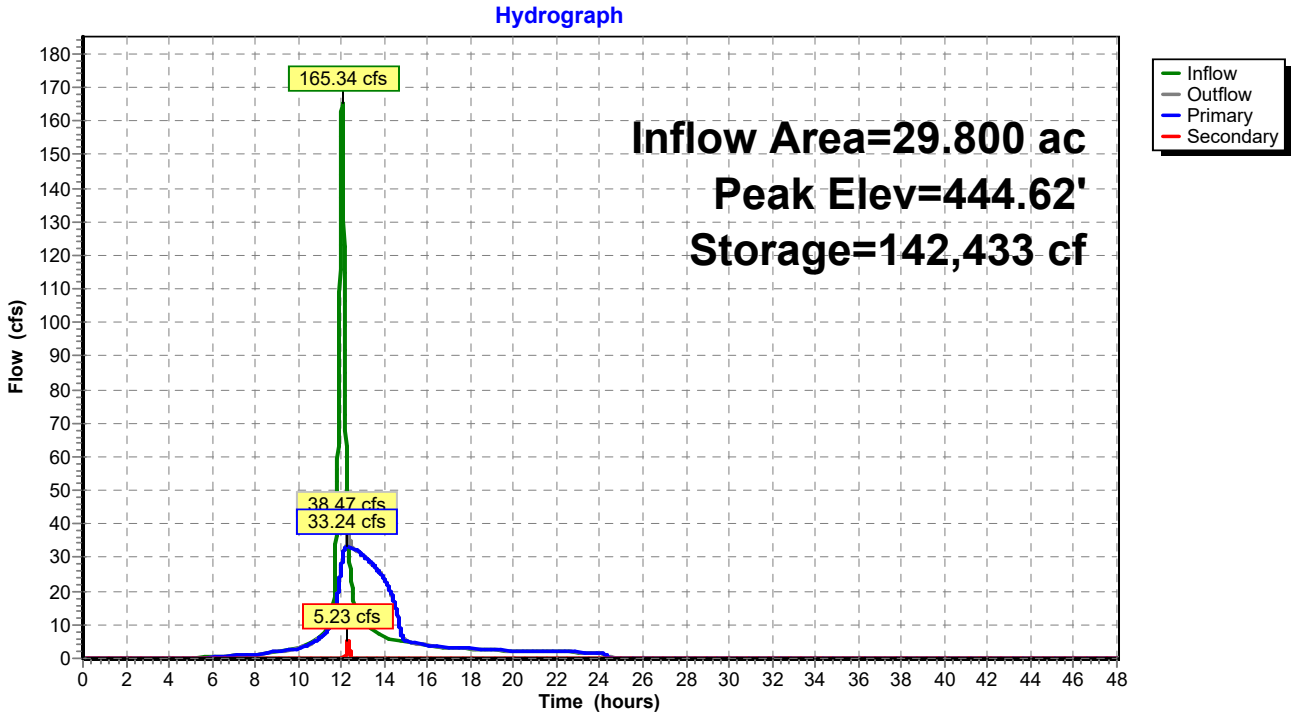
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
436.00	1,293	0	0
437.00	2,795	2,044	2,044
438.00	4,823	3,809	5,853
439.00	8,731	6,777	12,630
440.00	13,398	11,065	23,695
441.00	20,094	16,746	40,441
442.00	25,075	22,585	63,025
443.00	29,038	27,057	90,082
444.00	33,107	31,073	121,154
445.00	37,358	35,233	156,387
445.50	40,375	19,433	175,820

Device	Routing	Invert	Outlet Devices
#1	Primary	435.87'	**24.0" Round Culvert** L= 1,930.0' Ke= 0.900 Inlet / Outlet Invert= 435.87' / 395.00' S= 0.0212 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	444.50'	**48.0' long x 20.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=33.24 cfs @ 12.30 hrs HW=444.62' TW=392.92' (Dynamic Tailwater)
1=Culvert (Inlet Controls 33.24 cfs @ 10.58 fps)

Secondary OutFlow Max=5.22 cfs @ 12.30 hrs HW=444.62' TW=392.92' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 5.22 cfs @ 0.92 fps)

Pond 14P: Existing Detention Pond 1



Summary for Pond 16P: Wetland Pre Street Crossing Storage

Inflow Area = 77.319 ac, 32.84% Impervious, Inflow Depth = 3.89" for 100-Yr event
Inflow = 134.91 cfs @ 12.42 hrs, Volume= 25.039 af
Outflow = 134.53 cfs @ 12.43 hrs, Volume= 25.039 af, Atten= 0%, Lag= 0.7 min
Primary = 134.53 cfs @ 12.43 hrs, Volume= 25.039 af
Routed to Pond 17P : Wetland through Center of Development

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 393.06' @ 12.45 hrs Surf.Area= 6,669 sf Storage= 6,147 cf

Plug-Flow detention time= 0.7 min calculated for 25.033 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (838.6 - 837.8)

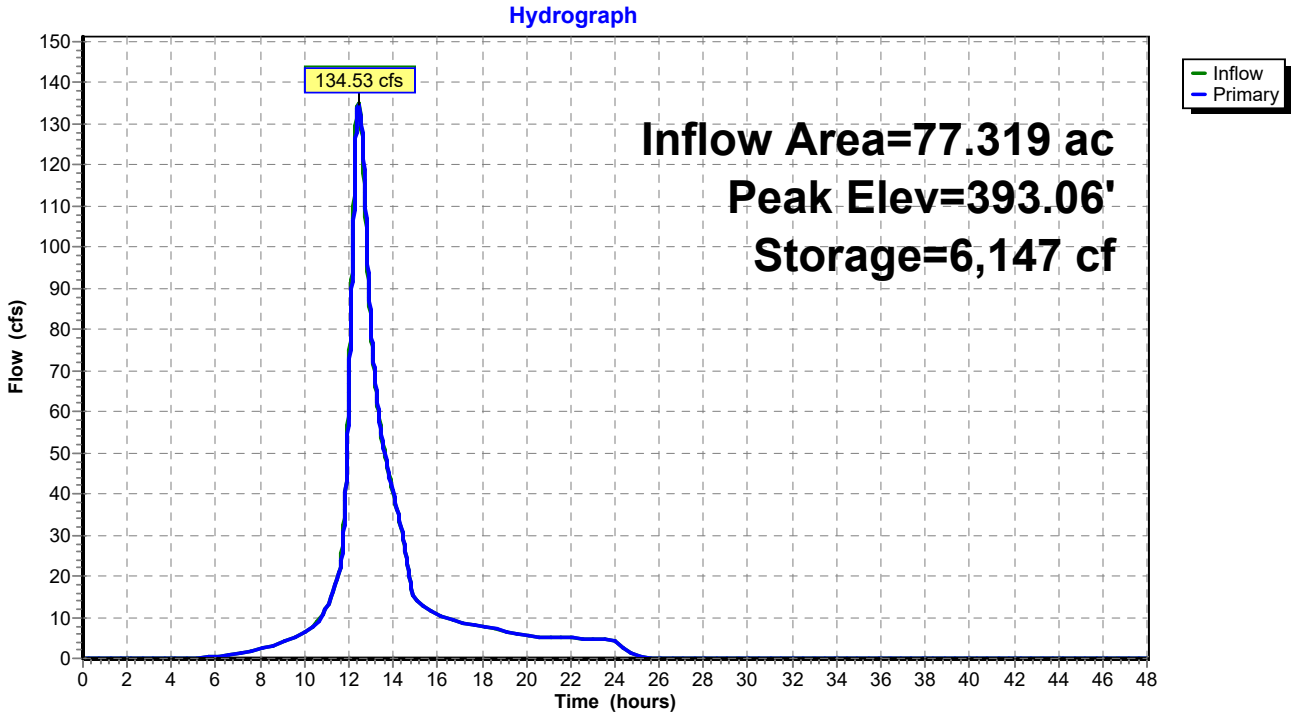
Volume	Invert	Avail.Storage	Storage Description
#1	391.00'	15,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
391.00	0	0	0
392.00	2,603	1,302	1,302
393.00	6,272	4,438	5,739
394.00	12,566	9,419	15,158

Device	Routing	Invert	Outlet Devices
#1	Primary	391.00'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 166.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 390.00' / 390.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 36.00 sf
#2	Primary	391.50'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 94.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 390.50' / 390.00' S= 0.0053 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 36.00 sf

Primary OutFlow Max=134.48 cfs @ 12.43 hrs HW=393.06' TW=392.46' (Dynamic Tailwater)
- **1=Culvert** (Barrel Controls 73.37 cfs @ 3.95 fps)
- **2=Culvert** (Inlet Controls 61.12 cfs @ 3.26 fps)

Pond 16P: Wetland Pre Street Crossing Storage



Summary for Pond 17P: Wetland through Center of Development

Inflow Area = 77.856 ac, 32.63% Impervious, Inflow Depth = 3.86" for 100-Yr event
Inflow = 134.61 cfs @ 12.43 hrs, Volume= 25.066 af
Outflow = 135.22 cfs @ 12.50 hrs, Volume= 25.066 af, Atten= 0%, Lag= 4.1 min
Primary = 135.22 cfs @ 12.50 hrs, Volume= 25.066 af
Routed to Pond 18P : Detention Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 392.46' @ 12.46 hrs Surf.Area= 7,215 sf Storage= 13,486 cf

Plug-Flow detention time= 2.0 min calculated for 25.061 af (100% of inflow)
Center-of-Mass det. time= 2.0 min (840.7 - 838.7)

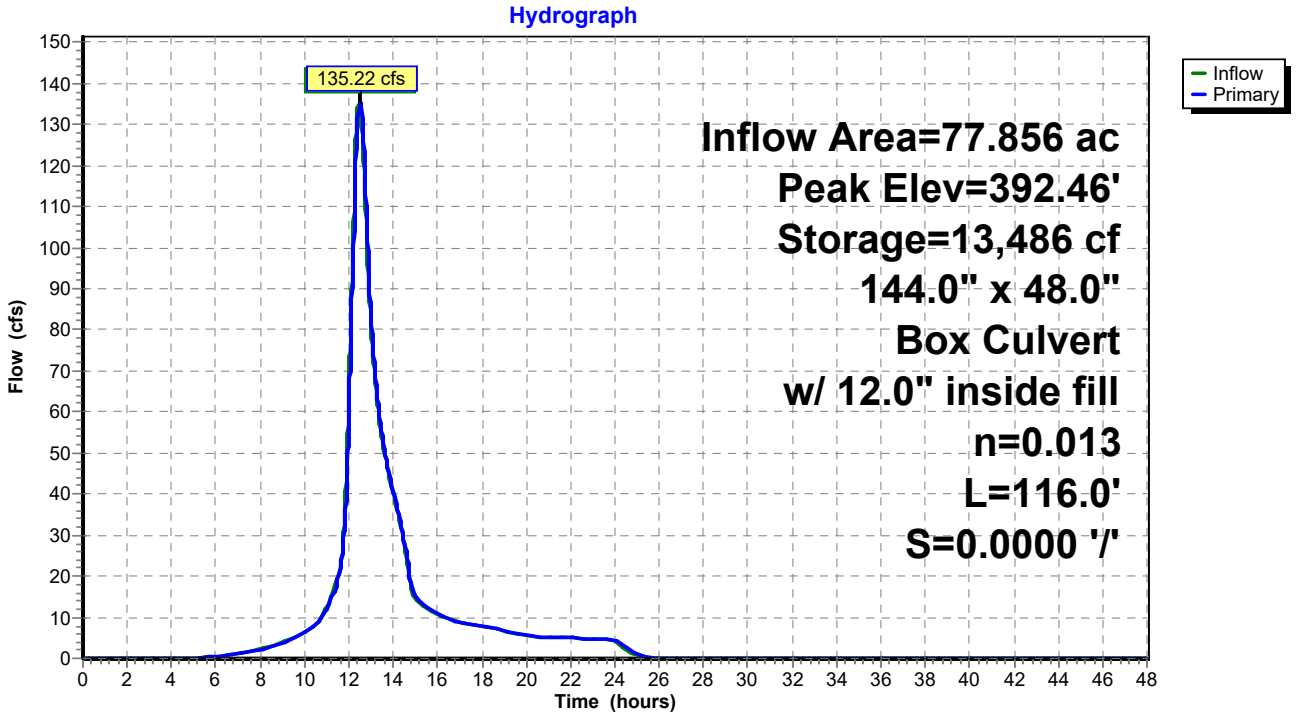
Volume	Invert	Avail.Storage	Storage Description
#1	388.50'	26,403 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.50	0	0	0
390.00	1,512	1,134	1,134
391.00	5,119	3,316	4,450
392.00	6,563	5,841	10,291
393.00	7,968	7,266	17,556
394.00	9,725	8,847	26,403

Device	Routing	Invert	Outlet Devices
#1	Primary	388.55'	**144.0" W x 48.0" H Box Culvert w/ 12.0" inside fill** L= 116.0' Ke= 0.900 Inlet / Outlet Invert= 387.55' / 387.55' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 36.00 sf

Primary OutFlow Max=134.81 cfs @ 12.50 hrs HW=392.46' TW=391.49' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 134.81 cfs @ 3.74 fps)

Pond 17P: Wetland through Center of Development



Summary for Pond 18P: Detention Pond 1

Inflow Area = 88.961 ac, 37.44% Impervious, Inflow Depth = 3.86" for 100-Yr event
Inflow = 153.63 cfs @ 12.42 hrs, Volume= 28.625 af
Outflow = 153.54 cfs @ 12.43 hrs, Volume= 28.625 af, Atten= 0%, Lag= 0.6 min
Primary = 7.35 cfs @ 12.43 hrs, Volume= 6.786 af
Routed to Link 11L : POA 1
Secondary = 146.19 cfs @ 12.43 hrs, Volume= 21.839 af
Routed to Link 11L : POA 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 391.51' @ 12.43 hrs Surf.Area= 3,620 sf Storage= 7,084 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 3.7 min (842.4 - 838.6)

Volume	Invert	Avail.Storage	Storage Description
#1	388.55'	7,084 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

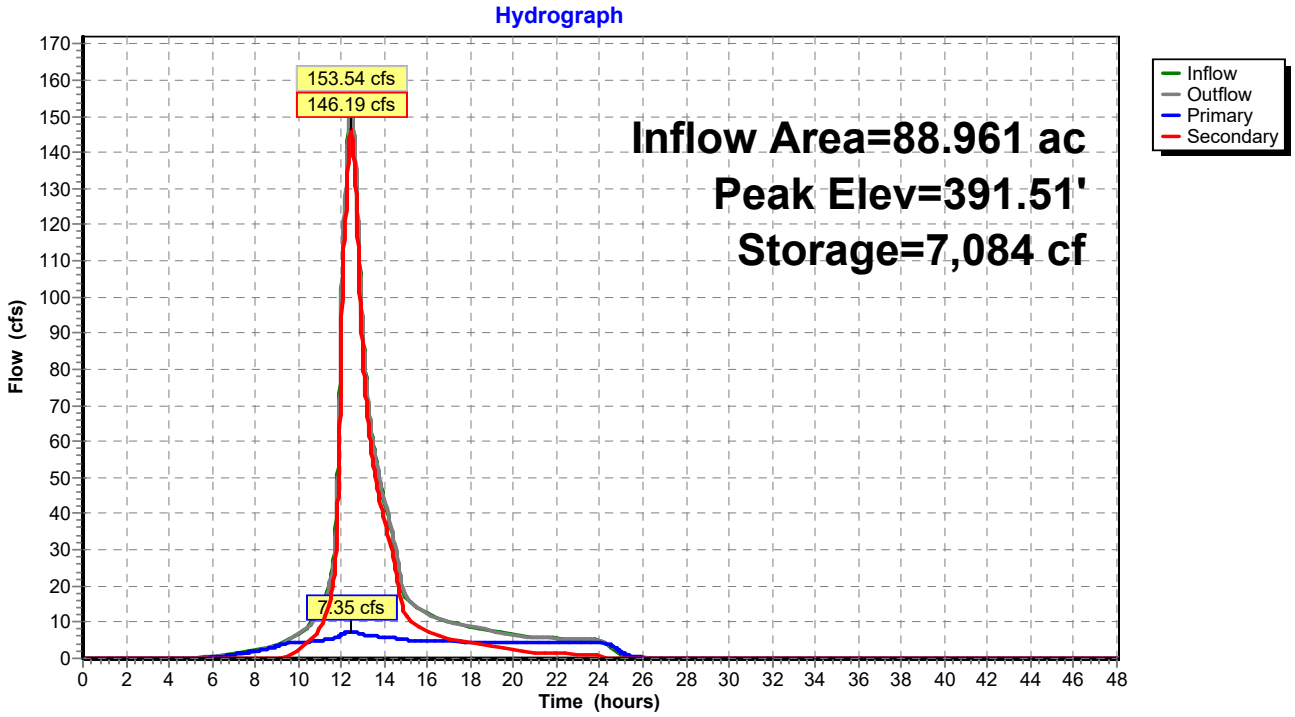
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.55	2,068	0	0
389.00	2,354	995	995
390.00	3,102	2,728	3,723
391.00	3,620	3,361	7,084

Device	Routing	Invert	Outlet Devices
#1	Primary	388.40'	**15.0" Round Culvert** L= 20.0' Ke= 0.900 Inlet / Outlet Invert= 388.40' / 388.39' S= 0.0005 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	390.00'	**30.0' long x 15.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=7.35 cfs @ 12.43 hrs HW=391.51' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 7.35 cfs @ 5.99 fps)

Secondary OutFlow Max=146.16 cfs @ 12.43 hrs HW=391.51' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 146.16 cfs @ 3.23 fps)

Pond 18P: Detention Pond 1

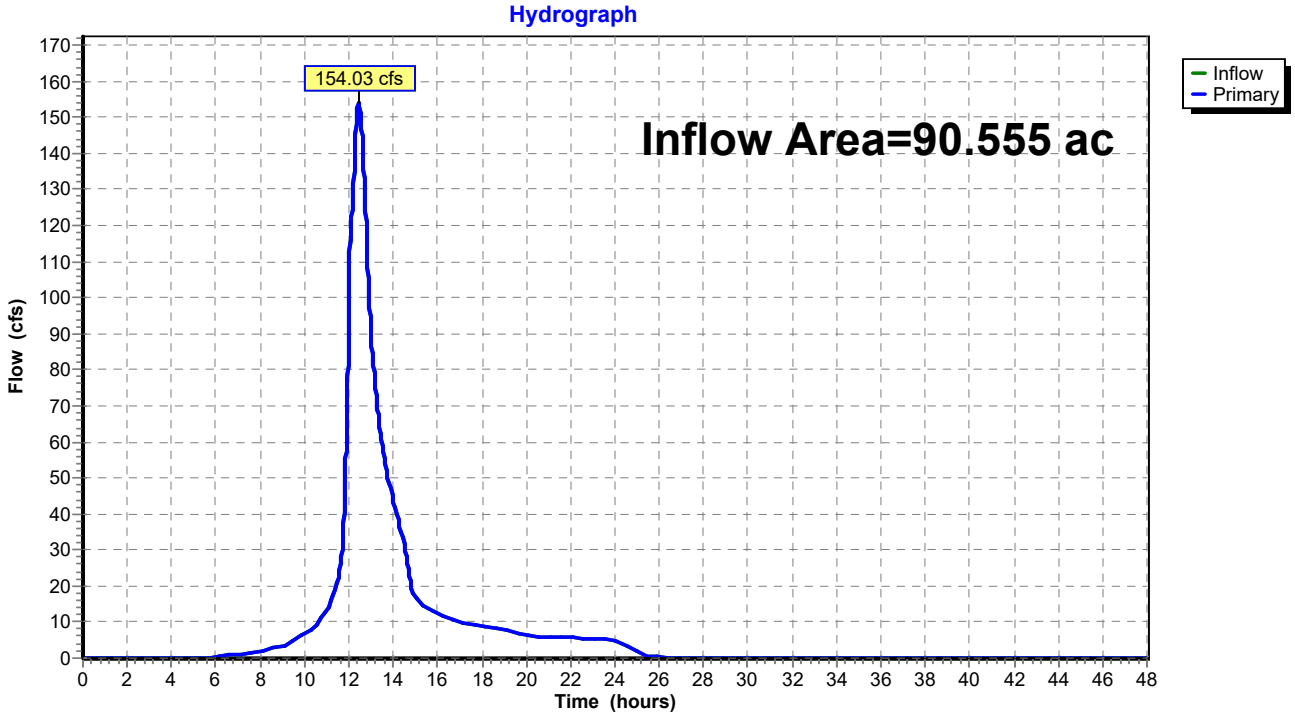


Summary for Link 11L: POA 1

Inflow Area = 90.555 ac, 36.90% Impervious, Inflow Depth = 3.82" for 100-Yr event
Inflow = 154.03 cfs @ 12.43 hrs, Volume= 28.790 af
Primary = 154.03 cfs @ 12.43 hrs, Volume= 28.790 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 11L: POA 1

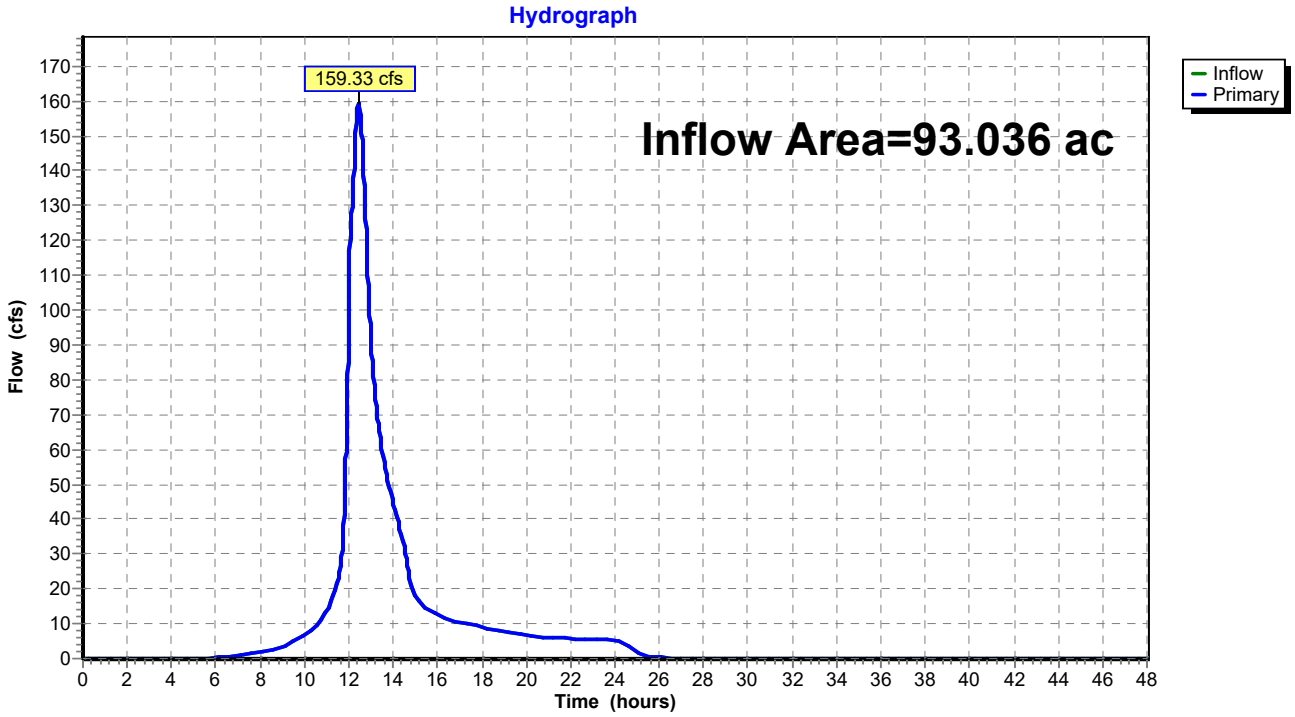


Summary for Link 12L: eNOI

Inflow Area = 93.036 ac, 36.40% Impervious, Inflow Depth = 3.80" for 100-Yr event
Inflow = 159.33 cfs @ 12.41 hrs, Volume= 29.433 af
Primary = 159.33 cfs @ 12.41 hrs, Volume= 29.433 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 12L: eNOI

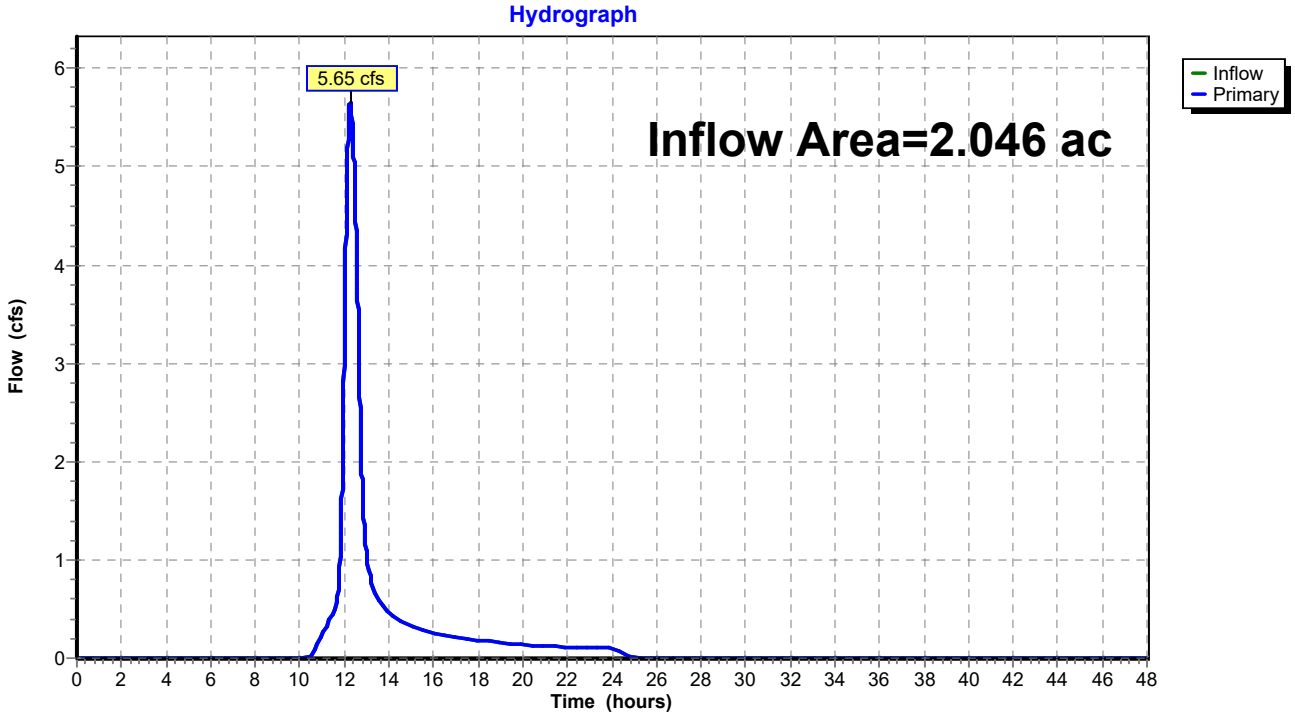


Summary for Link POA-2: E Genessee - POA 2

Inflow Area = 2.046 ac, 21.76% Impervious, Inflow Depth = 3.45" for 100-Yr event
Inflow = 5.65 cfs @ 12.27 hrs, Volume= 0.588 af
Primary = 5.65 cfs @ 12.27 hrs, Volume= 0.588 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link POA-2: E Genessee - POA 2

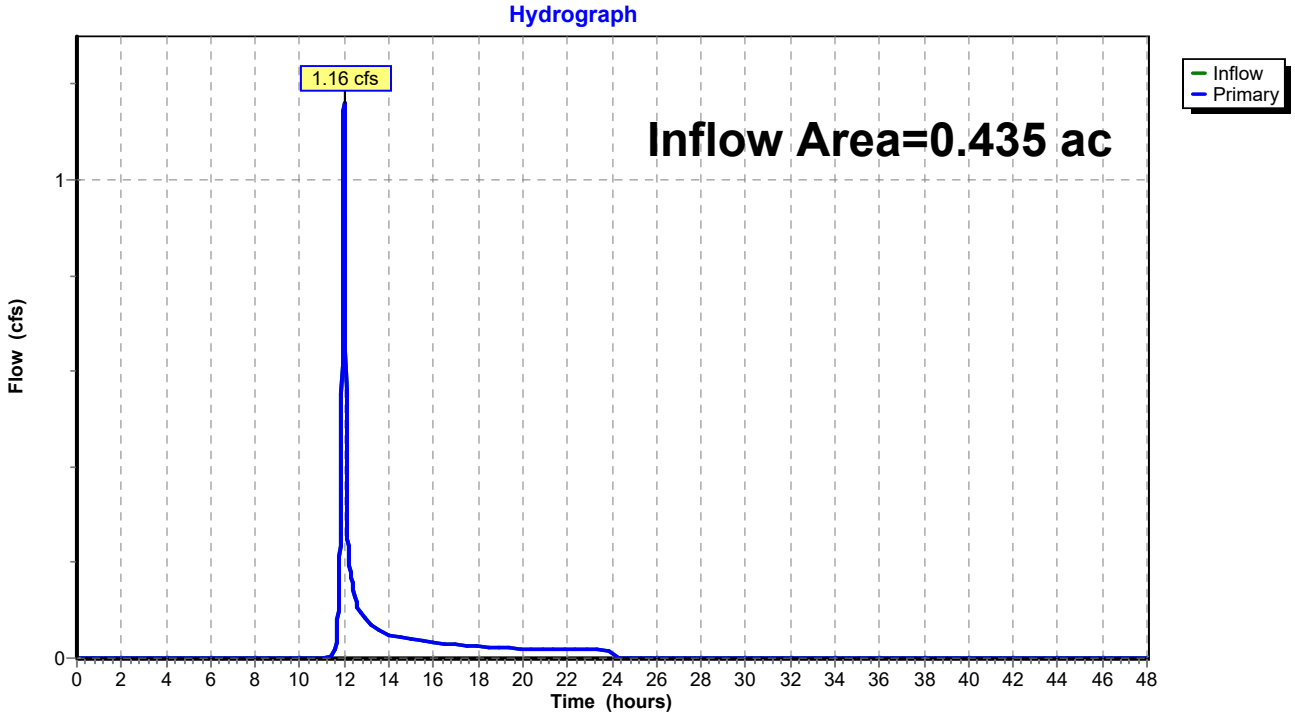


Summary for Link POA-3: Salina POA 3

Inflow Area = 0.435 ac, 0.74% Impervious, Inflow Depth = 1.53" for 100-Yr event
Inflow = 1.16 cfs @ 11.98 hrs, Volume= 0.055 af
Primary = 1.16 cfs @ 11.98 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : eNOI

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link POA-3: Salina POA 3



Attachment 3

Watersheds and Sizing Calculations

Minimum Runoff Reduction and Required Water Quality Volume

P (90% Rainfall) = 1.0 Inches

RRv - Goal - reduction of the total WQv by application of green infrastructure techniques and SMPs to replicate pre-construction hydrology.
Minimum RRv - The minimum WQv that must be reduced.
Minimum RRv = [(P)(Rv*)(Aic)]/12
Where:
P = 90% Rainfall Event Number or 1-Year Storm
Rv* = .95
Aic = Total area of new impervious cover x S
S = HSG Specific Reduction Factor, weighed to reflect watershed characteristics

WQv : Capture & treat 100% of the 90% rainfall event stormwater runoff volume

WQv = [(P)(Rv*)(A)]/12

Where:
P= 90% Rainfall Event Number or 1-Year Storm
Rv* = .95
A = site area in acres, when using WQv required table, A = existing impervious area

Post-Construction Project Area	Specific Reduction Factor (S)	Disturbed Impervious Area	New Impervious Area	Aic	RRv min (ac-ft)	RRv min (cu-ft)	WQv (ac-ft)	WQv (cu-ft)
POA 1	0.23	1.960	6.0	1.379	0.109	4,748	0.513	22346
POA 2	0.23	0.0	0.3	0.062	0.005	218	0.022	958
POA 3*	0.23	0.2	0.0	0	0.000	0	0.000	0

*POA 3 has a reduction of 25% of the disturbed impervious area and therefore no treatment is required

Total	*0.535*	*23,304*

Water Quality Volume

P (90% Rainfall/1-Yr Storm) = 1.0 Inches

WQv : Capture & treat 100% of the 0% rainfall event stormwater runoff volume

WQv = [(P)(Rv)(A)]/12

Where:
P= 90% Rainfall Event Number or 1-Year Storm
Rv = 0.05 + 0.009(I), where I is percent impervious cover
A = site area in acres, when using WQv required table, A = existing impervious area

WQv Required table

Site	Area to Treatment Practice (acres)	Impervious Area to Treatment Practice (acres)	I (%)	Rv	WQv to be treated (ac-ft)	WQv to be treated (cu-ft)
Area to Infiltration Basin 1.1	*4.79*	3.39	**70.73**	**0.69**	0.274	11935
Area to Infiltration Basin 1.2	*6.13*	4.52	**73.70**	**0.71**	0.364	15856
Area to Infiltration Basin 2	*2.05*	0.45	**21.75**	**0.25**	0.042	1830
				Total WQv to be treated	0.680	29621.00

Bronze Foundry Lofts SWPPP

Infiltraiton Basin 1.1 for POA 1

Area for Bottom of the Infiltration Basin
A = Vw / db

Vw = Design Volume (cu-ft)
A = Approximate surface area of the basin require (sq-ft)
db = trench basin (ft)

Vw =	12023	cu-ft
dt =	6	ft
A =	2,004	sq-ft

WQv Required=	12023	cu-ft
WQv Provided=	12023	cu-ft
RRv Provided=	12023	cu-ft

Infiltraiton Basin 1.2 for POA 1

Area for Bottom of the Infiltration Basin
A = Vw / db

Vw = Design Volume (cu-ft)
A = Approximate surface area of the basin require (sq-ft)
db = trench basin (ft)

Vw =	15812	cu-ft
dt =	4	ft
A =	3,953	sq-ft

WQv Required=	15812	cu-ft
WQv Provided=	15812	cu-ft
RRv Provided=	15812	cu-ft

Infiltraiton Basin2 for POA 2

Area for Bottom of the Infiltration Basin 1

A = Vw / db

Vw = Design Volume (cu-ft)
A = Approximate surface area of the basin required (sq-ft)
db = basin depth (ft)

Vw =	1002	cu-ft
db =	3.75	ft
A =	267	sq-ft

WQv Required=	1002	cu-ft
WQv Provided=	1002	cu-ft
RRv Provided=	1002	cu-ft

APPENDIX I

NYSDEC SPDES General Permit for Stormwater Discharge from Construction Activity, GP-0-20-001

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-25-001

Construction General Permit (CGP)

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2025 Expiration Date: January 28, 2030

Scott E. Sheeley

Chief Permit Administrator

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Authorized Signature Date

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PREFACE

Pursuant to Section 402 of the Clean Water Act (CWA), and 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), *stormwater discharges* from certain *construction activities* are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York State administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, and Article 70, as well as 6 NYCRR Parts 621 and 750.

C*onstruction activities* constitute construction of a *point source* and, therefore, pursuant to ECL sections 17-0505, 17-0701, and 17-0803, the *owner or operator* must have coverage under a SPDES permit prior to *commencement of construction activities*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES CONSTRUCTION GENERAL PERMIT (CGP) GP-0-25-001
FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part I. How to Obtain Coverage and General Requirements

To be covered under this permit, the *owner or operator* must meet all eligibility requirements in Part I.A. and follow the requirements for obtaining permit coverage in Part I.D., F., or G.

A. Eligibility Requirements

For a *common plan of development or sale*, the *phase(s)* that meet the eligibility requirements in Part I.A. may obtain coverage under this permit even if other *phase(s)* of the same *common plan of development or sale* do not meet the eligibility requirements and require an individual SPDES permit.

1. The *owner's or operator's construction activities* involve soil disturbances of:

    a. one or more acres; or

    b. less than one acre which are part of a *common plan of development or sale* that will ultimately disturb one or more acres; or

    c. less than one acre where NYSDEC has determined that a SPDES permit is required for *stormwater discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of pollutants to *surface waters of the State*.

        i. 5,000 square feet or more, but less than one acre, and are in the New York City Watershed located east of the Hudson River, Appendix C Figure 1; or

        ii. 20,000 square feet or more, but less than one acre, within the municipal boundaries of the City of New York (NYC); or

        iii. less than 20,000 square feet which are part of a *common plan of development or sale* that will ultimately disturb 20,000 square feet or more, but less than one acre, within the municipal boundaries of NYC; or

        iv. that creates 5,000 square feet or more of *impervious area* within the municipal boundaries of NYC.

2. *Discharges* from the *owner's or operator's construction activities* are/were not:

    a. already covered by a different SPDES permit; or

    b. covered under a different SPDES permit that was denied, terminated, or revoked; or

    c. identified in an expired individual SPDES permit that was not renewed; or

    d. required to obtain an individual SPDES permit or another general SPDES permit in accordance with Part VII.K.

3. If *construction activities* may adversely affect a species that is endangered or threatened, the *owner or operator* must obtain a:

    a. permit issued pursuant to 6 NYCRR Part 182 for the project; or

    b. letter issued by NYSDEC of non-jurisdiction pursuant to 6 NYCRR Part 182 for the project.

4. If *construction activities* have the potential to affect an *historic property*, the *owner or operator* must obtain one of the following:

    a. documentation that the *construction activity* is not within an archeological buffer area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant:

        i. 1-5 acres of disturbance - 20 feet; or

        ii. 5-20 acres of disturbance - 50 feet; or

iii. 20+ acres of disturbance - 100 feet.

b. NYSDEC consultation form sent to OPRHP,[1] and copied to NYSDEC's Agency Historic Preservation Officer (APO), and

i. the State Environmental Quality Review Act (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or

ii. documentation from OPRHP that the *construction activity* will result in No Impact; or

iii. documentation from OPRHP providing a determination of No Adverse Impact; or

iv. a Letter of Resolution signed by the *owner or operator*, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA).

c. documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

i. No Affect; or

ii. No Adverse Affect; or

iii. Executed Memorandum of Agreement.

d. documentation that SHPA Section 14.09 has been completed by NYSDEC or another state agency.

5. If *construction activities* are subject to SEQR, the *owner or operator* must obtain documentation that SEQR has been satisfied.

6. If *construction activities* are not subject to SEQR, but subject to the equivalent environmental review from another New York State or federal agency, the

[1] The consultation form can be submitted, along with other project information, through OPRHP's Cultural Resource Information System (CRIS) portal. If submitted through CRIS, paper copies of the consultation form need not be mailed.

owner or operator must obtain documentation that project review, pursuant to a process equivalent to SEQR from another New York State or federal agency, has been satisfied.

7. If *construction activities* require Uniform Procedures Act (UPA) Permits (see 6 NYCRR Part 621) from NYSDEC, or the equivalent from another New York State or federal agency, the *owner or operator* must:

    a. obtain all such necessary permits; or

    b. receive notification from NYSDEC pursuant to 6 NYCRR 621.3(a)(4) excepting Part I.A.7.a.

8. *Construction activities* are not eligible if they meet the following criteria in Part I.A.8.a. or b.:

    a. For linear transportation and linear utility project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb two or more acres of *steep slope*.

    b. For all other project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb one or more acres of *steep slope*.

B. Types of *Discharges* Authorized

1. The following *stormwater discharges* are authorized under this permit:

   a. *Stormwater discharges*, including *stormwater* runoff, snowmelt runoff, and surface runoff and drainage, associated with *construction activity*, are authorized under this permit provided that appropriate *stormwater* controls are designed, installed, and maintained in accordance with Part II. and Part III.

   b. *Stormwater discharges* from construction support activities at the *construction site* (including concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas) if the following requirements are met:

      i. The support activity is directly related to the *construction site* required to have permit coverage for *stormwater discharges*; and

      ii. The support activity is not a commercial operation, nor does it serve multiple unrelated *construction sites*; and

      iii. The support activity does not continue to operate beyond the completion of the *construction activity* at the site it supports; and

      iv. *Stormwater* controls are implemented in accordance with Part II. and Part III. for *discharges* from the support activity areas.

2. The following non-*stormwater discharges* associated with *construction activity* are authorized under this permit:

   a. Non-*stormwater discharges* listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "*Discharges* from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; and

   b. Non-*stormwater discharges* of waters to which other components have not been added that are used in accordance with the *SWPPP* to control dust or irrigate vegetation in stabilized areas; and

   c. Uncontaminated *discharges* from *dewatering* operations

3. Authorized *discharges* of *stormwater* or authorized *discharges* of non-*stormwater*, commingled with a *discharge* authorized by a different SPDES permit and/or a *discharge* that does not require SPDES permit authorization, are also authorized under this permit.

C. Prohibited *Discharges*

1. Non-*stormwater discharges* prohibited under this permit include but are not limited to:

    a. Wastewater from washout of concrete; and

    b. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and

    c. Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance; and

    d. Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

    e. Toxic or hazardous substances from a spill or other release.

D. Electronic Notice of Intent (eNOI) Submittal

To receive authorization in accordance with Part I.D.3.b., the *owner or operator* must submit a complete eNOI in accordance with the requirements in Part I.D. The eNOI contains questions to: ensure eligibility requirements in Part I.A. have been met; obtain *owner or operator* contact information; obtain the total area to be disturbed and the existing/future *impervious areas* (rounded to the nearest tenth of an acre); confirm *Traditional Land Use Control MS4 Operator* jurisdiction over construction projects; satisfy the EPA eRule requirements; confirm that the Water Quality-Based Effluent Limitations in Part II. have been met; demonstrate consideration of the future risks due to climate change in accordance with Part III.A.2.; and confirm that the other *Stormwater Pollution Prevention Plan (SWPPP)* requirements in Part III. have been met.

1. An eNOI may be submitted for:

    a. *construction activities* that are not part of a *common plan of development or sale*; or

b. an entire *common plan of development or sale*; or

c. separate *phase(s)* of a *common plan of development or sale* if the following requirements are met:

    i. the *common plan of development or sale* meets the eligibility requirements of Part I.A.5. or 6.; and

    ii. the *phase(s)* meet(s) all other eligibility requirements of Part I.A.; and

    iii. Part III.C. Required *SWPPP* Components by Project Type is based on the *common plan of development or sale*, not the *phase(s)*; or

d. *tree clearing* that is associated with, or will support, a *renewable energy* generation, transmission, or storage project that meets Part I.A.5. and 6., if the *tree clearing*:

    i. meets all other eligibility requirements of Part I.A.; and

    ii. will occur in NYSDEC's Regions 3-9; and

    iii. is not within ¼ mile of a bat hibernaculum protected pursuant to 6 NYCRR Part 182; and

    iv. will occur between November 1st and March 31st.

2. As prerequisites for submitting an eNOI, the *owner or operator* must:

    a. prepare a *SWPPP* for Part I.D.1.a., b., c., or d. in accordance with Part III.; and

    b. based on the following criteria, upload the following signature forms signed in accordance with Part VII.J. to the eNOI prior to submission:

        i. for all eNOIs:

            1. the SWPPP Preparer Certification Form, Appendix F, signed by the *SWPPP* preparer; and

2. the Owner/Operator Certification Form, Appendix J, signed by the *owner or operator*; and

ii. if an eNOI includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that will *discharge* to the *MS4(s)*:

1. determine if the *Traditional Land Use Control MS4 Operator(s)* have review authority. A *Traditional Land Use Control MS4 Operator* does not have review authority where:

a. the *owner or operator* of the *construction activities* in Part I.D.2.b.ii. is the same entity as the *Traditional Land Use Control MS4 Operator* identified in Part I.D.2.b.ii.; or

b. there is a statute exempting the *owner or operator* from zoning review by the *Traditional Land Use Control MS4 Operator*; or

c. there is no such statute per Part I.D.2.b.ii.1.b., the *Traditional Land Use Control MS4 Operator* concludes, after public hearing, that it does not have zoning review authority in accordance with Legal Memorandum LU14 Updated January 2020 “Governmental Immunity from Zoning and Other Legislation”; and

2. if the *Traditional Land Use Control MS4 Operator(s)* have review authority, submit the *SWPPP* to the *Traditional Land Use Control MS4 Operator(s)* for review and have:

a. if outside the municipal boundaries of NYC: the MS4 SWPPP Acceptance Form, Appendix G, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.; or

b. if within the municipal boundaries of NYC: The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval Form, Appendix H, signed by the principal executive officer or ranking elected official from the Traditional Land Use Control MS4 Operator, or by a duly authorized representative of that person in accordance with Part VII.J.2.; and

3. if the *Traditional Land Use Control MS4 Operator* does not have review authority, have the MS4 No Jurisdiction Form, Appendix I, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.

3. Submitting an eNOI:

a. The *owner or operator* must submit a complete Notice of Intent electronically using a NYSDEC approved form.[2]

b. The *owner or operator* is authorized to *commence construction activity* as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by NYSDEC after a complete eNOI is submitted.

i. If an eNOI is received for a *SWPPP* that deviates from one of the technical standards but demonstrates *equivalence* in accordance with Part III.B.1.a.ii. or Part III.B.2.b.ii., if the *SWPPP* includes *construction activities* that are not within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)*, and/or if the *SWPPP* includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that do not have review authority in accordance with Part I.D.2.b.ii.1., the authorization date indicated in the LOA will be 60 business days after the eNOI submission date.

[2] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

c. If *Traditional Land Use Control MS4 Operator(s)* have review authority in accordance with Part I.D.2.b.ii.2., the *owner or operator* must, within five business days of receipt of the LOA, send an electronic copy of the LOA to the *Traditional Land Use Control MS4 Operator(s)* with review authority.

E. General Requirements for *Owners or Operators* with Permit Coverage

1. As of the date the LOA is received, the *owner or operator* must make the eNOI, *SWPPP*, and LOA available for review and copying in accordance with the requirements in Part VII.H. When applicable, as of the date an updated LOA is received, the *owner or operator* must make the updated LOA available for review and copying in accordance with the requirements in Part VII.H.

2. The *owner or operator* must ensure compliance with all requirements of this permit and that the provisions of the *SWPPP*, including any changes made to the *SWPPP* in accordance with Part III.A.5., are properly implemented and maintained from the *commencement of construction activity* until:

   a. all areas of disturbance have achieved *final stabilization;* and

   b. the owner's or operator's coverage under this permit is terminated in accordance with Part V.A.5.a.

3. As of the date of the *commencement of construction activities* until Part I.E.2.a. and b. have been met, the *owner or operator* must maintain at the *construction site*, a copy of:

   a. all documentation necessary to demonstrate eligibility with this permit; and

   b. this permit; and

   c. the *SWPPP*; and

   d. the signed SWPPP Preparer Certification Form; and

   e. the signed MS4 SWPPP Acceptance Form or signed NYCDEP SWPPP Acceptance/Approval Form or signed MS4 No Jurisdiction Form (when applicable); and

   f. the signed Owner/Operator Certification Form; and

g. the eNOI; and

h. the LOA; and

i. the LOA transmittal to the Traditional Land Use Control MS4 Operator in accordance with Part I.D.3.c. (when applicable).

4. The *owner or operator* must maintain at the *construction site*, until Part I.E.2.a. and b. have been met, as of the date the documents become final or are received, a copy of the:

   a. responsible contractor's or subcontractor's certification statement(s) in accordance with Part III.A.7.; and

   b. inspection reports in accordance with Part IV.C.4. and 6.; and

   c. Request to Disturb Greater Than Five Acres and the Authorization Letter to Disturb Greater Than Five Acres in accordance with Part I.E.6. (when applicable); and

   d. Request to Continue Coverage and the Letter of Continued Coverage (LOCC) in accordance with Part I.F.2. and 4. (when applicable); and

   e. The updated LOA(s) in accordance with Part I.E.9. (when applicable).

5. The *owner or operator* must maintain the documents in Part I.E.3. and 4. in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection. The documents must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If electronic documents are kept on site, the *owner or operator* must maintain functional equipment on site available to an inspector during normal hours of operation such that an inspector may view the electronic documents in a format that can be read in a similar manner as a paper record and in a legally dependable format with no less evidentiary value than their paper equivalent.

6. The *owner or operator* must meet the following requirements prior to disturbing greater than five acres of soil at any one time:

   a. The *owner or operator* must submit a written Request to Disturb Greater Than Five Acres to:

i. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, if a *Traditional Land Use Control MS4 Operator* does not have review authority in accordance with Part I.D.2.b.ii.1.; or

ii. the *Traditional Land Use Control MS4 Operator*, if a *Traditional Land Use Control MS4 Operator* has review authority in accordance with Part I.D.2.b.ii.1.; or

iii. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, and each involved *Traditional Land Use Control MS4 Operator*, if the project spans multiple municipalities with more than one *Traditional Land Use Control MS4 Operator* involved with review authority in accordance with Part I.D.2.b.ii.1.

b. The written Request to Disturb Greater Than Five Acres must include:

i. The SPDES permit identification number (Permit ID); and

ii. Full technical justification demonstrating why alternative methods of construction that would result in five acres of soil disturbance or less at any one time are not feasible; and

iii. The phasing plan for the project and sequencing plans for all *phases* from the *SWPPP* in accordance with Part III.B.1.d.; and

iv. Plans with locations and details of erosion and sediment control practices such that the heightened concern for erosion when disturbing greater than five acres at one time has been addressed; and

v. Acknowledgment that "the *owner or operator* will comply with the requirements in Part IV.C.2.b."; and

vi. Acknowledgment that "the *owner or operator* will comply with the requirements in Part II.B.1.b."

c. The *owner or operator* must be in receipt of an Authorization Letter to Disturb Greater Than Five Acres, which will include when the

authorization begins and ends and indicate a maximum area (acres) of soil disturbance allowed at any one time, from:

i. NYSDEC, if Part I.E.6.a.i. or iii. apply; or

ii. the *Traditional Land Use Control MS4 Operator*, if Part I.E.6.a.ii. applies.

7. Upon a finding of significant non-compliance with the practices described in the *SWPPP* or violation of this permit, NYSDEC may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order must be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

8. If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE).[3] *Construction activity* shall not resume until written permission to do so has been received from the RWE.

9. To be authorized to implement modifications to the information previously submitted in the eNOI, the *owner or operator* must:

   a. notify NYSDEC via email at Stormwater_info@dec.ny.gov requesting access to update the eNOI; and

   b. update the eNOI to reflect the modifications and resubmit the eNOI in accordance with Part I.D.; and

   c. receive an updated LOA.

10. The eNOI, *SWPPP*, LOA, updated LOAs (when applicable), and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

[3] The Regional Water Manager where a DEC Region does not have a RWE.

F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001

When applicable:

1. Upon the effective date of this permit, an *owner or operator* of *a construction activity*, with coverage under GP-0-20-001, will have interim coverage under GP-0-25-001 for 45 calendar days starting on the effective date of GP-0-25-001 so long as the *owner or operator* maintains compliance with all applicable requirements of this permit.

2. Within 30 calendar days of the effective date of this permit, the *owner or operator*, with coverage under GP-0-20-001, must submit a complete Request to Continue Coverage electronically using a NYSDEC approved form,[4] which contains the information identified in Part I.F.3. below, if:

   a. the *owner or operator* continues to implement the SMP component in conformance with the technical standards in place at the time of initial project authorization; and

   b. the *owner or operator* will comply with all non-design requirements of GP-0-25-001.

3. The Request to Continue Coverage form contains questions to: ensure eligibility requirements in Part I.A. have been met; verify *owner or operator* contact information; verify the permit identification number; verify the original eNOI submission ID, if applicable; verify Part I.F.2.a. and b.; verify the version of the Design Manual that the technical/design components conform to; and receive an updated Owner/Operator Certification Form, Appendix I.

4. The *owner or operator* has obtained continued coverage under GP-0-25-001 as of the date indicated in the LOCC, which is sent by NYSDEC after a complete Request to Continue Coverage form is submitted.

5. If the owner or operator does not submit the Request to Continue Coverage form in accordance with Part I.F.2. and 3., coverage under this permit is automatically terminated after interim coverage expires.

[4] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

G. Change of *Owner or Operator*

When applicable:

1. When property ownership changes, or when there is a change in operational control over the construction plans and specifications, the following process applies:

    a. The new *owner or operator* must meet the applicable prerequisites for submitting an eNOI in accordance with Part I.D.2.; and

    b. The new *owner or operator* must submit an eNOI in accordance with Part I.D.3.; and

    c. Permit coverage for the new *owner or operator* will be effective upon receipt of the LOA in accordance with Part I.D.3.b.; and

    d. The new *owner or operator*, upon receipt of their LOA, must provide their Permit ID to the original *owner or operator*; and

    e. If the original *owner or operator* will no longer be the *owner or operator* of the *construction activity* identified in the original *owner's or operator's* eNOI, the original *owner or operator*, upon receipt of the new *owner's or operator's* Permit ID in accordance with Part I.G.1.d., must submit to NYSDEC a completed eNOT in accordance with Part V. that includes the name and Permit ID of the new *owner or operator*; or

    f. If the original *owner or operator* maintains ownership of a portion of the *construction activity*, the original *owner or operator* must maintain their coverage under the permit by modifying their eNOI; modifications to the eNOI must include:

        i. the revised area of disturbance and/or *impervious area(s)*; and

        ii. the revised SMP information, if applicable; and

        iii. a narrative description of what has changed; and

        iv. the new *owner's or operator's* Permit ID for the portion of the project removed from the eNOI.

    Owners or operators must follow Part I.E.9. to modify the eNOI.

Part II. Water Quality-Based Effluent Limitations

A. Maintaining Water Quality

NYSDEC expects that compliance with the requirements of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any *discharge* to either cause or contribute to a violation of the following *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York:

1. There must be no increase in turbidity that will cause a substantial visible contrast to natural conditions; and

2. There must be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There must be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the *stormwater discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standard,* the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this permit and document in accordance with Part IV.C.4. of this permit. To address the *water quality standard* violation the *owner or operator* must include and implement appropriate controls in the *SWPPP* to correct the problem or obtain an individual SPDES permit.

If, despite compliance with the requirements of this permit, it is demonstrated that the *stormwater discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if NYSDEC determines that a modification of this permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit, and the *owner or operator* must obtain an individual SPDES permit prior to further *discharges* from the *construction site*.

B. Effluent Limitations Applicable to *Discharges* from *Construction Activities*

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part II.B.1.a., b., c., d., and e. These limitations represent the

degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement, and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part II.B.1.a., b., c., d., and e. and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (BB), dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in *SWPPP* the reason(s) for the deviation, or alternative design, and provide information in the *SWPPP* demonstrating that the deviation or alternative design is *equivalent* to the technical standard.

    a. **Erosion and Sediment Controls.** At a minimum, erosion and sediment controls must be selected, designed, installed, implemented, and maintained to:

        i. *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s; and

        ii. Control *stormwater discharge*s, including both peak flow rates and total *stormwater* volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points; and

        iii. *Minimize* the amount of soil exposed during *construction activity*; and

        iv. *Minimize* the disturbance of *steep slope*; and

        v. *Minimize* sediment *discharge*s from the site; and

        vi. Provide and maintain *natural buffers* around surface waters, direct *stormwater* to vegetated areas and maximize *stormwater* infiltration to reduce *pollutant discharge*s, unless *infeasible*; and

        vii. *Minimize* soil compaction. *Minimizing* soil compaction is not required

where the intended function of a specific area of the site dictates that it be compacted; and

viii. Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

ix. *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of *pollutants* that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has ceased, whether permanently or *temporarily ceased*, the application of soil stabilization measures must be initiated by the end of the next business day and completed within 14 calendar days from the date the current soil disturbance activity ceased. For *construction sites* that *directly discharge* to one of the 303(d) segments listed in Appendix D, or are located in one of the watersheds listed in Appendix C, or are authorized to disturb greater than five acres in accordance with Part I.E.5.a.viii., the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven calendar days from the date the soil disturbance activity ceased.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Select, design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be selected, designed, installed, implemented, and maintained to:

i. *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. Soaps, detergents and solvents cannot be used; and

ii. *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation

and to *stormwater*. *Minimization* of exposure is not required in cases where the exposure to precipitation and to *stormwater* will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of *stormwater* contamination (such as final products and materials intended for outdoor use); and

iii. Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Surface Outlets.** When discharging from basins and impoundments, the surface outlets must be designed, constructed, and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-Construction Stormwater Management Practice (SMP) Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction SMPs, in accordance with Part III.C., must select, design, install, implement, and maintain the SMPs to meet the *performance criteria* in the New York State Stormwater Management Design Manual, dated July 31, 2024 (DM), using sound engineering judgment. Where SMPs are not designed in conformance with the *performance criteria* in the DM, the *owner or operator* must include in the *SWPPP* the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity*, that requires SMPs in accordance with Part III.C., must design the practices to meet the applicable *sizing criteria* in Part II.C.2.a., b., c., or d.

a. Sizing Criteria for *New Development*

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the total WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv must be calculated in accordance with the criteria in Section 4.2 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the requirements in Part II.C.2.a.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

   In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.4 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

   1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

   2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs without detention or velocity controls; or

   3. The site *directly discharges* into a fifth order or larger water body (stream, river, or lake), or tidal waters, where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watersheds

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24-hour design storm over the post-developed watershed and must be calculated in accordance with the criteria in Section 4.3 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part II.C.2.b.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include

documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.5 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs; or

3. The site *directly discharges* to tidal waters, or a fifth order or larger water body (stream, river, or lake) where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

c. *Sizing Criteria* for *Redevelopment Activity*

i. Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* must be addressed by one of the following options, as outlined in Section 9.2.1. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C) must calculate the WQv in accordance with Section 4.3 of the DM. All other *redevelopment activities* must calculate the WQv in accordance with Section 4.2 of the DM.

1. Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the DM must be applied to all newly created pervious areas; or

2. Capture and treat 100% of the required WQv, for a minimum of 25% of the disturbed redevelopment *impervious area*, by implementation of standard SMPs or reduced by application of runoff reduction techniques; or

3. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a volume-based alternative SMP, as defined in Section 9.4 of the DM; or

4. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a flow-through alternative SMP sized to treat the peak rate of runoff from the WQv design storm; or

5. Application of a combination of 1 through 4 above that provide a weighted average of at least two of the above methods. Application of this method must be in accordance with the criteria in Section 9.2.1(A)(V) of the DM; or

6. If there is an existing SMP located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 through 5 above.

ii. Channel Protection Volume (CPv) is not required if there is 0% change to hydrology that increases the *discharge* rate and volume from the project site.

iii. *Overbank* Flood Control (Qp) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

iv. Extreme Flood Control (Qf) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

d. *Sizing Criteria* for Combination of *Redevelopment Activity* and *New Development*

Construction projects, that include both *new development* and *redevelopment activity*, must use SMPs that meet the *sizing criteria* calculated as an aggregate of the *sizing criteria* in Part II.C.2.a. or b. for the *new development* portion of the project and Part II.C.2.c. for the *redevelopment activity* portion of the project.

Part III. Stormwater Pollution Prevention Plan (SWPPP)

A. General *SWPPP* Requirements

1. A *SWPPP* must be prepared and implemented by the *owner or operator* of all *construction activity* covered by this permit. All authorized *discharges* must be identified in the *SWPPP*. The *SWPPP* must document the selection, design, installation, implementation and maintenance of the control measures and

practices that will be used to meet the effluent limitations in Part II.B. and, where applicable, the SMP requirements in Part II.C.

2. The *SWPPP* must demonstrate consideration in narrative format of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance.

    a. The owner or operator must consider:

        i. the following physical risks due to climate change:

            (i) increasing temperature; and

            (ii) increasing precipitation; and

            (iii) increasing variability in precipitation, including chance of drought; and

            (iv) increasing frequency and severity of flooding; and

            (v) rising sea level; and

            (vi) increasing storm surge; and

            (vii) shifting ecology.

        ii. for each of the following:

            (i) overall site planning; and

            (ii) location, elevation, and sizing of:

                a. control measures and practices; and

                b. conveyance system(s); and

                c. detention system(s).

3. The *SWPPP* must describe the erosion and sediment control practices and where required, SMPs that will be used and/or constructed to reduce the *pollutants* in *stormwater discharges* and to assure compliance with the

requirements of this permit. In addition, the *SWPPP* must identify potential sources of pollution which may reasonably be expected to affect the quality of *stormwater discharges*.

4. All *SWPPPs*, that require the SMP component in accordance with Part III.B.2., must be prepared by a *qualified professional*.

5. The *owner or operator* must keep the *SWPPP* current so that, at all times, it accurately documents the erosion and sediment control practices that are being used or will be used during construction, and all SMPs that will be constructed on the site. At a minimum, the *owner or operator* must modify the *SWPPP*, including construction drawings:

   a. whenever the current provisions prove to be ineffective in *minimizing pollutants* in *stormwater discharges* from the site; and

   b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*; and

   c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* NYSDEC, or other regulatory authority; and

   d. to document the final construction conditions in an as-built drawing.

6. NYSDEC may notify the *owner or operator* at any time that the *SWPPP* does not meet one or more of the minimum requirements of this permit. The notification must be in writing and identify the provisions of the *SWPPP* that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by NYSDEC, the *owner or operator* must make the required changes to the *SWPPP* and submit written notification to NYSDEC that the changes have been made. If the *owner or operator* does not respond to NYSDEC's comments in the specified time frame, NYSDEC may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4.

7. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting, and maintaining the erosion and sediment control practices included in the *SWPPP* and the

contractor(s) and subcontractor(s) that will be responsible for constructing the SMPs included in the *SWPPP*. The *owner or operator* must have each of the contractors and subcontractors identify at least one person from their company to be *trained contractor* that will be responsible for implementation of the *SWPPP*. The *owner or operator* must ensure that at least one *trained contractor* is on site daily when soil disturbance activities are being performed.

The *owner or operator* must have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before the *commencement of construction activities*:

> "I hereby certify under penalty of law that I understand and agree to comply with the requirements 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 requirements of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) Construction General Permit (CGP) 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 am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the *SWPPP* that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for *SWPPP* implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* must attach the certification statement(s) to the copy of the *SWPPP* that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the *SWPPP* after the *commencement of construction activities*, they must also sign the certification statement and provide the information listed above prior to performing *construction activities*.

B. Required *SWPPP* Contents

1. Erosion and sediment control component - The *owner or operator* must prepare a *SWPPP* that includes erosion and sediment control practices.

    a. Erosion and sediment control practices must be designed:

        i. in conformance with the BB; or

        ii. *equivalent* to the BB if deviating from Part III.B.1.a.i.

    b. If the erosion and sediment control practices are designed in conformance with Part III.B.1.a.ii., the *SWPPP* must include a demonstration of *equivalence* to the BB.

    c. At a minimum, the erosion and sediment control component of the *SWPPP* must include the following:

        i. Background information about the scope of the project, including the location, type and size of project; and

        ii. A site map/construction drawing(s) with north arrows for the project, including a general location map. At a minimum, the site map must show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the *stormwater discharge*(s) and receiving surface water(s); and

        iii. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG); and

        iv. A phasing plan for the project and sequencing plans for all *phases*, both of which must address clearing and grubbing, excavation and grading, utility and infrastructure installation, *final stabilization*,

and any other *construction activity* at the site that will result in soil disturbance.

1. The phasing plan must include:

    a. a map delineating and labeling the limits of soil disturbance for all *phases* of a project; and

    b. a table identifying the order and intended schedule of when each *phase* will begin and end its sequencing plan. The table must identify the total disturbed area for each *phase* at any one time and the total disturbed area for the overall project at any one time all on one timeline showing all overlapping quantities of disturbed area at any one time; and

2. A sequencing plan for a specific *phase* must include:

    a. a table indicating the order and intended schedule of *construction activities* within a *phase*, and corresponding construction drawings with a description of the work to be performed; and

    b. all permanent and *temporary stabilization* measures; and

v. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented; and

vi. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice; and

vii. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any

temporary sediment basins and structural practices that will be used to divert flows from exposed soils; and

viii. A maintenance inspection schedule for the contractor(s) and subcontractor(s) identified in Part III.A.7. to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule must be in accordance with the requirements in the BB technical standard; and

ix. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the *stormwater discharges*; and

x. A description and location of any *stormwater discharges* associated with industrial activity other than construction at the site, including, but not limited to, *stormwater discharges* from asphalt plants and concrete plants located on the *construction site*; and

xi. Identification of any elements of the design that are not in conformance with the design criteria in the BB technical standard. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. SMP component – The *owner or operator* of *construction activity* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs.

   a. SMPs must be designed in conformance with the applicable *sizing criteria* in Part II.C.2.a., c., or d.; and

   b. SMPs must be designed in conformance with the *performance criteria*:

      i. in the DM; or

      ii. *equivalent* to the DM if deviating from Part III.B.2.b.i.; or

      iii. in the New York State Stormwater Management Design Manual, dated January 2015 (2015 Design Manual), or *equivalent* to it, if the following criteria are met:

1. The eNOI is submitted in accordance with Part I.D. before January 29, 2027 for *construction activities* that are either:

    a. subject to governmental review and approval:

        i. where the *owner or operator* made any application to that governmental entity prior to the effective date of this permit; and

        ii. such application included a *SWPPP* developed using the 2015 Design Manual or *equivalent* to it; or

    b. not subject to governmental review and approval:

        i. where a fiscal allocation for the *construction activities* has been developed and approved by a governmental entity; and

        ii. the *SWPPP* was developed using the 2015 Design Manual or *equivalent* to it; and

c. If SMPs are designed in conformance with Part III.B.2.b.ii., the *SWPPP* must include the reason(s) for the deviation or alternative design and a demonstration of *equivalence* to the DM; and

d. If SMPs are designed in conformance with Part III.B.2.b.iii., the *SWPPP* must include supporting information or documentation demonstrating that Part III.B.2.b.iii.1.a. or b. apply; and

e. The SMP component of the *SWPPP* must include the following:

    i. Identification of all SMPs to be constructed as part of the project, including which option the SMP designs conform to, either Part III.B.2.b.i., ii., or iii. Include the dimensions, material specifications and installation details for each SMP; and

    ii. A site map/construction drawing(s) showing the specific location and size of each SMP; and

iii. A Stormwater Modeling and Analysis Report that includes:

(i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points; and

(ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and SMPs; and

(iii) Results of *stormwater* modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre- and post-development runoff rates and volumes for the different storm events; and

(iv) Summary table, with supporting calculations, which demonstrates that each SMP has been designed in conformance with the *sizing criteria* included in the DM; and

(v) Identification of any *sizing criteria* that is not required based on the requirements included in Part II.C.; and

(vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the DM. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the DM.

iv. Soil testing results and locations (test pits, borings); and

v. Infiltration test results, when required in accordance with Part III.B.2.a.; and

vi. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each SMP. The plan must identify the entity

that will be responsible for the long-term operation and maintenance of each practice; and

3. Enhanced Phosphorus Removal Standards - The *owner or operator* of *construction activity* identified in Table 2 of Appendix B that is located in a watershed identified in Appendix C must prepare a *SWPPP* that includes SMPs designed in conformance with the applicable *sizing criteria* in Part II.C.2.b., c., or d. and the *performance criteria* Enhanced Phosphorus Removal Standards included in the DM. At a minimum, the SMP component of the *SWPPP* must meet the requirements of Part III.B.2.

C. Required *SWPPP* Components by Project Type

Owners or operators of *construction activities*, identified in Table 1 of Appendix B, are required to prepare a *SWPPP* that only includes erosion and sediment control practices designed in accordance with Part III.B.1. *Owners or operators* of the *construction activities*, identified in Table 2 of Appendix B, must prepare a *SWPPP* that also includes SMPs designed in accordance with Part III.B.2 or 3.

For the entire area of disturbance, including the entire *common plan of development or sale* if applicable, the owner or operator must evaluate every bullet from Appendix B Table 1 and Table 2 separately. If bullets from both Table 1 and Table 2 apply, the *SWPPP* must include erosion and sediment control practices for all *construction activities* but SMPs for only those portions of the *construction activities* that fall under Table 2 bullet(s).

Part IV. Inspection and Maintenance Requirements

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures), and all SMPs identified in the *SWPPP*, are inspected and maintained in accordance with Part IV.B. and C.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity*, identified in Tables 1 and 2 of Appendix B, must have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being

implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor must:

a. if the corrective action does not require engineering design:

    i. begin implementing corrective actions within one business day; and

    ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

    i. begin the engineering design process within five business days; and

    ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

2. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. The *trained contractor* must begin conducting the maintenance inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.

3. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational.

C. *Qualified Inspector* Inspection Requirements

1. With the exception of the following *construction activities* identified in Tables 1 and 2 of Appendix B, a *qualified inspector* must conduct site inspections for all other *construction activities* identified in Tables 1 and 2 of Appendix B:

    a. the construction of a single-family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than or equal to five (5) acres and is

not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

b. the construction of a single-family home that involves soil disturbances of one (1) or more acres but less than or equal to five (5) acres and is not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

c. construction on *agricultural property* that involves soil disturbances of one (1) or more acres but less than five (5) acres; and

d. *construction activities* located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances of 5,000 square feet or more, but less than one acre.

2. The *qualified inspector* must conduct site inspections in accordance with the following timetable:

   a. For *construction sites* where soil disturbance activities are on-going, the *qualified inspector* must conduct a site inspection at least once every seven (7) calendar days; or

   b. For *construction sites* where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part I.E.6. to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days; or

   c. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* must conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas under the jurisdiction of a *Traditional Land Use Control MS4 Operator,* the *Traditional Land Use Control MS4 Operator* (provided the *Traditional Land Use Control MS4 Operator* is not the *owner or operator* of the *construction activity*) by hard copy or email prior to reducing the inspections to this frequency and again by hard copy or email prior to re-commencing construction; or

d. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the requirement to have the *qualified inspector* conduct inspections ceases if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1., the *Traditional Land Use Control MS4 Operator(s)* (provided the *Traditional Land Use Control MS4 Operator(s)* are not the *owners or operators* of the *construction activity*) in writing prior to the shutdown and again in writing prior to resuming *construction activity*. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* must terminate coverage by meeting the requirements of Part V; or

e. For *construction sites* involving soil disturbance of one (1) or more acres that *directly discharge* to one of the 303(d) segments listed in Appendix D or is located in one of the watersheds listed in Appendix C, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* must inspect:

   a. all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness; and

   b. all SMPs under construction to ensure that they are constructed in conformance with the *SWPPP*; and

   c. all areas of disturbance that have not achieved *final stabilization*; and

   d. all points of *discharge* to *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site*; and

   e. all points of *discharge* from the *construction site*.

4. The *qualified inspector* must prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report must include and/or address all of the following, for all *construction activities* except those listed in Part IV.C.1.:

   a. Permit identification number; and

   b. Date and time of inspection; and

   c. Name and title of person(s) performing inspection; and

   d. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection, including the temperature at the time of the inspection; and

   e. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This must include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow; and

   f. A description of the condition of all *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This must include identification of any *discharges* of sediment to the *surface waters of the State*; and

   g. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance; and

   h. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced; and

   i. Description and sketch (map) of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection; and

   j. Estimates, in square feet or acres, of the following areas:

i. Total area with active soil disturbance (not requiring either *temporary stabilization* or *final stabilization*); and

ii. Total area with inactive soil disturbance (requiring either *temporary stabilization* or *final stabilization*); and

iii. Total area that has achieved *temporary stabilization*; and

iv. Total area that has achieved *final stabilization*; and

k. Current stage of construction of all SMPs and identification of all *construction activity* on site that is not in conformance with the *SWPPP* and technical standards; and

l. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the SMP(s); and

m. Identification and status of all corrective actions that were required by previous inspection; and

n. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* must attach color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* must also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* must attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* must notify the *owner or operator*, and appropriate contractor or subcontractor identified in Part III.A.7., of any corrective actions that need to be taken. The contractor or subcontractor must:

a. if the corrective action does not require engineering design:

i. begin implementing corrective actions within one business day; and

ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

i. begin the engineering design process within five business days; and

ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

6. All inspection reports must be signed by the *qualified inspector.* In accordance with Part I.E.3., the inspection reports must be maintained on site with the *SWPPP*.

Part V. How to Terminate CGP Coverage

A. Electronic Notice of Termination (eNOT) Submittal

The eNOT contains questions to ensure requirements in Part V.A. have been met.

1. An *owner or operator* must terminate coverage when one or more of the following requirements have been met:

a. Total project completion:

i. all *construction activity* identified in the *SWPPP* has been completed; and

ii. all areas of disturbance have achieved *final stabilization*; and

iii. all temporary, structural erosion and sediment control measures have been removed; and

iv. all SMPs have been constructed in conformance with the *SWPPP* and are operational; and

v. an as-built drawing has been prepared; or

b. Planned shutdown with partial project completion:

   i. all soil disturbance activities have ceased; and

   ii. all areas disturbed as of the project shutdown date have achieved *final stabilization*; and

   iii. all temporary, structural erosion and sediment control measures have been removed; and

   iv. all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational; and

   v. an as-built drawing has been prepared; or

c. In accordance with Part I.G. Change of Owner or Operator; or

d. The *owner or operator* has obtained coverage under an alternative general SPDES permit or an individual SPDES permit.

2. For *construction activities* that require *qualified inspector* inspections in accordance with Part IV.C.1. and have met Part V.A.1.a. or b., the *owner or operator* must have the *qualified inspector* perform a final site inspection prior to submitting the eNOT. The *qualified inspector* must, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice(s)" certification statements on the eNOT, certify that all the requirements in Part V.A.1.a. or b. have been achieved.

3. For *construction activities* that are subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1. and meet Part V.A.1.a. or b., the *owner or operator* must have the *Traditional Land Use Control MS4 Operator(s)* sign the "MS4 Acceptance" statement on the eNOT in accordance with the requirements in Part VII.J. A *Traditional Land Use Control MS4 Operator* official, by signing this statement, determined that it is acceptable for the *owner or operator* to submit the eNOT in accordance with the requirements of this Part. A *Traditional Land Use Control MS4 Operator* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) when required in Part V.A.2.

4. For *construction activities* that require SMPs and meet Part V.A.1.a. or b., the *owner or operator* must, prior to submitting the eNOT, ensure one of the following:

    a. for SMP(s) that were constructed by a private entity, but will be owned, operated, and maintained by a public entity, the SMP(s) and any right-of-way(s) needed to operate and maintain such practice(s) have been deeded to the municipality in which the practice(s) is located; or

    b. for SMP(s) that are privately owned, but will be operated and maintained by a public entity, an executed operation and maintenance agreement is in place with the municipality that will operate and maintain the SMP(s); or

    c. for SMP(s) that are privately owned, the *owner or operator* has a mechanism 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; or

    d. for SMP(s) that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility, the *owner or operator* has policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

5. An *owner or operator* that has met the requirements of Part V.A.1., 2., 3., and 4. must request termination of coverage under this permit by submitting a complete Notice of Termination form electronically using a NYSDEC approved form.[5]

    a. The owner's or operator's coverage is terminated as of the termination date indicated in the Letter of Termination (LOT), which is sent by NYSDEC after a complete eNOT is submitted.

[5] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

Part VI. Record Retention and Reporting

A. Record Retention

The *owner or operator* must retain a copy of the documents listed in Part I.E.3. and a copy of the LOT for a period of at least five years from the date that NYSDEC accepts a complete NOT submitted in accordance with Part V.

B. Reporting

Except for the eNOI, the signature forms associated with the eNOI, and the eNOT, all other written correspondence requested by NYSDEC, including individual permit applications, must be sent to the address of the appropriate DOW (SPDES) Program contact at the Regional Office listed in Appendix E.

Part VII. Standard Permit Requirements

For the purposes of this permit, examples of contractors and subcontractors include: third-party maintenance and construction contractors.

A. Duty to Comply

The *owner or operator*, and all contractors or subcontractors, must comply with all requirements of this permit. Any non-compliance with the requirements of this permit constitutes a violation of the New York State Environmental Conservation Law (ECL), and its implementing regulations, and is grounds for enforcement action. Filing of a request for termination of coverage under this permit, or a notification of planned changes or anticipated non-compliance, does not limit, diminish or stay compliance with any requirements of this permit.

B. Need to Halt or Reduce Activity Not a Defense

The necessity to halt or reduce the *construction activity* regulated by this permit, in order to maintain compliance with the requirements of this permit, must not be a defense in an enforcement action.

C. Penalties

There are substantial criminal, civil, and administrative penalties associated with violating the requirements of this permit. Fines of up to $37,500 per day for each

violation and imprisonment for up to 15 years may be assessed depending upon the nature and degree of the offense.

D. False Statements

Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance must, upon conviction, be punished in accordance with ECL §71-1933 and or New York State Penal Law Articles 175 and 210.

E. Re-Opener Clause

Upon issuance of this permit, a determination has been made on the basis of a submitted Notice of Intent, plans, or other available information, that compliance with the specified permit requirements will reasonably protect classified water use and assure compliance with applicable *water quality standards*. Satisfaction of the requirements of this permit notwithstanding, if operation pursuant to this permit causes or contributes to a condition in contravention of State *water quality standards* or guidance values, or if NYSDEC determines that a modification is necessary to prevent impairment of the best use of the waters or to assure maintenance of *water quality standards* or compliance with other provisions of ECL Article 17 or the Clean Water Act (CWA), or any regulations adopted pursuant thereto, NYSDEC may require such modification and the Commissioner may require abatement action to be taken by the *owner or operator* and may also prohibit such operation until the modification has been implemented.

F. Duty to Mitigate

The *owner or operator*, and its contractors and subcontractors, must take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

G. Requiring Another General Permit or Individual SPDES Permit

NYSDEC may require any *owner or operator* authorized to *discharge* in accordance with this permit to apply for and obtain an individual SPDES permit or apply for authorization to *discharge* in accordance with another general SPDES permit.

1. Cases where an individual SPDES permit or authorization to discharge in accordance with another general SPDES permit may be required include, but is not limited to the following:

a. the *owner or operator* is not in compliance with the conditions of this permit or does not meet the requirements for coverage under this permit; and

b. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of *pollutants* applicable to the *point source*; and

c. new effluent limitation guidelines or new source performance standards are promulgated that are applicable to *point sources* authorized to *discharge* in accordance with this permit; and

d. existing effluent limitation guidelines or new source performance standards that are applicable to *point sources* authorized to *discharge* in accordance with this permit are modified; and

e. a water quality management plan containing requirements applicable to such *point sources* is approved by NYSDEC; and

f. circumstances have changed since the time of the request to be covered so that the *owner or operator* is no longer appropriately controlled under this permit, or either a temporary or permanent reduction or elimination of the authorized *discharge* is necessary; and

g. the *discharge* is in violation of section 17-0501 of the ECL; and

h. the *discharge(s)* is a significant contributor of *pollutants*. In making this determination, NYSDEC may consider the following factors:

   i. the location of the *discharge(s)* with respect to *surface waters of the State*; and

   ii. the size of the *discharge(s)*; and

   iii. the quantity and nature of the *pollutants discharged* to *surface waters of the State*; and

   iv. other relevant factors including compliance with other provisions of ECL Article 17, or the CWA.

2. When NYSDEC requires any *owner or operator* authorized by this permit to apply for an individual SPDES permit as provided for in this subdivision, it must notify the *owner or operator* in writing that a permit application is required. This notice must include a brief statement of the reasons for this decision, an application

form, a statement setting a time for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from the *owner's or operator's* receipt of the notification letter, whereby the authorization to *discharge* under this permit must be terminated. NYSDEC may grant additional time upon demonstration, to the satisfaction of the RWE,[6] that additional time to apply for an alternative authorization is necessary or where NYSDEC has not provided a permit determination in accordance with 6 NYCRR Part 621.

3. When an individual SPDES permit is issued to an *owner or operator* authorized to *discharge* under this permit for the same *discharge(s)*, this permit authorization for *construction activities* authorized under the individual SPDES permit is automatically terminated on the effective date of the individual SPDES permit unless termination is earlier in accordance with 6 NYCRR Part 750.

H. Duty to Provide Information

The *owner or operator* must furnish to NYSDEC, within five business days, unless otherwise set forth by NYSDEC, any information that NYSDEC may request to determine whether cause exists to determine compliance with this permit or to determine whether cause exists for requiring an individual SPDES permit in accordance with 6 NYCRR 750-1.21(e) (see Part VII.G. Requiring Another General Permit or Individual Permit).

The *owner or operator* must make available to NYSDEC, for inspection and copying, or furnish to NYSDEC within 25 business days of receipt of a NYSDEC request for such information, any information retained in accordance with this permit.

Except for Part I.D.4. and 5. and Part I.G., the following applies: where the *owner or operator* becomes aware that it failed to submit any relevant facts on the Notice of Intent, or submitted incorrect information in a Notice of Intent or in any report to NYSDEC, the *owner or operator* must submit such facts or corrected information to NYSDEC within five business days.

I. Extension

In the event a new permit is not issued and effective prior to the expiration of this permit, and this permit is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, then the *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the requirements of this permit until a new permit is issued and effective.

[6] The Regional Water Manager where a DEC Region does not have a RWE.

J. Signatories and Certification

The Notice of Intent, Notice of Termination, and reports required by this permit must be signed as provided in 40 CFR §122.22.

1. All Notices of Intent and Notices of Termination must be signed as follows:

    a. For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

        (ii) the manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for Notice of Intent or Notice of Termination requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        Note: NYSDEC does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR §122.22(a)(1)(i). NYSDEC will presume that these responsible corporate officers have the requisite authority to sign the Notice of Intent or Notice of Termination unless the corporation has notified NYSDEC to the contrary. Corporate procedures governing authority to sign a Notice of Intent or Notice of Termination may provide for assignment or delegation to applicable corporate positions under 40 CFR §122.22(a)(1)(ii) rather than to specific individuals.

    b. For a partnership or sole proprietorship. By a general partner or the proprietor, respectively.

c. For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

    1. the chief executive officer of the agency; or

    2. a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. All reports required by this permit, and other information requested by NYSDEC, must be signed by a person described in Part VII.J.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

    a. The authorization is made in writing by a person described in Part VII.J.1. or using the Duly Authorized Form, found on the DEC website; and

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

    c. The written authorization is submitted to NYSDEC.

3. Changes to authorization. If an authorization under Part VII.J.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the *construction activity*, a new authorization satisfying the requirements of Part VII.J.2. must be submitted to NYSDEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under Part VII.J.1. or 2. must make the following 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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. Electronic reporting. If documents described in Part VII.J.1. or 2. are submitted electronically by or on behalf of the *construction activity* with coverage under this permit, any person providing the electronic signature for such documents must meet all relevant requirements of this section, and must ensure that all of the relevant requirements of 40 CFR Part 3 (including, in all cases, subpart D to Part 3) (Cross-Media Electronic Reporting) and 40 CFR Part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

K. Inspection and Entry

The *owner or operator* must allow NYSDEC, the USEPA Regional Administrator, the applicable county health department, or any authorized representatives of those entities, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the *discharge*, upon the presentation of credentials and other documents as may be required by law, to:

1. enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the requirements of this permit; and

2. have access to and copy at reasonable times, any records that must be kept under the requirements of this permit, including records required to be maintained for purposes of operation and maintenance; and

3. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

4. sample or monitor at reasonable times, for the purposes of assuring general SPDES permit compliance or as otherwise authorized by the CWA or ECL, any substances or parameters at any location; and

5. enter upon the property of any contributor to the regulated facility or activity under authority of the *owner or operator*.

L. Confidentiality of Information

The following must not be held confidential: this permit, the fact sheet for this permit, the name and address of any *owner or operator*, effluent data, the Notice of Intent, and information regarding the need to obtain an individual permit or an alternative general SPDES permit. This includes information submitted on forms themselves and any attachments used to supply information required by the forms (except information submitted on usage of substances). Upon the request of the *owner or operator*, NYSDEC must make determinations of confidentiality in accordance with 6 NYCRR Part 616, except as set forth in the previous sentence. Any information accorded confidential status must be disclosed to the Regional Administrator upon his or her written request. Prior to disclosing such information to the Regional Administrator, NYSDEC will notify the Regional Administrator of the confidential status of such information.

M. Other Permits May Be Required

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

N. NYSDEC Orders or Civil Decrees/Judgments

The issuance of this permit by the NYSDEC, and the coverage under this permit by the *owner or operator*, does not supersede, revoke, or rescind any existing order on consent or civil Decree/Judgment, or modification to any such documents or to any order issued by the Commissioner, or any of the terms, conditions, or requirements contained in such order or modification therefore, unless expressly noted.

O. Property Rights

Coverage under this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the *discharge* authorized.

P. Compliance with Interstate Standards

If the *construction activity* covered by this permit originates within the jurisdiction of an interstate water pollution control agency, then the *construction activity* must also comply with any applicable effluent standards or *water quality standards* promulgated by that interstate agency and as set forth in this permit for such *construction activities*.

Q. Oil and Hazardous Substance Liability

Coverage under this permit does not affect the imposition of responsibilities upon, or the institution of any legal action against, the *owner or operator* under section 311 of the CWA, which must be in conformance with regulations promulgated pursuant to section 311 governing the applicability of section 311 of the CWA to *discharges* from facilities with *NPDES* permits, nor must such issuance preclude the institution of any legal action or relieve the *owner or operator* from any responsibilities, liabilities, or penalties to which the *owner or operator* is or may be subject pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. section 9601 et seq. (CERCLA).

R. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, must not be affected thereby.

S. NYSDEC Approved Forms

The *owner or operator* must provide all relevant information that is requested by NYSDEC, and required by this permit, on all NYSDEC approved forms.

APPENDIX A – Abbreviations and Definitions

Abbreviations

APO – Agency Preservation Officer
BB – New York State Standards and Specifications for Erosion and Sediment Control (Blue Book), dated November 2016
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
CPv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DM – New York State Stormwater Management Design Manual (Design Manual), dated July 31, 2024
DOW – Division of Water
EAF – Environmental Assessment Form
ECL – chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law
EPA – U.S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NYC – The City of New York
NYCDEP – The City of New York Department of Environmental Protection
NYSDEC – The New York State Department of Environmental Conservation
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RR – Runoff Reduction
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SMP – Post-Construction Stormwater Management Practice
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit. If a word is not italicized in the permit, use its common definition.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property – the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023).

Alter Hydrology from Pre- to Post-Development Conditions – the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer System – a sewer system which conveys sewage and *stormwater* through a single pipe system to a publicly owned treatment works.

Commence (Commencement of) Construction Activities – the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the *SWPPP*. See definition for "*Construction Activity(ies)*" also.

Common Plan of Development or Sale – a contiguous area where multiple separate and distinct *construction activities* are occurring, or may occur, under one plan. The "common plan" of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQR) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating *construction activities* may occur on a specific plot. A *common plan of development or sale* is comprised of two or more *phases*.

Common plan of development or sale does not include separate and distinct *construction activities* that are occurring, or may occur, under one plan that are at least 1/4 mile apart provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Construction Activity(ies) – identified within 40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i), and 122.26(b)(15)(ii), any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, mechanized logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal.

Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, which is excluded from the calculation of the soil disturbance for a project. Routine maintenance includes, but is not limited to:

- Re-grading of gravel roads or parking lots; and
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of the ditch; and
- Replacement of existing culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of a ditch; and
- Replacement of existing bridges that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity beneath the bridges; and
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch); and
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*; and
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material; and
- Long-term use of equipment storage areas at or near highway maintenance facilities; and
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*; and
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts; and
- Maintenance of ski trails including brush hog use and mowing; and
- Above ground snowmaking pipe replacement; and
- Replacement of existing utility poles; etc.

Construction Site – the land area where *construction activity(ies)* will occur. See also the definitions for "*Commence (Commencement of) Construction Activities"* and "*Common Plan of Development or Sale."*

Dewatering – the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Directly Discharge(s)(ing) (to a specific surface waterbody) – runoff flows from a *construction site* by overland flow and the first point of *discharge* is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system and the first point of *discharge* from the separate storm sewer system is the specific surface waterbody.

Discharge(s)(d) – any addition of any *pollutant* to waters of the State through an outlet or *point source*.

Embankment – an earthen or rock slope that supports a road/highway.

Equivalent (Equivalence) – the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization – all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other *equivalent* stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

Historic Property – any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) – all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and compacted gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – not technologically possible, or not economically practicable and achievable considering best industry practices.

Minimize(ing)(ation) – reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer System (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. owned or operated by a State, city, town, village, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, *stormwater*, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA, that *discharges* to *surface waters of the State*; and

2. designed or used for collecting or conveying *stormwater*; and

3. which is not a *combined sewer system*; and

4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Natural Buffer(s) – an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – any land disturbance that does not meet the definition of *Redevelopment Activity* included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

Nonpoint Source(s) – any source of water pollution or *pollutants* which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank – flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator – the person, persons, or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit requirements.

Performance Criteria – the six performance criteria for each group of SMPs in Chapters 5 and 6 of the technical standard, New York State Stormwater Management Design Manual (DM), dated July 31, 2024. These include feasibility, conveyance, pretreatment, treatment, landscaping, and maintenance. It does not include the *Sizing Criteria* (i.e. WQv, RRv, CPv, Qp and Qf) in Part I.C.2. of the permit.

Phase – a defined area in which *construction activities* are occurring or will occur separate from other defined area(s).

Point Source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be *discharged*.

Pollutant(s) – dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast *discharged* into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq.

Qualified Inspector – a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder or other NYSDEC endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any SMPs that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional – a person that is knowledgeable in the principles and practices of *stormwater* management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other NYSDEC endorsed individual(s). Individuals preparing *SWPPPs* that require the SMP component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the *SWPPP* that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – the disturbance and reconstruction of existing *impervious area*, including *impervious areas* that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Renewable Energy – electricity or thermal energy generated by renewable energy systems through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.

Site Limitations – site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical *site limitations* include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of *site limitations* shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – the criteria included in Part I.C.2 of the permit that are used to size SMPs. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

Steep Slope – land area designated on the current United States Department of Agriculture (USDA) Soil Survey as Soil Slope Phase D, (provided the map unit name or description is inclusive of slopes greater than 25%), or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Stormwater – that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

Streambank – the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – a project specific report, including construction drawings, that among other things: describes the *construction activity(ies)*, identifies the potential sources of pollution at the *construction site*; describes and shows the *stormwater* controls that will be used to control the *pollutants* (i.e. erosion and sediment controls; for many projects, includes SMPs); and identifies procedures the *owner or operator* will implement to comply with the requirements of the permit. See Part III of the permit for a complete description of the information that must be included in the *SWPPP*.

Surface Waters of the State – shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization – exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Load (TMDL) – the sum of the allowable loads of a single *pollutant* from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a *pollutant* that a waterbody can receive and still meet *water quality standards*, and an allocation of that amount to the *pollutant's* sources. A TMDL stipulates Waste Load Allocations (WLA) for *point source discharges*, Load Allocations (LA) for *nonpoint source*s, and a margin of safety (MOS).

Traditional Land Use Control MS4 Operator – a city, town, or village with land use control authority that is authorized to *discharge* under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Trained Contractor – an employee from the contracting (construction) company, identified in Part III.A.7., that has received four (4) hours of NYSDEC endorsed training

in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.7., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity).

The *trained contractor* is responsible for the day-to-day implementation of the *SWPPP*.

Tree Clearing – *construction activities* limited to felling and removal of trees.

Tree clearing does not include hand felling and leaving the trees in place with no support from mechanized equipment, which is not considered *construction activity* requiring coverage under this permit.

Water Quality Standard – such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities* that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single-family home not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions with 25% or less *impervious cover* at total site build-out and not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that include construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.

The following *construction activities* that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Within the municipal boundaries of NYC:

- Stand-alone road reconstruction, where the total soil disturbance from only that road construction, is less than one (1) acre of land.

The following *construction activities*:

- Installation of underground linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation, *stormwater* retrofits, stream restoration, and resiliency projects that reconstruct shoreline areas to address sea level rise
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an *impervious cover*
- Cross-country ski trails, walking/hiking trails, and mountain biking trails, including a de minimis parking lot (maximum 10 spaces total, sized for passenger cars) with 35 feet minimum preservation of undisturbed area downgradient from the parking lot
- Dam rehabilitation (the structure of the dam itself)
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are not part of residential, commercial, or institutional development;
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path, or walking path.

Table 1 (Continued)
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities*:

- Slope stabilization
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Vegetated open space (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) that do not *alter hydrology from pre- to post-development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions
- Demolition where vegetation will be established, and no *redevelopment activity* is planned[1]
- Installation or replacement of either an overhead electric transmission line or a ski lift tower that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*.
- Solar array field areas that have tables elevated off the ground, spaced one table width apart, do not *alter hydrology from pre- to post-development conditions*, and address water quality volume and runoff reduction volume by maintaining sheet flow on slopes less than 8%.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that do not include construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions.
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary *impervious areas* that will be restored to pre-construction conditions once the *construction activity* is complete (in this context, "temporary" means the *impervious area* will be in place for two years or less)
- Other *construction activities* that do not include the construction or reconstruction of *impervious area*, and do not *alter hydrology from pre- to post-development* conditions, and are not listed in Table 2.

1. If the site is redeveloped in the future, a new eNOI must be submitted.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Single-family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family home that disturbs five (5) or more acres of land
- Single-family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of between 20,000 square feet and one (1) acre of land within the municipal boundaries of NYC with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single-family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a *common plan of development or sale* that will ultimately disturb five (5) or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Creation of 5,000 square feet or more of *impervious area* in the municipal boundaries of NYC
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) that involves soil disturbance greater than five acres.
- Structural agricultural conservation practices as identified in Table II in the “Agricultural Best Management Practice Systems Catalogue” (dated June 2023) that involves soil disturbance greater than five acres and include the construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.
- Facility buildings, including ski lodges, restroom buildings, pumphouses, ski lift terminals, and maintenance and groomer garages
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills; including creation of landfills or capping landfills.
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTWs, water treatment plants, and water storage tanks
- Golf courses
- Office complexes

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Permanent laydown yards and equipment storage lots
- Playgrounds that include the construction or reconstruction of *impervious area*
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surfaces
- Road construction or reconstruction, outside the municipal boundaries of NYC
- Road construction within the municipal boundaries of NYC
- Stand-alone road reconstruction, within the municipal boundaries of NYC where the total soil disturbance from that road reconstruction involves soil disturbance of one (1) acre or more of land
- Parking lot construction or reconstruction (as with all Table 2 bullets, this includes parking lots constructed as part of the *construction activities* listed in Table 1, unless a Table 1 bullet specifies otherwise)
- Athletic fields (natural grass) that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations, and well drilling pads, surfaced with *impervious cover,* and constructed as part of an overhead electric transmission line, wind-power, cell tower, oil or gas well drilling, sewer or water main, ski lift, or other linear utility project
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of a residential, commercial or institutional development
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of highway construction or reconstruction
- Solar array field areas on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the BB or the DM
- Solar array field areas on slopes less than 8% that will *alter the hydrology from pre- to post-development* conditions
- Solar array field areas with tables that are not elevated high enough to achieve *final stabilization* beneath the tables
- Traditional *impervious areas* associated with solar development (e.g. roads, buildings, transformers)
- Utility pads surfaced with *impervious cover*, including electric vehicle charging stations
- All other *construction activities* that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre- to post-development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of *construction activities* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs designed in conformance with the Enhanced Phosphorus Removal Standards included in the DM technical standard.

- Entire New York City Watershed located east of the Hudson River – Figure 1
- Onondaga Lake Watershed – Figure 2
- Greenwood Lake Watershed – Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

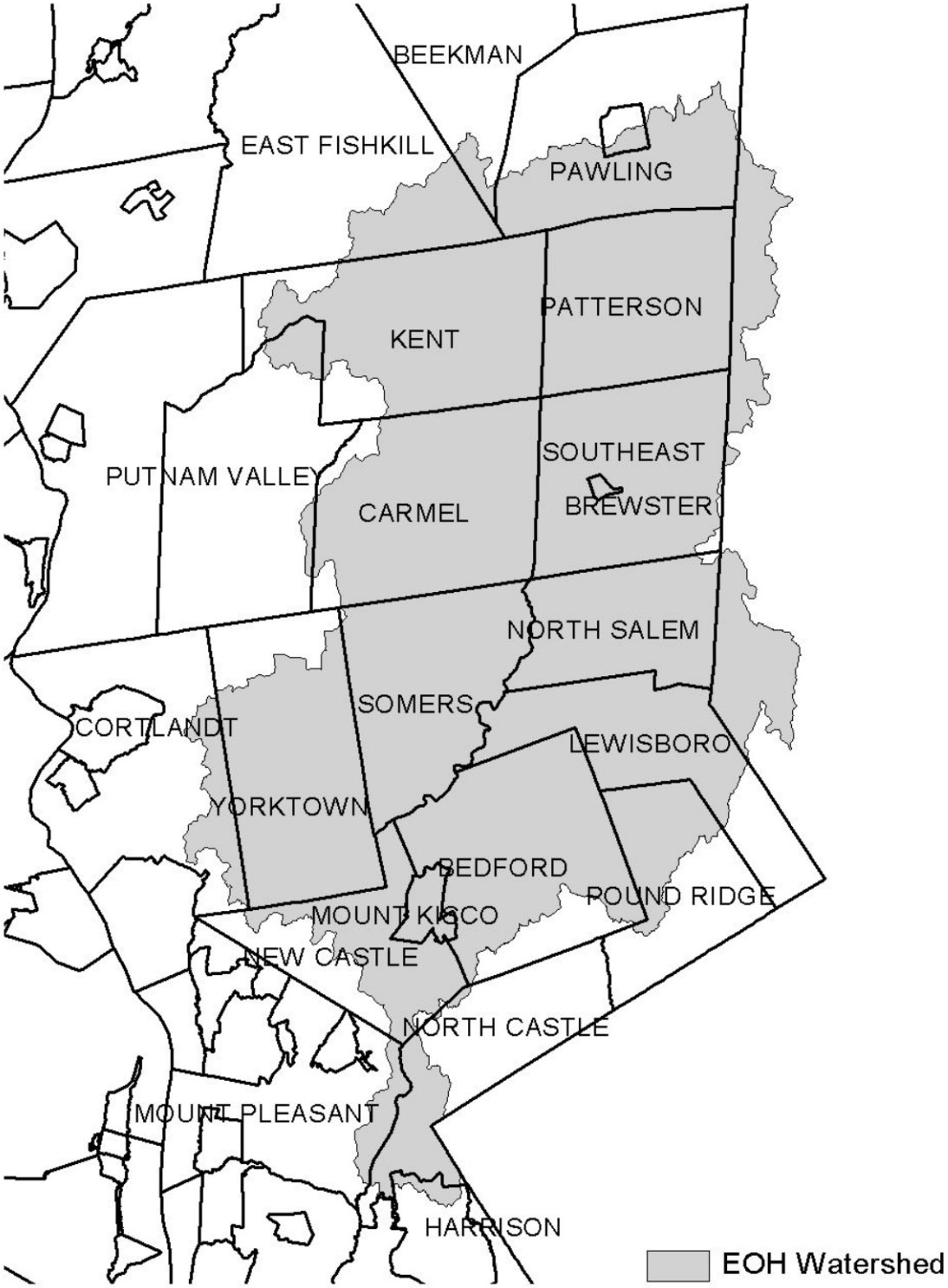


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

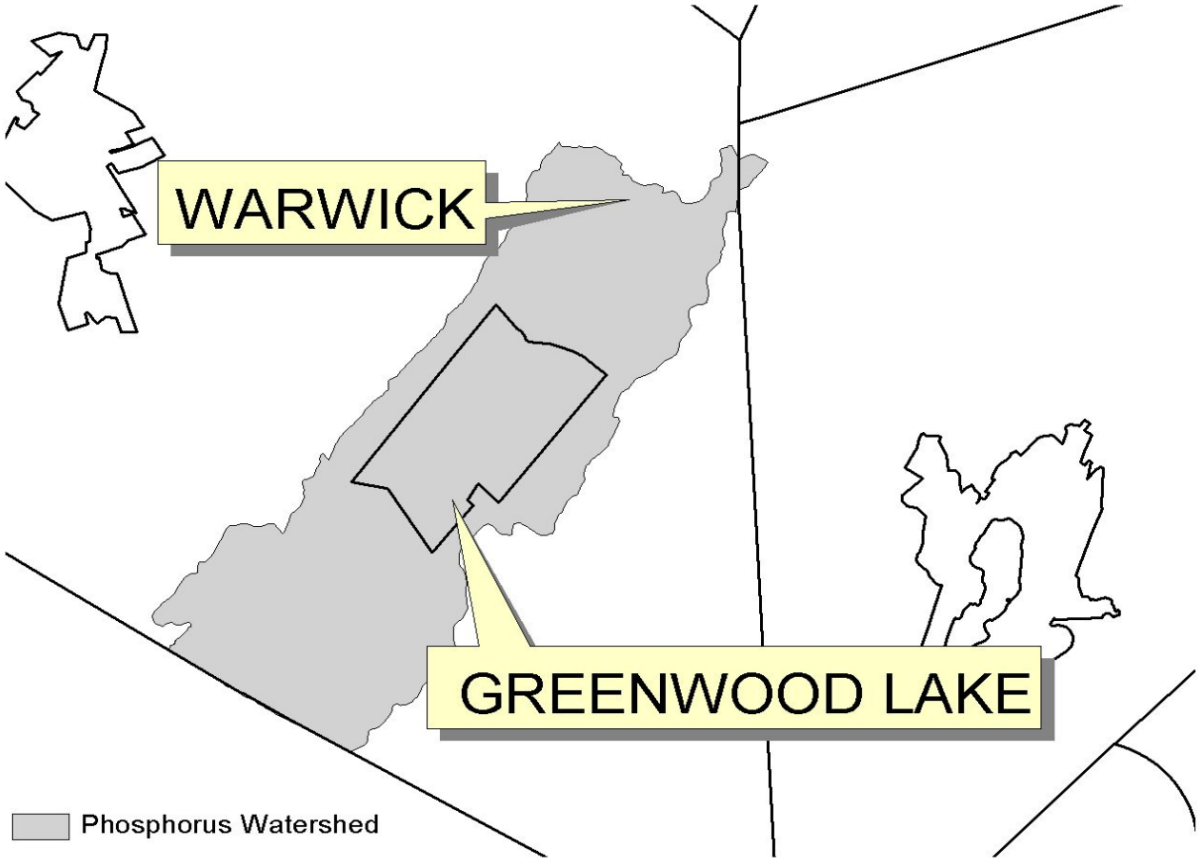


Figure 4 - Oscawana Lake Watershed

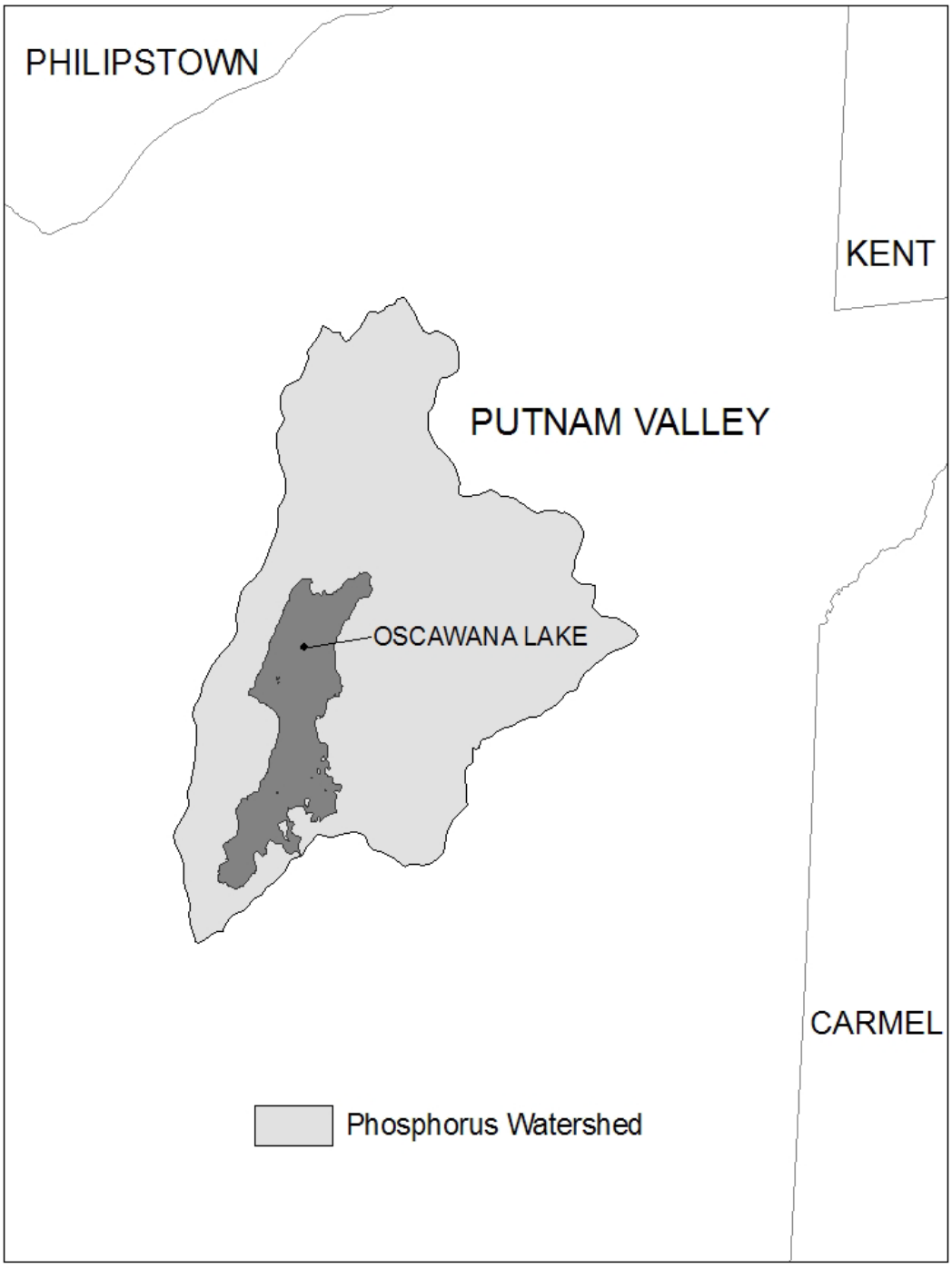
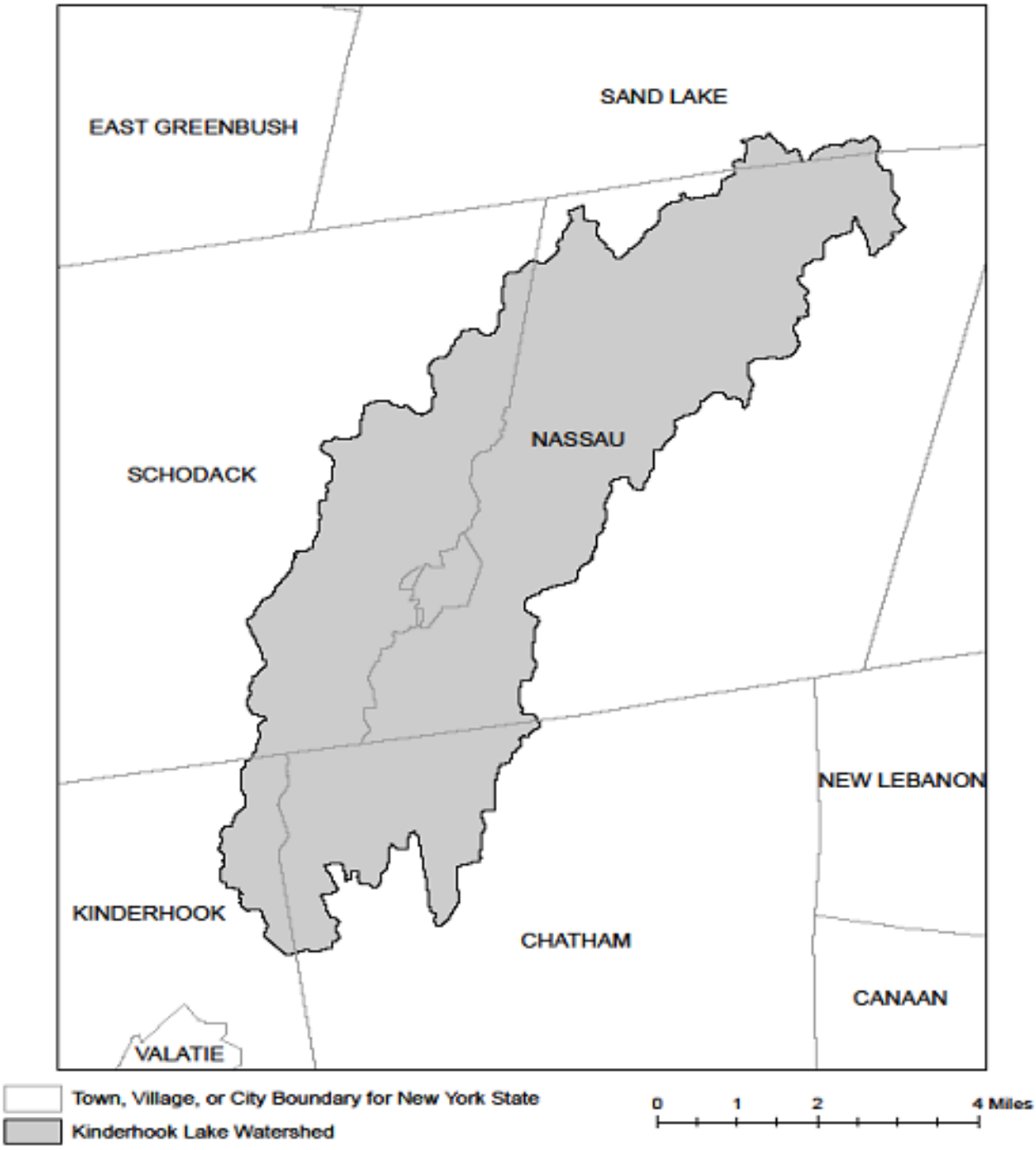


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants)

List of waterbodies impaired by *pollutants* related to *construction activity*, including turbidity, silt/sediment, and nutrients (e.g. nitrogen, phosphorus). This list is a subset of "The Final New York State 2018 Section 303(d) List of Impaired Waters Requiring a TMDL" dated June 2020.

County	Waterbody	Pollutant
Albany	Ann Lee (Shakers) Pond, Stump Pond (1201-0096)	Phosphorus
Albany	Lawsons Lake (1301-0235)	Phosphorus
Allegany	Amity Lake, Saunders Pond (0403-0054)	Phosphorus
Allegany	Andover Pond (0403-0056)	Phosphorus
Bronx	Reservoir No.1/Lake Isle (1702-0075)	Phosphorus
Bronx	Van Cortlandt Lake (1702-0008)	Phosphorus
Broome	Blueberry, Laurel Lakes (1404-0033)	Phosphorus
Broome	Fly Pond, Deer Lake (1404-0038)	Phosphorus
Broome	Minor Tribs to Lower Susquehanna (0603-0044)	Phosphorus
Broome	Whitney Point Lake/Reservoir (0602-0004)	Phosphorus
Cattaraugus	Allegheny River/Reservoir (0201-0023)	Phosphorus
Cattaraugus	Beaver Lake/Alma Pond (0201-0073)	Phosphorus
Cattaraugus	Case Lake (0201-0020)	Phosphorus
Cattaraugus	Linlyco/Club Pond (0201-0035)	Phosphorus
Cayuga	Duck Lake (0704-0025)	Phosphorus
Cayuga	Owasco Inlet, Upper, and tribs (0706-0014)	Nutrients
Chautauqua	Chadakoin River and tribs (0202-0018)	Phosphorus
Chautauqua	Hulburt/Clymer Pond (0202-0079)	Phosphorus
Chautauqua	Middle Cassadaga Lake (0202-0002)	Phosphorus
Clinton	Great Chazy River, Lower, Main Stem (1002-0001)	Silt/Sediment
Columbia	Robinson Pond (1308-0003)	Phosphorus
Cortland	Dean Pond (0602-0077)	Phosphorus
Dutchess	Fallkill Creek (1301-0087)	Phosphorus
Dutchess	Hillside Lake (1304-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Silt/Sediment
Erie	Beeman Creek and tribs (0102-0030)	Phosphorus
Erie	Delaware Park Pond (0101-0026)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Silt/Sediment
Erie	Green Lake (0101-0038)	Phosphorus
Erie	Little Sister Creek, Lower, and tribs (0104-0045)	Phosphorus
Erie	Murder Creek, Lower, and tribs (0102-0031)	Phosphorus

Erie	Rush Creek and tribs (0104-0018)	Phosphorus
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Phosphorus
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Phosphorus
Erie	Scajaquada Creek, Upper, and tribs (0101-0034)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Silt/Sediment
Genesee	Bigelow Creek and tribs (0402-0016)	Phosphorus
Genesee	Black Creek, Middle, and minor tribs (0402 0028)	Phosphorus
Genesee	Black Creek, Upper, and minor tribs (0402-0048)	Phosphorus
Genesee	Bowen Brook and tribs (0102-0036)	Phosphorus
Genesee	LeRoy Reservoir (0402-0003)	Phosphorus
Genesee	Mill Pond (0402-0050)	Phosphorus
Genesee	Oak Orchard Cr, Upper, and tribs (0301-0014)	Phosphorus
Genesee	Oatka Creek, Middle, and minor tribs (0402-0031)	Phosphorus
Genessee	Tonawanda Cr, Middle, Main Stem (0102-0002)	Phosphorus
Greene	Schoharie Reservoir (1202-0012)	Silt/Sediment
Greene	Sleepy Hollow Lake (1301-0059)	Silt/Sediment
Herkimer	Steele Creek tribs (1201-0197)	Phosphorus
Herkimer	Steele Creek tribs (1201-0197)	Silt/Sediment
Kings	Hendrix Creek (1701-0006) 18	Nitrogen
Kings	Prospect Park Lake (1701-0196)	Phosphorus
Lewis	Mill Creek/South Branch, and tribs (0801-0200)	Nutrients
Livingston	Christie Creek and tribs (0402-0060)	Phosphorus
Livingston	Conesus Lake (0402-0004)	Phosphorus
Livingston	Mill Creek and minor tribs (0404-0011)	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs (0402-0033)	Phosphorus
Monroe	Buck Pond (0301-0017)	Phosphorus
Monroe	Cranberry Pond (0301-0016)	Phosphorus
Monroe	Durand, Eastman Lakes (0302-0037)	Phosphorus
Monroe	Lake Ontario Shoreline, Western (0301-0069) 9	Phosphorus
Monroe	Long Pond (0301-0015)	Phosphorus
Monroe	Mill Creek and tribs (0302-0025)	Phosphorus 2
Monroe	Mill Creek/Blue Pond Outlet and tribs (0402-0049)	Phosphorus
Monroe	Minor Tribs to Irondequoit Bay (0302-0038)	Phosphorus
Monroe	Rochester Embayment - East (0302-0002) [9]	Phosphorus
Monroe	Rochester Embayment - West (0301-0068) 9	Phosphorus
Monroe	Shipbuilders Creek and tribs (0302-0026)	Phosphorus 2
Monroe	Thomas Creek/White Brook and tribs (0302-0023)	Phosphorus

Nassau	Bannister Creek/Bay (1701-0380)	Nitrogen
Nassau	Beaver Lake (1702-0152)	Phosphorus
Nassau	Browswere Bay (1701-0383)	Nitrogen
Nassau	Camaans Pond (1701-0052)	Phosphorus
Nassau	East Meadow Brook, Upper, and tribs (1701-0211)	Silt/Sediment
Nassau	East Rockaway Channel (1701-0381)	Nitrogen
Nassau	Glen Cove Creek, Lower, and tribs (1702-0146)	Silt/Sediment
Nassau	Grant Park Pond (1701-0054)	Phosphorus
Nassau	Hempstead Bay, Broad Channel (1701-0032)	Nitrogen
Nassau	Hempstead Lake (1701-0015)	Phosphorus
Nassau	Hewlett Bay (1701-0382)	Nitrogen
Nassau	Hog Island Channel (1701-0220)	Nitrogen
Nassau	Massapequa Creek, Upper, and tribs (1701-0174)	Phosphorus
Nassau	Milburn/Parsonage Creeks, Upp, and tribs (1701-0212)	Phosphorus
Nassau	Reynolds Channel, East (1701-0215) [12]	Nitrogen
Nassau	Reynolds Channel, West (1701-0216) 12	Nitrogen
Nassau	Tidal Tribs to Hempstead Bay (1701-0218)	Nitrogen
Nassau	Tribs (fresh) to East Bay (1701-0204)	Silt/Sediment
Nassau	Tribs (fresh) to East Bay (1701-0204)	Phosphorus
Nassau	Tribs to Smith Pond/Halls Pond (1701-0221)	Phosphorus
Nassau	Woodmere Channel (1701-0219)	Nitrogen
New York	Harlem Meer (1702-0103)	Phosphorus
New York	The Lake in Central Park (1702-0105)	Phosphorus
Niagara	Bergholtz Creek and tribs (0101-0004)	Phosphorus
Niagara	Hyde Park Lake (0101-0030)	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0053) 9	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0072) 9	Phosphorus
Oneida	Ballou, Nail Creeks (1201-0203)	Phosphorus
Onondaga	Ley Creek and tribs (0702-0001) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nitrogen (NH3, NO2)
Onondaga	Onondaga Creek, Lower (0702-0023) 10	Nutrients (phosphorus)
Onondaga	Onondaga Creek, Lower, and tribs (0702-0023)	Turbidity
Onondaga	Onondaga Creek, Middle, and tribs (0702-0004)	Turbidity
Onondaga	Onondaga Creek, Upper, and tribs (0702-0024)	Turbidity
Ontario	Great Brook and minor tribs (0704-0034)	Phosphorus 2
Ontario	Great Brook and minor tribs (0704-0034)	Silt/Sediment

Ontario	Hemlock Lake Outlet and minor tribs (0402-0013)	Phosphorus
Ontario	Honeoye Lake (0402-0032)	Phosphorus
Orange	Brown Pond Reservoir (1303-0013)	Phosphorus
Orange	Lake Washington (1303-0012)	Phosphorus
Orange	Minor Tribs to Middle Wallkill (1306-0061)	Phosphorus
Orange	Monhagen Brook and tribs (1306-0074)	Phosphorus
Orange	Orange Lake (1301-0008) [16]	Phosphorus
Orange	Quaker Creek and tribs (1306-0025)	Phosphorus
Orange	Wallkill River, Middle, Main Stem (1306-0038)	Phosphorus
Orange	Wallkill River, Upper, and Minor tribs (1306-0017)	Phosphorus
Orleans	Glenvwood Lake (0301-0041)	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0070) 9	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0071) 9	Phosphorus
Oswego	Lake Neatahwanta (0701-0018)	Nutrients (phosphorus)
Oswego	Pleasant Lake (0703-0047)	Phosphorus
Putnam	Lost Lake, Putnam Lake (1302-0053)	Phosphorus
Putnam	Minor Tribs to Croton Falls Reservoir (1302-0001)	Phosphorus
Queens	Bergen Basin (1701-0009) 18	Nitrogen
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Nitrogen
Queens	Kissena Lake (1702-0258)	Phosphorus
Queens	Meadow Lake (1702-0030)	Phosphorus
Queens	Shellbank Basin (1701-0001) 18	Nitrogen
Queens	Willow Lake (1702-0031)	Phosphorus
Rensselaer	Nassau Lake (1310-0001)	Phosphorus
Rensselaer	Snyders Lake (1301-0043)	Phosphorus
Richmond	Grassmere Lake/Bradys Pond (1701-0357)	Phosphorus
Rockland	Congers Lake, Swartout Lake (1501-0019)	Phosphorus
Rockland	Rockland Lake (1501-0021)	Phosphorus
Saratoga	Ballston Lake (1101-0036)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Silt/Sediment
Saratoga	Lake Lonely (1101-0034)	Phosphorus
Saratoga	Round Lake (1101-0060)	Phosphorus
Saratoga	Tribs to Lake Lonely (1101-0001)	Phosphorus
Schenectady	Collins Lake (1201-0077)	Phosphorus
Schenectady	Duane Lake (1311-0006)	Phosphorus
Schenectady Lake	Mariaville Lake (1201-0113)	Phosphorus
Schuyler	Cayuta Lake (0603-0005)	Phosphorus

Seneca	Reeder Creek and tribs (0705-0074)	Phosphorus
St.Lawrence	Black Lake Outlet, Black Lake (0906-0001)	Phosphorus
St.Lawrence	Fish Creek and minor tribs (0906-0026)	Phosphorus
Steuben	Smith Pond (0502-0012)	Phosphorus
Suffolk	Agawam Lake (1701-0117)	Phosphorus
Suffolk	Big/Little Fresh Ponds (1701-0125)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Silt/Sediment
Suffolk	Fresh Pond (1701-0241)	Phosphorus
Suffolk	Great South Bay, East (1701-0039)	Nitrogen
Suffolk	Great South Bay, Middle (1701-0040)	Nitrogen
Suffolk	Great South Bay, West (1701-0173)	Nitrogen
Suffolk	Lake Ronkonkoma (1701-0020)	Phosphorus
Suffolk	Mattituck/Marratooka Pond (1701-0129)	Phosphorus
Suffolk	Mill and Seven Ponds (1701-0113)	Phosphorus
Suffolk	Millers Pond (1702-0013)	Phosphorus
Suffolk	Moriches Bay, East (1701-0305)	Nitrogen
Suffolk	Moriches Bay, West (1701-0038)	Nitrogen
Suffolk	Quantuck Bay (1701-0042)	Nitrogen
Suffolk	Shinnecock Bay and Inlet (1701-0033)	Nitrogen
Suffolk	Tidal Tribs to West Moriches Bay (1701-0312)	Nitrogen
Sullivan	Bodine, Mongomery Lakes (1401-0091)	Phosphorus
Sullivan	Davies Lake (1402-0047)	Phosphorus
Sullivan	Evens Lake (1402-0004)	Phosphorus
Sullivan	Pleasure Lake (1402-0055)	Phosphorus
Sullivan	Swan Lake (1401-0063)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Silt/Sediment
Ulster	Ashokan Reservoir (1307-0004)	Silt/Sediment
Ulster	Esopus Creek, Lower, Main Stem (1307-0010) [17]	Turbidity
Ulster	Esopus Creek, Middle, Main Stem (1307-0003) 17	Turbidity
Ulster	Esopus Creek, Upper, and minor tribs (1307-0007)[3]	Silt/Sediment
Ulster	Wallkill River, Lower, Main Stem (1306-0027)	Phosphorus
Warren	Hague Brook and tribs (1006-0006)	Silt/Sediment
Warren	Huddle/Finkle Brooks and tribs (1006-0003)	Silt/Sediment
Warren	Indian Brook and tribs (1006-0002)	Silt/Sediment
Warren	Lake George (1006-0016) and tribs	Silt/Sediment
Warren	Tribs to Lake George, East Shore (1006-0020)	Silt/Sediment
Warren	Tribs to Lake George, Lk.George Village (1006-0008)	Silt/Sediment

Washington	Wood Cr/Champlain Canal and tribs (1005-0036)	Phosphorus
Westchester	Lake Katonah (1302-0136)	Phosphorus
Westchester	Lake Lincolndale (1302-0089)	Phosphorus
Westchester	Lake Meahagh (1301-0053)	Phosphorus
Westchester	Lake Mohegan (1301-0149)	Phosphorus
Westchester	Lake Shenorock (1302-0083)	Phosphorus
Westchester	Mamaroneck River, Lower (1702-0071)	Silt/Sediment
Westchester	Mamaroneck River, Upp, & minor tribs (1702-0123)	Silt/Sediment
Westchester	Saw Mill River (1301-0007)	Phosphorus
Westchester	Saw Mill River, Middle, and tribs (1301-0100)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Silt/Sedimnt
Westchester	Silver Lake (1702-0040)	Phosphorus
Westchester	Teatown Lake (1302-0150)	Phosphorus
Westchester	Truesdale Lake (1302-0054)	Phosphorus
Westchester	Wallace Pond (1301-0140)	Phosphorus

APPENDIX E – List of NYSDEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	220 White Plains Road, Suite 110 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7438	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7165	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7070

APPENDIX F – SWPPP Preparer Certification Form

The SWPPP Preparer Certification Form required by this permit begins on the following page.

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:

eNOI Submission ID:

Owner/Operator Name:

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature

Date

Revised: January 2025

APPENDIX G – MS4 SWPPP Acceptance Form

The MS4 SWPPP Acceptance Form required by this permit begins on the following page.

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
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 Operator:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Street Address:
14. City/State/Zip:
15. 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 section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, 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 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form

The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval form required by this permit begins on the following page.

THE CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental Planning and Analysis
59-17 Junction Blvd., 9th Floor; Flushing, NY 11373

SWPPP Acceptance/Approval

Application Number:

I. Project Owner/Operator Information

1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:
6. Street Address:
7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval

8. SWPPP Reviewed by:
9. Title/Position: /
10. Date Final SWPPP Reviewed and Accepted:
11. Acceptance/Approval Expiration Date:

IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity

12. Name of MS4: *CITY OF NEW YORK*
13. MS4 SPDES Permit Identification Number: *NY-0287890*
14. Contact Person:
15. Street Address: *59-17 Junction Blvd. 9th Floor*
16. City/State/Zip: *Flushing, NY 11373*
17. Telephone Number:

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

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. Conditions of Acceptance/Approval and Additional Information

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

APPENDIX I – MS4 No Jurisdiction Form

The MS4 No Jurisdiction Form required by this permit begins on the following page.

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID:

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date:

APPENDIX J – Owner/Operator Certification Form

The Owner/Operator Certification Form required by this permit begins on the following page.

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: _____

eNOI Submission ID: _____

eNOI Submitted by: ☐ **Owner/Operator** ☐ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

APPENDIX J

NYSDEC Notice of Termination (NOT)