SITE PLAN & SUBDIVISION FOR PROSPECT ACRES

VILLAGE OF SOUTH BLOOMING GROVE
ORANGE COUNTY, NEW YORK

STORMWATER POLLUTION
PREVENTION PLAN NARRATIVE

PREPARED FOR:

- BG HOLDINGS NY 3 LLC
- VILLAGE OF SOUTH BLOOMING GROVE

May 21, 2024

PREPARED BY:

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PROJECT: 22-033

SWPPP Preparer Certification 5/21/24

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Michael A. Morgante
N.Y.S.P.E. License # 78577

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1. PROJECT INFORMATION

1.1 Project Name and Location

Site Plan & Subdivision for Prospect Acres
201 Prospect Road
Monroe, NY 10950

1.2 Property Owner Name and Address

BG Holdings NY 3 LLC
201 Prospect Road
Monroe, NY 10950

1.3 Project Operator Name and Address

BG Holdings NY 3 LLC
201 Prospect Road
Monroe, NY 10950

1.4 SWPPP Municipality

Village of South Blooming Grove
811 Route 208
Monroe NY 10950

1.5 SWPPP Reviewer

Fusco Engineering & Land Surveying, D.P.C.
233 E Main Street
Middletown, NY 10940

2. INTRODUCTION

2.1. Project Description

The site(s) are located off Prospect Road, in the Village of South Blooming Grove, Orange County, New York. The tax map designation for the parcel is Section 202, Block 1, Lot 11 and Section 202, Block 1, Lot 22. The general land use in the nearby vicinity of the project site is Rural Residential.

The portion of the site that is proposed for development is characterized by an eastern and western gently sloping topography from the middle portion of the site. The topography on the site reflects the local surrounding topography.

The soils on the property were identified using the soil classifications from the USDA Web Soil Survey Program. The site soils consist primarily of the Mardin (MdB, MdC, MdD) series, the Erie (ESB) series, and Alden (Ab) series. The deep test pit logs have been included on the project drawings. The approximate soil boundaries and types are shown on the attached Pre & Post Development Drainage Analysis Maps.

The current proposed project will consist of a community building and ten (10) townhouse style dwellings with parking lots and a stormwater management system. The site will be served by on-site drilled wells and connection to municipal sewer. The proposed development will disturb more than one acre of soil, therefore, the stormwater management plan has been developed in accordance with the requirements of the current SPDES General Permit for Stormwater Discharges from Construction Activity NYS GP-0-20-001.

2.2. Project Disturbance Area

Total Project Property Area: 48.7 Acres
Total Disturbed Area: 21.60 Acres
Existing Impervious Area: 1.59 Acres
Proposed Additional Impervious Area: 8.34 Acres

2.3. Cultural Resources Investigation

The New York State Historic Preservation Office (SHPO) online CRIS tool indicates that the project site is located within close proximity or adjacent to any sensitive archeological site(s). Phase IA & IB Studies have been submitted to SHPO.

2.4. Existing Drainage Patterns

Generally, the pre-development site conditions are best described as a mixture of grass, woods and impervious surface. The pre-development runoff for the site drains to both eastern portion of the site towards Satterly Creek and to the northwestern portion of the site towards Prospect Road. The Watersheds and the associated Stormwater Design Points (DP) are shown on the attached Pre-Development Analysis Map.

2.5. Proposed Drainage Patterns

The pre development watershed boundaries are very similar to the post development condition and the proposed dwellings are located within watershed. The addition of the impervious surface increases post-developed runoff and pollutants in this watershed.

3. STORMWATER MANAGEMENT

3.1. General

In general, increased imperviousness can change the volume and rate of runoff as well as the amount of suspended or dissolved substances entering local streams. In some cases, a change in the amount of impervious surfaces can change the distribution of water in a given area, affecting local water bodies, wetlands and associated fauna and flora. The project design includes measures to reduce the level of runoff and pollutants in post-development runoff in compliance with New York State DEC requirements. This will be achieved by the installation of a sediment forebay, bioretention facility & wet pond.

3.2. Stormwater Quantity

The drainage report has been prepared to analyze the impact of stormwater runoff at the major discharge point (DP1) on the property. The impact of the proposed development on existing drainage patterns was evaluated for both the pre and post development conditions.

Information and data to prepare this report was obtained from the following sources:

- Topographic, Boundary and Planimetric information from Edward T. Gannon, PLS.
- Site Plan & Subdivision for Prospect Acres as prepared by Arden Consulting Engineers, PLLC.
- The site soil information from USDA Web Soil Survey.
- Site evaluations as carried out by personnel from Arden Consulting Engineers, PLLC.

The TR-55 method was used to determine the pre-development and post-development runoff rates at the design point (DP1) identified on the property, which is illustrated on the attached drawings entitled Pre Development Stormwater Analysis and Post Development Stormwater Analysis.

Drainage summaries have been shown on Table 1, which outline the runoff volume from the 1, 10 and 100 year storm events in the pre-development and post-development conditions, using a Type III storm distribution as evidenced by storm distribution boundaries found in the TR-55 publication. The 24 hour rainfall values used for each storm occurrence were taken from the NYSDEC Stormwater Design Manual as listed below:

1 year storm = 2.70 in.
10 year storm = 5.00 in
100 year storm = 9.00 in

Details of the proposed stormwater facilities have been included on Pre & Post Development Drainage Analysis Maps and the project drawings. The Pre and Post Development Analysis Maps have been prepared to illustrate existing drainage areas and their configuration following construction on the site.

It is the overall goal of the SWPPP to provide proper drainage control on a quality and quantity basis. The plan has been prepared so there will be no negative effect on downstream properties.

The hydrologic characteristics of the pre-development site conditions were modeled using HydroCad computer software. The model analyzes watershed conditions and provides hydrograph generation and routing based on the Natural Resources Conservation Service (NRCS) Technical Release 55 (TR-55) procedures. These procedures take into account the land cover and use on site, the underlying soils, the general topography and local rainfall distribution to model stormwater runoff volumes and flow rates resulting from the site.

3.3. Increase in Stormwater Runoff Rates

Table 1 below compares the Pre- and Post-development runoff calculations.

Table 1
Pre-vs. Post-Development Runoff Rates (cfs)

Storm Frequency	Design Point Pre-1	**Design Point Post-1**	Design Point Pre-2	**Design Point Post-2**
1 year	10.29	**8.43**	3.42	**3.41**
10 year	42.46	**37.35**	13.45	**8.56**
100 year	102.61	**93.75**	31.86	**17.03**

The post-development rates of runoff are less than the existing condition. This requirement meets the standards of the SPDES General Permit for Stormwater Discharges.

4. STORMWATER QUALITY

4.1. Impervious Surfaces

The impervious cover used in this analysis represents the land use as described and shown on the project plans. The supporting calculations are presented in the HydroCAD model in the Appendix located at the end of this report.

The New York State DEC requires the use of "Unified Stormwater Sizing Criteria" to ensure that water quality, channel erosion reduction, overbank flood protection and safe conveyance of extreme storms is achieved (New York State Stormwater Management Design Manual, January 2015). Water quality volume criteria is based on the following formula:
WQv = [(P)(Rv)(A)]/12

where:

WQv = water quality volume (in acre-feet)
P = 90% rainfall event number (in inches)
Rv =0.05 + 0.009(I), where I is percent impervious cover, and
A =site area in acres

Suitable area and storage volume are provided in the proposed stormwater facilities to meet water quality goals as defined by the New York State DEC as discussed below.

The WQv required is 4,367 CF while the minimum RRv is 1,051 CF as determined using the NYSDEC worksheets that can be found in Appendix B. Runoff Reduction Volume (RRv) is the reduction of the total WQv by application of green infrastructure techniques and SMPs to replicate pre-development hydrology. The various outlet structure weirs have been set at elevations above the respective inverts thereby storing an associated volume of water. This volume will be retained to treat the stormwater runoff and therefore meet the WQv and RRv requirements. The current proposal will use a sediment forebay to remove large particulates, followed by a bioretention facility that will provide WQv and RRv. This will be followed by a wet pond which will provide additional WQv. Without the use of stormwater quality management practices, the proposed project would result in an increase in the loadings of various chemical constituents to the receiving waters, potentially impairing the quality of those waters within the watershed.

Runoff from impervious surfaces related to roadways and parking lots poses a potential increase in road and vehicle-related contaminants in the stormwater diverted to treatment facilities. These include hydrocarbons derived primarily from crankcase oil drippings and uncombusted exhaust hydrocarbons. Furthermore, roadway runoff contains detectable levels of heavy and trace metal contaminants such as lead, zinc, copper, chromium and nickel. These types of potential impacts require appropriate mitigation measures to limit impacts to existing water quality. Stormwater runoff will ultimately discharge as shown on the Post Development Stormwater Analysis Map. The facilities were designed to attenuate and bypass the 10 and 100 year rain event.

4.2. Sources of Pollutants

The New York State DEC lists several potential pollutants and their sources to be considered during site design. Nutrients, sediment, bacteria and various other components can potentially contribute to the reduction of water quality and impacts to downstream receiving waters and habitat for water dependent species.

Many of these constituents, i.e., nitrogen, phosphorus, bacteria and others, are expected to be accounted for in the capture and treatment of the water quality volume. The DEC guidelines have established that if the water quality volume from impervious surfaces is treated, the water quality goals of the State are met. A primary source of nutrients, i.e., the use of fertilizers, is discussed below.

Sediments are typically associated with runoff from un-stabilized sites or are the result of erosion in watercourses that cannot handle the velocity of stormwater flows. They can also result from the sanding of impervious surfaces during winter storm events. Un-stabilized sediments can be transported via storm flows to receiving wetlands and watercourses, altering the soil-water-air interface in wetlands and

burying established vegetation. The current proposal will treat and remove flows carrying un-stabilized sediments.

Thermal impacts, i.e., the increase in water temperature caused by the process of water running off of parking lots, roofs and other impervious surfaces that are heated by the sun, are of greatest concern in areas where a site is directly tributary to a Class B creek. Satterly Creek is not a Class B Stream. Furthermore, the majority of the site runoff will be treated by means of detention using a wet pond. Based on this information, no special consideration was given to moderating the temperature of stormwater leaving the site.

4.3. Use of Fertilizers and Pesticides

The applicant proposes the use of a variety of construction and maintenance techniques reflecting best management practices to limit impacts of stormwater runoff. No fertilizers containing phosphorous will be utilized to limit pollutants from the project to the maximum extent possible.

Phosphorus from fertilizer runs off lawns via stormwater and can enter surface waters and ground water, both of which can reach other water bodies. Using phosphorus-free lawn fertilizers is one step that will be taken to protect water quality. The project sponsor therefore proposes that any fertilizers used during construction will be phosphorus-free.

These combined systems have been designed to treat the NYSDEC water quality volume, and control peak flow runoff rates from the 10- and 100-year storm events.

5. PERFORMANCE CRITERIA

The Applicant proposes bioretention facilities and dry swales to provide water quality treatment in accordance with SPDES General Permit (GP-0-20-001). The paragraphs below discuss the design guidance requirements associated with this technology.

5.1. Bioretention

***Feasibility*:**

Soil borings and associated geotechnical report have been conducted for this project by this office and are included in the project plans. 100% of the WQv has been provided within the bioretention and wet pond facilities.

Most stormwater filters require four to six feet of head, depending on site configuration and land area available. The bioretention facility operates with over 4-feet of head.

Sand and organic filtering systems are generally applied to land uses with a high percentage of impervious surfaces. Sites with imperviousness less than 75% will require full sedimentation pretreatment techniques. Full sedimentation has been provided for in the sediment forebay.

Conveyance:

If runoff is delivered by a storm drain pipe or is along the main conveyance system, the filtering practice shall be designed off-line (see Appendix K). The bioretention facilities are designed off-line where large stormwater events are diverted to the wet pond.

An overflow shall be provided within the practice to pass a percentage of the WQv to a stabilized water course. In addition, overflow for the ten-year storm shall be provided to a non-erosive outlet point (i.e., prevent downstream slope erosion). The facility discharges to a wet pond under larger stormwater events.

A flow regulator (or flow splitter diversion structure) shall be supplied to divert the WQv to the filtering practice and allow larger flows to bypass the practice. Overflow weirs and outlet control structures divert larger stormwater events to the stormwater ponds.

Stormwater filters shall be equipped with a minimum 4" perforated pipe underdrain (6" is preferred) in a gravel layer. A permeable filter fabric shall be placed between the gravel layer and the filter media. A 4" underdrain system has been provided.

The required minimum 2' separation between the filter bottom and groundwater has been provided.

Treatment:

The entire treatment system (including pretreatment) shall be sized to temporarily hold at least 75% of the WQv prior to filtration.

The filter media shall consist of a medium sand (meeting ASTM C-33 concrete sand). Media used for organic filters may consist of peat/sand mix or leaf compost. Peat shall be a reed-sedge hemic peat.

Bioretention systems shall consist of the following treatment components: A four-foot-deep planting soil bed, a surface mulch layer, and a six inch deep surface ponding area. Soils shall meet the design criteria outlined in Appendix H of the latest NYSDEC SWPPP Manual.

The filter bed typically has a minimum depth of 18". The perimeter filter may have a minimum filter bed depth of 12".

Landscaping:

A dense and vigorous vegetative cover shall be established over the contributing pervious drainage areas before runoff can be accepted into the facility.
Landscaping is critical to the performance and function of bioretention areas. Therefore, a landscaping plan must be provided for bioretention areas.

Surface filters can have a grass cover to aid in pollutant adsorption. The grass should be capable of withstanding frequent periods of inundation and drought.

- Planting recommendations for bioretention facilities are as follows:
- Native plant species should be specified over non-native species.
- Vegetation should be selected based on a specified zone of hydric tolerance.
- A selection of trees with an understory of shrubs and herbaceous materials should be provided.
- Woody vegetation should not be specified at inflow locations.
- Trees should be planted primarily along the perimeter of the facility.
- A tree density of approximately one tree per 100 square feet (i.e., 10 feet on-center) is recommended. Shrubs and herbaceous vegetation should generally be planted at higher densities (five feet on-center and 2.5 feet on center, respectively).

Maintenance:

A legally binding and enforceable maintenance agreement shall be executed between the facility owner and the local review authority to ensure the following:

- Sediment shall be cleaned out of the sedimentation chamber when it accumulates to a depth of more than six inches. Vegetation within the sedimentation chamber shall be limited to a height of 18 inches. The sediment chamber outlet devices shall be cleaned/repaired when drawdown times exceed 36 hours. Trash and debris shall be removed as necessary.
- Silt/sediment shall be removed from the filter bed when the accumulation exceeds one inch.
- When the filtering capacity of the filter diminishes substantially (i.e., when water ponds on the surface of the filter bed for more than 48 hours), the top few inches of discolored material shall be removed and shall be replaced with fresh material. The removed sediments shall be disposed in an acceptable manner (i.e., landfill).
- A stone drop (pea gravel diaphragm) of at least six inches shall be provided at the inlet of bioretention facilities (F-6). Areas devoid of mulch shall be re-mulched on an annual basis. Dead or diseased plant material shall be replaced.
- Organic filters or surface sand filters that have a grass cover should be mowed a minimum of three times per growing season to maintain maximum grass heights less than 12 inches

5.2. Wet Pond

Required Elements:

- Stormwater ponds shall not be located within jurisdictional waters, including wetlands.
- Evaluate the site to determine the Hazard Class, and to determine what design elements are required to ensure dam safety (see Guidelines for Design of Dams). For the most recent copy of this document, contact the New York State Department of Environmental Conservation, Dam Safety Division, at: 518-402-8151.
- Avoid direction of hotspot runoff to design P-5.
- Provide a 2' minimum separation between the pond bottom and groundwater in sole source aquifer recharge areas.

Design Guidance

- Designs P-2, P-3, and P-4 should have a minimum contributing drainage area of 25 acres. A 10-acre drainage is suggested for design P-1.
- The use of stormwater ponds (with the exception of design P-1, Micropool Extended Detention Pond) on trout waters is strongly discouraged, as available evidence suggests that these practices can increase stream temperatures.
- Avoid location of pond designs within the stream channel, to prevent habitat degradation caused by these structures.
- A maximum drainage area of five acres is suggested for design P-5.

Conveyance:

Inlet Protection

Required Elements

- A forebay shall be provided at each pond inflow point, unless an inflow point provides less than 10% of the total design storm flow to the pond.

Design Guidance

- Inlet areas should be stabilized to ensure that non-erosive conditions exist for at least the 2-year frequency storm event.
- Except in cold regions of the State, the ideal inlet configuration is a partially submerged (i.e., ½ full) pipe.

Adequate Outfall Protection

Required Elements

- The channel immediately below a pond outfall shall be modified to prevent erosion and conform to natural dimensions in the shortest possible distance, typically by use of appropriately-sized riprap placed over filter cloth. Typical examples include submerged earthen berms, concrete weirs, and gabion baskets.

- A stilling basin or outlet protection shall be used to reduce flow velocities from the principal spillway to non-erosive velocities (3.5 to 5.0 fps). (See Appendix L for a table of erosive velocities for grass and soil).

Design Guidance

- Outfalls should be constructed such that they do not increase erosion or have undue influence on the downstream geomorphology of the stream.

- Flared pipe sections that discharge at or near the stream invert or into a step-pool arrangement should be used at the spillway outlet.

- If a pond daylights to a channel with dry weather flow, care should be taken to minimize tree clearing along the downstream channel, and to reestablish a forested riparian zone in the shortest possible distance. Excessive use of riprap should be avoided to reduce stream warming.

Pond Liners

Design Guidance

- When a pond is located in gravelly sands or fractured bedrock, a liner may be needed to sustain a permanent pool of water. If geotechnical tests confirm the need for a liner, acceptable options include: (a) six to 12 inches of clay soil (minimum 50% passing the #200 sieve and a maximum permeability of 1×10^{-5} cm/sec), (b) a 30 mm poly-liner (c) bentonite, (d) use of chemical additives (*see NRCS Agricultural Handbook No. 386,* dated 1961, or *Engineering Field Manual*) or (e) a design prepared by a Professional Engineer registered in the State of New York.

Pretreatment:

Required Elements

- A sediment forebay is important for maintenance and longevity of a stormwater treatment pond. Each pond shall have a sediment forebay or equivalent upstream pretreatment. The forebay shall consist of a separate cell, formed by an acceptable barrier. Typical examples include earthen berms, concrete weirs, and gabion baskets.

- The forebay shall be sized to contain 10% of the water quality volume (WQ_v), and shall be

four to six feet deep. The forebay storage volume counts toward the total WQ_V requirement.

- The forebay shall be designed with non-erosive outlet conditions, given design exit velocities.
- Direct access for appropriate maintenance equipment shall be provided to the forebay.
- In sole source aquifers, 100% of the WQ_V for stormwater runoff from designated hotspots shall be provided in pretreatment.

Design Guidance

- A fixed vertical sediment depth marker should be installed in the forebay to measure sediment deposition over time.
- The bottom of the forebay may be hardened to ease sediment removal.

Treatment:

Minimum Water Quality Volume (WQv)

Required Elements

- Provide water quality treatment storage to capture the computed WQ_V from the contributing drainage area through a combination of permanent pool, extended detention (WQ_V-ED) and marsh. The division of storage into permanent pool and extended detention is outlined in Table 6.1.
- Although both CP_V and WQ_V-ED storage can be provided in the same practice, WQ_V cannot be met by simply providing Cp_V storage for the one-year storm.

Design Guidance

- It is generally desirable to provide water quality treatment off-line when topography, hydraulic head and space permit (i.e., apart from stormwater quantity storage; see Appendix K for a schematic).
- Water quality storage can be provided in multiple cells. Performance is enhanced when multiple treatment pathways are provided by using multiple cells, longer flowpaths, high surface area to volume ratios, complex microtopography, and/or redundant treatment methods (combinations of pool, ED, and marsh).

Minimum Pond Geometry

Required Elements

- The minimum length to width ratio for the pond is 1.5:1 (i.e., length relative to width).

- Provide a minimum Surface Area:Drainage Area of

  1:100. Design Guidance

- To the greatest extent possible, maintain a long flow path through the system, and design ponds with irregular shapes.

Landscaping:

Pond Benches

Required Elements

- The perimeter of all deep pool areas (four feet or greater in depth) shall be surrounded by two benches:

  - Except when pond side slopes are 4:1 (h:v) or flatter, provide a safety bench that generally extends 15 feet outward (10' to 12' allowable on sites with extreme space limitations) from the normal water edge to the toe of the pond side slope. The maximum slope of the safety bench shall be 6%.

  - Incorporate an aquatic bench that generally extends up to 15 feet inward from the normal shoreline, has an irregular configuration, and a maximum depth of 18 inches below the normal pool water surface elevation. The slope proceeding from the aquatic bench to the pond basin floor *shall* not exceed 2:1 (h:v).

Landscaping Plan

Required Elements

- A landscaping plan for a stormwater pond and its buffer shall be prepared to indicate how aquatic and terrestrial areas will be vegetatively stabilized and established.

- Aquatic vegetation must be established in the aquatic and safety benches before the Pond is rendered in- service.

Design Guidance

- Wherever possible, wetland plants should be encouraged in a pond design, either along the aquatic bench (fringe wetlands), the safety bench and side slopes (ED wetlands) or within shallow areas of the pool itself.

- The best elevations for establishing wetland plants, either through transplantation or volunteer colonization, are within six inches (plus or minus) of the normal pool.

- The soils of a pond buffer are often severely compacted during the construction process to ensure stability. The density of these compacted soils is so great that it effectively prevents root penetration, and therefore, may lead to premature mortality or loss of vigor. Consequently, it is

advisable to excavate large and deep holes around the proposed planting sites, and backfill these with uncompacted topsoil.

- As a rule of thumb, planting holes should be three times deeper and wider than the diameter of the rootball (of balled and burlap stock), and five times deeper and wider for container grown stock. This practice should enable the stock to develop unconfined root systems. Avoid species that require full shade, are susceptible to winterkill, or are prone to wind damage. Extra mulching around the base of the tree or shrub is strongly recommended as a means of conserving moisture and suppressing weeds.

Pond Buffers and Setbacks

Required Elements

- A pond buffer shall be provided that extends 25 feet outward from the maximum water surface elevation of the pond. The pond buffer shall be contiguous with other buffer areas that are required by existing regulations (e.g., stream buffers). An additional setback may be provided to permanent structures.
- Woody vegetation may not be planted or allowed to grow within 15 feet of the toe of the embankment and 25 feet from the principal spillway structure.

Design Guidance

- Existing trees should be preserved in the buffer area during construction. It is desirable to locate forest conservation areas adjacent to ponds. To help discourage resident geese populations, the buffer can be planted with trees, shrubs and native ground covers.
- Annual mowing of the pond buffer is only required along maintenance rights-of-way and the embankment. The remaining buffer can be managed as a meadow (mowing every other year) or forest.

Maintenance:

Required Elements

- Maintenance responsibility for a pond and its buffer shall be vested with a responsible authority by means of a legally binding and enforceable maintenance agreement that is executed as a condition of plan approval.
- The principal spillway shall be equipped with a removable trash rack, and generally accessible from dry land.
- Sediment removal in the forebay shall occur every five to six years or after 50% of total forebay capacity has been lost.
- All required safety elements must be inspected and maintained on an annual basis, unless prior inspections indicate more frequent maintenance is required.

- All required maintenance elements must be included in a comprehensive operation and maintenance plan. Design Guidance

- Sediments excavated from stormwater ponds that do not receive runoff from designated hotspots are generally not considered toxic or hazardous material, and can be safely disposed by either land application or land filling. Sediment testing may be required prior to sediment disposal when a hotspot land use is present (see Section 4.8 for a list of potential hotspots).
- Sediment removed from stormwater ponds should be disposed of according to an approved comprehensive operation and maintenance plan.

Maintenance Access

Required Elements

- A maintenance right of way or easement shall extend to the pond from a public or private road. Design Guidance

- Maintenance access should be at least 12 feet wide, have a maximum slope of no more than 15%, and be appropriately stabilized to withstand maintenance equipment and vehicles.
- The maintenance access should extend to the forebay, safety bench, riser, and outlet and be designed to allow vehicles to turn around.

Non-clogging Low Flow Orifice

Required Elements

- A low flow orifice shall be provided, with the size for the orifice sufficient to ensure that no clogging shall occur. (See Appendix K for details of a low flow orifice and trash rack options).

Design Guidance

- The low flow orifice should be adequately protected from clogging by either an acceptable external trash rack (recommended minimum orifice of 3") or by internal orifice protection that may allow for smaller diameters (recommended minimum orifice of 1").

- The preferred method is a submerged reverse-slope pipe that extends downward from the riser to an inflow point one foot below the normal pool elevation.

- Alternative methods are to employ a broad crested rectangular, V-notch, or proportional weir, protected by a half-round CMP that extends at least 12 inches below the normal pool.

The use of horizontally extended perforated pipe protected by geotextile fabric and gravel is

not recommended. Vertical pipes may be used as an alternative if a permanent pool is present.

Riser in Embankment

Required Elements

- The riser shall be located within the embankment for maintenance access, safety and aesthetics. Design Guidance

- Access to the riser should be provided by lockable manhole covers, and manhole steps within easy reach of valves and other controls. The principal spillway opening should be "fenced" with pipe or rebar at 8- inch intervals (for safety purposes).

Pond Drain

Required Elements

- Except where local slopes prohibit this design, each pond shall have a drain pipe that can completely or partially drain the pond. The drain pipe shall have an elbow or protected intake within the pond to prevent sediment deposition, and a diameter capable of draining the pond within 24 hours.

Design Guidance

- Care should be exercised during pond drawdowns to prevent rapid drawdown and minimize downstream discharge of sediments or anoxic water. The approving jurisdiction should be notified before draining a pond.

Adjustable Gate Valve

Required Elements

- Both the WQv-ED outlet and the pond drain shall be equipped with an adjustable gate valve (typically a handwheel activated knife gate valve). A gate valve is not required if the WQv is discharged through a weir.

- Valves shall be located inside of the riser at a point where they (a) will not normally be inundated and (b) can be operated in a safe manner.

Design Guidance

- Both the WQv-ED pipe and the pond drain should be sized one pipe size greater than the calculated design diameter.

- To prevent vandalism, the handwheel should be chained to a ringbolt, manhole step or

other fixed object.

Safety Features

Required Elements

- Side slopes to the pond shall not exceed 3:1 (h:v), and shall terminate at a safety bench.
- Side slope proceeding from aquatic bench to pond basin floor shall not exceed 2:1 (h:v).
- Both the safety bench and the aquatic bench must be landscaped to prevent access to the deep pool. The vegetation must be established before pond is rendered in-service.
- Warning signs must be posted prohibiting swimming, wading, and skating, warning of possible contamination or pollution of pond water, and indicating maximum depth of pond.
- The principal spillway opening shall not permit access by small children, and endwalls above pipe outfalls greater than 48 inches in diameter shall be fenced to prevent a hazard.
- When the pond slope requirements or any other required safety feature cannot be met perimeter fencing is required at or above the maximum water surface level provided that all required maintenance can still be performed.

Cold Climate Pond Design Considerations:

Inlets, outlet structures and outfall protection for pond systems require modifications to function well in cold climates. Among the problems those wishing to use stormwater ponds in cold climates may encounter are:

- Higher runoff volumes and increased pollutant loads during the spring melt
- Pipe freezing and clogging
- Ice formation on the permanent pool
- Road sand build-up

Higher runoff volumes and increased pollutant loads during the spring melt

- Operate the pond based on seasonal inputs by adjusting dual water quality outlets to provide additional storage (see Figure 6.6).
- Adapt sizing based on snowmelt characteristics (see Appendix I).
- Do not drain ponds during the spring season. Due to temperature stratification and high chloride concentrations at the bottom, the water may become highly acidic and anoxic and

may cause negative downstream effects.

Pipe Freezing and Clogging

- Inlet pipes should not be submerged, since this can result in freezing and upstream damage or flooding.
- Bury all pipes below the frost line to prevent frost heave and pipe freezing. Bury pipes at the point furthest from the pond deeper than the frost line to minimize the length of pipe exposed.
- Increase the slope of inlet pipes to a minimum of 1% to prevent standing water in the pipe, reducing the potential for ice formation. This design may be difficult to achieve at sites with flat local slopes.
- If perforated riser pipes are used, the minimum orifice diameter should be ½". In addition, the pipe should have a minimum 6" diameter.
- When a standard weir is used, the minimum slot width should be 3", especially when the slot is tall.
- Baffle weirs can prevent ice formation near the outlet by preventing surface ice from blocking the inlet, encouraging the movement of baseflow through the system (see Appendix K).
- In cold climates, riser hoods and reverse slope pipes should draw from at least 6" below the typical ice layer. This design encourages circulation in the pond, preventing stratification and formation of ice at the outlet.
- Trash racks should be installed at a shallow angle to prevent ice formation (see Appendix K).

Ice Formation on the Permanent Pool

- In cold climates, the treatment volume of a pond system should be adjusted to account for ice build- up on the permanent pool by providing one foot of elevation above the WQv. The total depth of the pond, including this additional elevation, should not exceed eight feet.
- Using pumps or bubbling systems can reduce ice build-up and prevent the formation of an anaerobic zone in pond bottoms.
- Provide some storage as extended detention. This recommendation is made for very cold climates to provide detention while the permanent pond is iced over. In effect, it discourages the use of wet ponds (P-2), replacing them with wet extended detention ponds (P-3).
- Multiple pond systems are recommended regardless of climate because they provide

redundant treatment options. In cold climates, a berm or simple weir should be used instead of pipes to separate multiple ponds, due to their higher freezing potential.

Road Sand Build-up

- In areas where road sand is used, an inspection of the forebay and pond should be scheduled after the spring melt to determine if dredging is necessary. For forebays, dredging is needed if one half of the capacity of the forebay is full.

6. EROSION & SEDIMENT CONTROL

6.1. General

During construction of the Project, extensive erosion and sediment control consisting of vegetative and structural measures will be implemented. These practices will be included in the final plans and will show the location and details of these controls. Among the techniques to be utilized are:

1. Staked haybales and silt fences around the downhill perimeter of the construction.
2. A stabilized construction entrance installed at the access point to the site.
3. Temporary seeding of all disturbed areas if they will remain bare for more than 15 days.
4. Permanent seeding and mulching as soon as possible after final grading.
5. Water spray for dust control.
6. The plans will indicate the proposed controls to be implemented during construction. However, adjustment of these controls may be required to accommodate localized field conditions.
7. Disturbed areas will be permanently stabilized by establishing a permanent vegetative cover. The exposed area will receive a minimum of 4 inch topsoil prior to seeding.

7. MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES

7.1. General

The storm water management facilities shall be maintained by the Owner of the Project during and after construction. All storm water management facilities shall be routinely inspected and any necessary repairs made immediately in order to maintain all practices as designed. The Contractor and Owner shall utilize good housekeeping methods for all litter and debris that is generated during construction. This shall include for example, placing all wastes in a dumpster on a daily basis and emptying dumpsters on a regular basis. It is also recommended to store any chemicals that are utilized during construction in a safe place according to manufacturer's safety data sheets (MSDS).

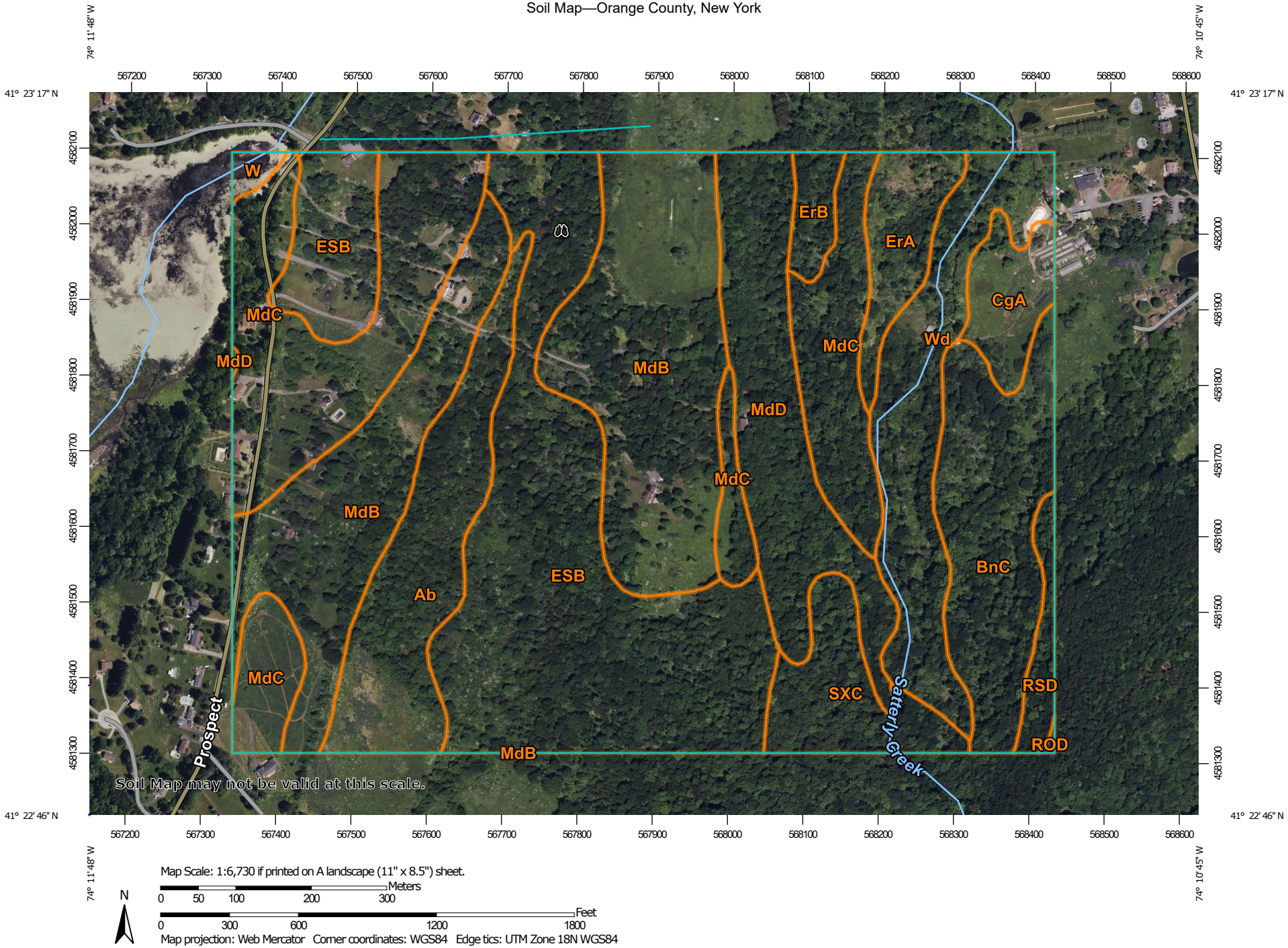
8. SUMMARY

8.1. General

Drainage from the proposed impervious surfaces will be collected by the proposed stormwater facility. The Soil Conservation Service TR-55 method has been utilized to evaluate the changes in stormwater runoff rates because of the proposed site development. The storm drainage system has been designed to collect and convey stormwater in a manner that would provide no increase in stormwater runoff rates downstream from the property. On-site retention, attenuation, and water quality treatment is necessary and has been provided to mitigate the increases in stormwater runoff rates and pollutants that would otherwise impact downstream conditions.

The construction activity on the site will therefore not result in additional pollutant loadings and post development runoff to downstream water bodies. The proposed erosion and sediment control practices will prevent the erosion and sediment deposits to downstream properties.

APPENDIX A



Map Scale: 1:6,730 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

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 1:15,800.

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: Orange County, New York
Survey Area Data: Version 24, Sep 6, 2023

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

Date(s) aerial images were photographed: May 31, 2022—Oct 27, 2022

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
Ab	Alden silt loam	15.4	7.2%
BnC	Bath-Nassau channery silt loams, 8 to 15 percent slopes	16.1	7.5%
CgA	Castile gravelly silt loam, 0 to 3 percent slopes	4.7	2.2%
ErA	Erie gravelly silt loam, 0 to 3 percent slopes	5.6	2.6%
ErB	Erie gravelly silt loam, 3 to 8 percent slopes	2.3	1.1%
ESB	Erie extremely stony soils, gently sloping	47.7	22.2%
MdB	Mardin gravelly silt loam, 3 to 8 percent slopes	43.9	20.4%
MdC	Mardin gravelly silt loam, 8 to 15 percent slopes	34.9	16.2%
MdD	Mardin gravelly silt loam, 15 to 25 percent slopes	17.3	8.0%
ROD	Rock outcrop-Hollis complex, 15 to 35 percent slopes	0.1	0.0%
RSD	Rock outcrop-Nassau complex, hilly	2.4	1.1%
SXC	Swartswood and Mardin soils, sloping, very stony	7.8	3.6%
W	Water	0.7	0.3%
Wd	Wayland soils complex, non-calcareous substratum, 0 to 3 percent slopes, frequently flooded	16.3	7.6%
Totals for Area of Interest		**215.2**	**100.0%**

Table 8: Soil hydrologic groups for New York soils.

HG = hydrologic group. For soils with a hydrologic group that consists of more than one letter (e.g. “A/B”, “B/C”, “C/D”), its hydrologic group is determined by the presence or absence of adequate artificial drainage. If the field is artificially drained the hydrologic group moves to the first of the two classes. If the field is inadequately drained or not drained at all, the second of the two classes is assigned.

Soil Type	HG
Acton	C
Adams	A
Adirondack	D
Adjidaumo	D
Adrian	A/D
Agawam	B
Albia	C
Albrights	C
Alden	D
Allagash	B
Allard	B
Allendale	D
Allis	D
Alluvial Land	C
Almond	C
Alps	C
Altmar	B
Alton	A
Amboy	C
Amenia	B
Angola	C
Appleton	C
Arkport	B
Armagh	D
Arnot	C/D
Ashville	D
Atherton	B
Atkins	D
Atsion	C
Au Gres	B
Aurelie	D
Aurora	C

Soil Type	HG
Barbour	B
Barcelona	C
Barre	D
Bash	C
Basher	B
Bath	C
Becket	C
Becraft	B
Belgrade	B
Benson	D
Berkshire	B
Bernardston	C
Berrien	C
Berryland	B
Beseman	A
Bice	B
Biddeford	D
Birdsall	D
Blasdell	A
Bombay	B
Bonaparte	A
Bono	D
Boots	A
Borosaprists	A/D
Boynton	D
Braceville	C
Brayton	C
Bridge-hampton	B
Bridport	D
Briggs	A
Brinkerton	D

Soil Type	HG
Broadalbin	C
Brockport	D
Brookfield	B
Buckland	C
Bucksport	D
Budd	B
Burdett	C
Burnham	D
Busti	C
Buxton	C
Cambria	D
Cambridge	C
Camillus	B
Camroden	C
Canaan	C
Canaan-Rock Outcrop	C
Canadice	D
Canandaigua	D
Canaseraga	C
Canastota	C
Caneadea	D
Canfield	C
Canton	B
Carbondale	A
Carlisle	A/D
Carrollton	C
Carver	A
Carver-Plymouth	A
Castile	B
Cathro	A

Soil Type	HG
Cathro-Greenwood	A
Cattaraugus	C
Cavode	C
Cayuga	C
Cazenovia	B
Ceresco	B
Chadakoin	B
Chagrin	B
Champlain	A
Charles	C
Charlton	B
Chatfield (E)	B
Chatfield (WE)	B
Chaumont	D
Chautauqua	C
Cheektowaga	D
Chenango	A
Cheshire	B
Chippeny	D
Chippewa	D
Churchville	D
Cicero	C
Clarkson	B
Claverack	C
Clymer	B
Cohoctah	B
Collamer	C
Colonie	A
Colosse	A
Colrain	A
Colton	A

Soil Type	HG
Colwood	D
Conesus	B
Conotton	A
Constable	A
Cook	D
Copake	B
Cornish	C
Cosad	C
Cossayuna	C
Covert	A
Coveytown	C
Covington	D
Crary	C
Croghan	B
Culvers	C
Dalbo	C
Dalton	C
Danley	C
Dannemora	D
Darien	C
Dawson	A
Deerfield	B
Deford	A
Dekalb	A
Depeyster	C
Deposit	B
Derb	C
Dixmont	C
Dorval	A
Dover	B
Duane	B
Dunkirk	B
Dutchess	B
Duxbury	A
Edwards	B
Eel	B
Eelweir	C
Elka	C
Ellery	D
Elmridge	C
Elmwood	C
Elnora	B

Soil Type	HG
Empeyville	C
Enfield	B
Ensley	B
Erie	C
Ernest	C
Essex	C
Fahey	B
Farmington	C
Farnham	C
Fernlake	A
Flackville	C
Fonda	D
Franklinville	B
Fredon	C
Freetown	D
Fremont	C
Frenchtown	D
Frewsburg	C
Fryeburg	B
Fulton	D
Gage	D
Galen	B
Galestown	A
Galoo	C
Galoo-Rock Outcrop	C
Galway	B
Genesee	B
Georgia	C
Getzville	D
Gilpen	C
Gilpin	C
Glebe	C
Glebe-Saddleback	C
Glendora	A/D
Glenfield	B
Gloucester	A
Glover	D
Gougeville	A
Granby	A/D
Grattan	A

Soil Type	HG
Greene	C
Greenwood	A
Grenville	B
Gretor	C
Groton	A
Groveton	A
Guff	D
Guffin	D
Gulf	B
Hadley	B
Haights	B
Haights-Gulf	B
Hailesboro	C
Halcott	C/D
Halsey	C/D
Hamlin	B
Hamplain	B
Hannawa	D
Hartland	B
Haven	B
Hawksnest	C/D
Hempstead	B
Henrietta	B
Herkimer	B
Hermon	A
Hero	B
Heuvelton	C
Hilton	B
Hinckley	A
Hinesburg	C
Hogansburg	B
Hogback	C
Hogback-Ricker	C
Holderton	B
Hollis	C
Holly	C/D
Holyoke	C
Holyoke-Rock Outcrop	C
Homer	B
Honeoye	B

Soil Type	HG
Hoosic	A
Hornell	D
Hornellsville	D
Houghtonville	C
Houghtonville-Rawson	C
Houseville	C
Howard	A
Hudson	C
Hulberton	C
Ilion	D
Insula	B
Ipswich	D
Ira	C
Ischua	B
Ivory	C
Jebavy	A
Joliet	D
Junius	C
Kalurah	B
Kanona	D
Kars	A
Kearsarge	B
Kendaia	C
Kibbie	B
Kingsbury	D
Kinzua	B
Knicker-bocker	A
Lackawanna	C
Lagross	A
Lagross-Haights	A
Lairdsville	D
Lakemont	D
Lakewood	A
Lamson	B/D
Lanesboro	C
Langford	C
Lansing	B
Leck Kill	B
Leicester	C

Soil Type	HG
Leon	C
Lewbath	C
Lewbeach	C
Leyden	C
Lima	B
Limerick	C
Linden	B
Linlithgo	B
Livingston	D
Lobdell	B
Lockport	D
Lorain	D
Lordstown	C
Lovewell	B
Lowville	B
Loxley	A
Lucas	C
Ludlow	C
Lupton	A
Lyman	C
Lyman-Becket-Berkshire	C
Lyme	C
Lyons	D
Machias	B
Macomber	C
Macomber-Taconic	C
Madalin	D
Madawaska	B
Madrid	B
Malone	C
Manahawkin	D
Mandy	C
Manheim	C
Manhoning	D
Manlius	C
Mansfield	D
Maplecrest	B
Marcy	D
Mardin	C

Soil Type	HG
Marilla	C
Markey	A/D
Marlow	C
Martisco	B
Massena	C
Matoon	D
Matunuck	D
Medihemists	A/D
Medina	B
Medomak	D
Melrose	C
Menlo	D
Mentor	B
Merrimac	A
Middlebrook	C
Middlebrook-Mongaup	C
Middlebury	B
Millis	C
Millsite	C
Mineola	A
Miner	D
Mino	C
Minoa	C
Mohawk	B
Moira	C
Monadnock	B
Monarda	D
Mongaup	C
Montauk	C
Mooers	B
Morocco	C
Morris	C
Mosherville	C
Muck	D
Muck-Peat	D
Mundal	C
Mundalite	C
Mundalite-Rawsonville	C
Munson	D
Munuscong	B

Soil Type	HG
Muskego	A/C
Muskellunge	D
Napoleon	A
Napoli	C
Nassau	C
Naumburg	C
Nehasne	B
Nellis	B
Neversink	D
Newfane	B
Newstead	C
Newton	A/D
Niagara	C
Nicholville	C
Ninigret	B
Norchip	D
Norwell	C
Norwich	D
Nunda	C
Oakville	A
Occum	B
Odessa	D
Ogdensburg	C
Olean	B
Ondawa	B
Oneida	C
Onoville	C
Ontario	B
Onteora	C
Ontusia	C
Oquaga	C
Oramel	C
Organic	A/D
Orpark	C
Orwell	D
Ossipee	D
Otego	B
Otisville	A
Ottawa	A
Ovid	C
Palatine	B
Palms	A/D

Soil Type	HG
Palmyra	B
Panton	D
Papakating	D
Parishville	C
Parsippany	D
Patchin	D
Pawcatuck	D
Pawling	B
Paxton	C
Peacham	D
Peat	A/D
Peat-Muck	A/D
Peru	C
Petoskey	A
Phelps	B
Philo	B
Pillsbury	C
Pinckney	C
Pipestone	B
Pittsfield	B
Pittstown	C
Plainbo	A
Plainfield	A
Plessis	D
Plymouth	A
Podunk	B
Poland	B
Pompton	B
Pootatuck	B
Pope	B
Potsdam	C
Poygan	D
Punsit	C
Pyrities	B
Quetico	D
Quetico-Rock Outcrop	D
Raquette	B
Rawsonville	C
Rawsonville-Beseman-Rayne	C
	B

Soil Type	HG
Raynham	C
Raypol	C
Red Hook	C
Redwater	B
Remsen	D
Retsof	C
Rexford	C
Rhinebeck	D
Ricker	A
Ricker-Lyman	A
Ridgebury	C
Rifle	A
Riga	D
Rippowam	C
Riverhead	B
Rockaway	C
Romulus	D
Ross	B
Roundabout	C
Rumney	C
Runeberg	C
Ruse	D
Rushford	B
Saco	D
Salamanca	B
Salmon	B
Saprists	A/D
Saugatuck	C
Scantic	D
Scarboro	D
Schoharie	C
Schroon	B
Schuyler	B
Scio	B
Scituate	B
Scriba	C
Searsport	D
Shaker	C
Shoreham	D

Soil Type	HG
Sisk	C
Skerry	C
Sloan	B
Sodus	C
Somerset	C
St Johns	D
Staatsburg	C
Stafford	C
Steamburg	B
Stetson	B
Stissing	C
Stockbridge	C
Stockholm	C
Stowe	B
Sudbury	B
Suffield	B
Summerville	D
Sun	D
Sunapee	B
Suncook	A
Suny	D
Surplus	C
Surplus-Sisk	C
Sutton	B
Swanton	C
Swartswood	C
Swormville	C
Taconic	C
Taconic-Macomber	C
Tawas	A
Teel	B
Tioga	B
Toledo	D
Tonawanda	D
Tor	D
Torull	D
Towerville	B
Trestle	B

Soil Type	HG
Trout River	A
Troy	C
Trumbull	D
Tughill	D
Tuller	D
Tunbridge	C
Tunbridge-Adirondack	C
Tunkhannock	A
Turin	C
Tuscarora	C
Unadilla	B
Valois	B
Varick	D
Varysburg	B
Venango	C
Vergennes	C
Vly	C
Volusia	C
Waddington	A
Wainola	B
Wakeland	C
Wakeville	B
Wallace	B
Wallington	C
Wallkill	C
Walpole	C
Walton	C
Wampsville	B
Wappinger	B
Wareham	C
Warners	C
Wassaic	B
Watchaug	B
Waumbeck	B
Wayland	C/D
Weaver	C
Wegatchie	D
Wellsboro	C

Soil Type	HG
Wenonah	C
Westbury	B
Westland	C
Wethersfield	C
Wharton	C
Whately	D
Whippany	C
Whitelaw	B
Whitman	D
Wilbraham	C
Willdin	C
Willette	A
Williamson	C
Willowemoc	C
Wilmington	D
Wilpoint	D
Windsor	A
Winooski	B
Wolcottsburg	D
Wonsqueak	D
Woodbridge	C
Woodlawn	B
Woodstock	D
Woodstock-Rock Outcrop	D
Wooster	C
Woostern	C
Woostern-Bath-Valois	C
Worden	C
Worth	C
Wurtsboro	C
Wyalusing	D
Yalesville	C
Yorkshire	C

APPENDIX B

LEGEND:

600	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING EDGE OF PAVEMENT
	EXISTING PROPERTY LINE
	EXISTING ADJACENT PROPERTY LINE
	EXISTING CHAINLINK FENCE
	EXISTING STONE WALL
	EXISTING UTILITY POLE
W	EXISTING WELL
	EXISTING 100 YEAR FLOOD ZONE
A1 A2	EXISTING WETLAND
	EXISTING STREAMS
Re	EXISTING SOIL
Tc	TIME OF CONCENTRATION
x DP1	STORMWATER DESIGN POINT

PRE DEVELOPMENT ANALYSIS

SCALE: 1"=100'

SCALE
100 0 50 100 200
SCALE FEET

REV.	BY	DATE	DESCRIPTION

THIS SHEET IS NOT VALID WITHOUT ALL OF THE SHEETS THAT COMPRISE THE SET

ARDEN CONSULTING ENGINEERS, PLLC
P.O. BOX 340 MONROE, N.Y.
TEL: (845) 782–8114
WWW.ARDENCONSULTING.NET

SUBDIVISION & SITE PLAN FOR
PROSPECT ACRES
VILLAGE OF SOUTH BLOOMING GROVE
ORANGE COUNTY, NY

PRE DEVELOPMENT ANALYSIS

STATE OF NEW YORK · MICHAEL A. MORGANTE · 078577 · LICENSED PROFESSIONAL ENGINEER

MICHAEL A. MORGANTE, P.E.
LIC. NO. 78577

JOB#: 22–033
SCALE: AS NOTED
DATE: 10–20–23
DRAWN: MM
CHECKED: MM
SHEET NO. 01 of 05

WATERSHED 2D
0.36 ACRES
15,685 SF
IMPERVIOUS AREA = 12,973 SF
GRASS AREA = 2,713 SF

WATERSHED 2E
0.35 ACRES
15,353 SF
IMPERVIOUS AREA = 11,119 SF
GRASS AREA = 4,235 SF

WATERSHED 2A
0.97 ACRES
42,098 SF
IMPERVIOUS AREA = 20,757 SF
GRASS AREA = 21,341 SF

WATERSHED 1I
0.89 ACRES
38,705 SF
IMPERVIOUS AREA = 27,287 SF
GRASS AREA =11,418 SF

WATERSHED 1H
1.00 ACRES
43,730 SF
IMPERVIOUS AREA = 30,531 SF
GRASS AREA = 13,199 SF

WATERSHED 1K
1.02 ACRES
44,314 SF
IMPERVIOUS AREA = 24,519 SF
GRASS AREA =19,795 SF

WATERSHED 1L
0.77 ACRES
33,451 SF
GRASS AREA = 2,956 SF
IMPERVIOUS AREA =30,494 SF

WATERSHED 2F
0.25 ACRES
11,106 SF
IMPERVIOUS AREA = 9,263 SF
GRASS AREA = 1,843 SF

WATERSHED 2C
0.32 ACRES
13,836 SF
IMPERVIOUS AREA = 11,973 SF
GRASS AREA = 1864 SF

WATERSHED 2B
1.03 ACRES
44,856 SF
IMPERVIOUS AREA = 21,587 SF
GRASS AREA = 23,269 SF

WATERSHED 1G
0.98 ACRES
42,702 SF
IMPERVIOUS AREA = 28,742 SF
GRASS AREA = 13,960 SF

WATERSHED 1F
0.99 ACRES
43,117 SF
IMPERVIOUS AREA = 40,039 SF
GRASS AREA = 3,077 SF

WATERSHED 1M
2.16 ACRES
94,290 SF
IMPERVIOUS AREA = 55,384 SF
GRASS AREA = 38,907 SF

WATERSHED 1E
0.79 ACRES
34,386 SF
IMPERVIOUS AREA = 24,048 SF
GRASS AREA = 10,338 SF

WATERSHED 1D
0.91 ACRES
39,753 SF
IMPERVIOUS AREA = 33,680 SF
GRASS AREA = 6,073 SF

WATERSHED 1N
1.19 ACRES
51,619 SF
IMPERVIOUS = 27,261 SF
GRASS AREA = 24,358 SF

WATERSHED 1B
1.71 ACRES
74,328 SF
IMPERVIOUS AREA = 8,125 SF
WOODEN AREA =64,273 SF
GRASS AREA =1,931 SF

WATERSHED 1A
6.50 ACRES
283,058 SF
WOODEN AREA = 46,593 SF
GRASS AREA =236,465 SF

WATERSHED 1C
26.54 ACRES
1,155,872 SF
IMPERVIOUS AREA = 18,161 SF
WOODEN AREA =1,137,712 SF

PROPOSED LEVEL SPREADER

PROPOSED LEVEL SPREADER

DP-2F,E,D,C

DP-1C,1A,B,D,E,F,G,H,I,K,L,M,N.

DP-1B,D,E,F,G,H,I,K,L,M,N.

DP-1A,B,D,E,F,G,H,I,K,L,M,N.

DP-1N

MATCH EG: 411.3±

MATCH EG: 419.2±

WOODEN FENCE (GENERALLY ALONG LINE)

WIRE FENCE (GENERALLY ALONG LINE)

N/F BHF, LLC FM 5655 LOT 12

N/F BHF, LLC FM 5655 LOT 27

N/F SIMPSON FM 5655 LOT 17

N/F JACOBOWITZ FM 5655 LOT 20 & 21

N/F JCJ HOMES LLC FM 5655 LOT 27

N/F GROVE GARDENS LLC FM 5655 LOT 28

N/F BLOOMING GROVE HOLDINGS, LLC

APPROXIMATE LOCATION 33' WIDE TELEPHONE / TELEGRAPH CABLE EASEMENT (UNDERGROUND) BOOK 1051, PAGE 604

CONSERVATION AREA 1,011,711 S.F 23.22 AC

CONSERVATION EASEMENT LINE

POTENTIAL WELLS

ESB

MdB

MdC

MdD

Ab

Wd

SXC

Br

496.00

499.00

SCALE
100 0 50 100 200
SCALE FEET

LEGEND:

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING EDGE OF PAVEMENT
- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING CHAINLINK FENCE
- EXISTING STONE WALL
- EXISTING UTILITY POLE
- EXISTING WELL
- EXISTING 100 YEAR FLOOD ZONE
- EXISTING WETLAND
- EXISTING STREAMS
- PROPOSED BUILDING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED SIDEWALK
- PROPOSED 8" C900 WATER MAIN
- PROPOSED 6" WATER LATERAL
- PROPOSED 6" SEWER LATERAL
- PROPOSED 8" SDR35 SANITARY SEWER
- PROPOSED DRAINAGE
- PROPOSED CLEANOUT
- PROPOSED CURB STOP
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SEWER MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED F.E.S
- PROPOSED CONSERVATION AREA
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- EXISTING SOIL
- TIME OF CONCENTRATION
- STORMWATER DESIGN POINT

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POST DEVELOPMENT ANALYSIS 01
SCALE: 1"=100'

REV.	BY	DATE	DESCRIPTION

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STATE OF NEW YORK · MICHAEL A. MORGANTE · 078577 · LICENSED PROFESSIONAL ENGINEER

MICHAEL A. MORGANTE, P.E.
LIC. NO. 78577

SUBDIVISION & SITE PLAN FOR
PROSPECT ACRES
VILLAGE OF SOUTH BLOOMING GROVE
ORANGE COUNTY, NY

POST DEVELOPMENT ANALYSIS 01

JOB#: 22-033
SCALE: AS NOTED
DATE: 10-20-23
DRAWN: MM
CHECKED: MM
SHEET NO. 01 of 05

LEGEND:

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING EDGE OF PAVEMENT
- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING CHAINLINK FENCE
- EXISTING STONE WALL
- EXISTING UTILITY POLE
- EXISTING WELL
- EXISTING 100 YEAR FLOOD ZONE
- EXISTING WETLAND
- EXISTING STREAMS
- PROPOSED BUILDING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED SIDEWALK
- PROPOSED 8" C900 WATER MAIN
- PROPOSED 6" WATER LATERAL
- PROPOSED 6" SEWER LATERAL
- PROPOSED 8" SDR35 SANITARY SEWER
- PROPOSED DRAINAGE
- PROPOSED CLEANOUT
- PROPOSED CURB STOP
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SEWER MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED F.E.S
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POST DEVELOPMENT ANALYSIS 02

SCALE: 1"=60'

SCALE
60 0 30 60 120
SCALE FEET

REV.	BY	DATE	DESCRIPTION

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MICHAEL A. MORGANTE
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078577

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SUBDIVISION & SITE PLAN FOR
PROSPECT ACRES
VILLAGE OF SOUTH BLOOMING GROVE
ORANGE COUNTY, NY

POST DEVELOPMENT ANALYSIS 02

JOB#:	22-033
SCALE:	AS NOTED
DATE:	10-20-23
DRAWN:	MM
CHECKED:	MM
SHEET NO.	03 of 05

MATCH LINE SEE SHEET 05

WATERSHED 1L
0.77 ACRES
33,451 SF
GRASS AREA = 2,957 SF
IMPERVIOUS AREA =30,494 SF

WATERSHED 1K
1.02 ACRES
44,314 SF
IMPERVIOUS AREA = 24,519 SF
GRASS AREA =19,795 SF

WATERSHED 1M
2.16 ACRES
94,290 SF
IMPERVIOUS AREA = 55,384 SF
GRASS AREA = 38,907 SF

WATERSHED 1C
26.54 ACRES
1,155,872 SF
IMPERVIOUS AREA = 18,161 SF
WOODEN AREA =1,137,712 SF

WATERSHED 1N
1.19 ACRES
51,619 SF
IMPERVIOUS = 27,261 SF
GRASS AREA = 24,358 SF

WATERSHED 1I
0.89 ACRES
38,705 SF
IMPERVIOUS AREA = 27,287 SF
GRASS AREA =11,418 SF

WATERSHED 1H
1.00 ACRES
43,730 SF
IMPERVIOUS AREA = 30,531 SF
GRASS AREA = 13,199 SF

WATERSHED 1G
0.98 ACRES
42,702 SF
IMPERVIOUS AREA = 28,742 SF
GRASS AREA = 13,960 SF

WATERSHED 2A
0.97 ACRES
42,098 SF
IMPERVIOUS AREA = 20,757 SF
GRASS AREA = 21,341 SF

WATERSHED 2B
0.23 ACRES
10,107 SF
IMPERVIOUS AREA = 9,841 SF
GRASS AREA = 266 SF

WATERSHED 2C
0.77 ACRES
33,448 SF
IMPERVIOUS AREA = 9,904 SF
GRASS AREA = 23,544 SF

WATERSHED 1F
0.99 ACRES
43,117 SF
IMPERVIOUS AREA = 40,040 SF
GRASS AREA = 3,077 SF

WATERSHED 1E
0.79 ACRES
34,386 SF
IMPERVIOUS AREA = 24,048 SF
GRASS AREA = 10,338 SF

WATERSHED 1D
0.91 ACRES
39,753 SF
IMPERVIOUS AREA = 33,680 SF
GRASS AREA = 6,073 SF

WATERSHED 1A
6.50 ACRES
283,058 SF
WOODEN AREA = 46,593 SF
GRASS AREA =283,058 SF

WATERSHED 1B
1.71 ACRES
74,328 SF
IMPERVIOUS AREA = 8,125 SF
WOODEN AREA =64,273 SF
GRASS AREA =1,930 SF

CB #16A RIM: 505.33 INV OUT: 502.58
CB #13A RIM: 509.61 INV OUT: 506.75
CB #14A RIM: 507.47 INV OUT: 504.70
CB #13 RIM: 509.61 INV IN: 500.83 INV IN: 506.08 INV OUT: 500.84
CB #16 RIM: 505.33 INV IN: 497.90 INV IN: 501.91 INV IN: 500.87 INV OUT: 497.91
CB #15 RIM: 506.53 INV IN: 498.74 INV OUT: 498.74
CB #14 RIM: 507.47 INV IN: 499.40 INV IN: 504.03 INV OUT: 499.40
CB #12A RIM: 511.86 INV OUT: 509.11
CB #12 RIM: 511.86 INV IN: 502.11 INV IN: 508.44 INV OUT: 502.11
CB #11 RIM: 513.61 INV IN: 510.19 INV IN: 503.12 INV OUT: 503.12
CB #11A RIM: 513.61 INV OUT: 510.86
CB #10 RIM: 512.54 INV IN: 505.37 INV IN: 509.84 INV OUT: 505.37
CB #10A RIM: 512.54 INV OUT: 510.18
CB #9A RIM: 512.39 INV OUT: 509.60
CB #9 RIM: 511.67 INV IN: 506.51 INV IN: 508.86 INV OUT: 506.51
CB #8A RIM: 521.24 INV OUT: 518.40
CB #8 RIM: 521.24 INV IN: 516.51 INV IN: 517.73 INV OUT: 516.51
CB #7A RIM: 528.74 INV OUT: 525.90
CB #7 RIM: 528.74 INV IN: 524.01 INV IN: 525.23 INV OUT: 524.01
CB #6A RIM: 536.24 INV OUT: 531.84
CB #6 RIM: 536.24 INV IN: 531.51 INV OUT: 531.51
F.E.S #6 INV IN: 491.53
F.E.S #5 INV IN: 496.13
OCS RIM: 506.00 INV OUT: 496.00
WET POND INV:496.00
OVERFLOW L=30' W=8' INV.=508.00
OVERFLOW L=30' W=8' INV.=508.00
INV:496.00
INV:499.00
RIP RAP
RIP RAP
CONSERVATION AREA LIMITS
WATER TREATMENT BUILDING
CURB STOP T.Y.P
CLEANOUT T.Y.P
FIRE HYDRANT
PROPOSED LEVEL SPREADER
PROPOSED LEVEL SPREADER
MAINTENANCE ROAD
MAINTENANCE ROAD
MAINTENANCE ROAD
WIRE FENCE GENERALLY ALONG LINE

143 LF 30" ø HDPE @ 1.01%
67 LF 30" ø HDPE @ 1.00%
33 LF 15" ø HDPE @ 2.00%
33 LF 15" ø HDPE @ 2.00%
178 LF 36" ø HDPE @ 1.00%
132 LF 24" ø HDPE @ 3.40%
33 LF 15" ø HDPE @ 2.00%
128 LF 30" ø HDPE @ 1.00%
34 LF 15" ø HDPE @ 2.00%
34 LF 15" ø HDPE @ 2.00%
101 LF 30" ø HDPE @ 1.00%
83 LF 36" ø HDPE @ 1.01%
225 LF 30" ø HDPE @ 1.00%
114 LF 30" ø HDPE @ 1.00%
33 LF 15" ø HDPE @ 2.00%
250 LF 15" ø HDPE @ 3.00%
250 LF 15" ø HDPE @ 3.00%
33 LF 15" ø HDPE @ 2.00%
33 LF 15" ø HDPE @ 1.00%
250 LF 24" ø HDPE @ 4.00%

R100'
R200'
R100'
R200'
R200'

MATCH LINE SEE SHEET 03

POST DEVELOPMENT ANALYSIS 03
SCALE: 1"=60'

LEGEND:

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING EDGE OF PAVEMENT
- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING CHAINLINK FENCE
- EXISTING STONE WALL
- EXISTING UTILITY POLE
- EXISTING WELL
- EXISTING 100 YEAR FLOOD ZONE
- EXISTING WETLAND
- EXISTING STREAMS
- PROPOSED BUILDING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED SIDEWALK
- PROPOSED 8" C900 WATER MAIN
- PROPOSED 6" WATER LATERAL
- PROPOSED 6" SEWER LATERAL
- PROPOSED 8" SDR35 SANITARY SEWER
- PROPOSED DRAINAGE
- PROPOSED CLEANOUT
- PROPOSED CURB STOP
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SEWER MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED F.E.S
- PROPOSED CONSERVATION AREA
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- EXISTING SOIL
- TIME OF CONCENTRATION
- STORMWATER DESIGN POINT

REV.	BY	DATE	DESCRIPTION

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ORANGE COUNTY, NY

POST DEVELOPMENT ANALYSIS 03

JOB#: 22-033
SCALE: AS NOTED
DATE: 10-20-23
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SCALE
60 0 30 60 120
SCALE FEET

MATCH LINE SEE SHEET 04

LEGEND:

600	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING EDGE OF PAVEMENT
	EXISTING PROPERTY LINE
	EXISTING ADJACENT PROPERTY LINE
	EXISTING CHAINLINK FENCE
	EXISTING STONE WALL
	EXISTING UTILITY POLE
W	EXISTING WELL
	EXISTING 100 YEAR FLOOD ZONE
A1 A2	EXISTING WETLAND
	EXISTING STREAMS
	PROPOSED BUILDING
	PROPOSED EDGE OF PAVEMENT
	PROPOSED SIDEWALK

LEGEND:

8"W 8"W	PROPOSED 8" C900 WATER MAIN
6"W 6"W	PROPOSED 6" WATER LATERAL
6"S	PROPOSED 6" SEWER LATERAL
8"S	PROPOSED 8" SDR35 SANITARY SEWER
	PROPOSED DRAINAGE
	PROPOSED CLEANOUT
	PROPOSED CURB STOP
	PROPOSED WATER VALVE
	PROPOSED FIRE HYDRANT
S	PROPOSED SEWER MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED F.E.S
	PROPOSED CONSERVATION AREA
520	PROPOSED MAJOR CONTOURS
522	PROPOSED MINOR CONTOURS
Re	EXISTING SOIL
Tc	TIME OF CONCENTRATION
x DP1	STORMWATER DESIGN POINT

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POST DEVELOPMENT ANALYSIS 04

SCALE: 1"=60'

SCALE
60 0 30 60 120
SCALE FEET

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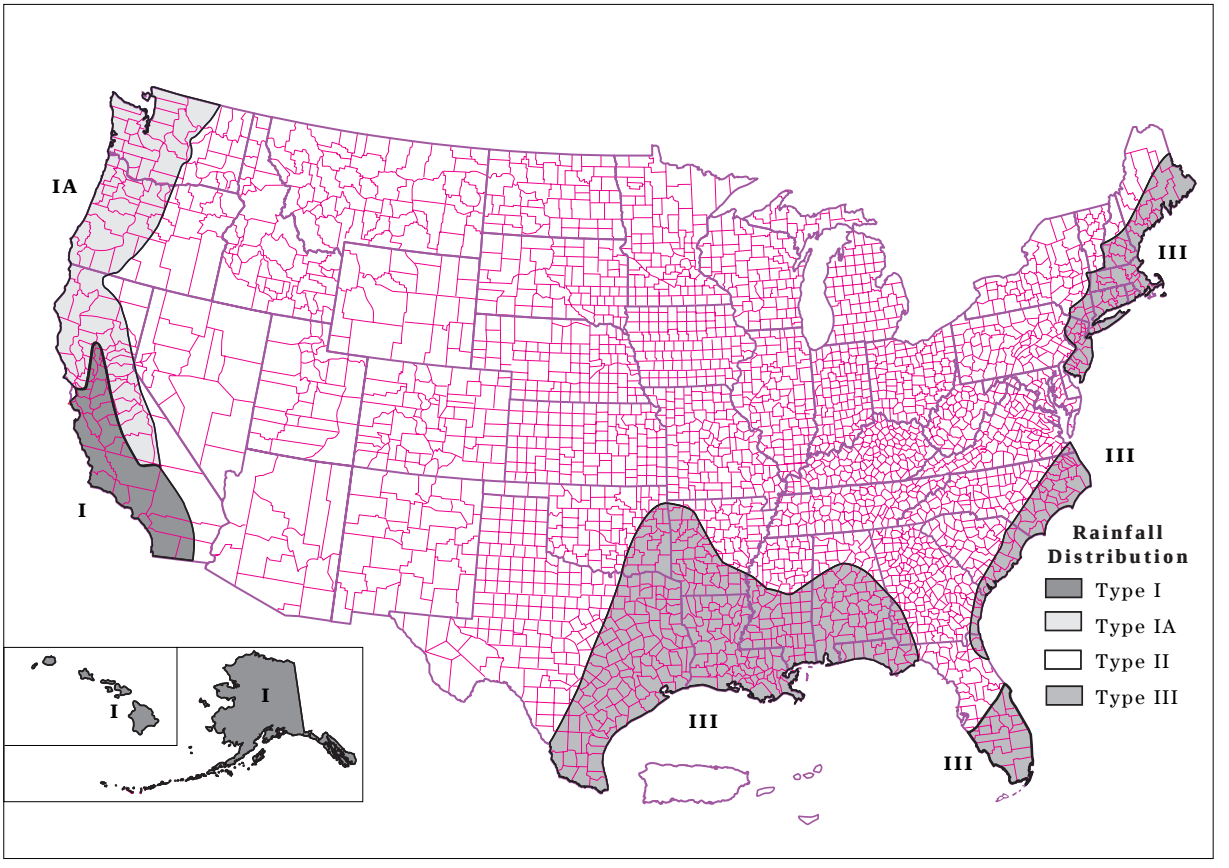
PROSPECT ACRES
VILLAGE OF SOUTH BLOOMING GROVE
ORANGE COUNTY, NY

POST DEVELOPMENT ANALYSIS 04

JOB#: 22-033
SCALE: AS NOTED
DATE: 10-20-23
DRAWN: MM
CHECKED: MM
SHEET NO. 05 of 05

Figure B-2 Approximate geographic boundaries for NRCS (SCS) rainfall distributions



Rainfall data sources

This section lists the most current 24-hour rainfall data published by the National Weather Service (NWS) for various parts of the country. Because NWS Technical Paper 40 (TP-40) is out of print, the 24-hour rainfall maps for areas east of the 105th meridian are included here as figures B-3 through B-8. For the area generally west of the 105th meridian, TP-40 has been superseded by NOAA Atlas 2, the Precipitation-Frequency Atlas of the Western United States, published by the National Ocean and Atmospheric Administration.

East of 105th meridian

Hershfield, D.M. 1961. Rainfall frequency atlas of the United States for durations from 30 minutes to 24 hours and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 40. Washington, DC. 155 p.

West of 105th meridian

Miller, J.F., R.H. Frederick, and R.J. Tracey. 1973. Precipitation-frequency atlas of the Western United States. Vol. I Montana; Vol. II, Wyoming; Vol III, Colorado; Vol. IV, New Mexico; Vol V, Idaho; Vol. VI, Utah; Vol. VII, Nevada; Vol. VIII, Arizona; Vol. IX, Washington; Vol. X, Oregon; Vol. XI, California. U.S. Dept. of Commerce, National Weather Service, NOAA Atlas 2. Silver Spring, MD.

Alaska

Miller, John F. 1963. Probable maximum precipitation and rainfall-frequency data for Alaska for areas to 400 square miles, durations to 24 hours and return periods from 1 to 100 years. U.S. Dept. of Commerce, Weather Bur. Tech. Pap. No. 47. Washington, DC. 69 p.

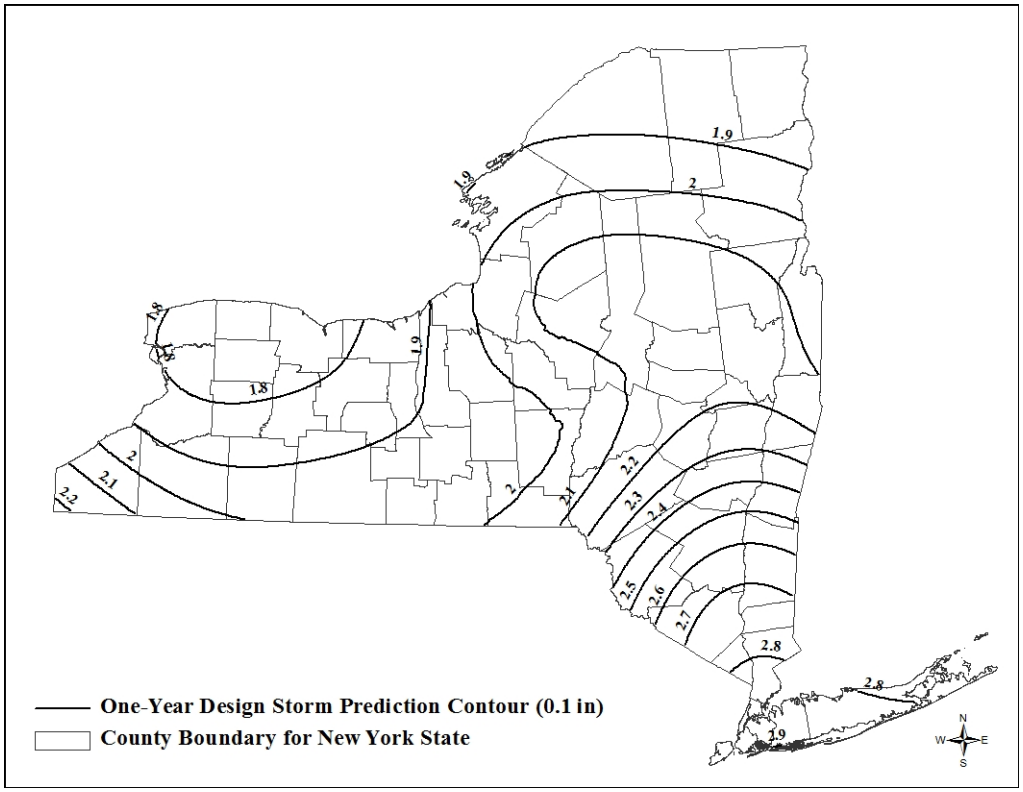
Hawaii

Weather Bureau. 1962. Rainfall-frequency atlas of the Hawaiian Islands for areas to 200 square miles, durations to 24 hours and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 43. Washington, DC. 60 p.

Puerto Rico and Virgin Islands

Weather Bureau. 1961. Generalized estimates of probable maximum precipitation and rainfall-frequency data for Puerto Rico and Virgin Islands for areas to 400 square miles, durations to 24 hours, and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 42. Washington, DC. 94 P.

Figure 4.2: One-Year Design Storm in New York State (NYSDEC, 2013)



Section 4.5 Overbank Flood Control Criteria (Q_p)

The primary purpose of the overbank flood control sizing criterion is to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by urban development (i.e., flow events that exceed the bankfull capacity of the channel, and therefore must spill over into the floodplain).

Overbank control requires storage to attenuate the post development 10-year, 24-hour peak discharge rate (Q_p) to predevelopment rates.

The overbank flood control requirement (Q_p) does not apply in certain conditions, including:

- The site discharges directly tidal waters or fifth order (fifth downstream) or larger streams. Refer to Section 4.3 for instructions.
- A downstream analysis reveals that overbank control is not needed (see section 4.10).

Basis for Design of Overbank Flood Control

When addressing the overbank flooding design criteria, the following represent the minimum basis for design:

- TR-55 and TR-20 (or approved equivalent) will be used to determine peak discharge rates.

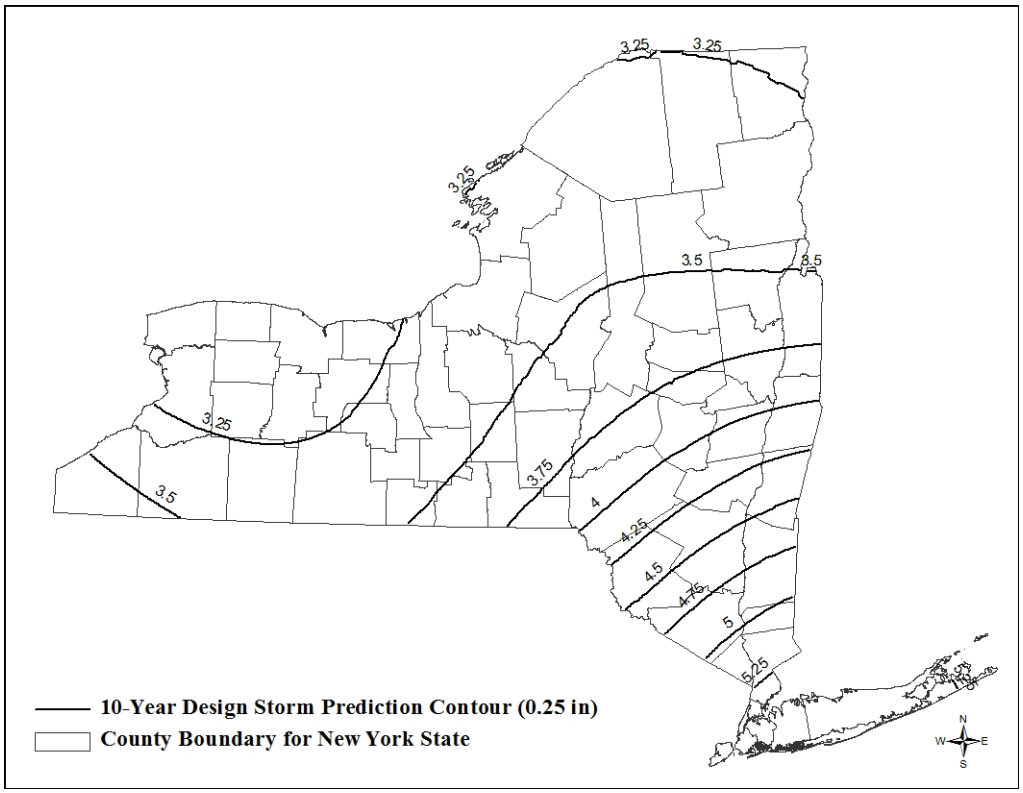
- When the predevelopment land use is agriculture, the curve number for the pre-developed condition shall be “taken as meadow”.

- Off-site areas should be modeled as "present condition" for the 10-year storm event.

- Figure 4.3 indicates the depth of rainfall (24 hour) associated with the 10-year storm event throughout the State of New York.

- The length of overland flow used in t_c calculations is limited to no more than 150 feet for predevelopment conditions and 100 feet for post development conditions. On areas of extremely flat terrain (<1% average slope), this maximum distance is extended to 250 feet for predevelopment conditions and 150 feet for post development conditions.

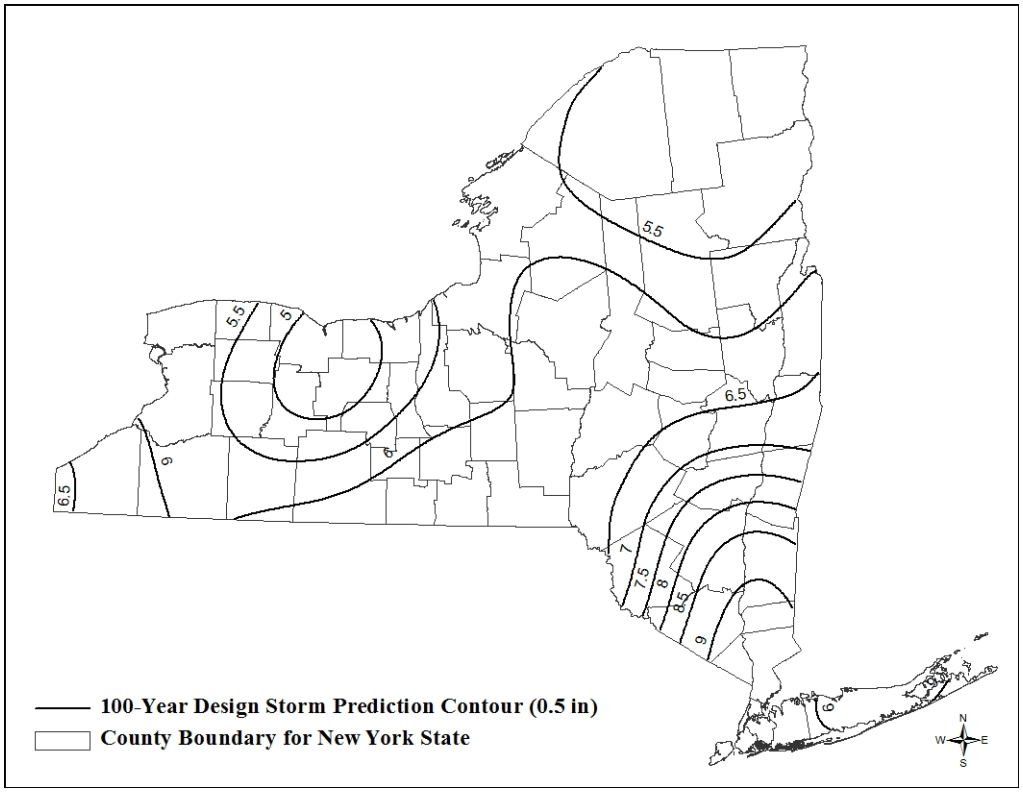
Figure 4.3: Ten-Year Design Storm in New York State (NYSDEC, 2013)



- When determining the storage required to reduce 100-year flood peaks, model off-site areas under current conditions.

- When determining storage required to safely pass the 100-year flood, model off-site areas under ultimate conditions.

Figure 4.4: One Hundred-Year Design Storm in New York State (NYSDEC, 2013)



Section 4.7 Alternative Method

New development causes changes to runoff volume, flow rates, timing of runoff and, most importantly, habitat destruction and degradation of the physical and chemical quality of the receiving waterbody. Traditionally, event based design storms are used for evaluation of hydrology and sizing of stormwater management practices. With an increasing need for assessment of the long term effects of development and maintenance of pre-development hydrology, the necessity of continuous simulation modeling as an effective tool for analysis and evaluation of flow-duration, downstream quality, quantity, biological, and hydro-habitat sustainability has been acknowledged.

Planning

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

Version 1.8
Last Updated: 11/09/2015

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

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

Design Point:	1		*Manually enter P, Total Area and Impervious Cover.*
P=	1.40	*inch*	

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	48.64	9.97	20%	0.23	57,960	
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	48.64	9.97	20%	0.23	**57,960**	**Subtotal 1**
Total	48.64	9.97	20%	0.23	**57,960**	**Initial WQv**

Identify Runoff Reduction Techniques By Area

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

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*
"<<Initial WQv"	48.64	9.97	20%	0.23	57,960
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	**48.64**	**9.97**	20%	0.23	57,960
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	48.64	9.97	20%	0.23	**57,960**
WQv reduced by Area Reduction techniques					0

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	**1**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	48.64	9.97	0.20	0.23	57960.21	1.40	
Enter Impervious Area Reduced by Disconnection of Rooftops			20%	0.23	57,960	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information			
Soil Group	D		
Soil Infiltration Rate	0.25	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		57,960	*ft^3*	
Enter Depth of Soil Media	*df*	14	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	5	*days*	
Required Filter Area	***Af***	**22385**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	83	*ft*	
Filter Length	272	*ft*	
Filter Area	22576	*ft^2*	
Actual Volume Provided	58456	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		Yes	Select Practice	Other/Standard SMP
RRv	23,382			
RRv applied	**23,382**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	0	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	34,578	*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C	48.44	30%
D	**0.20**	20%
Total Area	48.64	

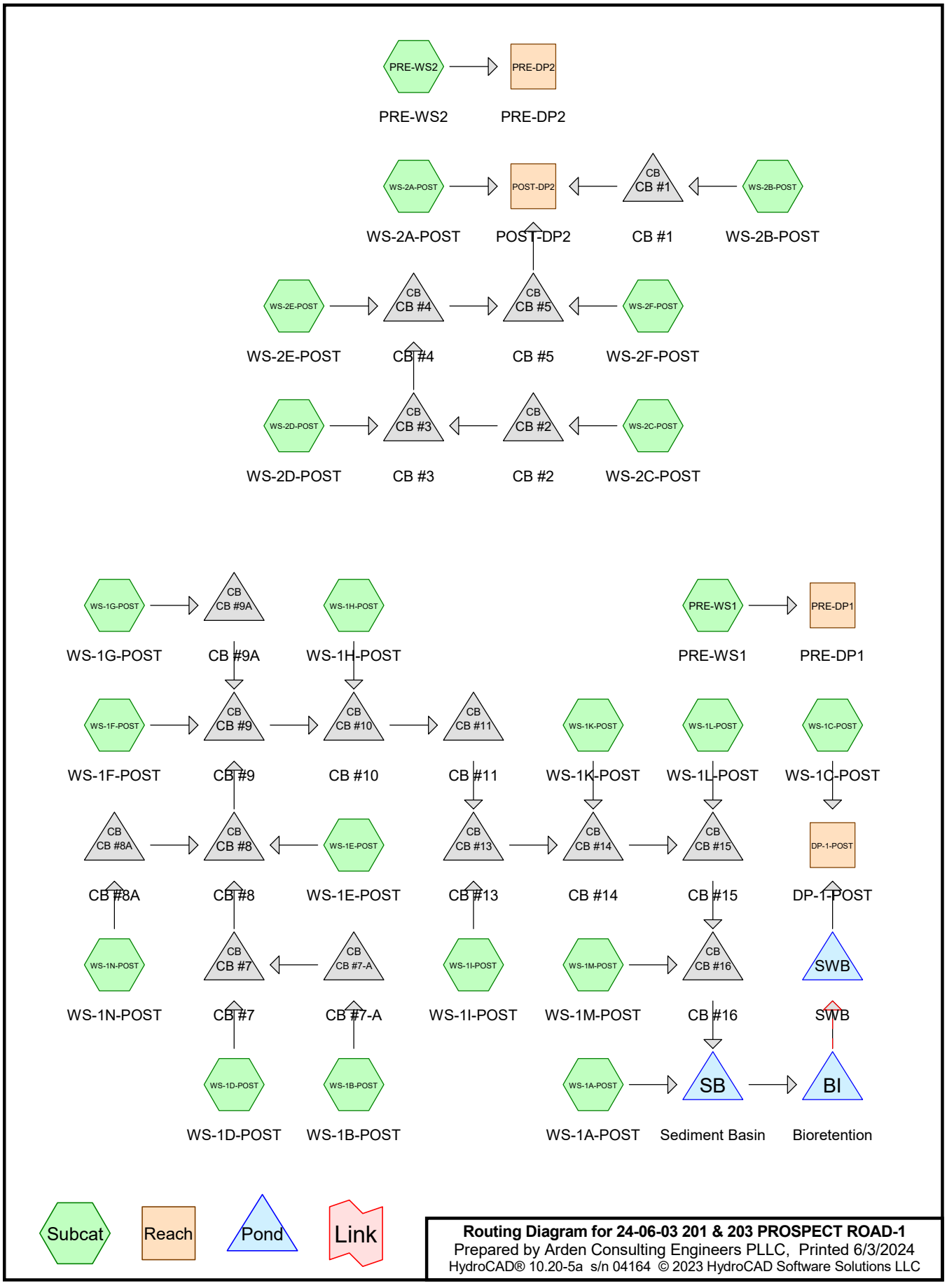
Calculate the Minimum RRv		
S =	**0.30**	
Impervious =	9.97	*acre*
Precipitation	1.4	*in*
Rv	0.95	
Minimum RRv	**14,420**	***ft3***
	0.33	af

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**cf**	**cf**
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4				
	Bioretention & Infiltration Bioretention	F-5	48.64	9.97	23382	23382
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3	47.42	8.00		70200
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			0.00	0.00	0	
Totals by Volume Reduction →			0.00	0.00	0	
Totals by Standard SMP w/RRV →			48.64	9.97	23382	23382
Totals by Standard SMP →			47.42	8.00		70200
Totals (Area + Volume + all SMPs) →			96.06	17.97	23,382	93,582
	Impervious Cover √	error				
	Total Area √	error				

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	57960	*1.331*
30	Total RRV Provided	23382	*0.537*
31	Is RRv Provided ≥WQv Required?	No	
32	Minimum RRv	14420	*0.331*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated	93582	*2.148*
34	Sum of Volume Reduced & Treated	116964	*2.685*
34	Sum of Volume Reduced and Treated	116964	*2.685*
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?	Yes	

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



Routing Diagram for 24-06-03 201 & 203 PROSPECT ROAD-1
Prepared by Arden Consulting Engineers PLLC, Printed 6/3/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.014	79	50-75% Grass cover, Fair, HSG C (WS-1B-POST, WS-1D-POST, WS-1E-POST, WS-1F-POST, WS-1K-POST, WS-1L-POST)
0.517	39	>75% Grass cover, Good, HSG A (WS-2A-POST, WS-2B-POST, WS-2C-POST)
8.752	74	>75% Grass cover, Good, HSG C (PRE-WS1, PRE-WS2, WS-1G-POST, WS-1H-POST, WS-1I-POST, WS-1M-POST, WS-2B-POST, WS-2C-POST, WS-2D-POST, WS-2E-POST, WS-2F-POST)
10.650	98	Paved parking, HSG A (WS-1A-POST, WS-1I-POST, WS-1K-POST, WS-1L-POST, WS-1M-POST, WS-1N-POST, WS-2A-POST, WS-2C-POST, WS-2D-POST, WS-2E-POST, WS-2F-POST)
6.297	98	Paved parking, HSG C (PRE-WS1, PRE-WS2, WS-1B-POST, WS-1C-POST, WS-1D-POST, WS-1E-POST, WS-1F-POST, WS-1G-POST, WS-1H-POST, WS-2B-POST)
1.070	73	Woods, Fair, HSG C (WS-1A-POST)
68.157	70	Woods, Good, HSG C (PRE-WS1, PRE-WS2, WS-1C-POST, WS-1N-POST)
0.181	45	Woods, Poor, HSG A (PRE-WS2)
1.476	77	Woods, Poor, HSG C (WS-1B-POST)
98.112	**75**	**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	1.014	0.000	0.000	1.014	50-75% Grass cover, Fair	WS-1B-POST, WS-1D-POST, WS-1E-POST, WS-1F-POST, WS-1K-POST, WS-1L-POST
0.517	0.000	8.752	0.000	0.000	9.268	>75% Grass cover, Good	PRE-WS1, PRE-WS2, WS-1G-POST, WS-1H-POST, WS-1I-POST, WS-1M-POST, WS-2A-POST, WS-2B-POST, WS-2C-POST, WS-2D-POST, WS-2E-POST, WS-2F-POST
10.650	0.000	6.297	0.000	0.000	16.947	Paved parking	PRE-WS1, PRE-WS2, WS-1A-POST, WS-1B-POST, WS-1C-POST,

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	1.070	0.000	0.000	1.070	Woods, Fair	WS-1A-POST
0.000	0.000	68.157	0.000	0.000	68.157	Woods, Good	PRE-WS1, PRE-WS2, WS-1C-POST, WS-1N-POST
0.181	0.000	1.476	0.000	0.000	1.657	Woods, Poor	PRE-WS2, WS-1B-POST
11.347	**0.000**	**86.765**	**0.000**	**0.000**	**98.112**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	BI	496.87	496.00	87.0	0.0100	0.012	0.0	15.0	0.0	
2	CB #1	488.77	488.64	27.0	0.0048	0.012	0.0	15.0	0.0	
3	CB #1	488.77	488.64	27.0	0.0048	0.012	0.0	15.0	0.0	
4	CB #1	488.77	488.64	27.0	0.0048	0.012	0.0	15.0	0.0	
5	CB #10	505.37	503.12	225.0	0.0100	0.012	0.0	30.0	0.0	
6	CB #11	503.12	500.83	229.0	0.0100	0.012	0.0	30.0	0.0	
7	CB #13	500.83	499.40	143.0	0.0100	0.012	0.0	30.0	0.0	
8	CB #14	499.40	498.74	67.0	0.0099	0.012	0.0	30.0	0.0	
9	CB #15	498.74	497.91	83.0	0.0100	0.012	0.0	36.0	0.0	
10	CB #16	497.91	496.13	178.0	0.0100	0.012	0.0	36.0	0.0	
11	CB #2	473.40	443.40	300.0	0.1000	0.012	0.0	24.0	0.0	
12	CB #3	443.40	420.90	250.0	0.0900	0.012	0.0	15.0	0.0	
13	CB #4	420.90	410.90	250.0	0.0400	0.012	0.0	18.0	0.0	
14	CB #5	410.88	410.34	54.0	0.0100	0.012	0.0	24.0	0.0	
15	CB #7	524.01	516.51	250.0	0.0300	0.012	0.0	15.0	0.0	
16	CB #7-A	525.90	525.24	33.0	0.0200	0.012	0.0	15.0	0.0	
17	CB #8	516.51	506.51	250.0	0.0400	0.012	0.0	24.0	0.0	
18	CB #8A	518.40	517.74	33.0	0.0200	0.012	0.0	15.0	0.0	
19	CB #9	506.51	505.37	114.0	0.0100	0.012	0.0	30.0	0.0	
20	CB #9A	509.60	508.86	37.0	0.0200	0.012	0.0	15.0	0.0	
21	SWB	496.00	491.53	132.0	0.0339	0.012	0.0	36.0	0.0	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRE-WS1: PRE-WS1 Runoff Area=1,644,711 sf 1.37% Impervious Runoff Depth>0.52"
Flow Length=1,329' Tc=45.2 min CN=71 Runoff=10.29 cfs 1.639 af

Subcatchment PRE-WS2: PRE-WS2 Runoff Area=510,563 sf 9.18% Impervious Runoff Depth>0.56"
Flow Length=1,248' Tc=47.0 min CN=72 Runoff=3.42 cfs 0.546 af

Subcatchment WS-1A-POST: Runoff Area=283,058 sf 83.54% Impervious Runoff Depth>1.94"
Flow Length=489' Tc=13.5 min CN=94 Runoff=11.92 cfs 1.052 af

Subcatchment WS-1B-POST: WS-1B-POST Runoff Area=74,328 sf 10.93% Impervious Runoff Depth>0.89"
Flow Length=550' Tc=24.0 min CN=79 Runoff=1.17 cfs 0.126 af

Subcatchment WS-1C-POST: Runoff Area=1,155,873 sf 1.57% Impervious Runoff Depth>0.49"
Flow Length=1,294' Tc=26.8 min CN=70 Runoff=8.43 cfs 1.081 af

Subcatchment WS-1D-POST: WS-1D-POST Runoff Area=39,753 sf 84.72% Impervious Runoff Depth>2.04"
Flow Length=409' Tc=6.0 min CN=95 Runoff=2.16 cfs 0.155 af

Subcatchment WS-1E-POST: WS-1E-POST Runoff Area=34,386 sf 69.94% Impervious Runoff Depth>1.77"
Flow Length=550' Tc=13.2 min CN=92 Runoff=1.35 cfs 0.116 af

Subcatchment WS-1F-POST: WS-1F-POST Runoff Area=43,116 sf 92.86% Impervious Runoff Depth>2.23"
Flow Length=395' Tc=6.0 min CN=97 Runoff=2.47 cfs 0.184 af

Subcatchment WS-1G-POST: WS-1G-POST Runoff Area=42,702 sf 67.31% Impervious Runoff Depth>1.60"
Flow Length=446' Tc=18.7 min CN=90 Runoff=1.36 cfs 0.131 af

Subcatchment WS-1H-POST: WS-1H-POST Runoff Area=43,730 sf 69.82% Impervious Runoff Depth>1.68"
Flow Length=253' Tc=10.4 min CN=91 Runoff=1.79 cfs 0.141 af

Subcatchment WS-1I-POST: WS-1I-POST Runoff Area=38,705 sf 70.50% Impervious Runoff Depth>1.68"
Flow Length=427' Tc=6.0 min CN=91 Runoff=1.81 cfs 0.125 af

Subcatchment WS-1K-POST: WS-1K-POST Runoff Area=44,314 sf 55.33% Impervious Runoff Depth>1.60"
Flow Length=382' Tc=6.7 min CN=90 Runoff=1.95 cfs 0.136 af

Subcatchment WS-1L-POST: WS-1L-POST Runoff Area=33,451 sf 91.16% Impervious Runoff Depth>2.13"
Flow Length=417' Tc=6.0 min CN=96 Runoff=1.87 cfs 0.136 af

Subcatchment WS-1M-POST: WS-1M-POST Runoff Area=94,291 sf 58.74% Impervious Runoff Depth>1.45"
Flow Length=462' Tc=7.4 min CN=88 Runoff=3.71 cfs 0.262 af

Subcatchment WS-1N-POST: WS-1N-POST Runoff Area=51,619 sf 52.81% Impervious Runoff Depth>1.24"
Flow Length=525' Tc=6.0 min CN=85 Runoff=1.82 cfs 0.123 af

Subcatchment WS-2A-POST: WS-2A-POST Runoff Area=42,098 sf 49.31% Impervious Runoff Depth>0.42"
Tc=6.0 min CN=68 Runoff=0.41 cfs 0.034 af

Subcatchment WS-2B-POST: WS-2B-POST Runoff Area=44,956 sf 48.02% Impervious Runoff Depth>1.23"
Flow Length=1,111' Tc=27.3 min CN=85 Runoff=0.95 cfs 0.106 af

Subcatchment WS-2C-POST: WS-2C-POST Runoff Area=13,660 sf 86.33% Impervious Runoff Depth>1.86"
Tc=6.0 min CN=93 Runoff=0.69 cfs 0.049 af

Subcatchment WS-2D-POST: WS-2D-POST Runoff Area=11,996 sf 79.78% Impervious Runoff Depth>1.86"
Tc=6.0 min CN=93 Runoff=0.61 cfs 0.043 af

Subcatchment WS-2E-POST: WS-2E-POST Runoff Area=15,354 sf 72.42% Impervious Runoff Depth>1.68"
Tc=6.0 min CN=91 Runoff=0.72 cfs 0.049 af

Subcatchment WS-2F-POST: WS-2F-POST Runoff Area=11,106 sf 83.41% Impervious Runoff Depth>1.95"
Tc=6.0 min CN=94 Runoff=0.58 cfs 0.041 af

Reach DP-1-POST: DP-1-POST Inflow=8.43 cfs 1.081 af
Outflow=8.43 cfs 1.081 af

Reach POST-DP2: POST-DP2 Inflow=3.41 cfs 0.322 af
Outflow=3.41 cfs 0.322 af

Reach PRE-DP1: PRE-DP1 Inflow=10.29 cfs 1.639 af
Outflow=10.29 cfs 1.639 af

Reach PRE-DP2: PRE-DP2 Inflow=3.42 cfs 0.546 af
Outflow=3.42 cfs 0.546 af

Pond BI: Bioretention Peak Elev=499.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond CB #1: CB #1 Peak Elev=489.07' Inflow=0.95 cfs 0.106 af
Outflow=0.95 cfs 0.106 af

Pond CB #10: CB #10 Peak Elev=506.71' Inflow=10.61 cfs 0.975 af
30.0" Round Culvert n=0.012 L=225.0' S=0.0100 '/' Outflow=10.61 cfs 0.975 af

Pond CB #11: CB #11 Peak Elev=504.46' Inflow=10.61 cfs 0.975 af
30.0" Round Culvert n=0.012 L=229.0' S=0.0100 '/' Outflow=10.61 cfs 0.975 af

Pond CB #13: CB #13 Peak Elev=502.30' Inflow=12.39 cfs 1.099 af
30.0" Round Culvert n=0.012 L=143.0' S=0.0100 '/' Outflow=12.39 cfs 1.099 af

Pond CB #14: CB #14 Peak Elev=501.07' Inflow=14.33 cfs 1.235 af
30.0" Round Culvert n=0.012 L=67.0' S=0.0099 '/' Outflow=14.33 cfs 1.235 af

Pond CB #15: CB #15 Peak Elev=500.34' Inflow=16.17 cfs 1.372 af
36.0" Round Culvert n=0.012 L=83.0' S=0.0100 '/' Outflow=16.17 cfs 1.372 af

Pond CB #16: CB #16 Peak Elev=499.69' Inflow=19.88 cfs 1.634 af
36.0" Round Culvert n=0.012 L=178.0' S=0.0100 '/' Outflow=19.88 cfs 1.634 af

Pond CB #2: CB #2 Peak Elev=473.74' Inflow=0.69 cfs 0.049 af
24.0" Round Culvert n=0.012 L=300.0' S=0.1000 '/' Outflow=0.69 cfs 0.049 af

Pond CB #3: CB #3 Peak Elev=443.95' Inflow=1.30 cfs 0.091 af
15.0" Round Culvert n=0.012 L=250.0' S=0.0900 '/' Outflow=1.30 cfs 0.091 af

Pond CB #4: CB #4 Peak Elev=421.55' Inflow=2.02 cfs 0.141 af
18.0" Round Culvert n=0.012 L=250.0' S=0.0400 '/' Outflow=2.02 cfs 0.141 af

Pond CB #5: CB #5 Peak Elev=411.56' Inflow=2.60 cfs 0.182 af
24.0" Round Culvert n=0.012 L=54.0' S=0.0100 '/' Outflow=2.60 cfs 0.182 af

Pond CB #7: CB #7 Peak Elev=524.83' Inflow=2.65 cfs 0.281 af
15.0" Round Culvert n=0.012 L=250.0' S=0.0300 '/' Outflow=2.65 cfs 0.281 af

Pond CB #7-A: CB #7-A Peak Elev=526.42' Inflow=1.17 cfs 0.126 af
15.0" Round Culvert n=0.012 L=33.0' S=0.0200 '/' Outflow=1.17 cfs 0.126 af

Pond CB #8: CB #8 Peak Elev=517.54' Inflow=5.60 cfs 0.520 af
24.0" Round Culvert n=0.012 L=250.0' S=0.0400 '/' Outflow=5.60 cfs 0.520 af

Pond CB #8A: CB #8A Peak Elev=519.06' Inflow=1.82 cfs 0.123 af
15.0" Round Culvert n=0.012 L=33.0' S=0.0200 '/' Outflow=1.82 cfs 0.123 af

Pond CB #9: CB #9 Peak Elev=507.73' Inflow=8.92 cfs 0.834 af
30.0" Round Culvert n=0.012 L=114.0' S=0.0100 '/' Outflow=8.92 cfs 0.834 af

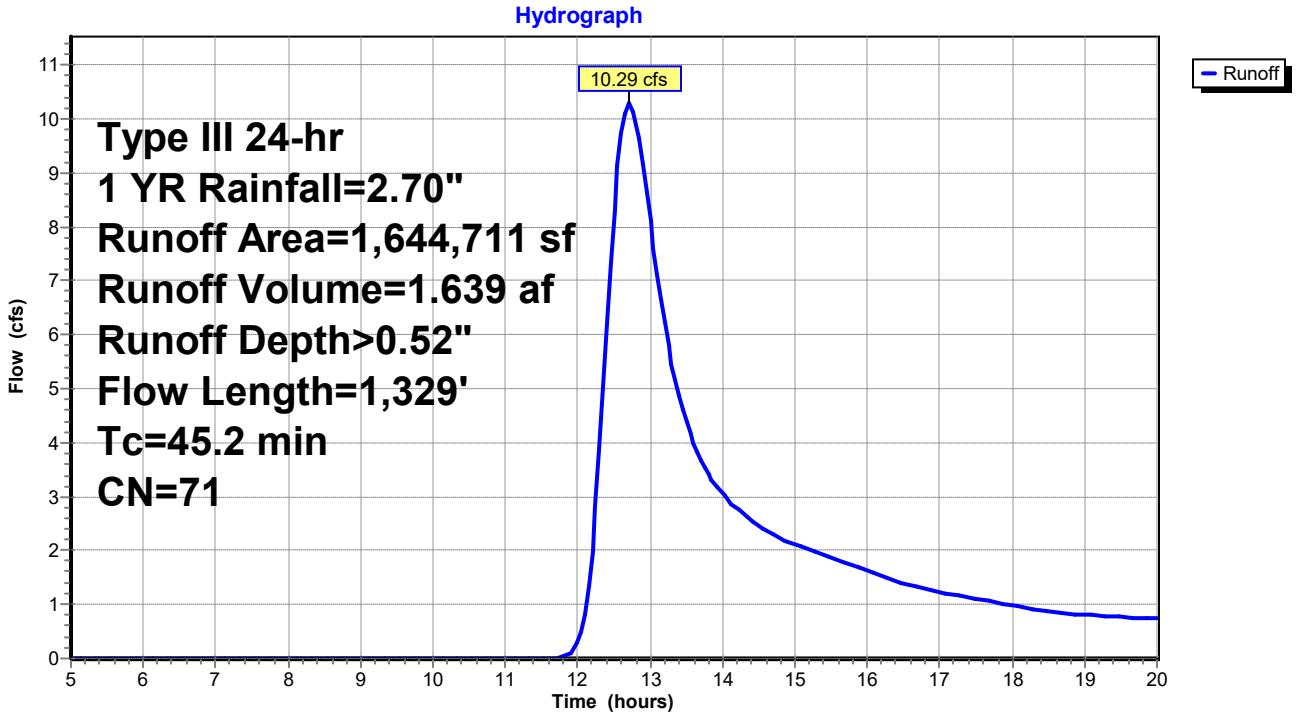
Pond CB #9A: CB #9A Peak Elev=510.16' Inflow=1.36 cfs 0.131 af
15.0" Round Culvert n=0.012 L=37.0' S=0.0200 '/' Outflow=1.36 cfs 0.131 af

Pond SB: Sediment Basin Peak Elev=507.22' Storage=116,931 cf Inflow=30.25 cfs 2.686 af
Outflow=0.00 cfs 0.000 af

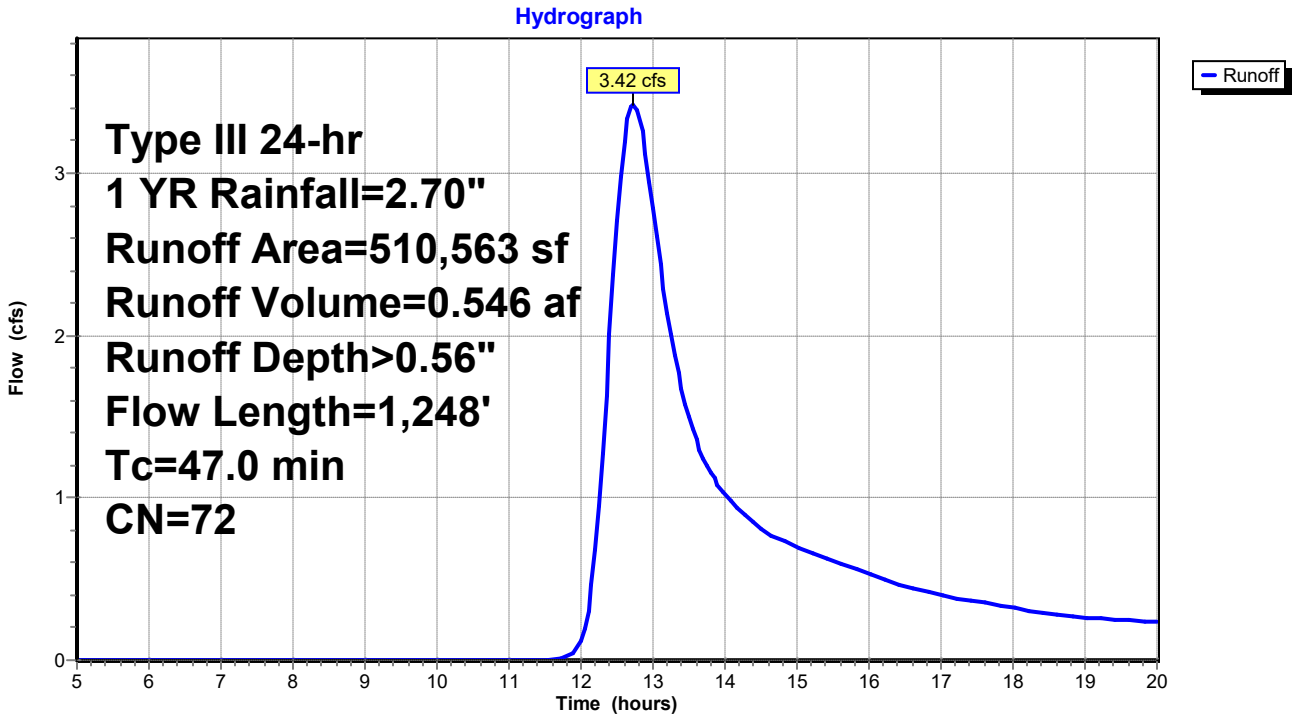
Pond SWB: SWB Peak Elev=496.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 98.112 ac Runoff Volume = 6.274 af Average Runoff Depth = 0.77"
82.73% Pervious = 81.165 ac 17.27% Impervious = 16.947 ac

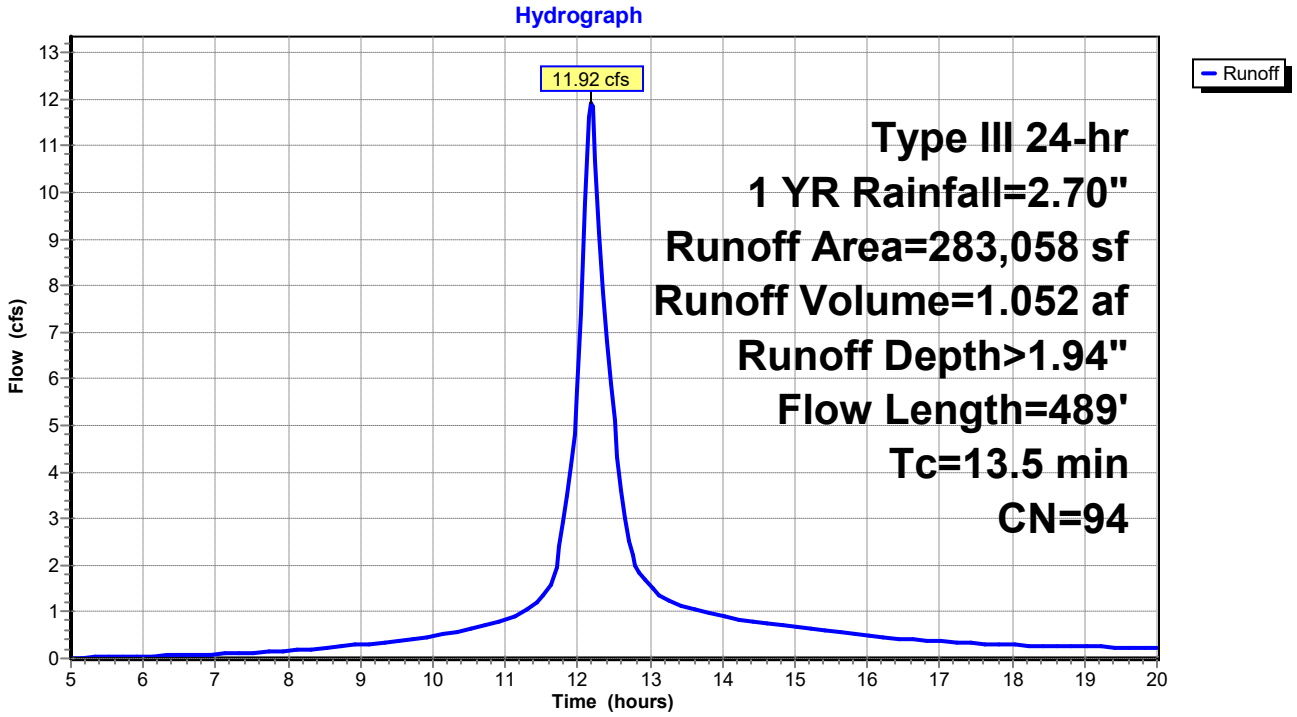
Subcatchment PRE-WS1: PRE-WS1



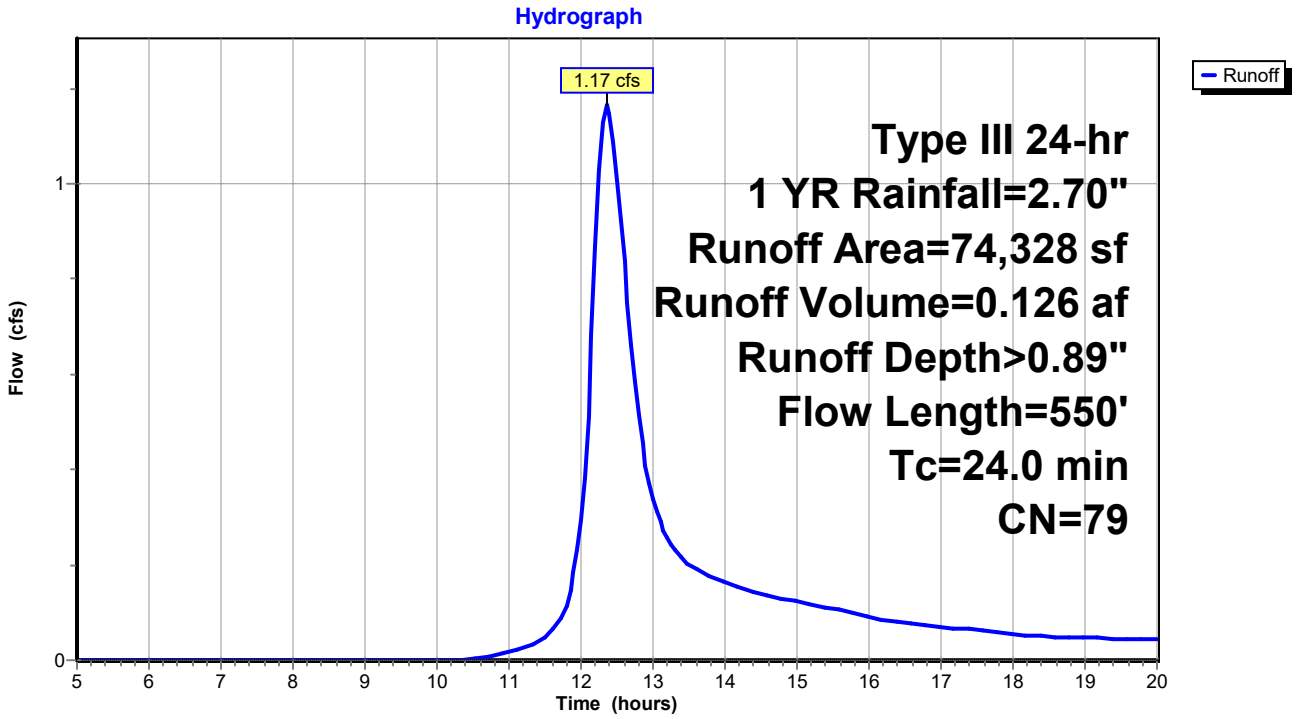
Subcatchment PRE-WS2: PRE-WS2



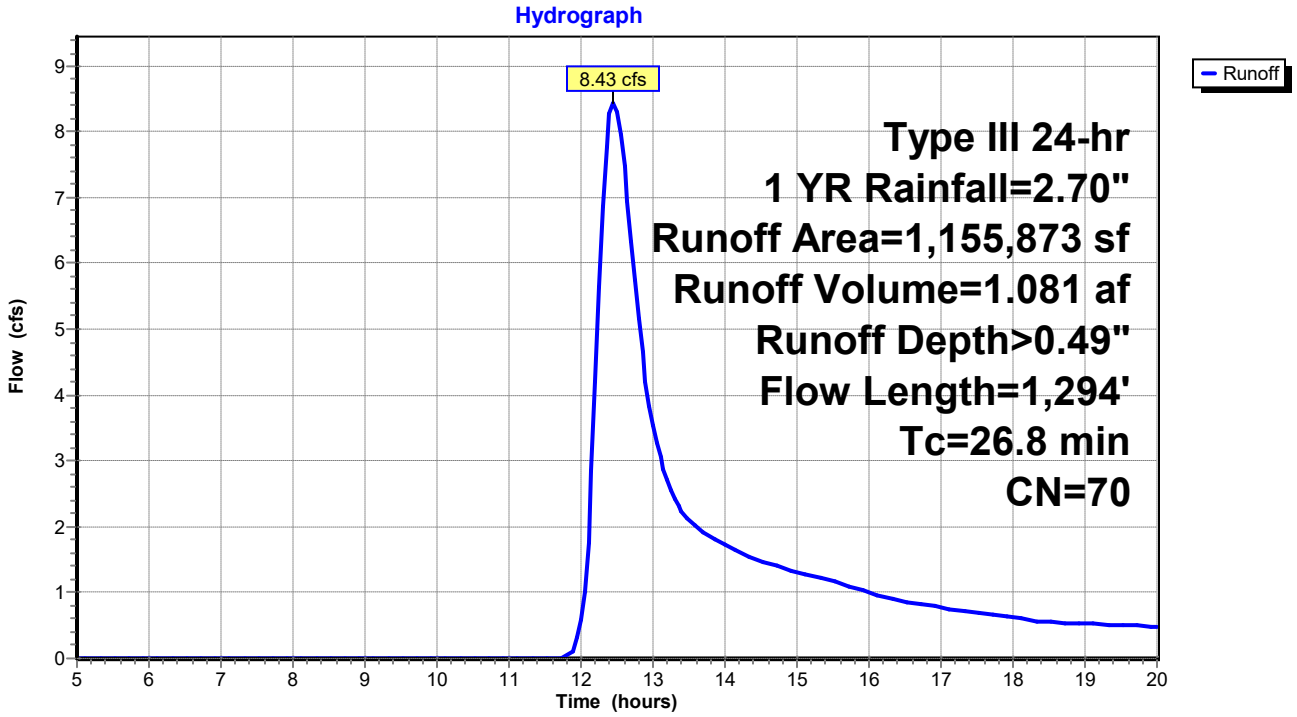
Subcatchment WS-1A-POST: WS-1A-POST



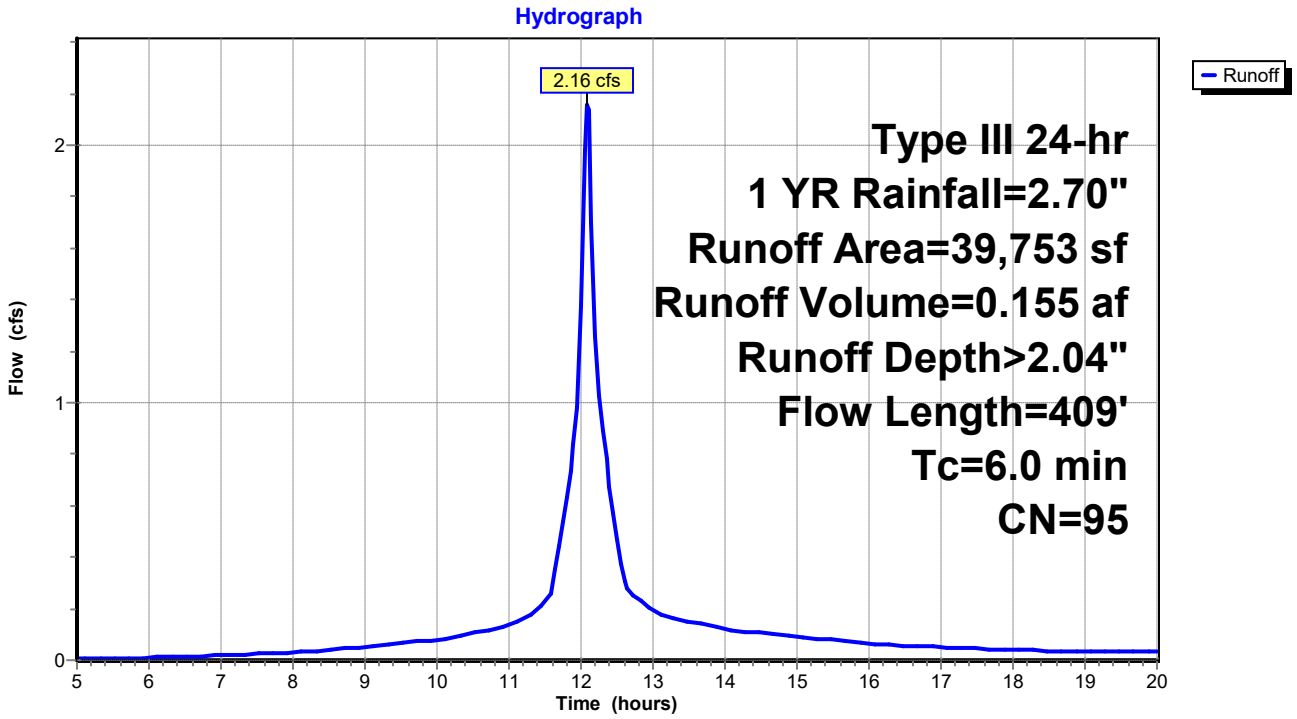
Subcatchment WS-1B-POST: WS-1B-POST



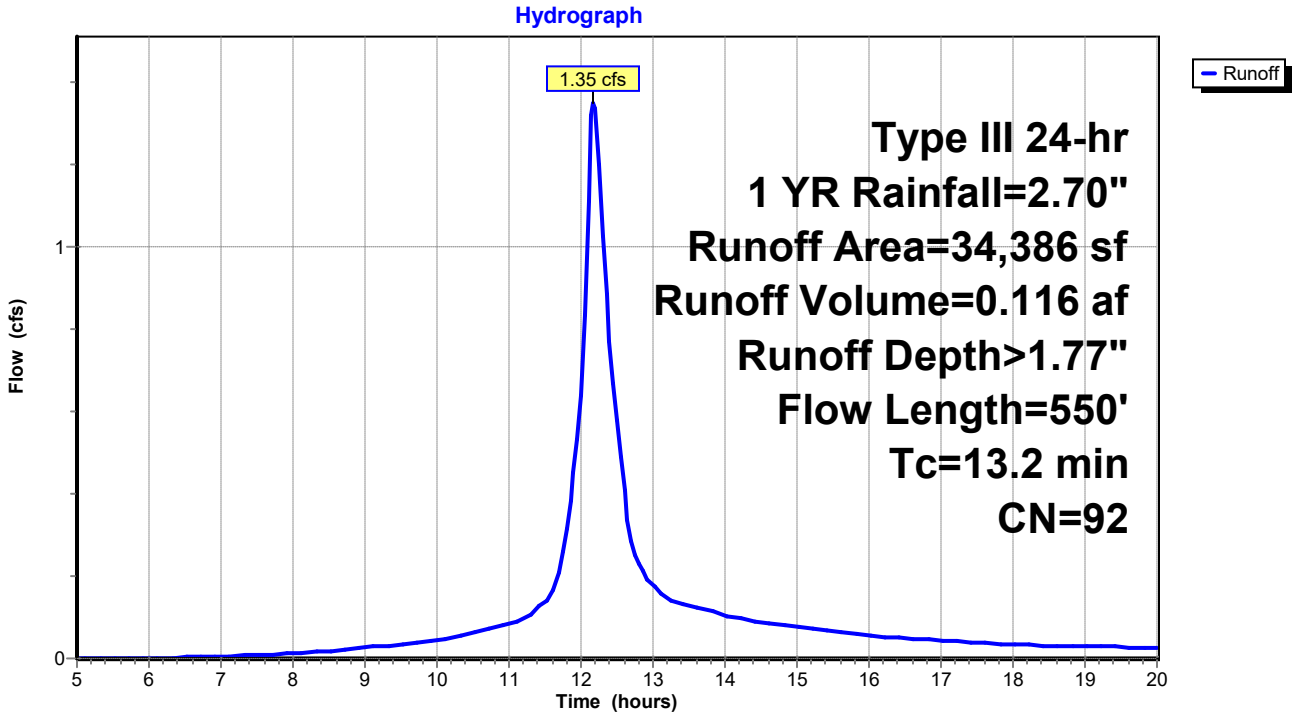
Subcatchment WS-1C-POST: WS-1C-POST



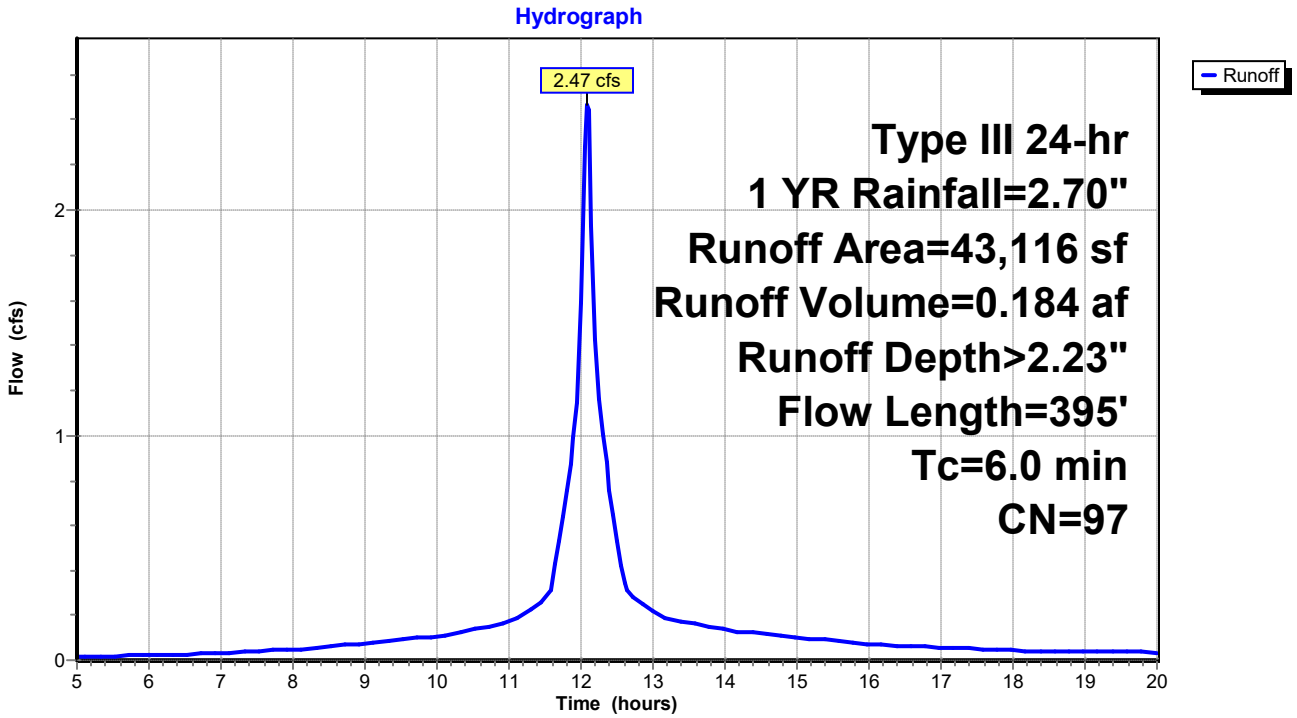
Subcatchment WS-1D-POST: WS-1D-POST



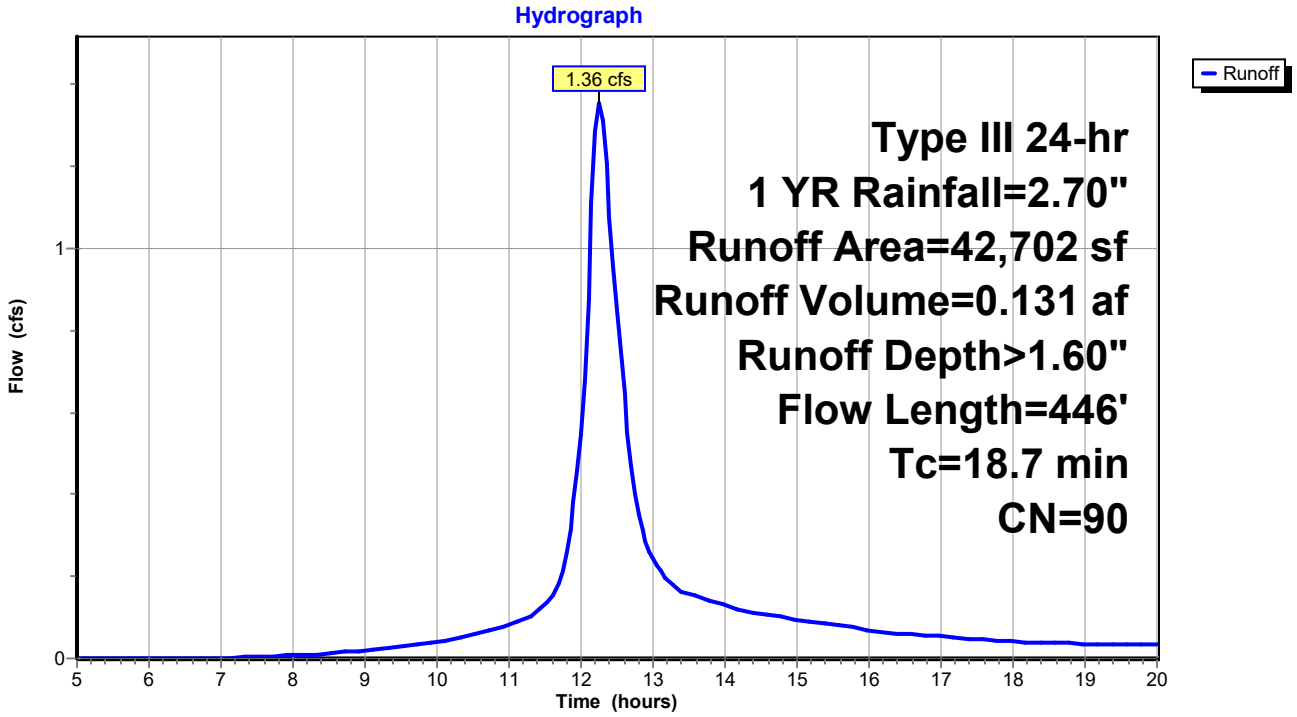
Subcatchment WS-1E-POST: WS-1E-POST



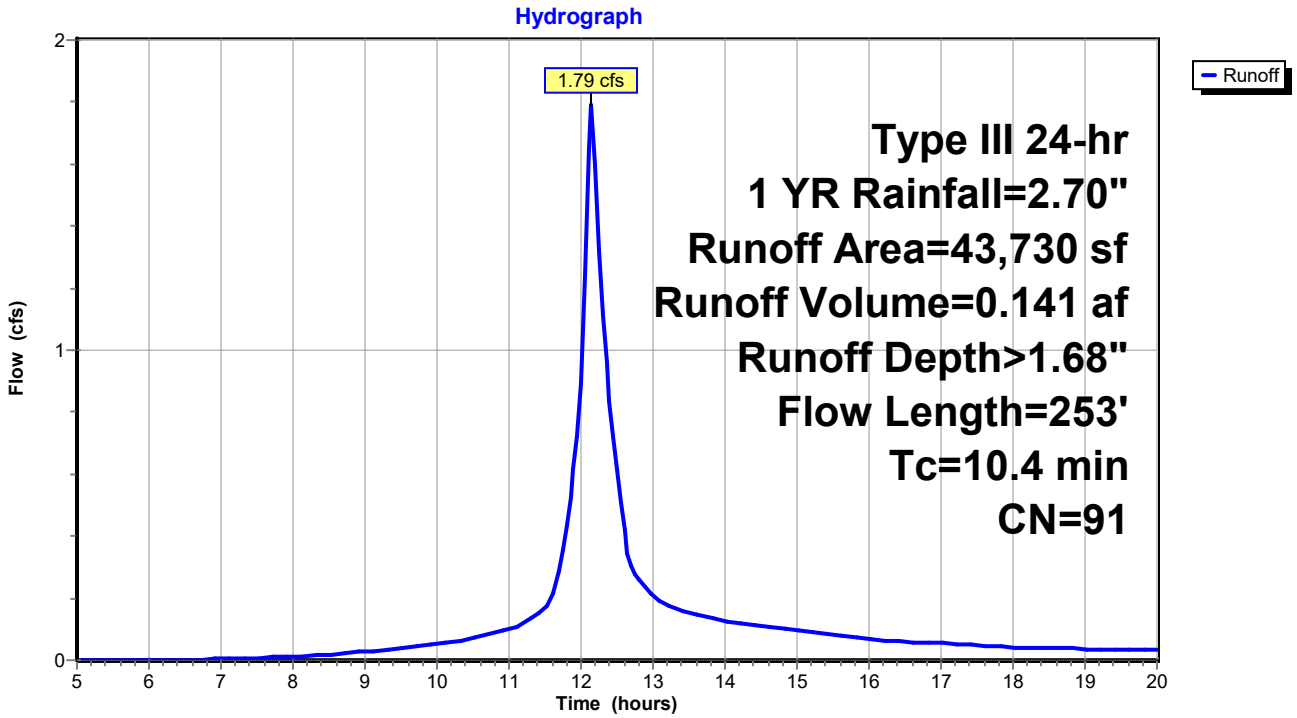
Subcatchment WS-1F-POST: WS-1F-POST



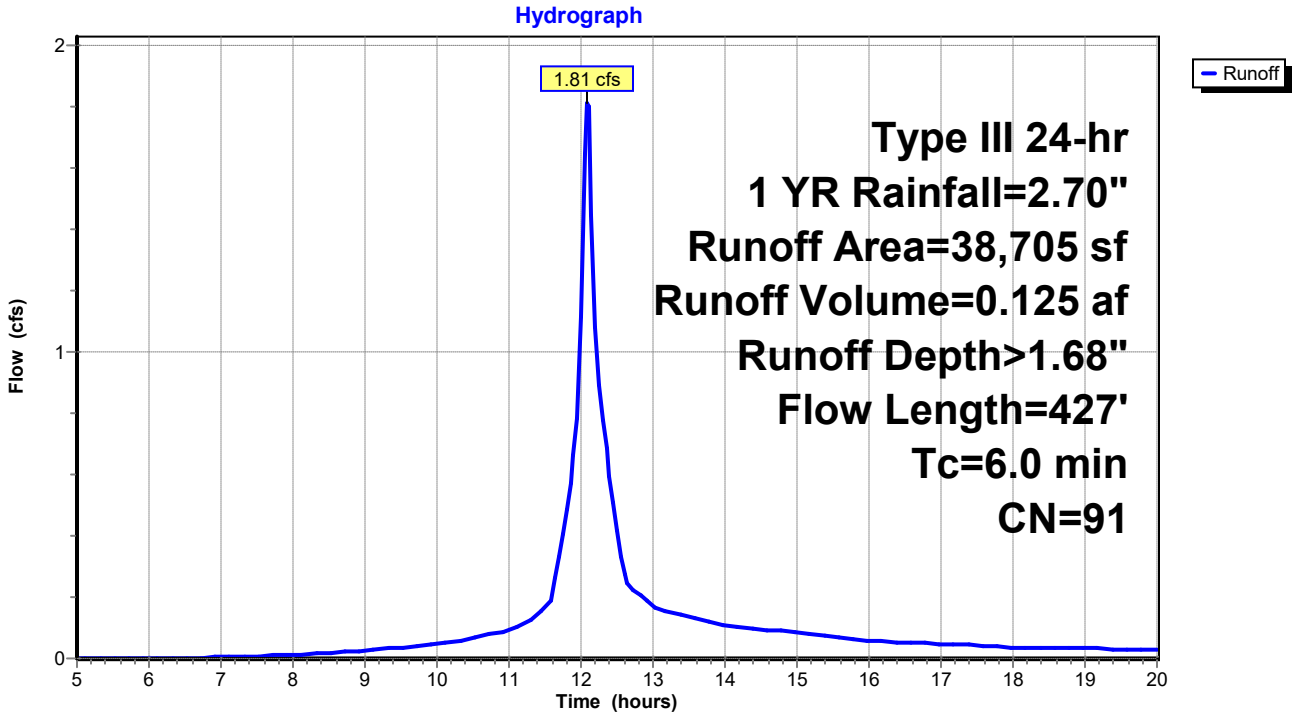
Subcatchment WS-1G-POST: WS-1G-POST



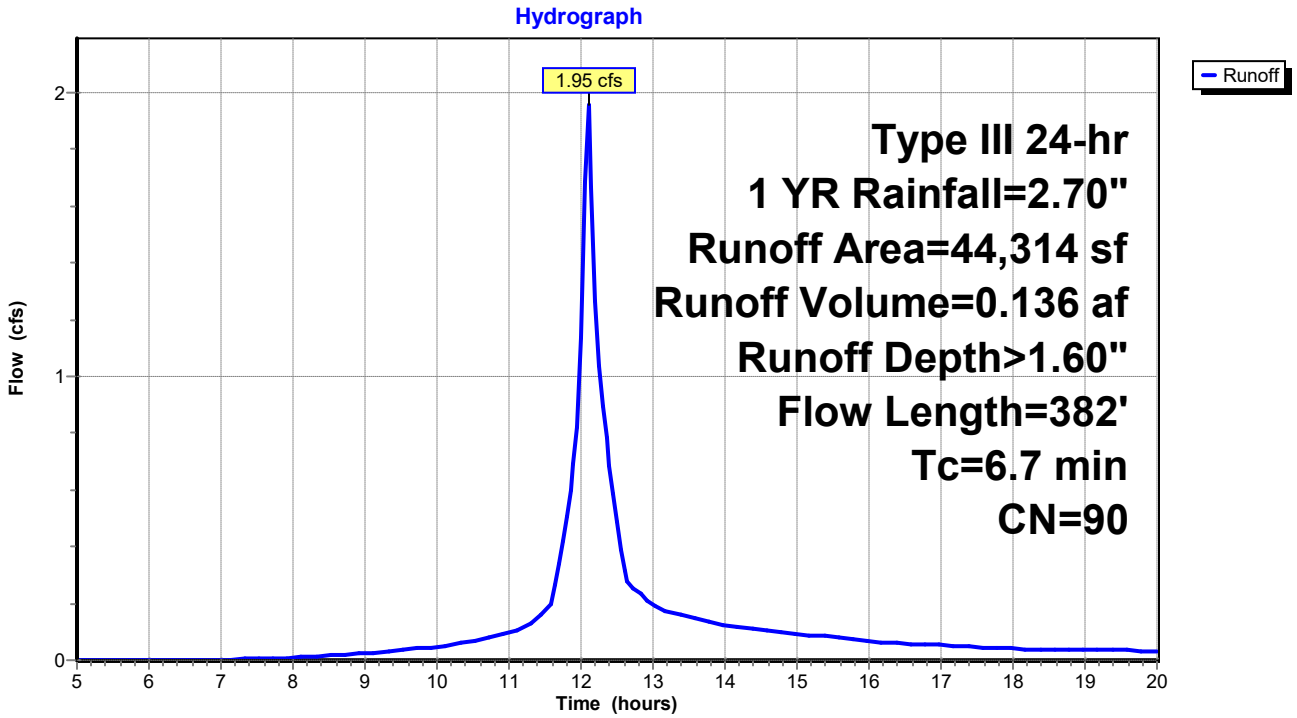
Subcatchment WS-1H-POST: WS-1H-POST



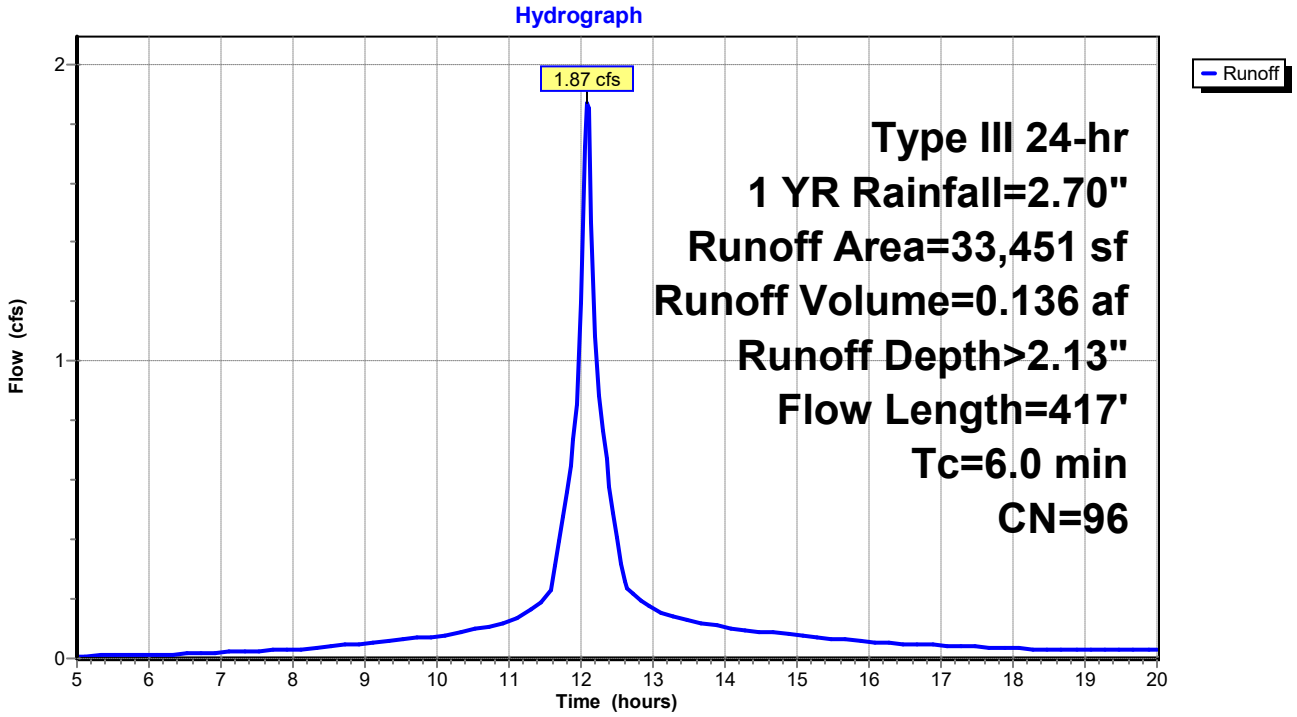
Subcatchment WS-1I-POST: WS-1I-POST



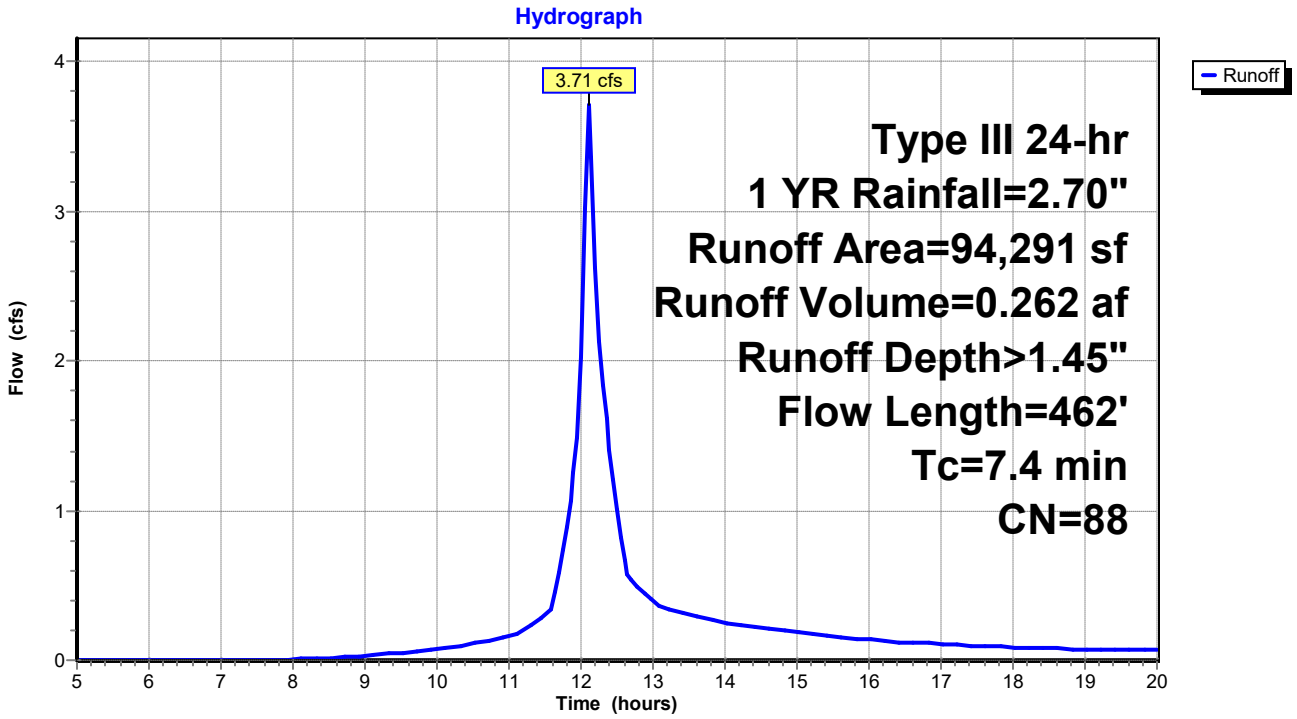
Subcatchment WS-1K-POST: WS-1K-POST



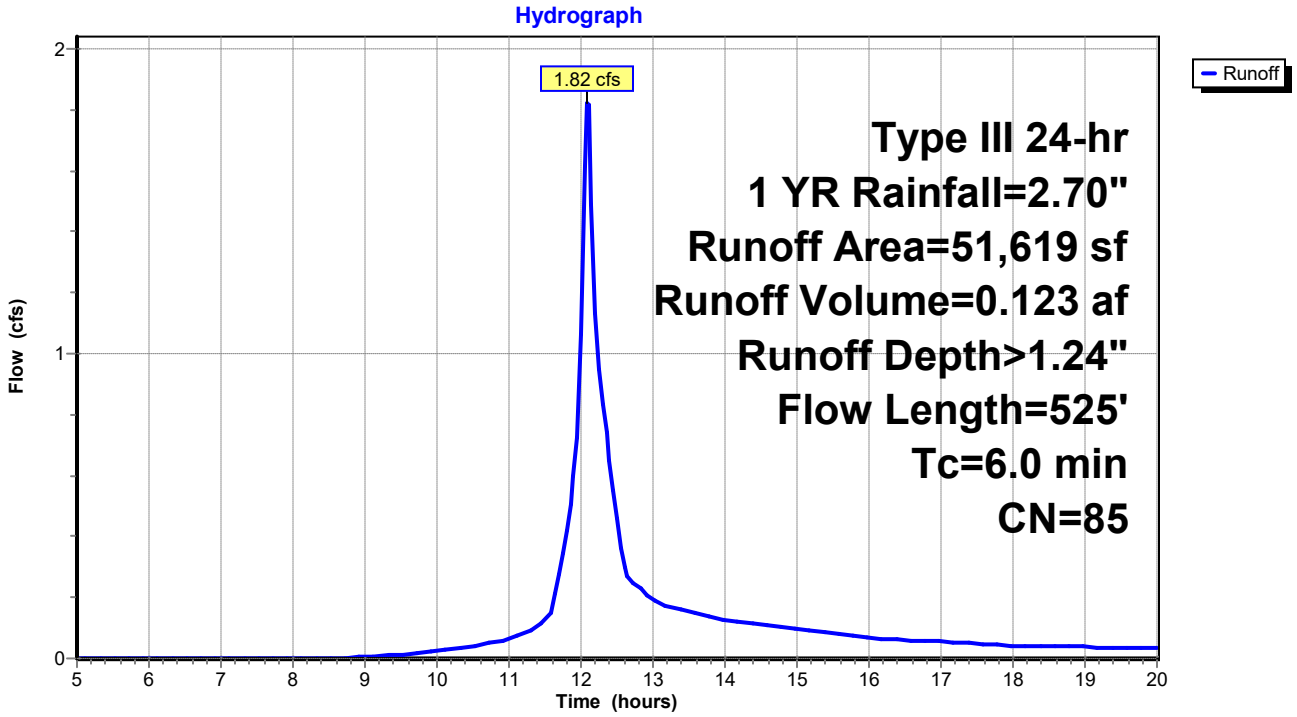
Subcatchment WS-1L-POST: WS-1L-POST



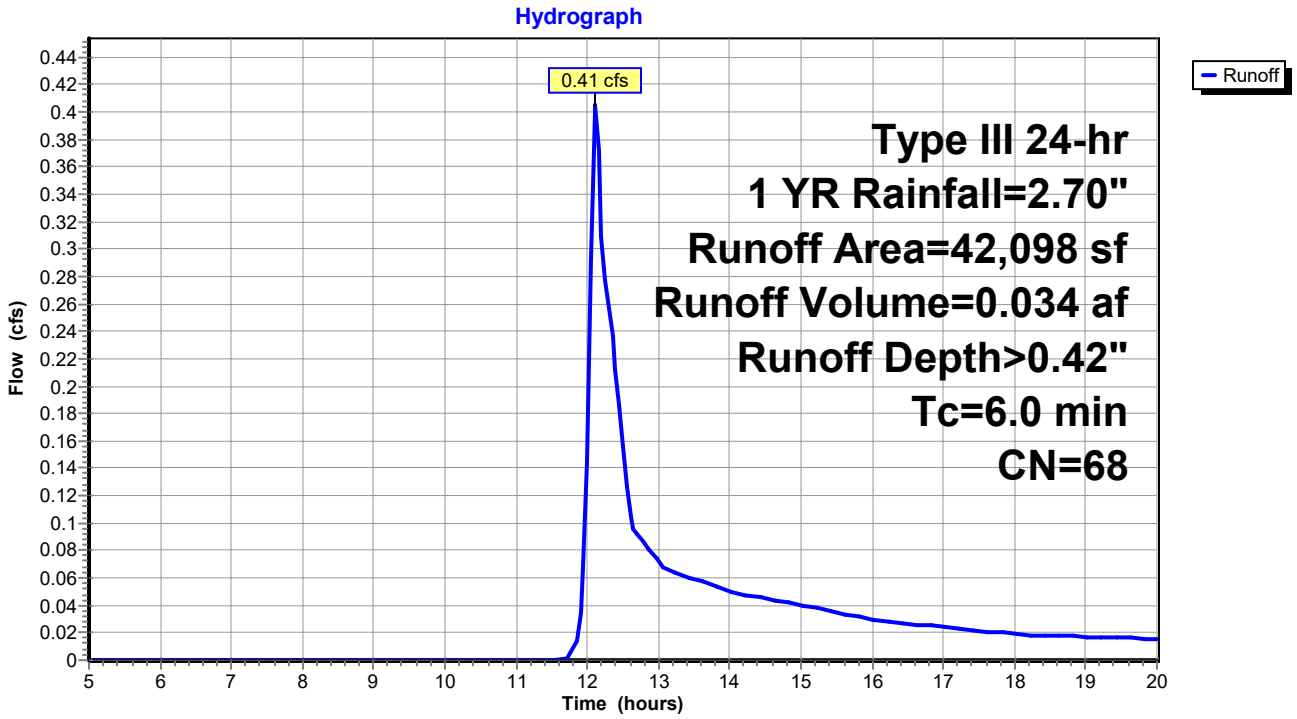
Subcatchment WS-1M-POST: WS-1M-POST



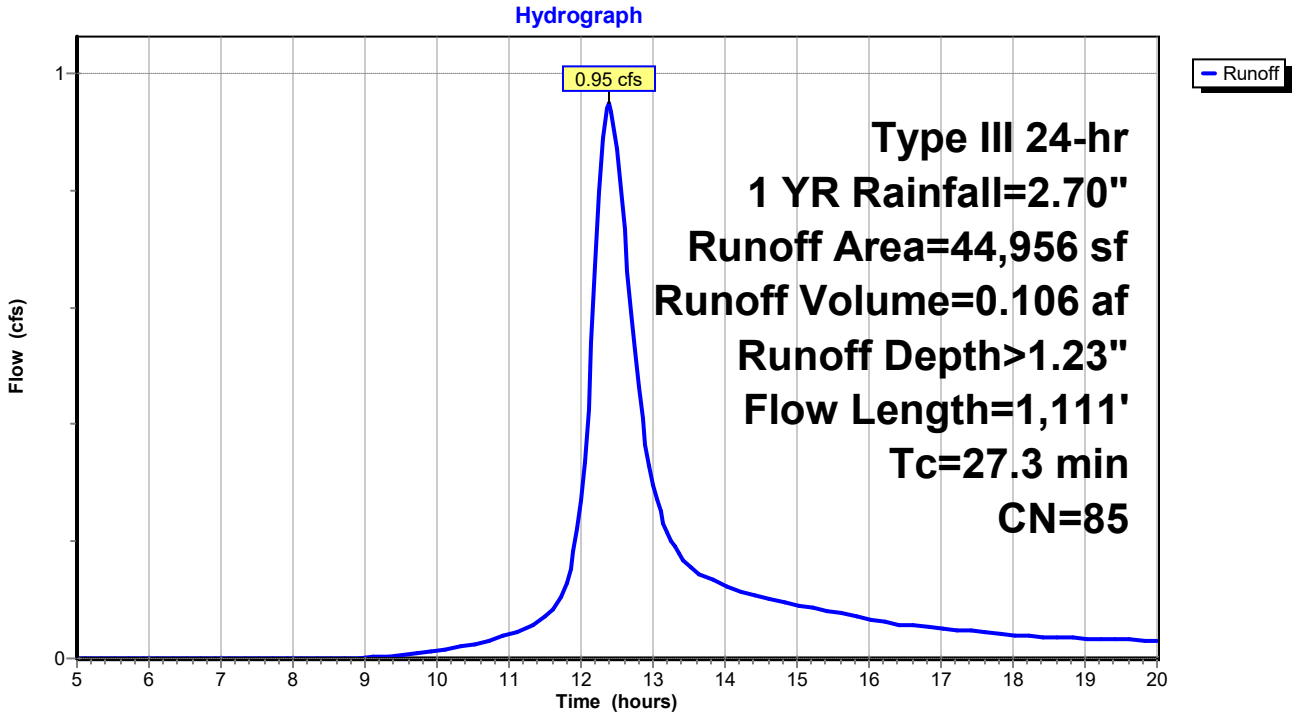
Subcatchment WS-1N-POST: WS-1N-POST



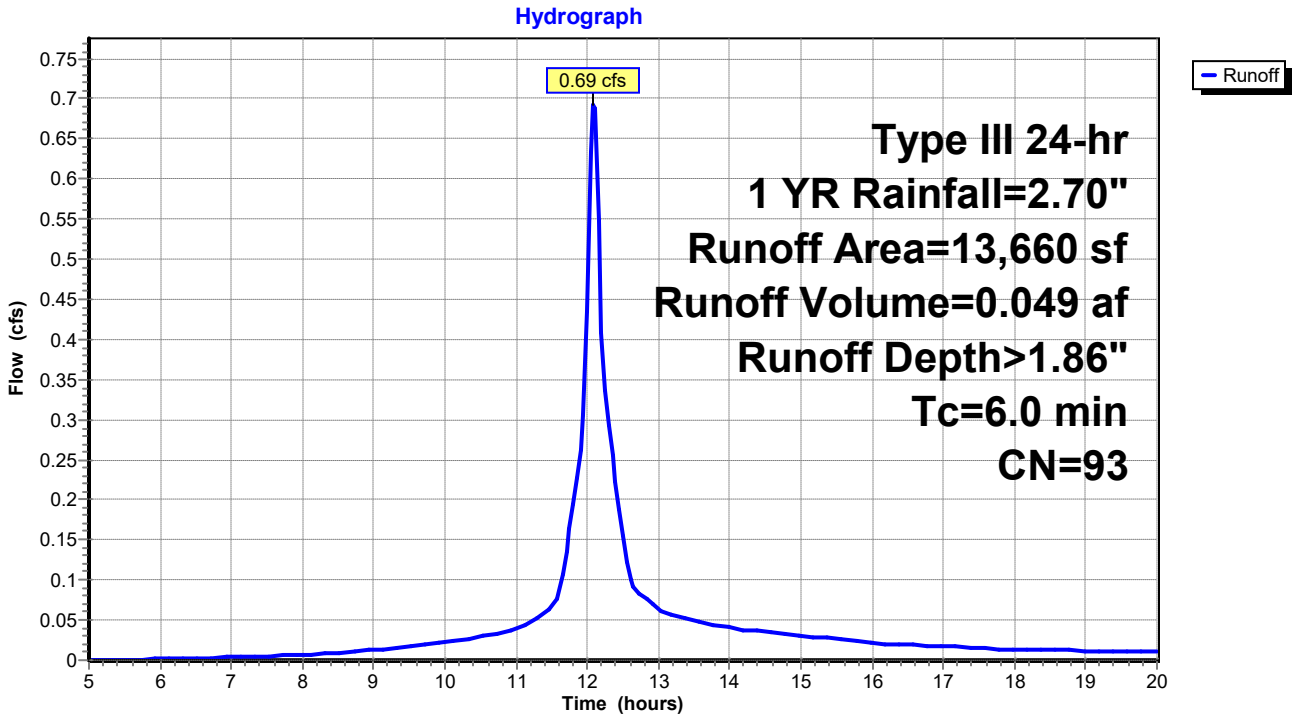
Subcatchment WS-2A-POST: WS-2A-POST



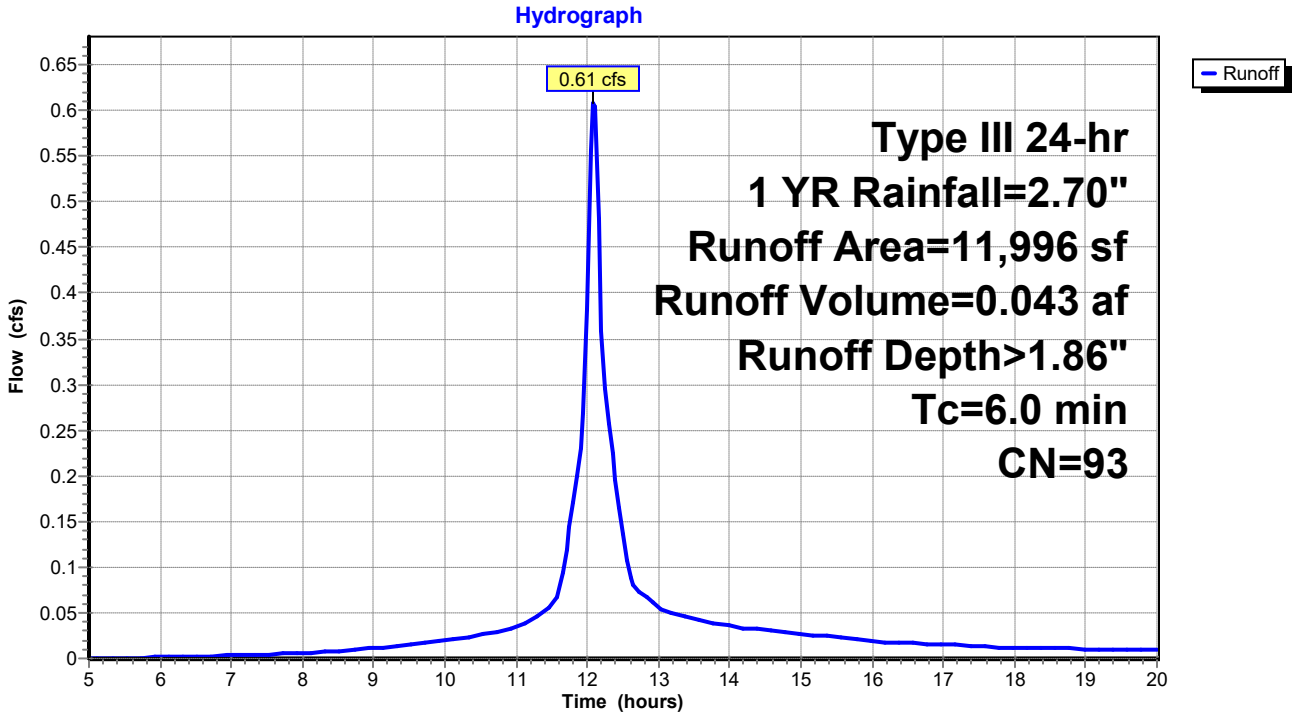
Subcatchment WS-2B-POST: WS-2B-POST



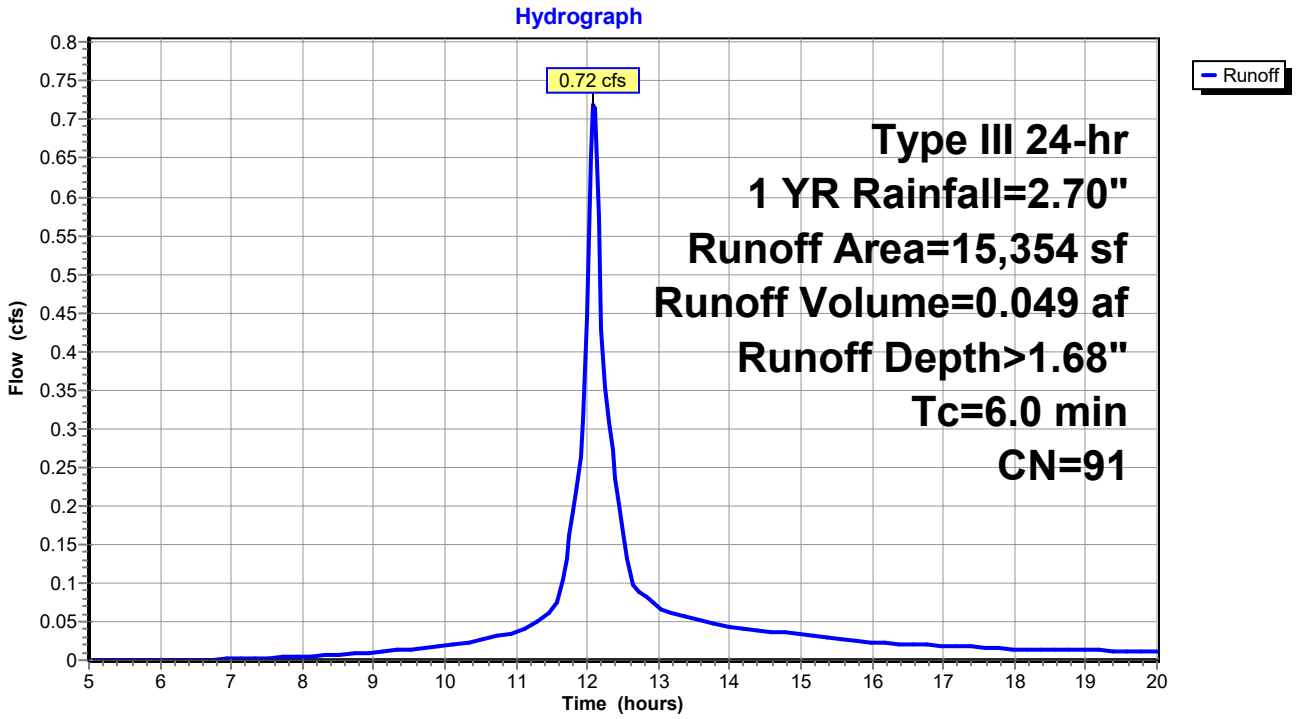
Subcatchment WS-2C-POST: WS-2C-POST



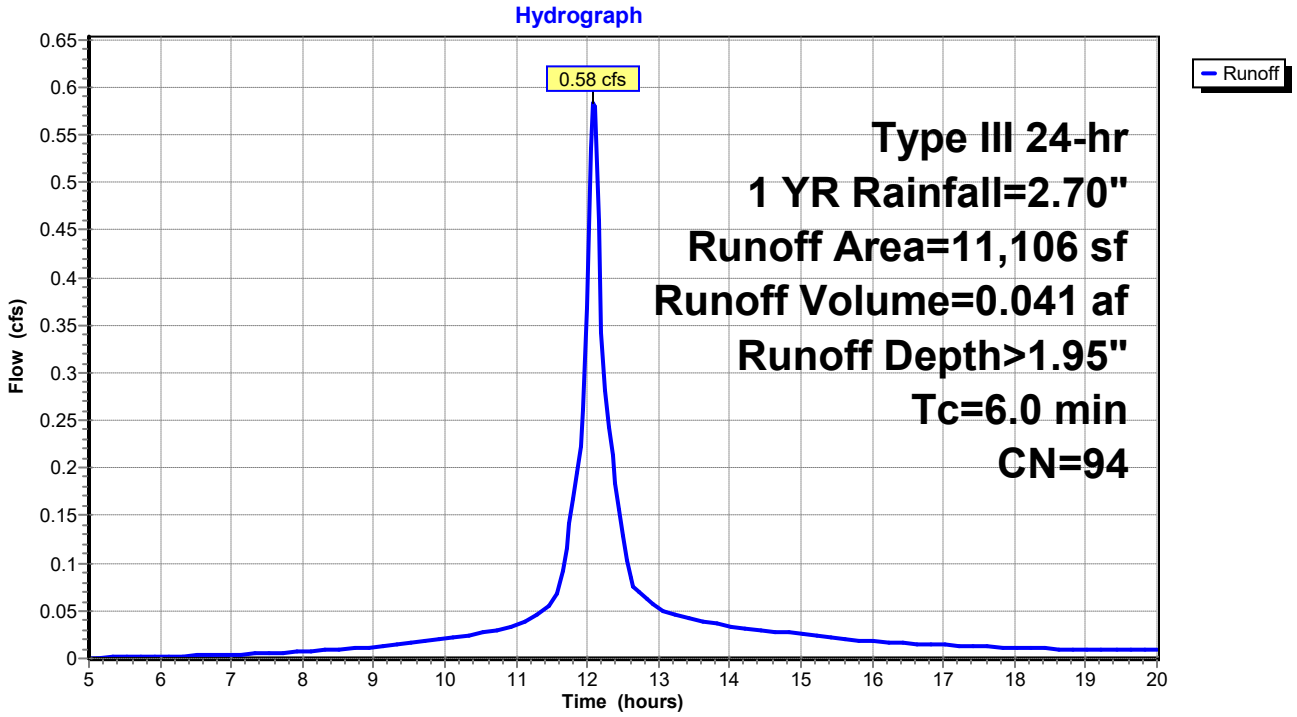
Subcatchment WS-2D-POST: WS-2D-POST



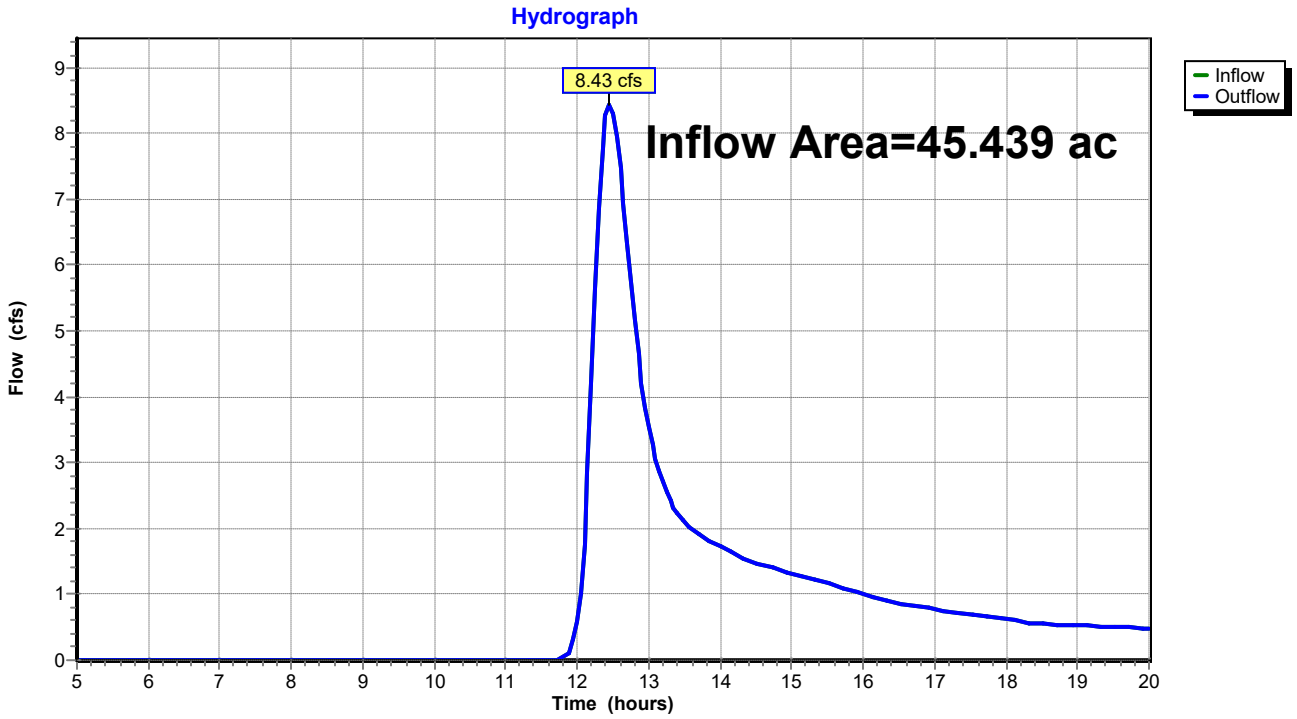
Subcatchment WS-2E-POST: WS-2E-POST



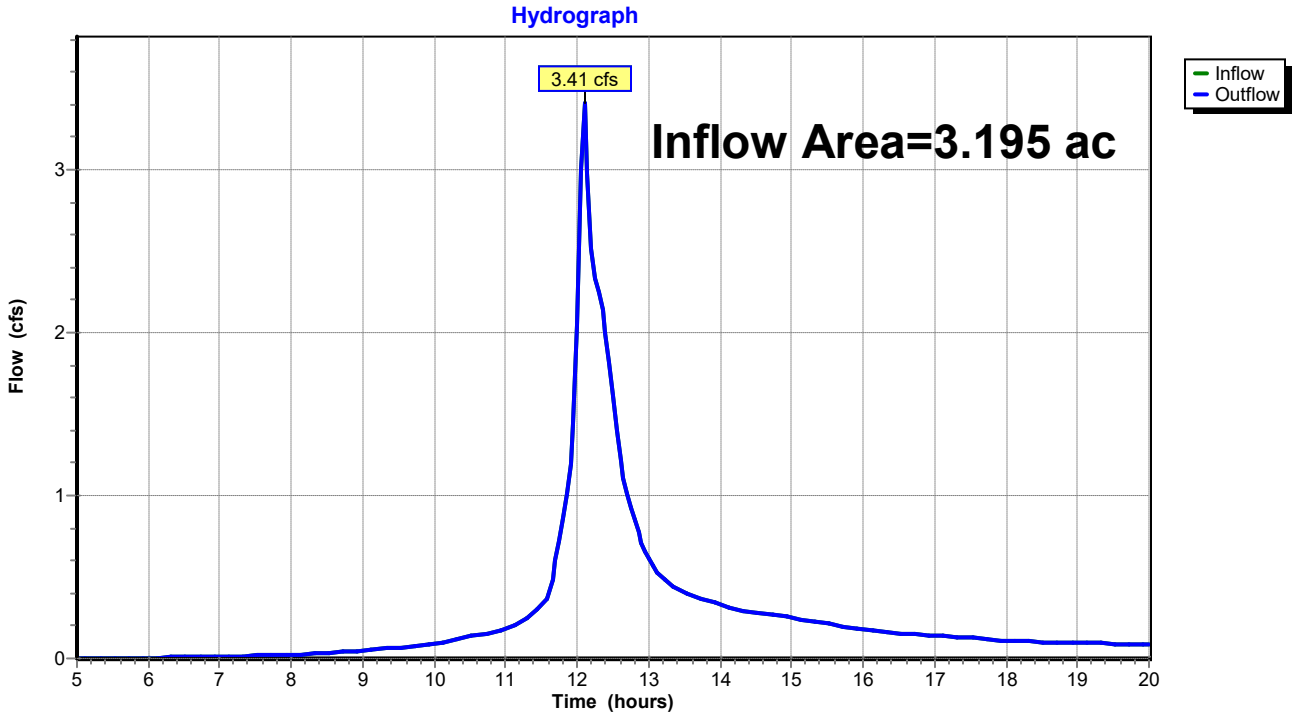
Subcatchment WS-2F-POST: WS-2F-POST



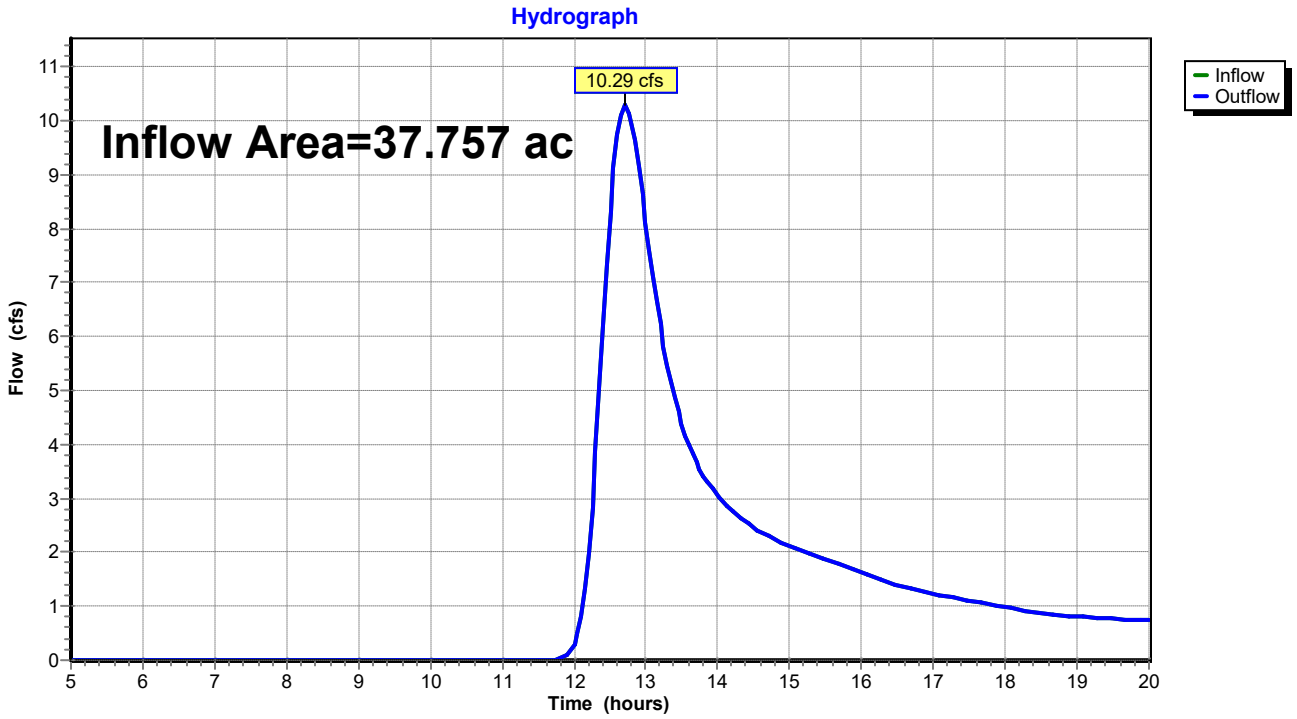
Reach DP-1-POST: DP-1-POST



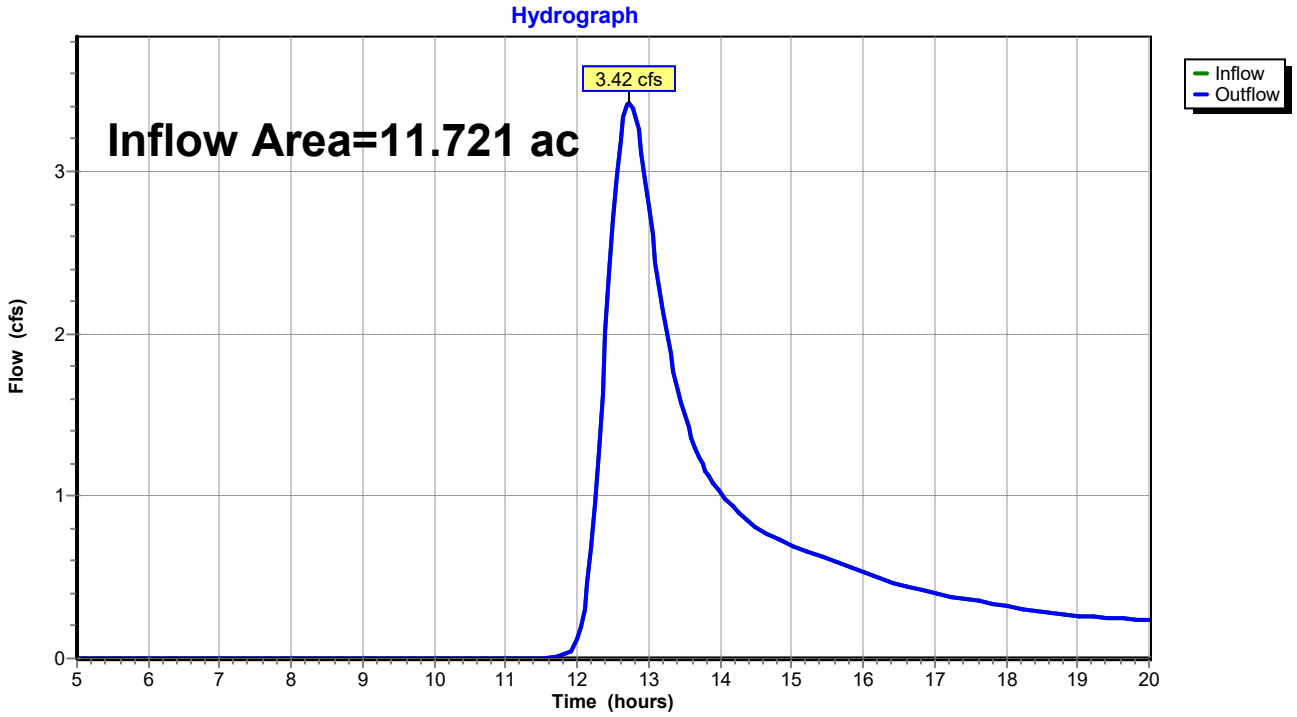
Reach POST-DP2: POST-DP2



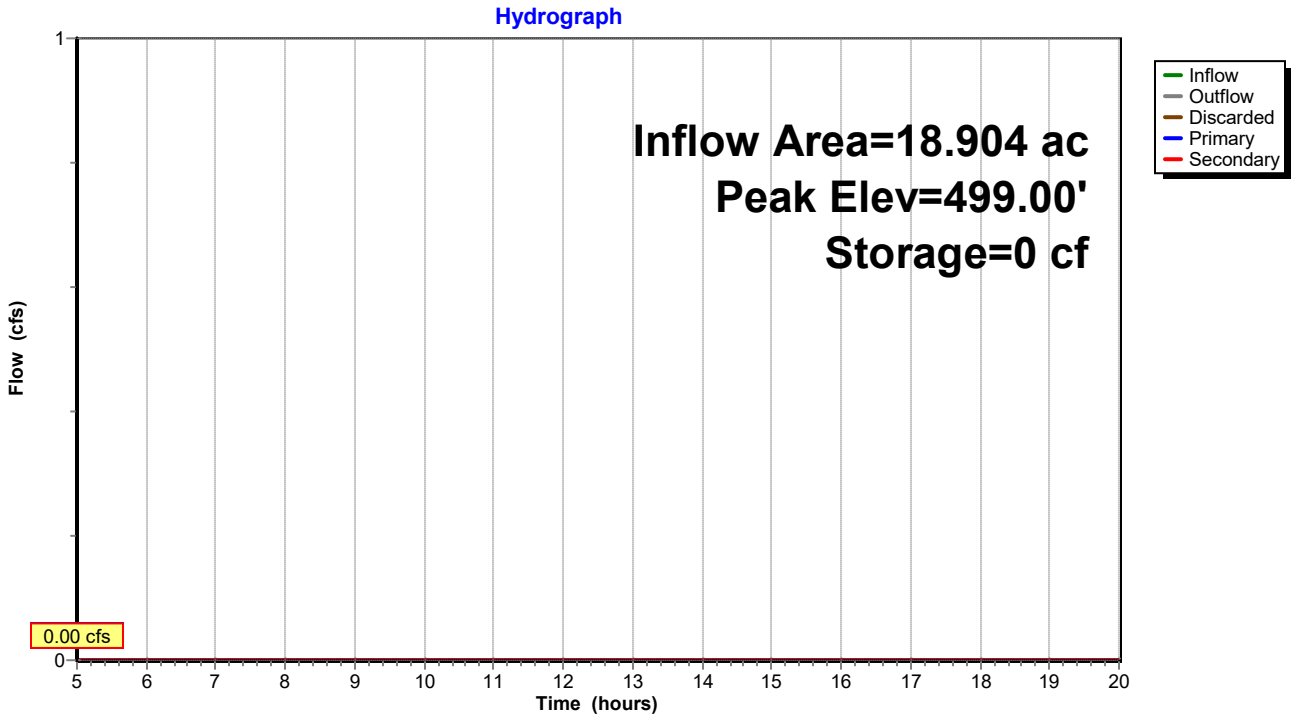
Reach PRE-DP1: PRE-DP1



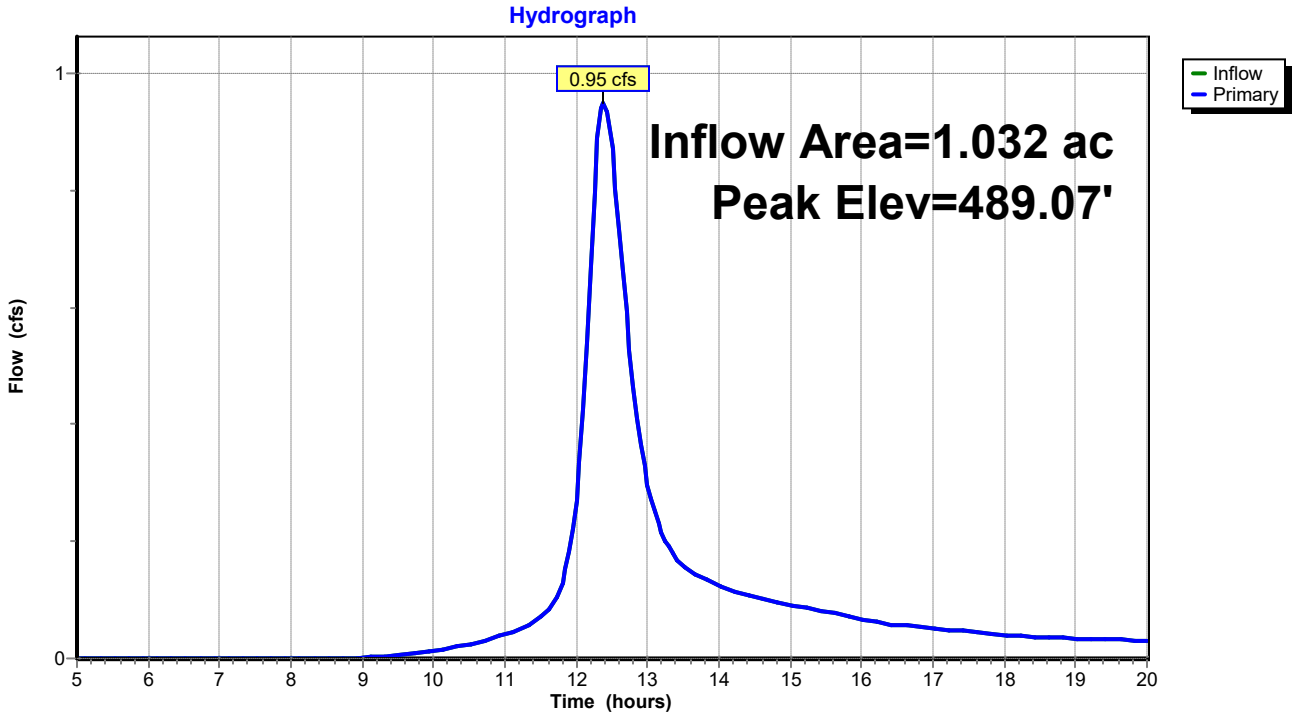
Reach PRE-DP2: PRE-DP2



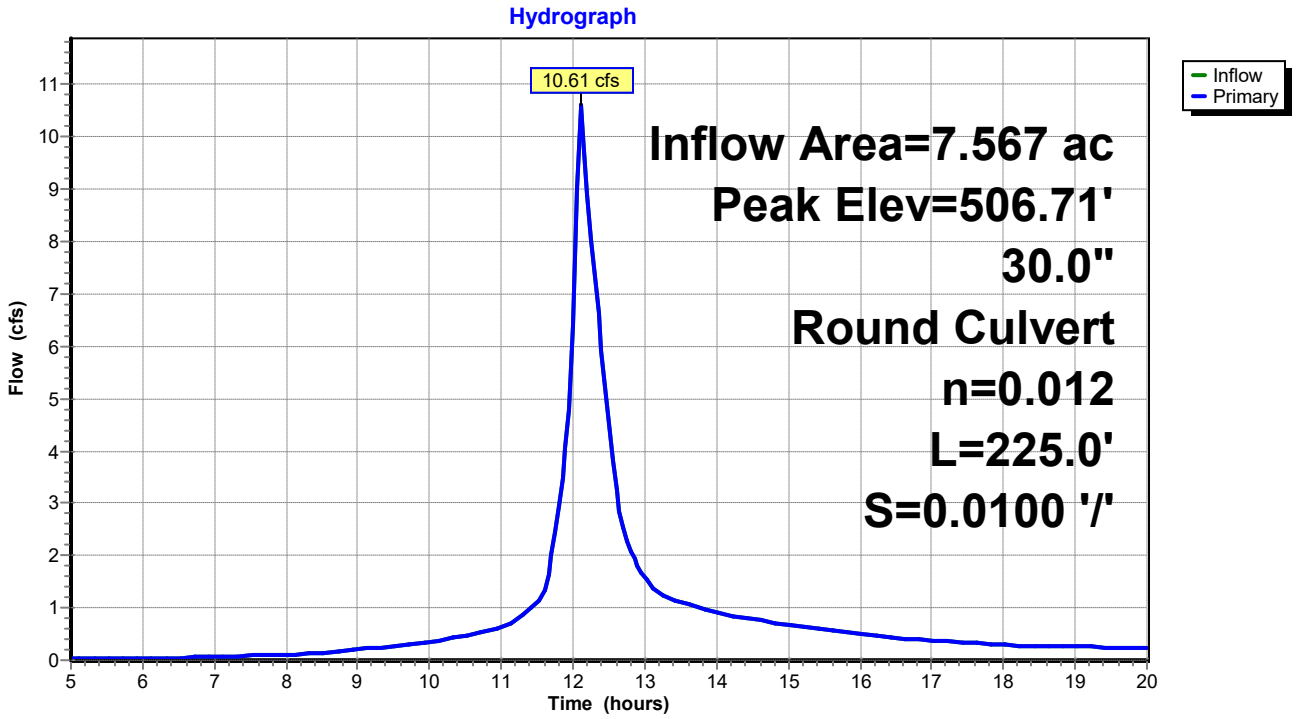
Pond BI: Bioretention



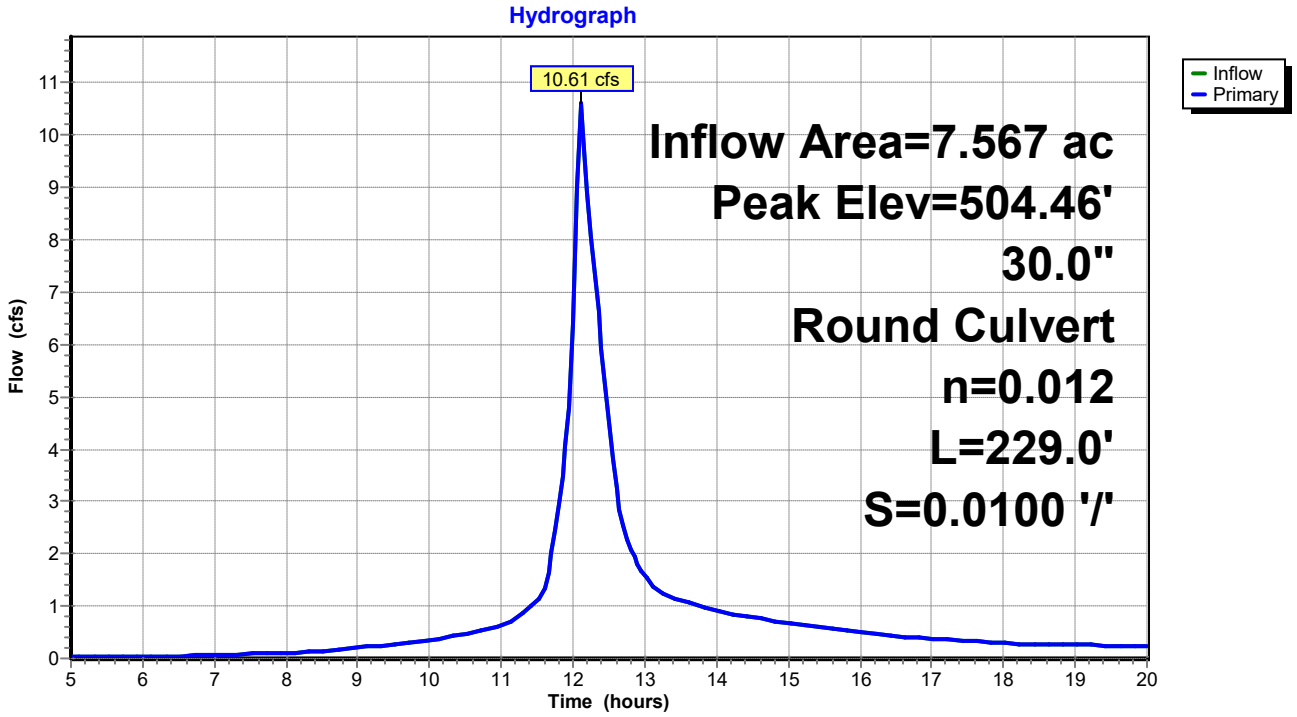
Pond CB #1: CB #1



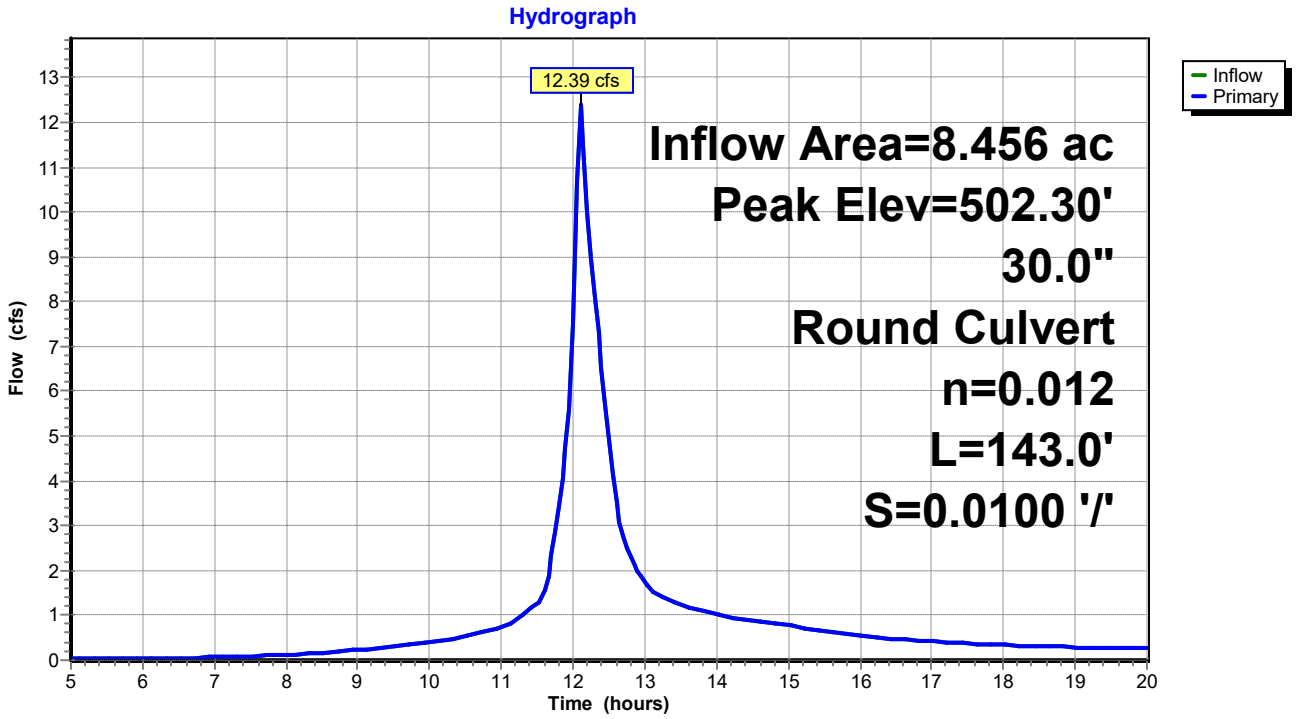
Pond CB #10: CB #10



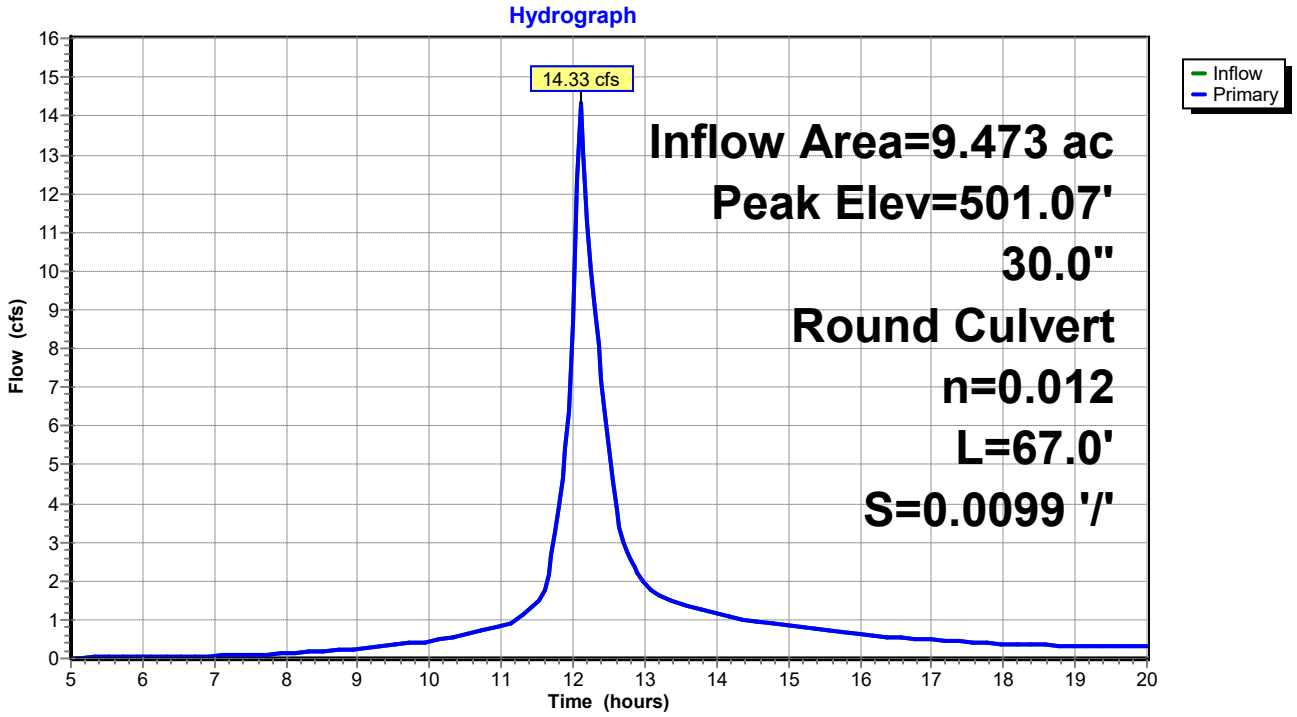
Pond CB #11: CB #11



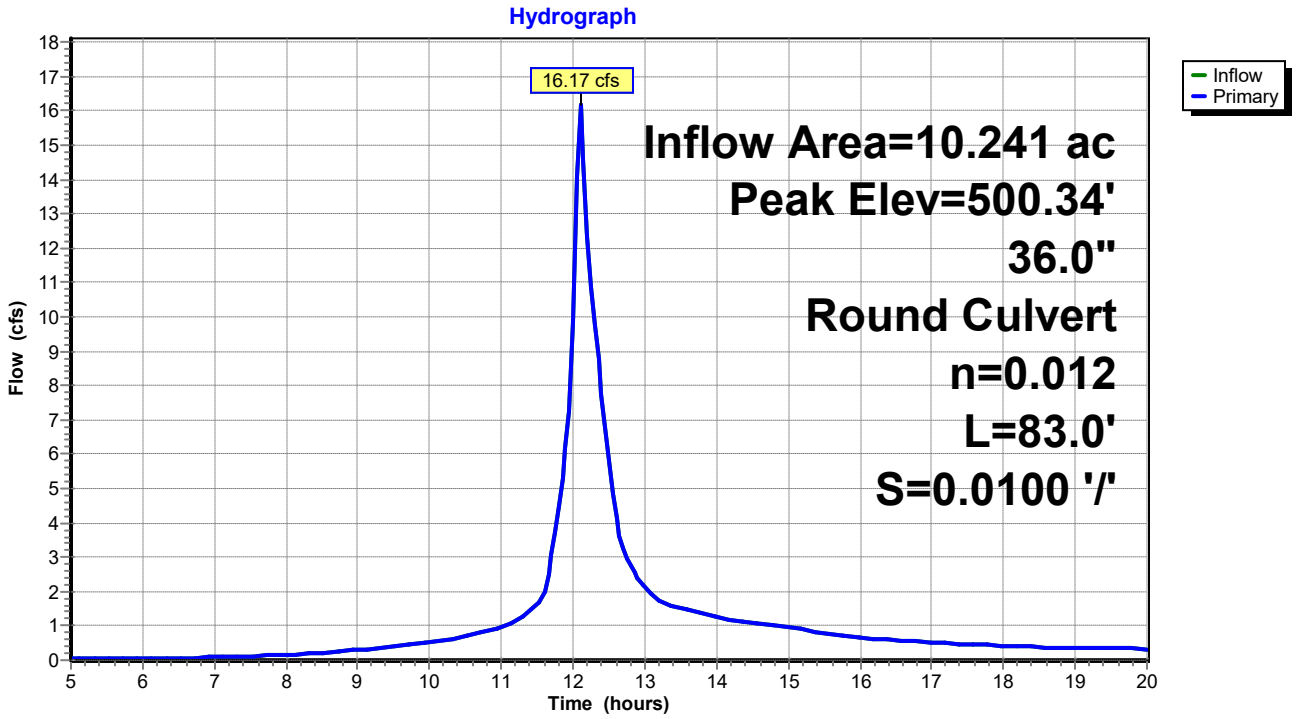
Pond CB #13: CB #13



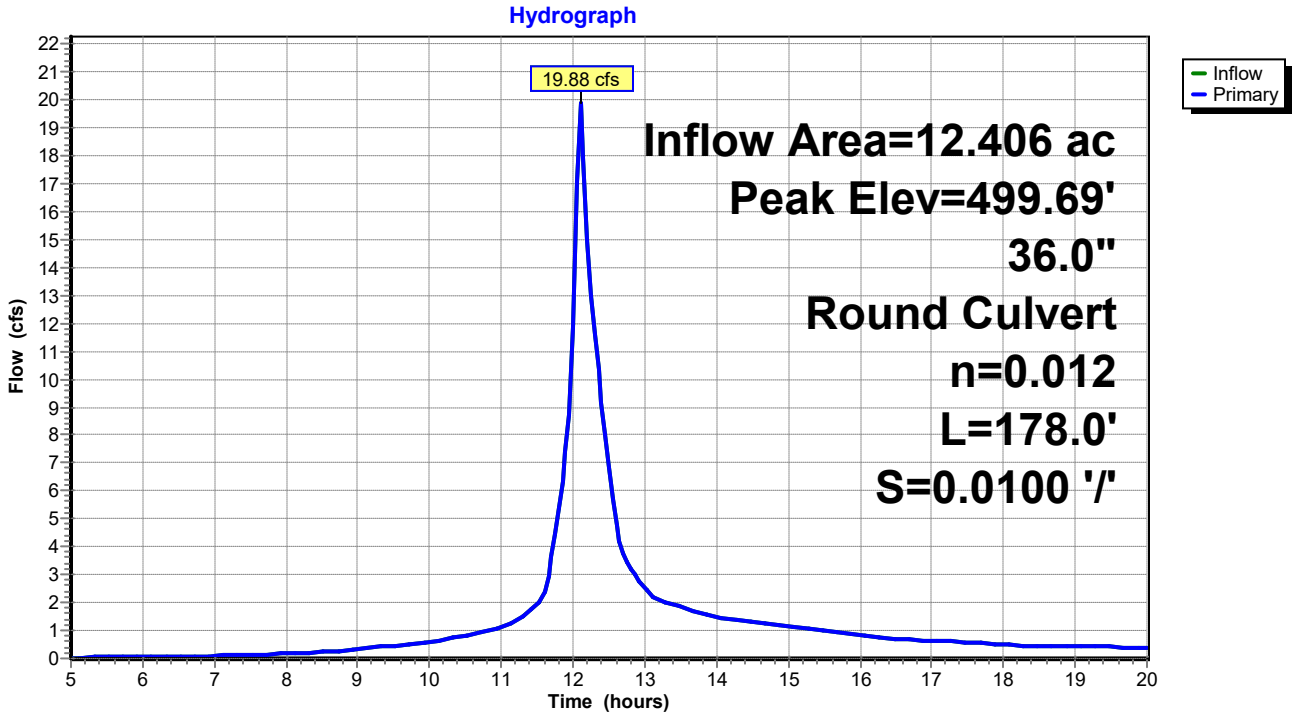
Pond CB #14: CB #14



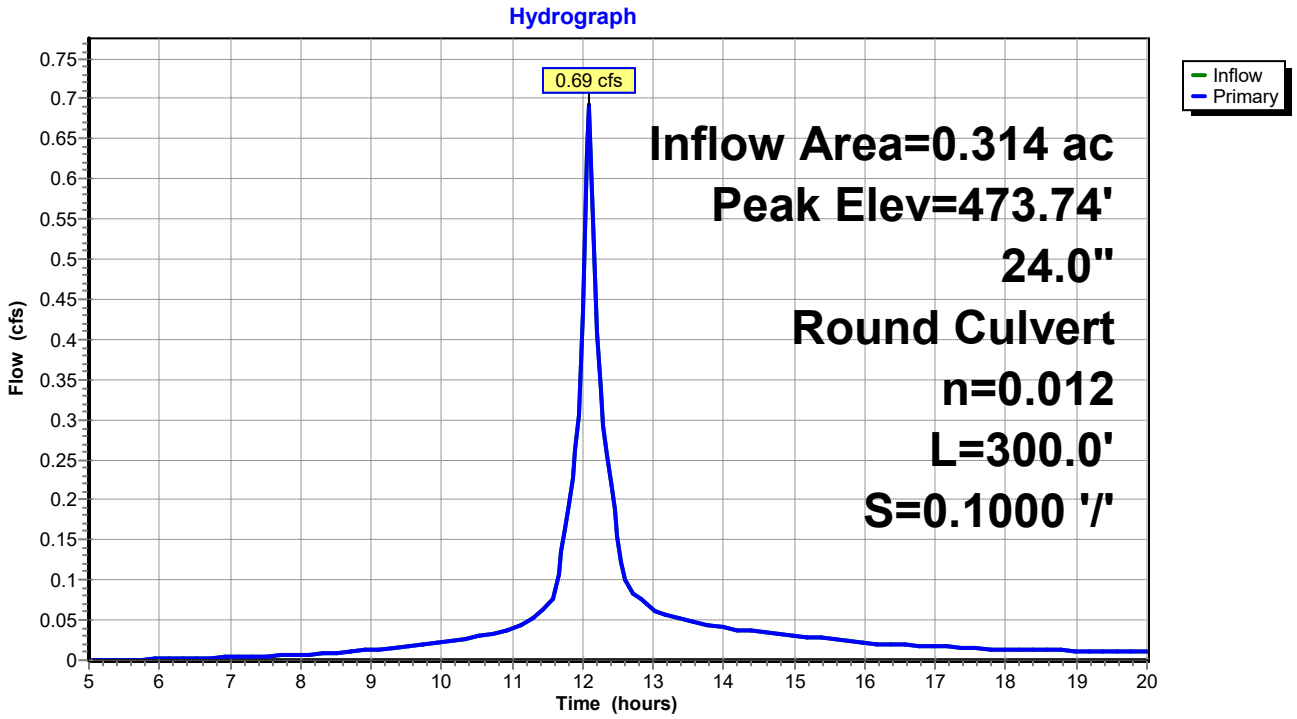
Pond CB #15: CB #15



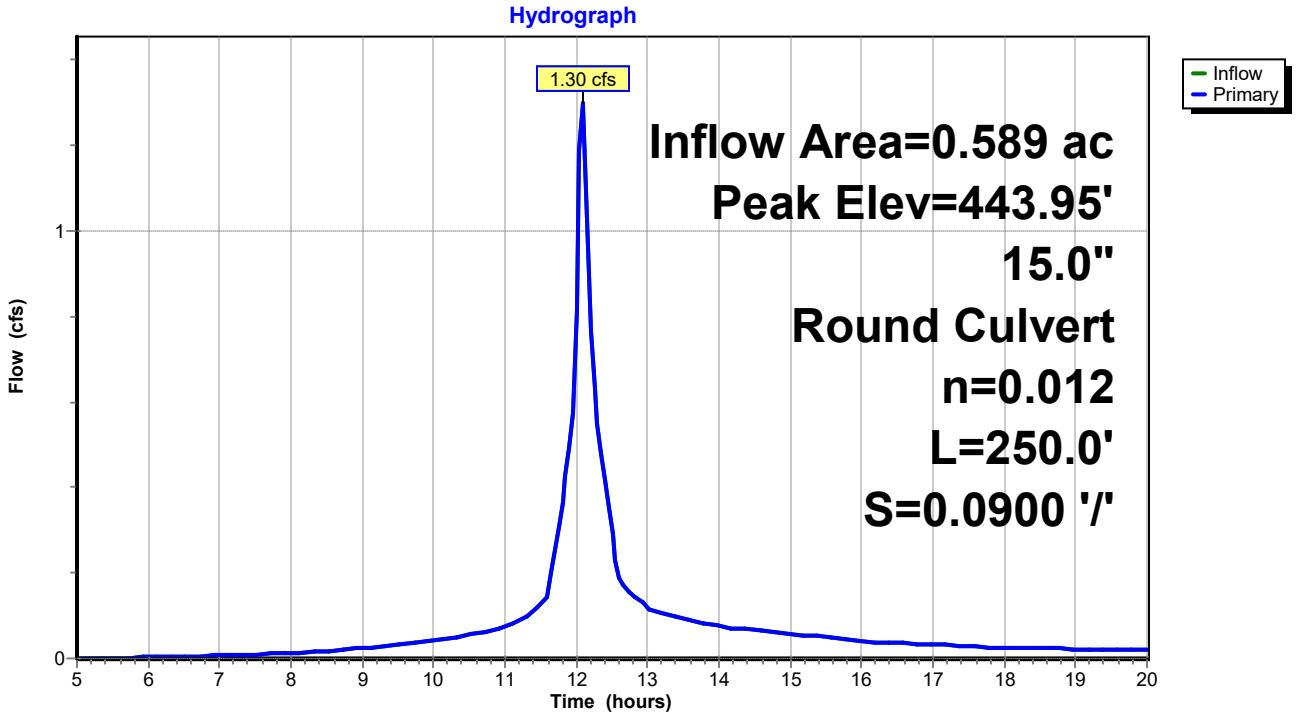
Pond CB #16: CB #16



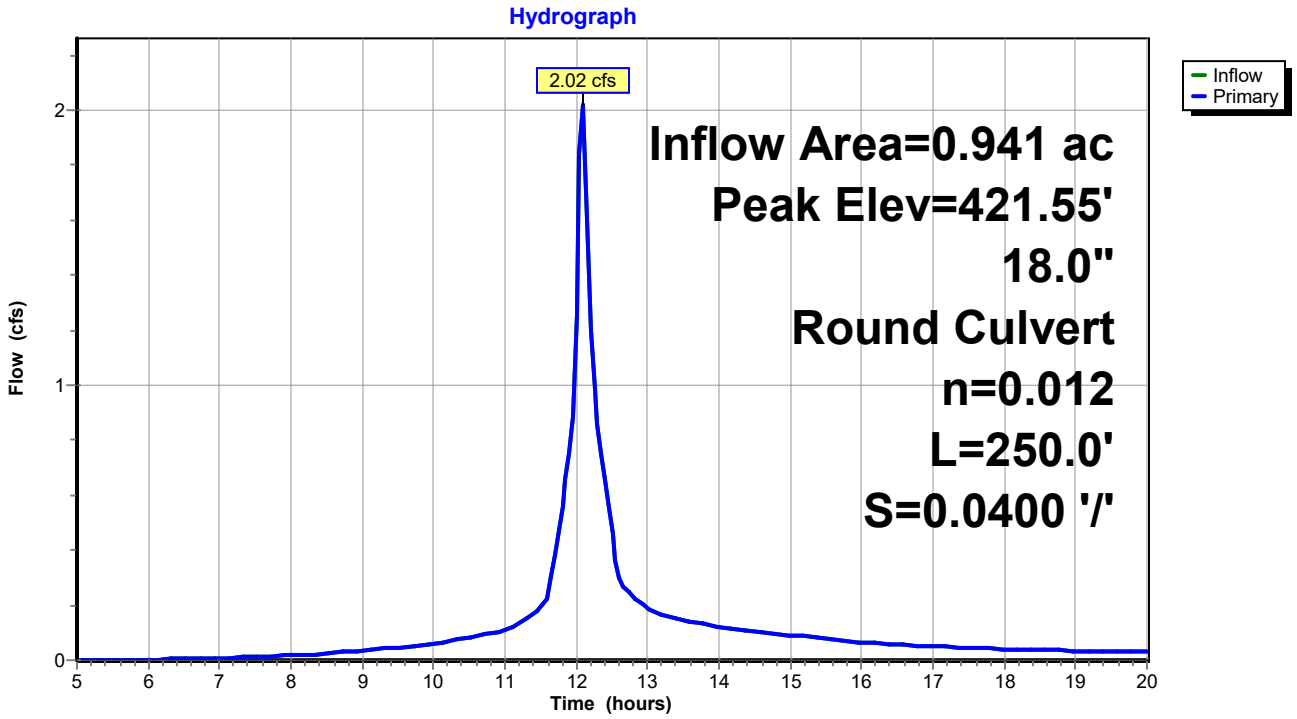
Pond CB #2: CB #2



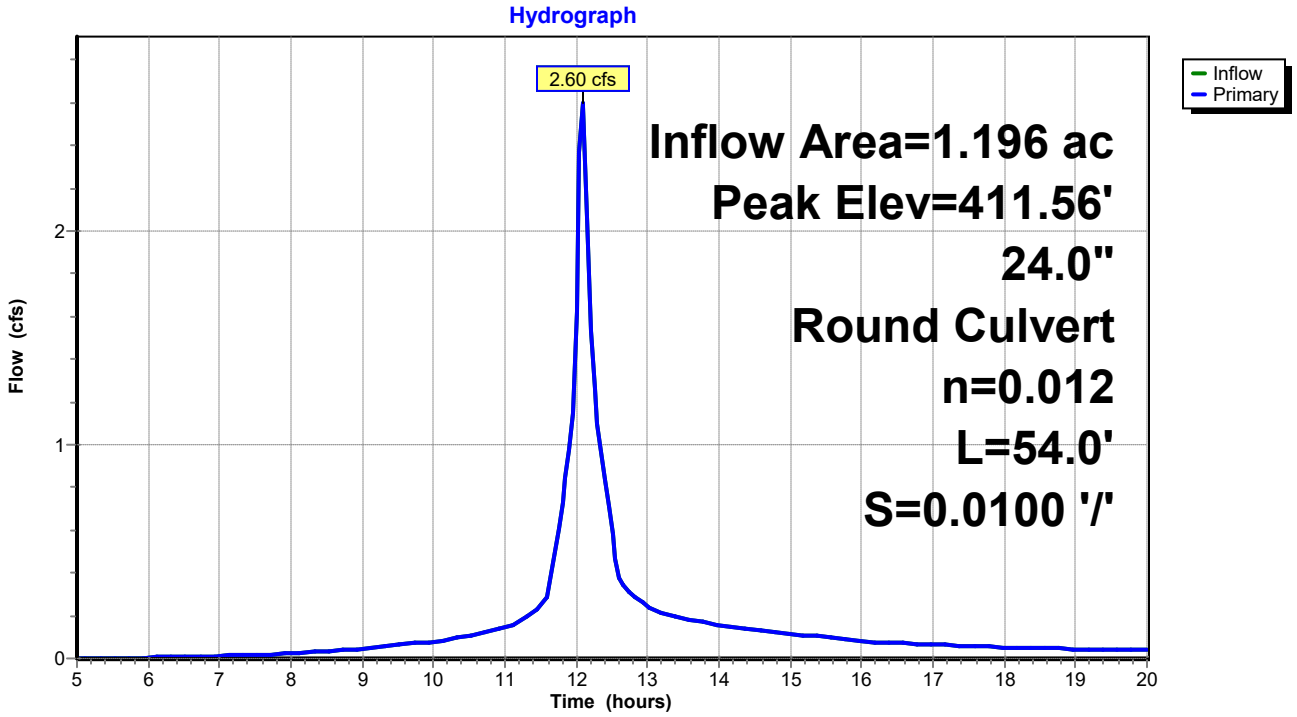
Pond CB #3: CB #3



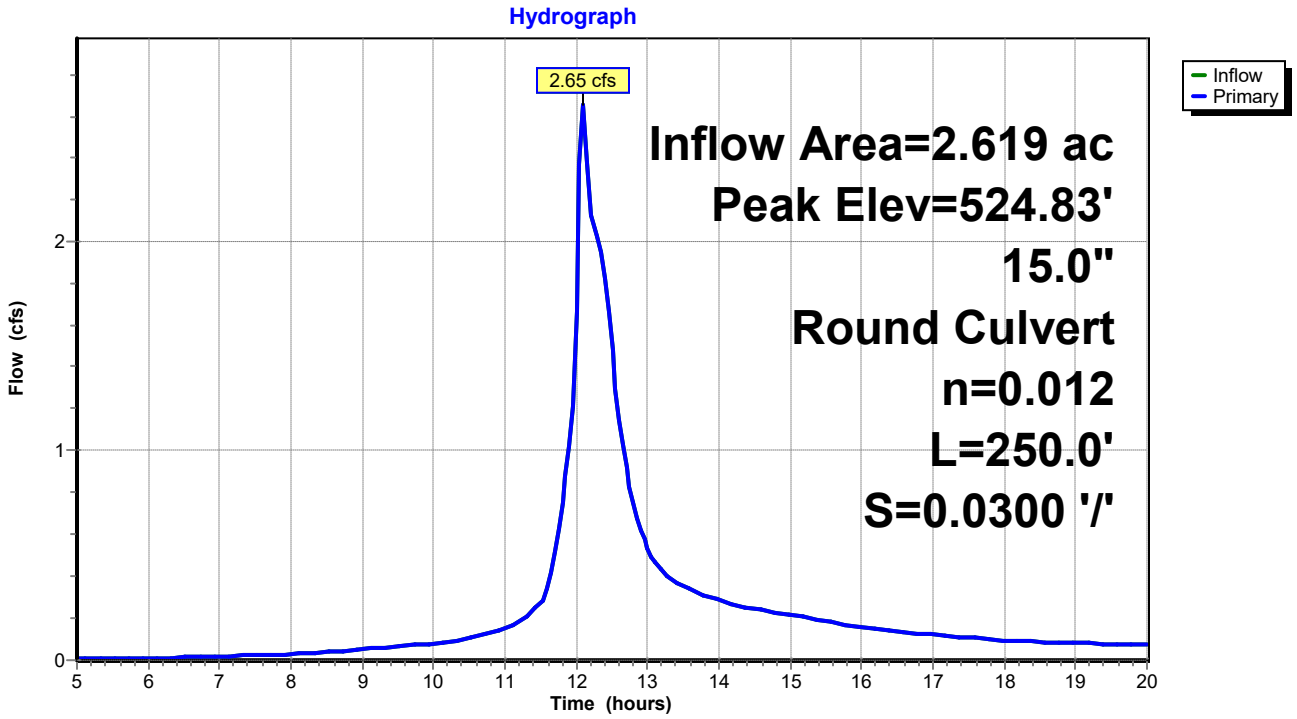
Pond CB #4: CB #4



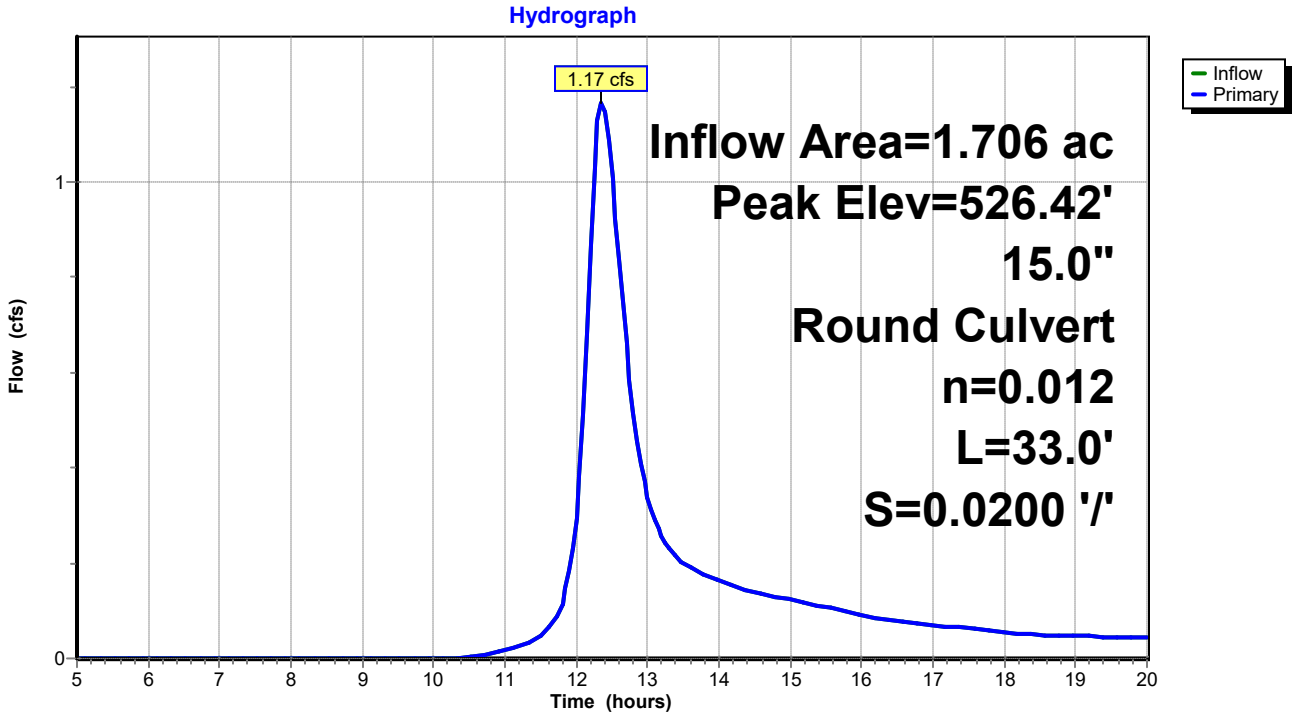
Pond CB #5: CB #5



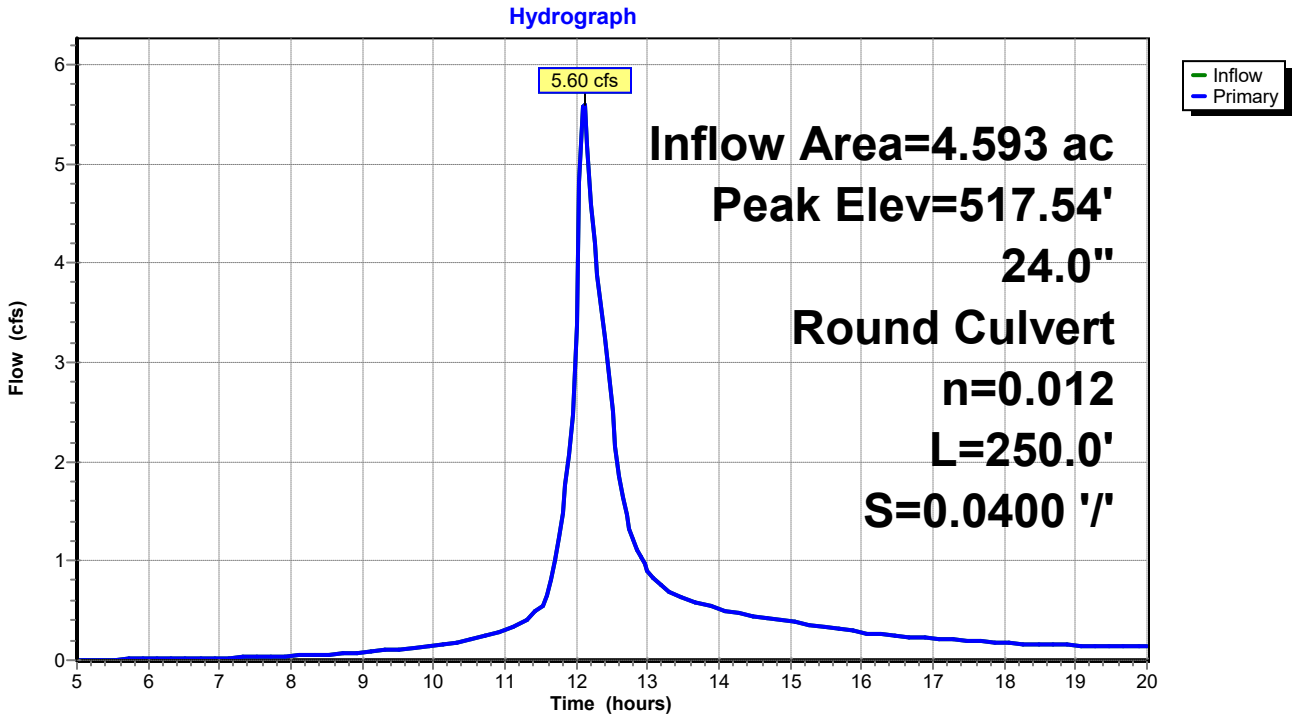
Pond CB #7: CB #7



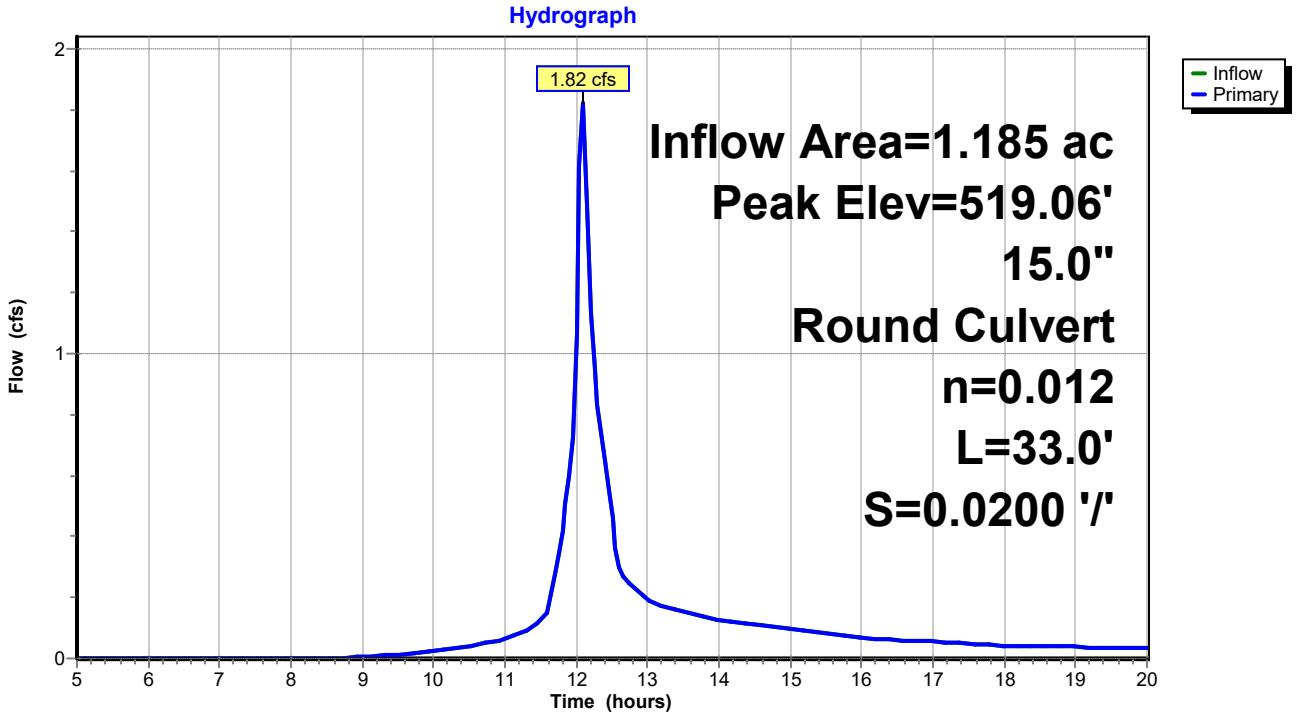
Pond CB #7-A: CB #7-A



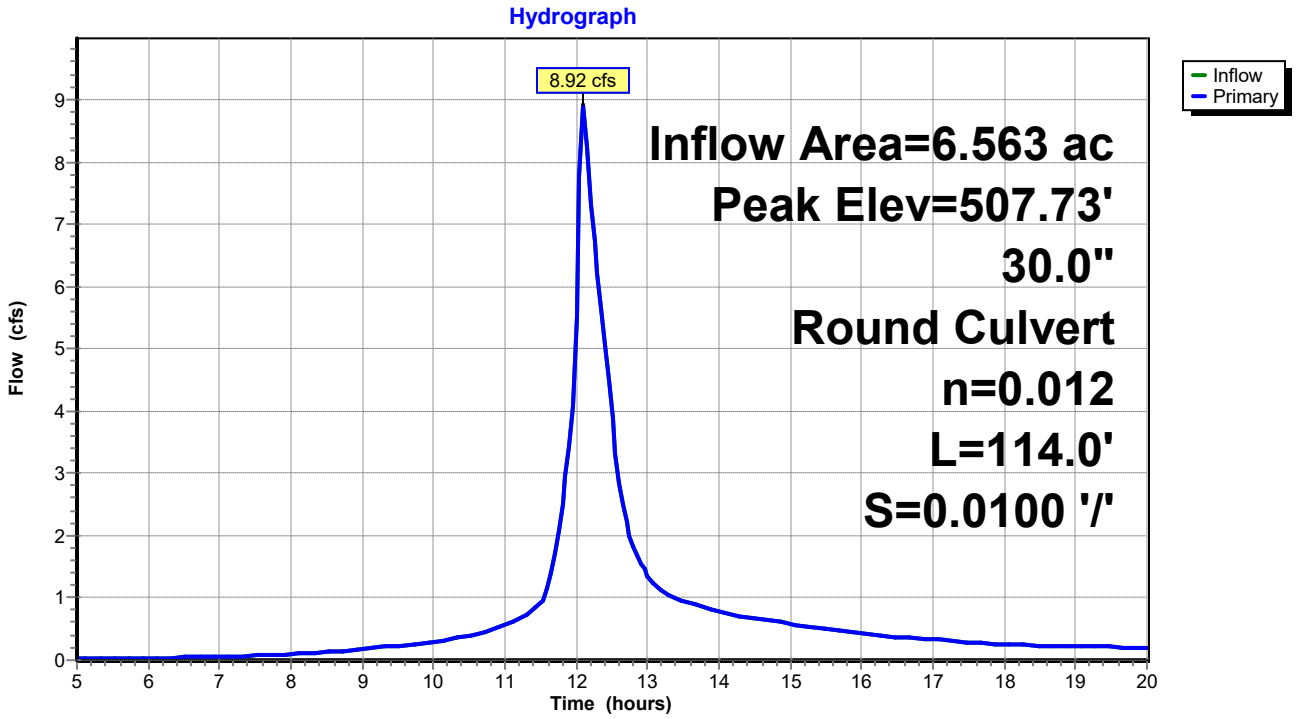
Pond CB #8: CB #8



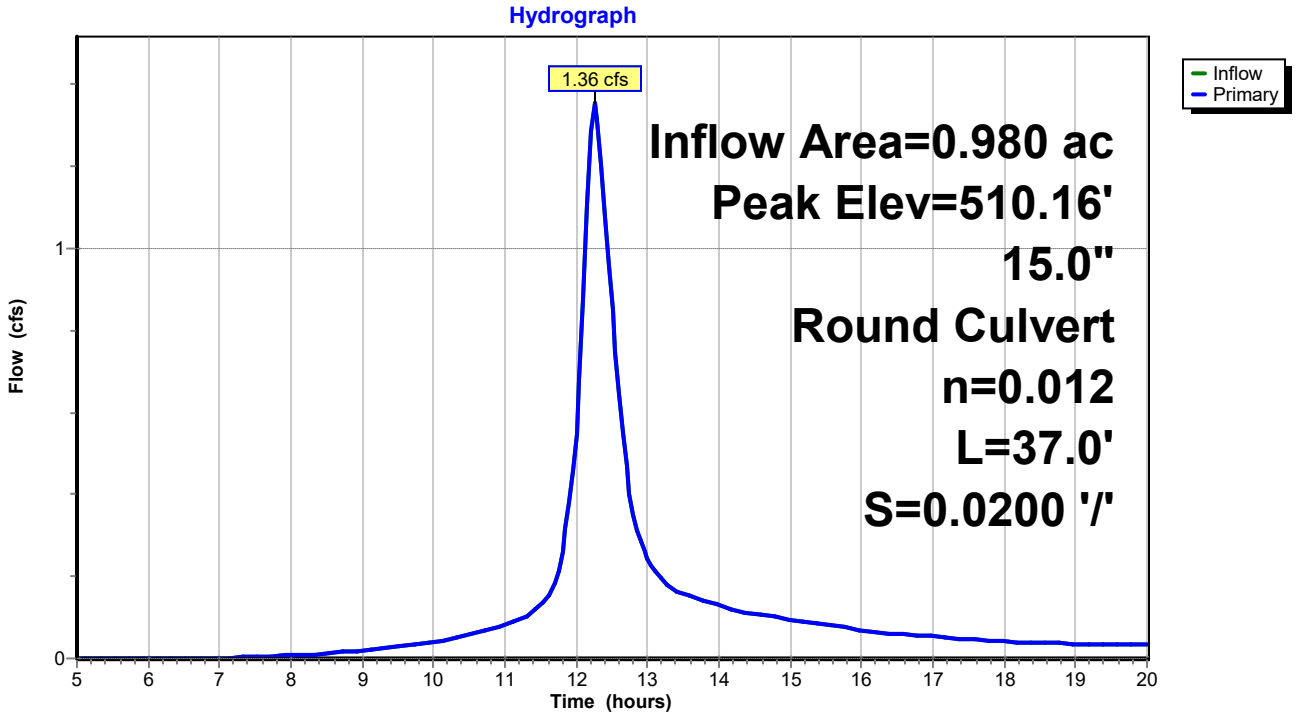
Pond CB #8A: CB #8A



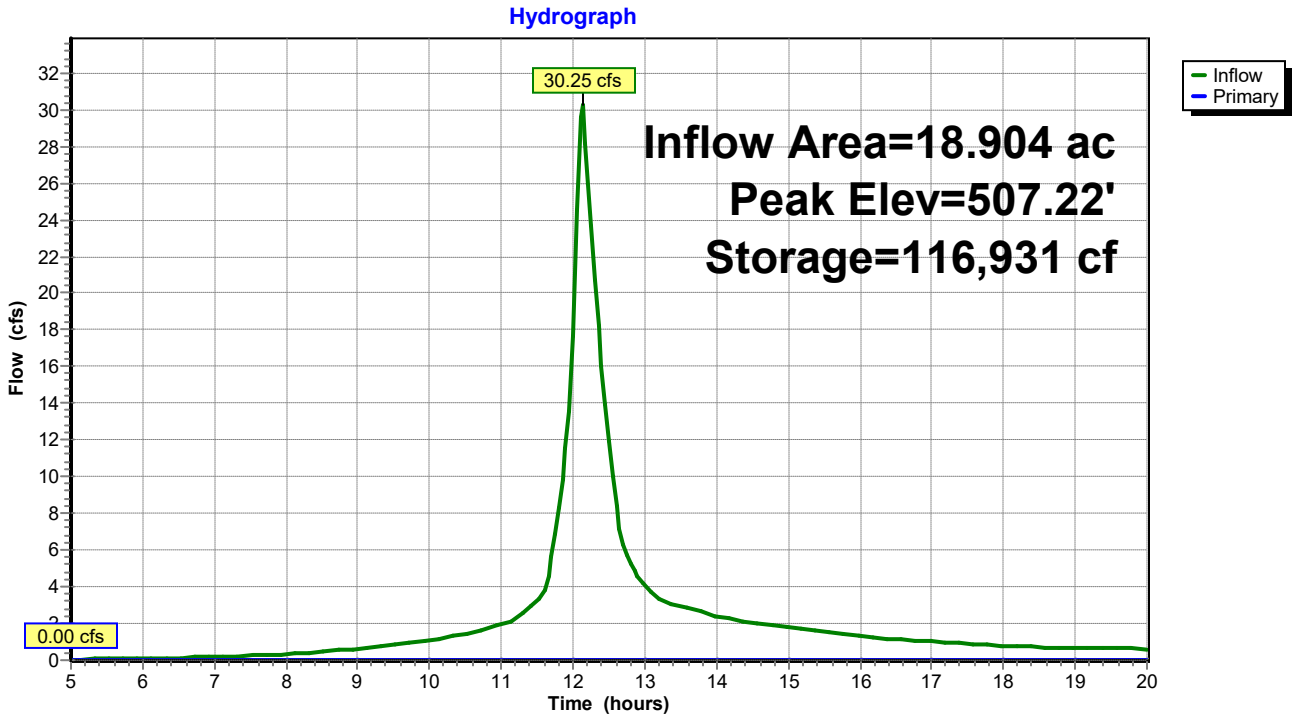
Pond CB #9: CB #9



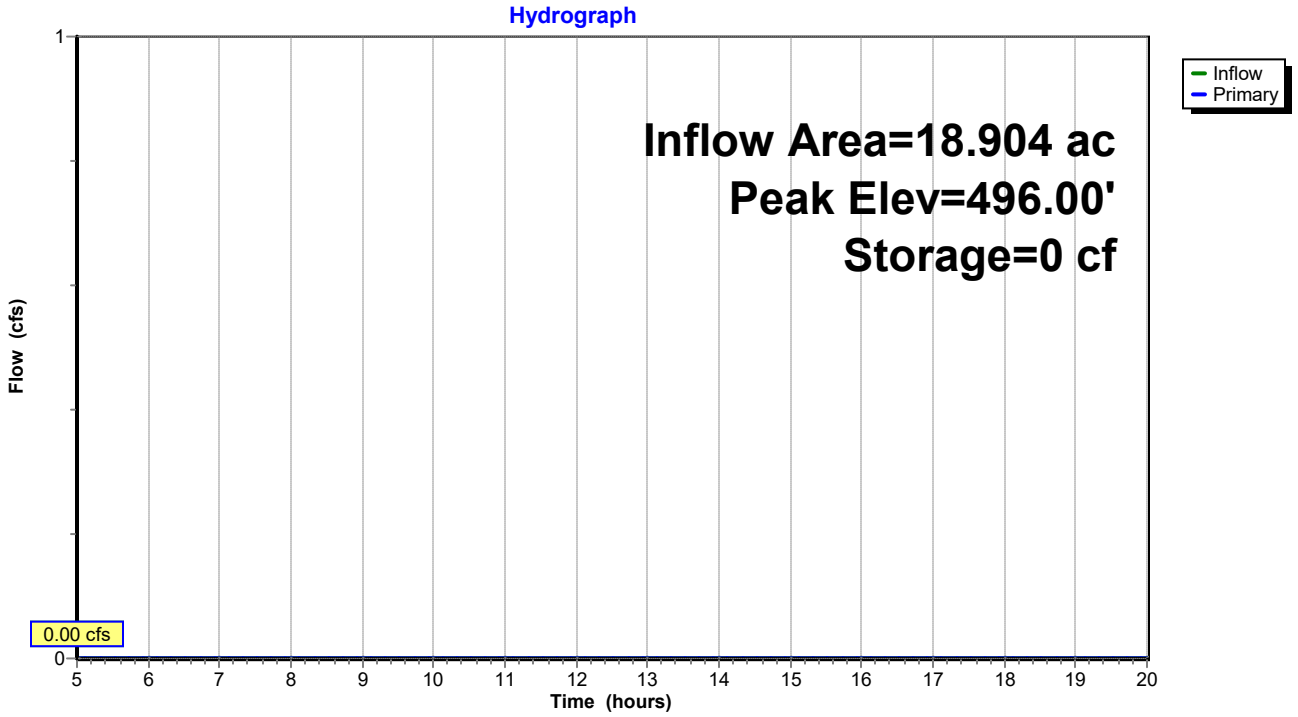
Pond CB #9A: CB #9A



Pond SB: Sediment Basin



Pond SWB: SWB


Hydrograph
Inflow Area=18.904 ac
Peak Elev=496.00'
Storage=0 cf
Inflow
Primary
0.00 cfs
Flow (cfs)
Time (hours)
0
1
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRE-WS1: PRE-WS1 Runoff Area=1,644,711 sf 1.37% Impervious Runoff Depth>1.92"
Flow Length=1,329' Tc=45.2 min CN=71 Runoff=42.46 cfs 6.045 af

Subcatchment PRE-WS2: PRE-WS2 Runoff Area=510,563 sf 9.18% Impervious Runoff Depth>2.00"
Flow Length=1,248' Tc=47.0 min CN=72 Runoff=13.45 cfs 1.951 af

Subcatchment WS-1A-POST: Runoff Area=283,058 sf 83.54% Impervious Runoff Depth>4.06"
Flow Length=489' Tc=13.5 min CN=94 Runoff=23.96 cfs 2.198 af

Subcatchment WS-1B-POST: WS-1B-POST Runoff Area=74,328 sf 10.93% Impervious Runoff Depth>2.60"
Flow Length=550' Tc=24.0 min CN=79 Runoff=3.49 cfs 0.369 af

Subcatchment WS-1C-POST: Runoff Area=1,155,873 sf 1.57% Impervious Runoff Depth>1.86"
Flow Length=1,294' Tc=26.8 min CN=70 Runoff=36.81 cfs 4.112 af

Subcatchment WS-1D-POST: WS-1D-POST Runoff Area=39,753 sf 84.72% Impervious Runoff Depth>4.16"
Flow Length=409' Tc=6.0 min CN=95 Runoff=4.24 cfs 0.316 af

Subcatchment WS-1E-POST: WS-1E-POST Runoff Area=34,386 sf 69.94% Impervious Runoff Depth>3.86"
Flow Length=550' Tc=13.2 min CN=92 Runoff=2.84 cfs 0.254 af

Subcatchment WS-1F-POST: WS-1F-POST Runoff Area=43,116 sf 92.86% Impervious Runoff Depth>4.34"
Flow Length=395' Tc=6.0 min CN=97 Runoff=4.70 cfs 0.358 af

Subcatchment WS-1G-POST: WS-1G-POST Runoff Area=42,702 sf 67.31% Impervious Runoff Depth>3.65"
Flow Length=446' Tc=18.7 min CN=90 Runoff=2.99 cfs 0.298 af

Subcatchment WS-1H-POST: WS-1H-POST Runoff Area=43,730 sf 69.82% Impervious Runoff Depth>3.76"
Flow Length=253' Tc=10.4 min CN=91 Runoff=3.84 cfs 0.315 af

Subcatchment WS-1I-POST: WS-1I-POST Runoff Area=38,705 sf 70.50% Impervious Runoff Depth>3.76"
Flow Length=427' Tc=6.0 min CN=91 Runoff=3.88 cfs 0.279 af

Subcatchment WS-1K-POST: WS-1K-POST Runoff Area=44,314 sf 55.33% Impervious Runoff Depth>3.66"
Flow Length=382' Tc=6.7 min CN=90 Runoff=4.29 cfs 0.310 af

Subcatchment WS-1L-POST: WS-1L-POST Runoff Area=33,451 sf 91.16% Impervious Runoff Depth>4.25"
Flow Length=417' Tc=6.0 min CN=96 Runoff=3.61 cfs 0.272 af

Subcatchment WS-1M-POST: WS-1M-POST Runoff Area=94,291 sf 58.74% Impervious Runoff Depth>3.46"
Flow Length=462' Tc=7.4 min CN=88 Runoff=8.56 cfs 0.624 af

Subcatchment WS-1N-POST: WS-1N-POST Runoff Area=51,619 sf 52.81% Impervious Runoff Depth>3.17"
Flow Length=525' Tc=6.0 min CN=85 Runoff=4.53 cfs 0.313 af

Subcatchment WS-2A-POST: WS-2A-POST Runoff Area=42,098 sf 49.31% Impervious Runoff Depth>1.73"
Tc=6.0 min CN=68 Runoff=2.04 cfs 0.139 af

Subcatchment WS-2B-POST: WS-2B-POST Runoff Area=44,956 sf 48.02% Impervious Runoff Depth>3.15"
Flow Length=1,111' Tc=27.3 min CN=85 Runoff=2.38 cfs 0.271 af

Subcatchment WS-2C-POST: WS-2C-POST Runoff Area=13,660 sf 86.33% Impervious Runoff Depth>3.96"
Tc=6.0 min CN=93 Runoff=1.42 cfs 0.104 af

Subcatchment WS-2D-POST: WS-2D-POST Runoff Area=11,996 sf 79.78% Impervious Runoff Depth>3.96"
Tc=6.0 min CN=93 Runoff=1.24 cfs 0.091 af

Subcatchment WS-2E-POST: WS-2E-POST Runoff Area=15,354 sf 72.42% Impervious Runoff Depth>3.76"
Tc=6.0 min CN=91 Runoff=1.54 cfs 0.111 af

Subcatchment WS-2F-POST: WS-2F-POST Runoff Area=11,106 sf 83.41% Impervious Runoff Depth>4.06"
Tc=6.0 min CN=94 Runoff=1.17 cfs 0.086 af

Reach DP-1-POST: DP-1-POST Inflow=37.35 cfs 6.639 af
Outflow=37.35 cfs 6.639 af

Reach POST-DP2: POST-DP2 Inflow=8.56 cfs 0.801 af
Outflow=8.56 cfs 0.801 af

Reach PRE-DP1: PRE-DP1 Inflow=42.46 cfs 6.045 af
Outflow=42.46 cfs 6.045 af

Reach PRE-DP2: PRE-DP2 Inflow=13.45 cfs 1.951 af
Outflow=13.45 cfs 1.951 af

Pond BI: Bioretention Peak Elev=499.73' Storage=25,847 cf Inflow=30.16 cfs 2.835 af
Discarded=0.74 cfs 0.185 af Primary=8.62 cfs 2.640 af Secondary=0.00 cfs 0.000 af Outflow=9.37 cfs 2.824 af

Pond CB #1: CB #1 Peak Elev=489.26' Inflow=2.38 cfs 0.271 af
Outflow=2.38 cfs 0.271 af

Pond CB #10: CB #10 Peak Elev=507.58' Inflow=23.26 cfs 2.223 af
30.0" Round Culvert n=0.012 L=225.0' S=0.0100 '/' Outflow=23.26 cfs 2.223 af

Pond CB #11: CB #11 Peak Elev=505.33' Inflow=23.26 cfs 2.223 af
30.0" Round Culvert n=0.012 L=229.0' S=0.0100 '/' Outflow=23.26 cfs 2.223 af

Pond CB #13: CB #13 Peak Elev=503.39' Inflow=27.05 cfs 2.502 af
30.0" Round Culvert n=0.012 L=143.0' S=0.0100 '/' Outflow=27.05 cfs 2.502 af

Pond CB #14: CB #14 Peak Elev=502.40' Inflow=31.31 cfs 2.812 af
30.0" Round Culvert n=0.012 L=67.0' S=0.0099 '/' Outflow=31.31 cfs 2.812 af

Pond CB #15: CB #15 Peak Elev=501.37' Inflow=34.86 cfs 3.085 af
36.0" Round Culvert n=0.012 L=83.0' S=0.0100 '/' Outflow=34.86 cfs 3.085 af

Pond CB #16: CB #16 Peak Elev=501.04' Inflow=43.43 cfs 3.709 af
36.0" Round Culvert n=0.012 L=178.0' S=0.0100 '/' Outflow=43.43 cfs 3.709 af

Pond CB #2: CB #2 Peak Elev=473.89' Inflow=1.42 cfs 0.104 af
24.0" Round Culvert n=0.012 L=300.0' S=0.1000 '/' Outflow=1.42 cfs 0.104 af

Pond CB #3: CB #3 Peak Elev=444.23' Inflow=2.66 cfs 0.195 af
15.0" Round Culvert n=0.012 L=250.0' S=0.0900 '/' Outflow=2.66 cfs 0.195 af

Pond CB #4: CB #4 Peak Elev=421.89' Inflow=4.20 cfs 0.305 af
18.0" Round Culvert n=0.012 L=250.0' S=0.0400 '/' Outflow=4.20 cfs 0.305 af

Pond CB #5: CB #5 Peak Elev=411.91' Inflow=5.37 cfs 0.391 af
24.0" Round Culvert n=0.012 L=54.0' S=0.0100 '/' Outflow=5.37 cfs 0.391 af

Pond CB #7: CB #7 Peak Elev=525.68' Inflow=6.03 cfs 0.686 af
15.0" Round Culvert n=0.012 L=250.0' S=0.0300 '/' Outflow=6.03 cfs 0.686 af

Pond CB #7-A: CB #7-A Peak Elev=526.88' Inflow=3.49 cfs 0.369 af
15.0" Round Culvert n=0.012 L=33.0' S=0.0200 '/' Outflow=3.49 cfs 0.369 af

Pond CB #8: CB #8 Peak Elev=518.24' Inflow=12.93 cfs 1.252 af
24.0" Round Culvert n=0.012 L=250.0' S=0.0400 '/' Outflow=12.93 cfs 1.252 af

Pond CB #8A: CB #8A Peak Elev=519.60' Inflow=4.53 cfs 0.313 af
15.0" Round Culvert n=0.012 L=33.0' S=0.0200 '/' Outflow=4.53 cfs 0.313 af

Pond CB #9: CB #9 Peak Elev=508.46' Inflow=19.59 cfs 1.909 af
30.0" Round Culvert n=0.012 L=114.0' S=0.0100 '/' Outflow=19.59 cfs 1.909 af

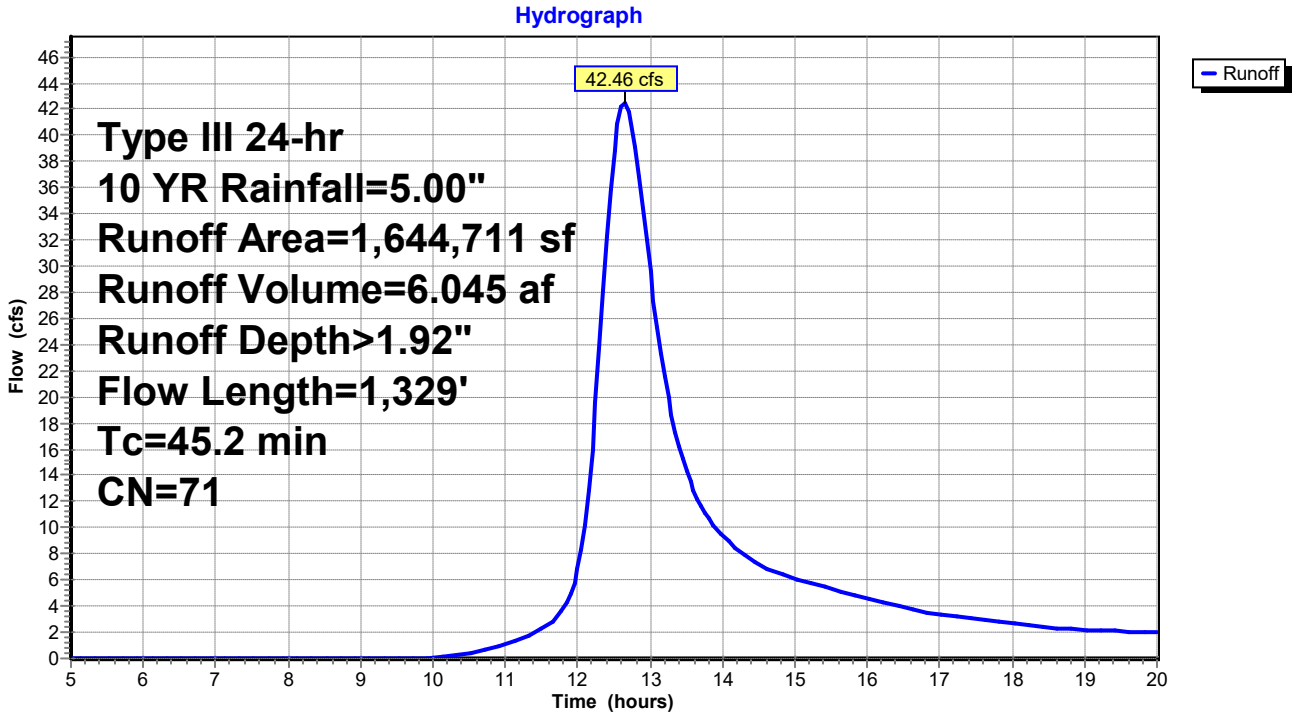
Pond CB #9A: CB #9A Peak Elev=510.49' Inflow=2.99 cfs 0.298 af
15.0" Round Culvert n=0.012 L=37.0' S=0.0200 '/' Outflow=2.99 cfs 0.298 af

Pond SB: Sediment Basin Peak Elev=508.52' Storage=143,696 cf Inflow=64.34 cfs 5.907 af
Outflow=30.16 cfs 2.835 af

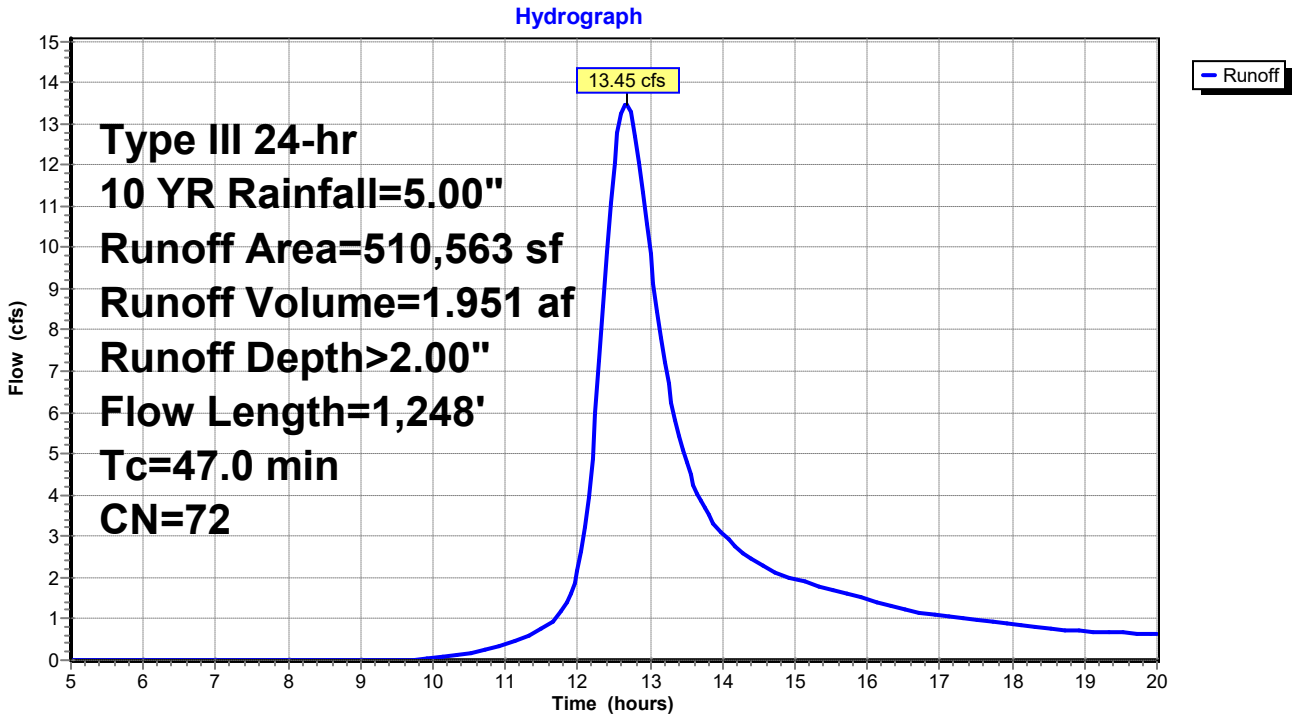
Pond SWB: SWB Peak Elev=500.12' Storage=38,160 cf Inflow=8.62 cfs 2.640 af
Outflow=5.58 cfs 2.527 af

Total Runoff Area = 98.112 ac Runoff Volume = 18.816 af Average Runoff Depth = 2.30"
82.73% Pervious = 81.165 ac 17.27% Impervious = 16.947 ac

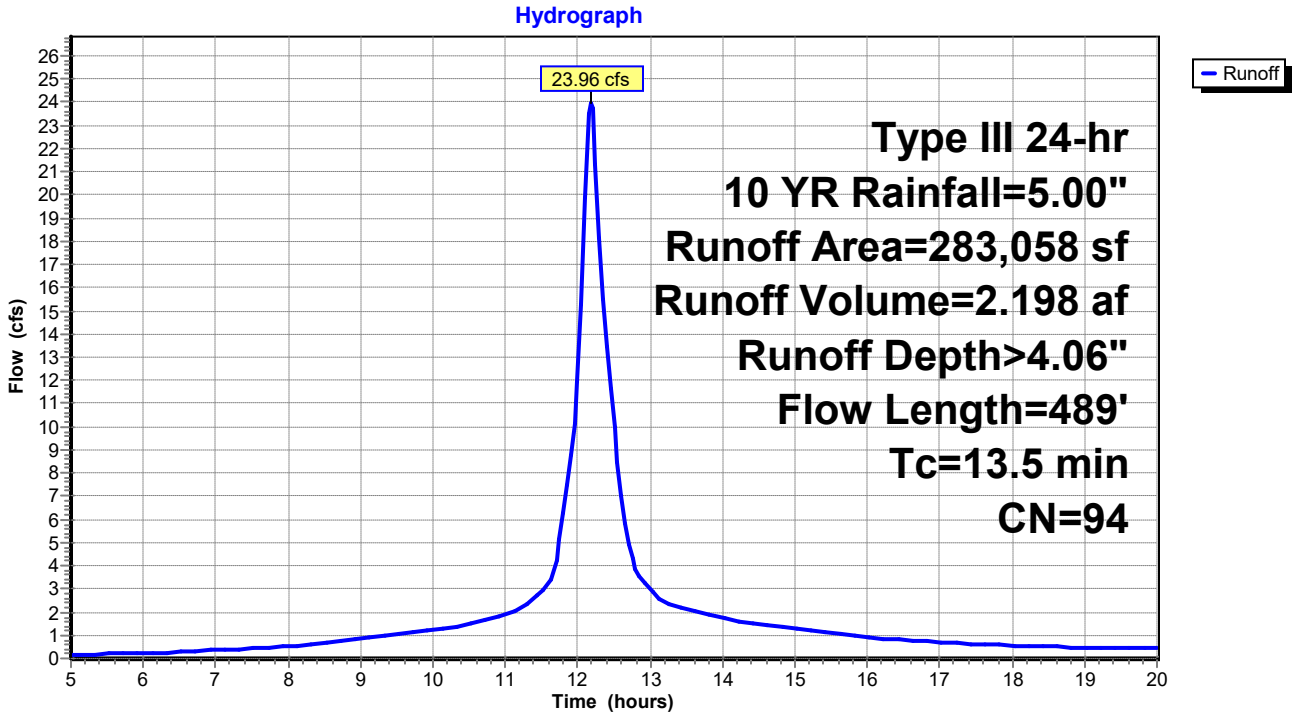
Subcatchment PRE-WS1: PRE-WS1



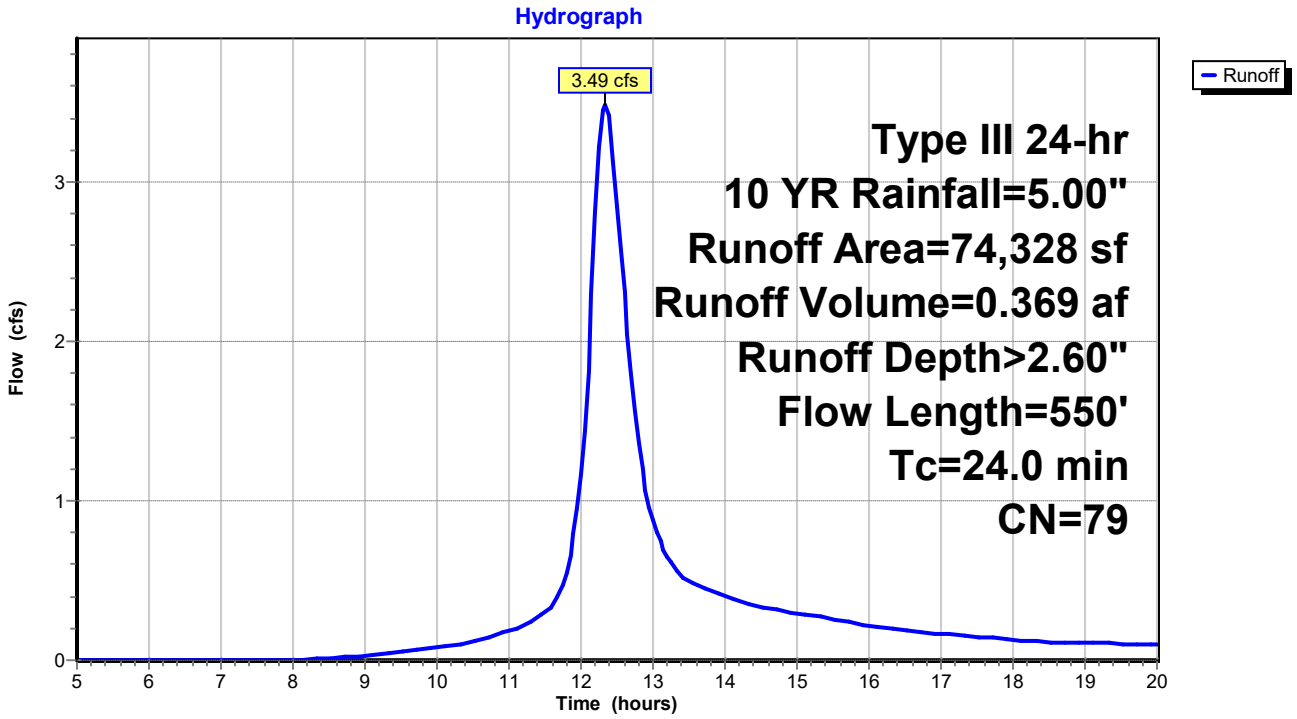
Subcatchment PRE-WS2: PRE-WS2



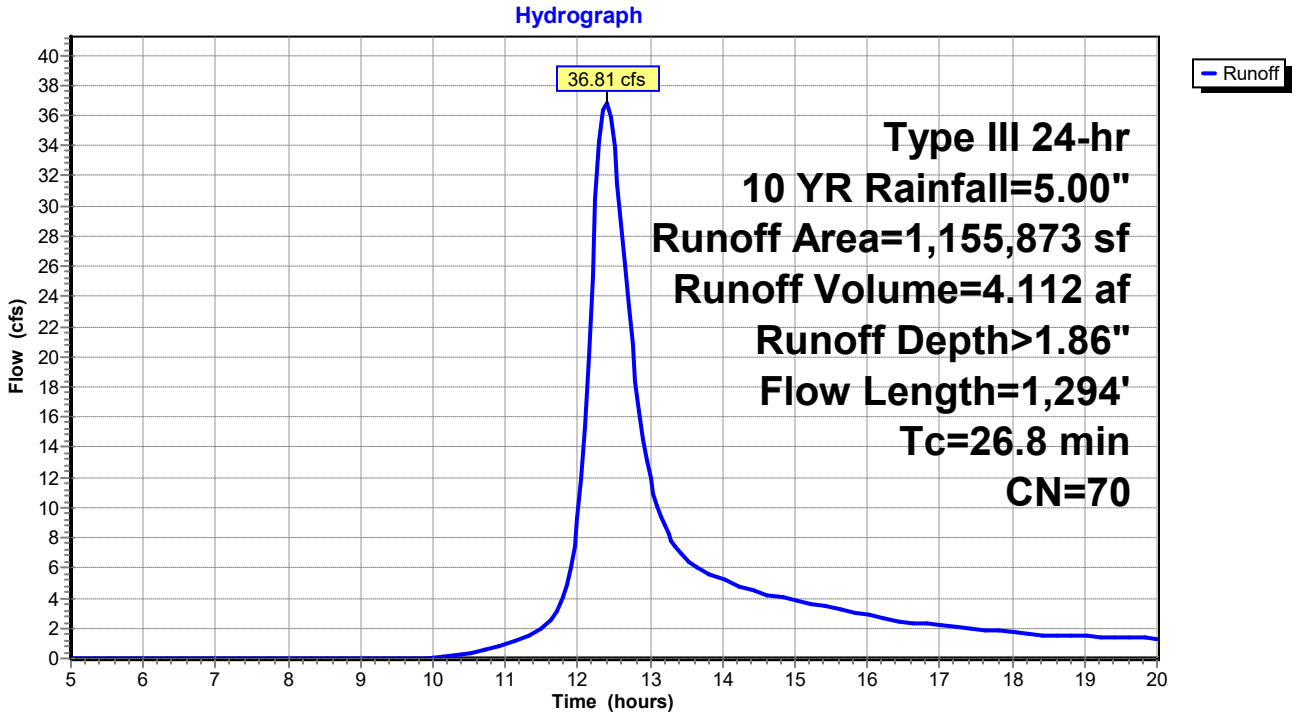
Subcatchment WS-1A-POST: WS-1A-POST



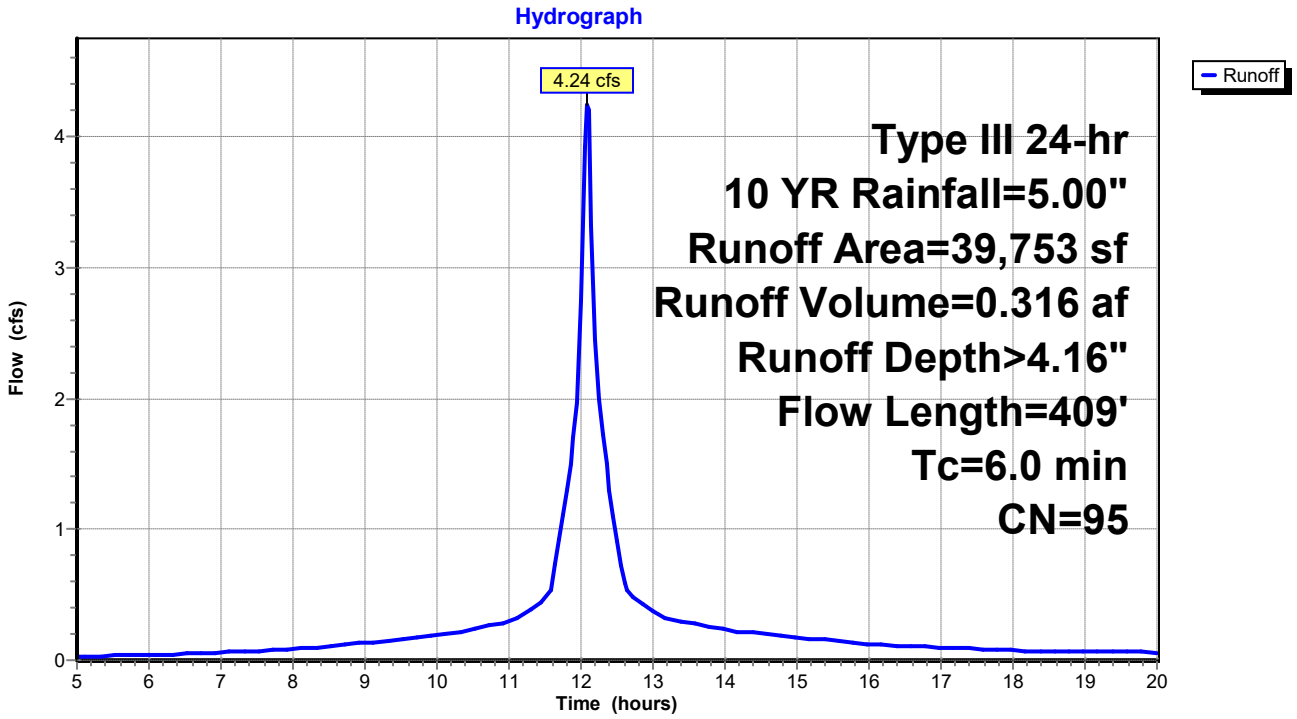
Subcatchment WS-1B-POST: WS-1B-POST



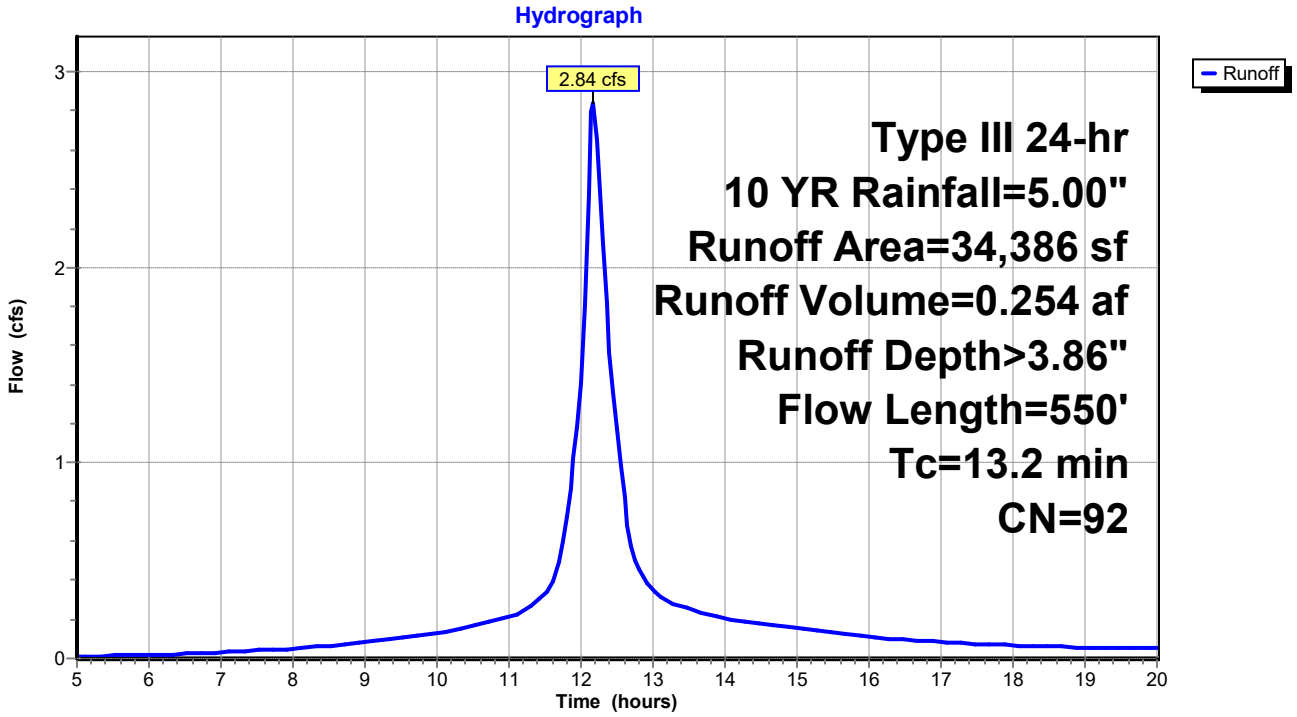
Subcatchment WS-1C-POST: WS-1C-POST



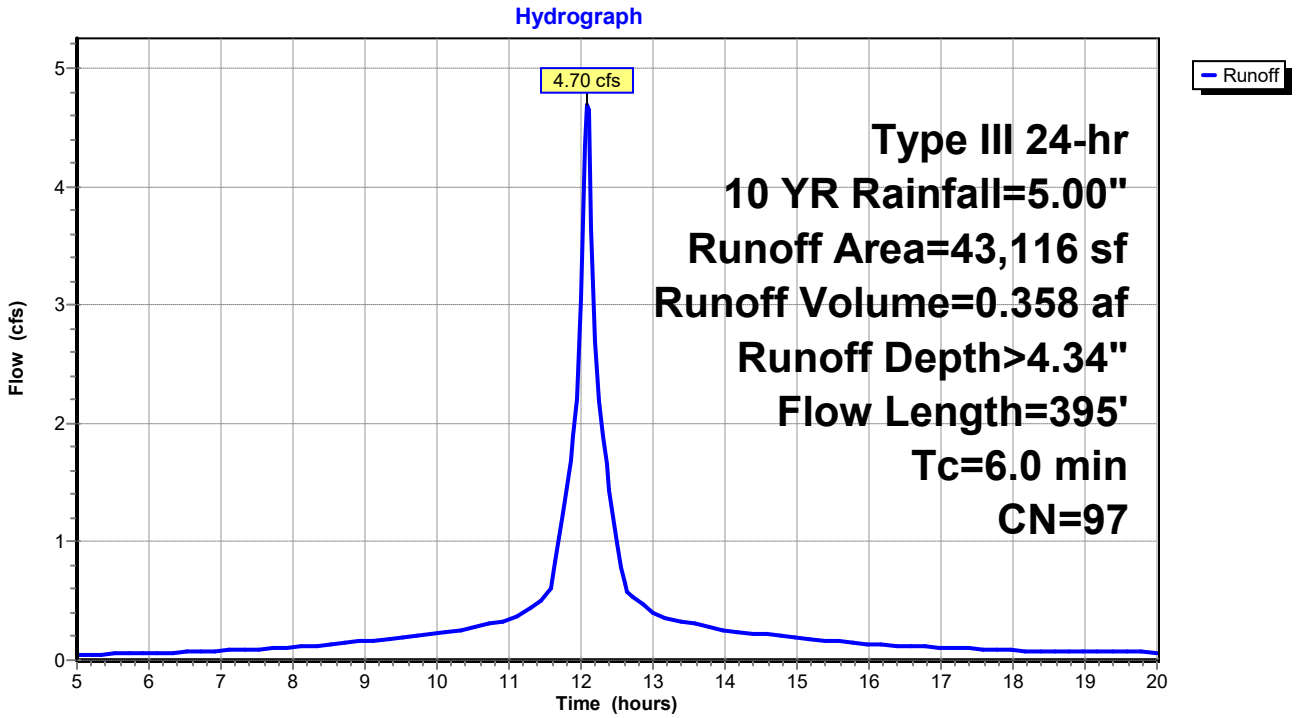
Subcatchment WS-1D-POST: WS-1D-POST



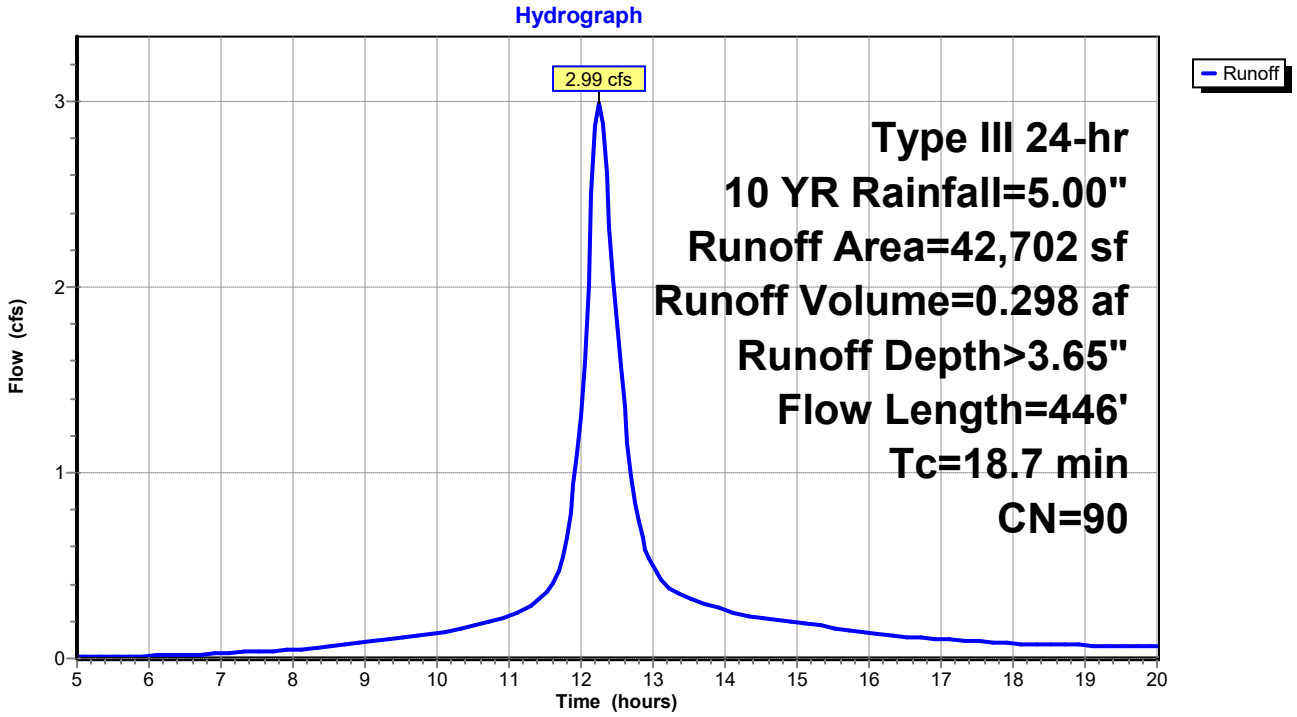
Subcatchment WS-1E-POST: WS-1E-POST



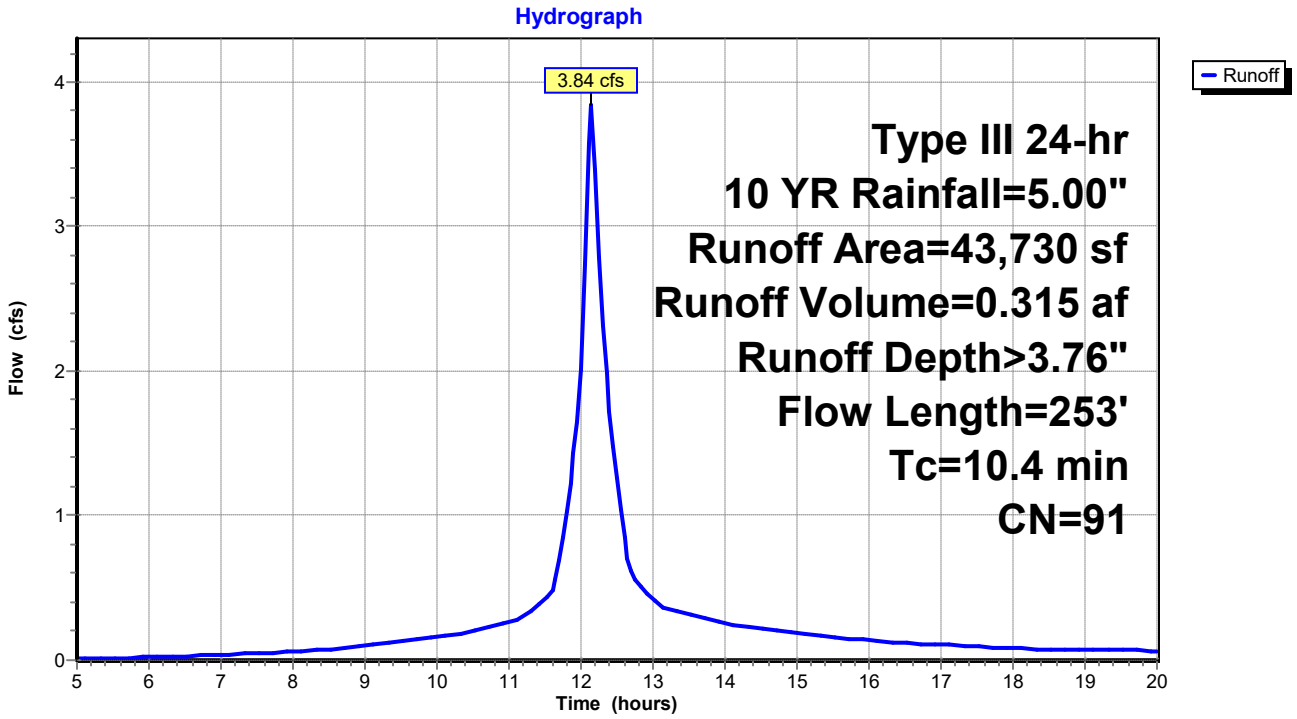
Subcatchment WS-1F-POST: WS-1F-POST



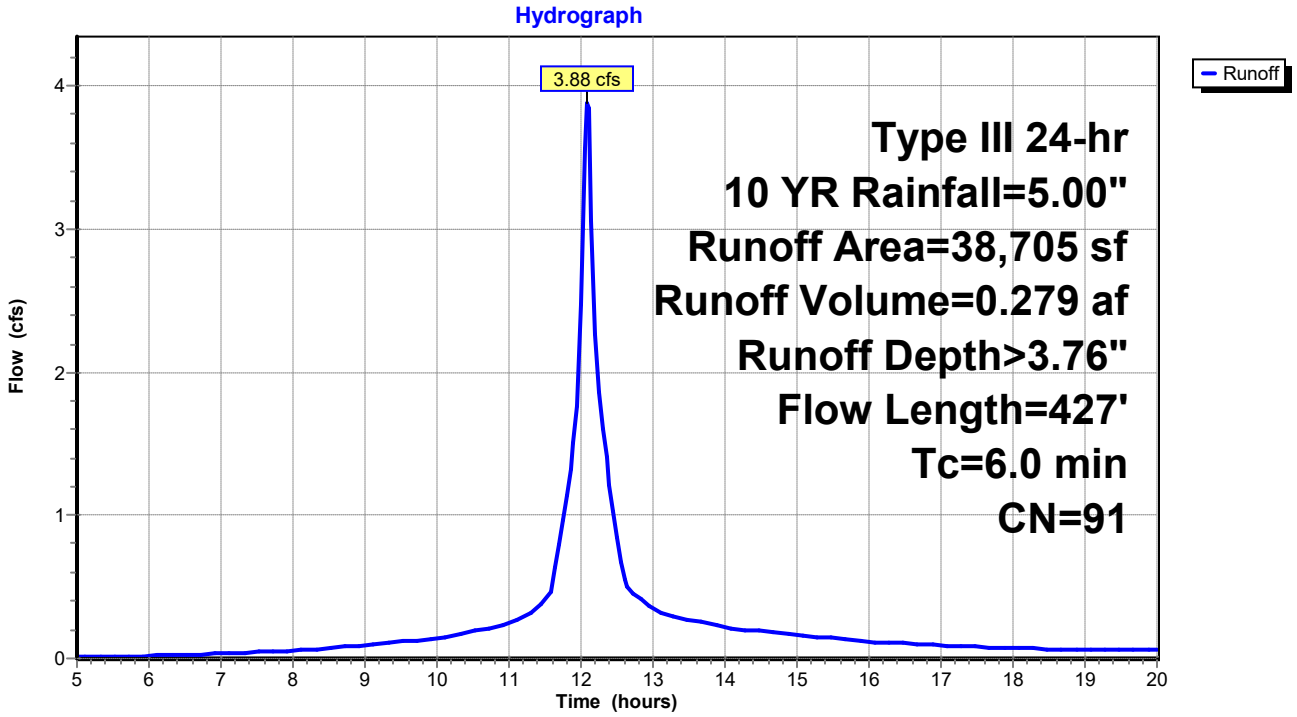
Subcatchment WS-1G-POST: WS-1G-POST



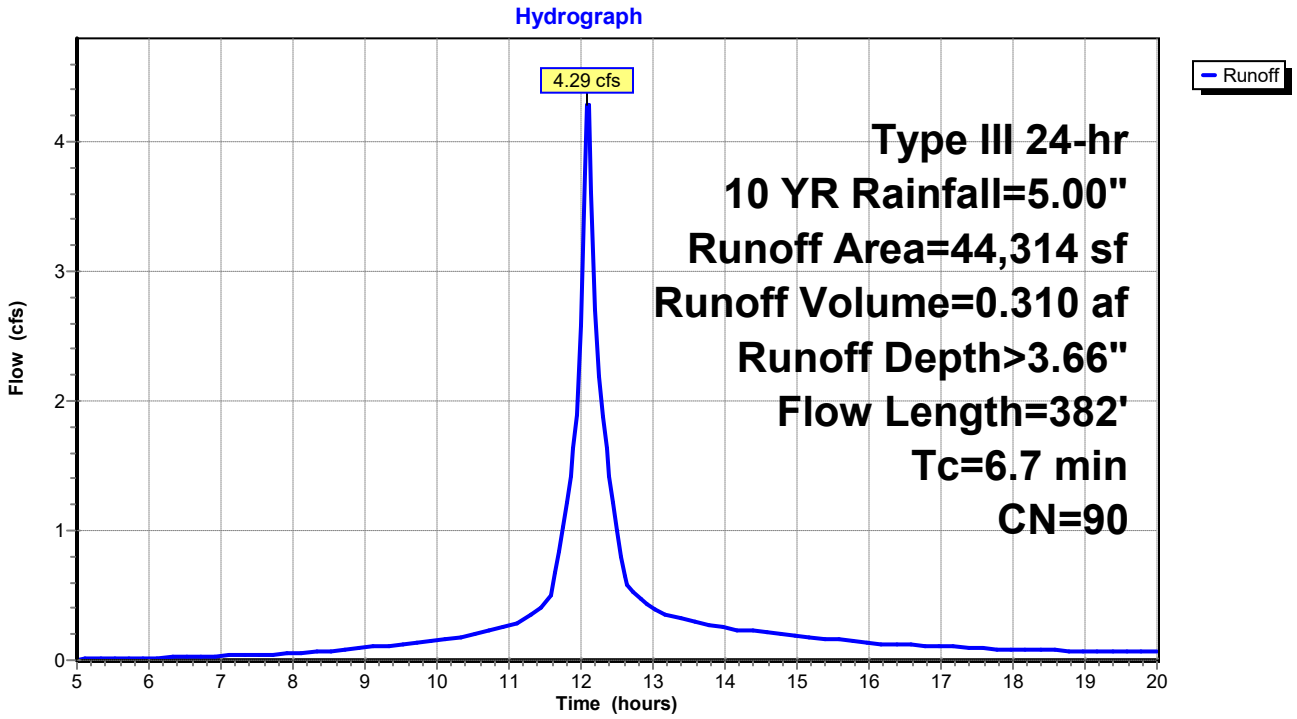
Subcatchment WS-1H-POST: WS-1H-POST



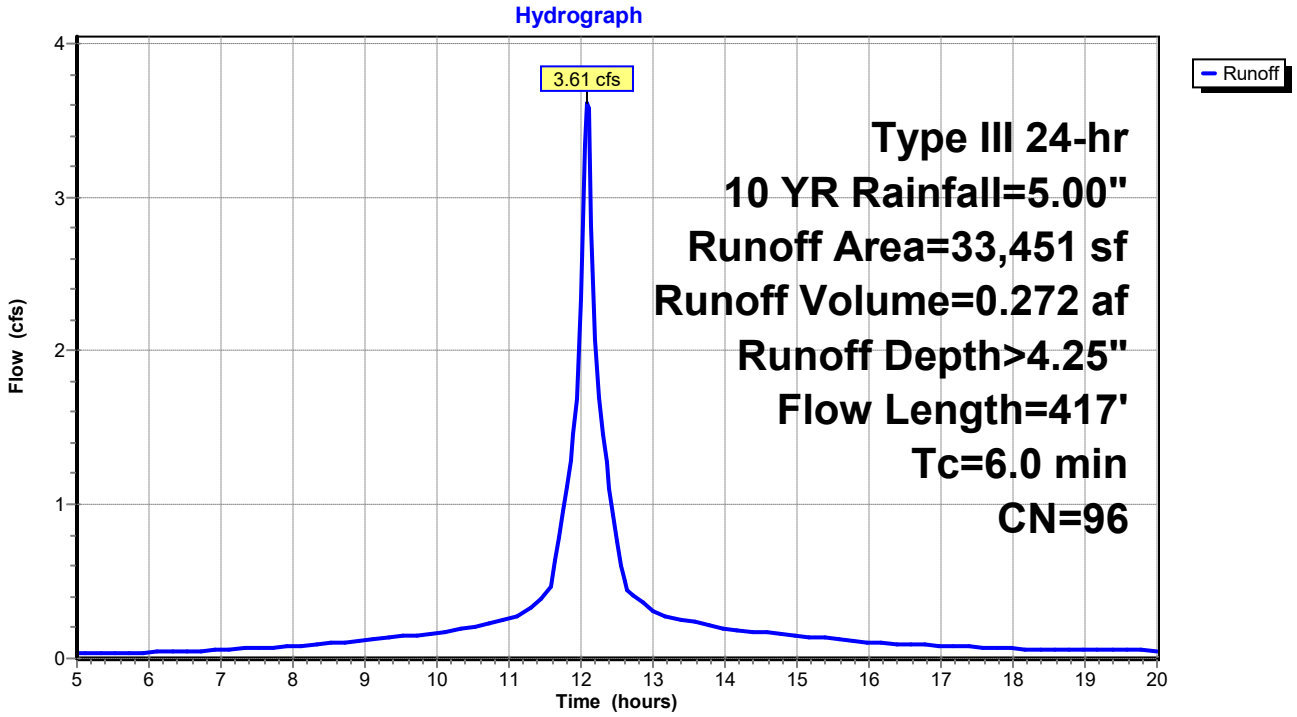
Subcatchment WS-1I-POST: WS-1I-POST



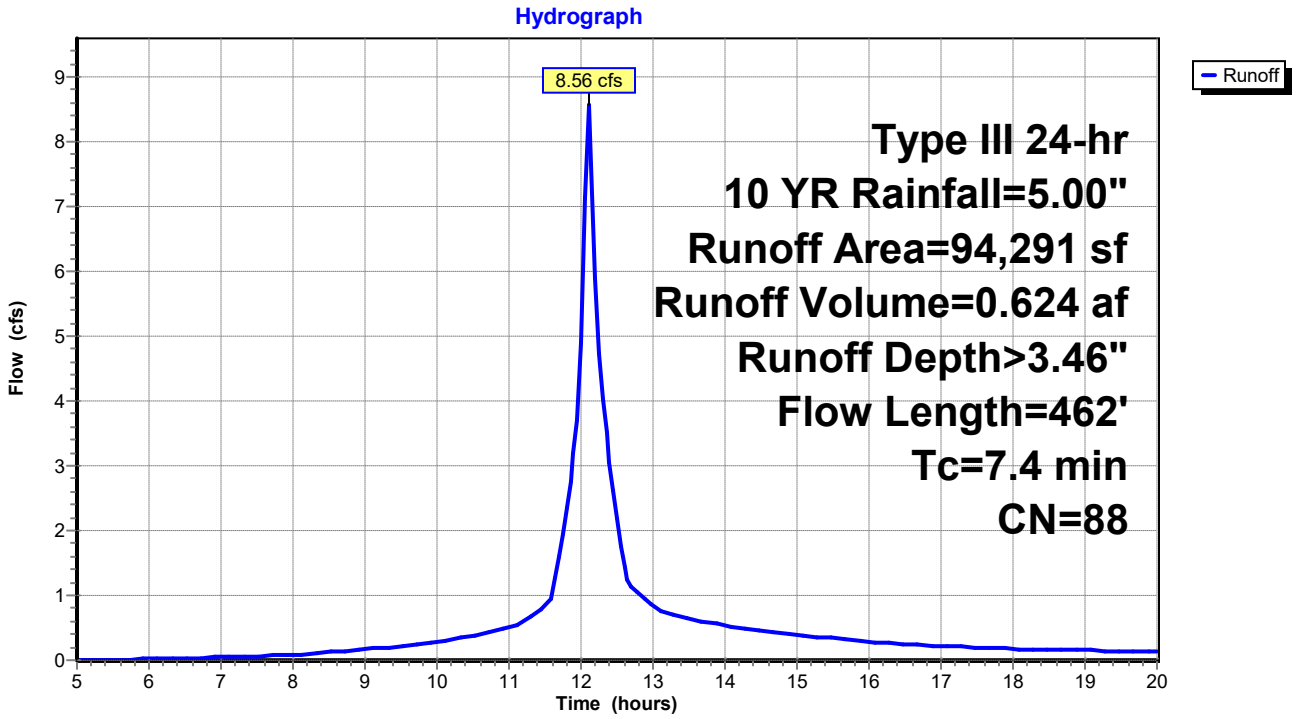
Subcatchment WS-1K-POST: WS-1K-POST



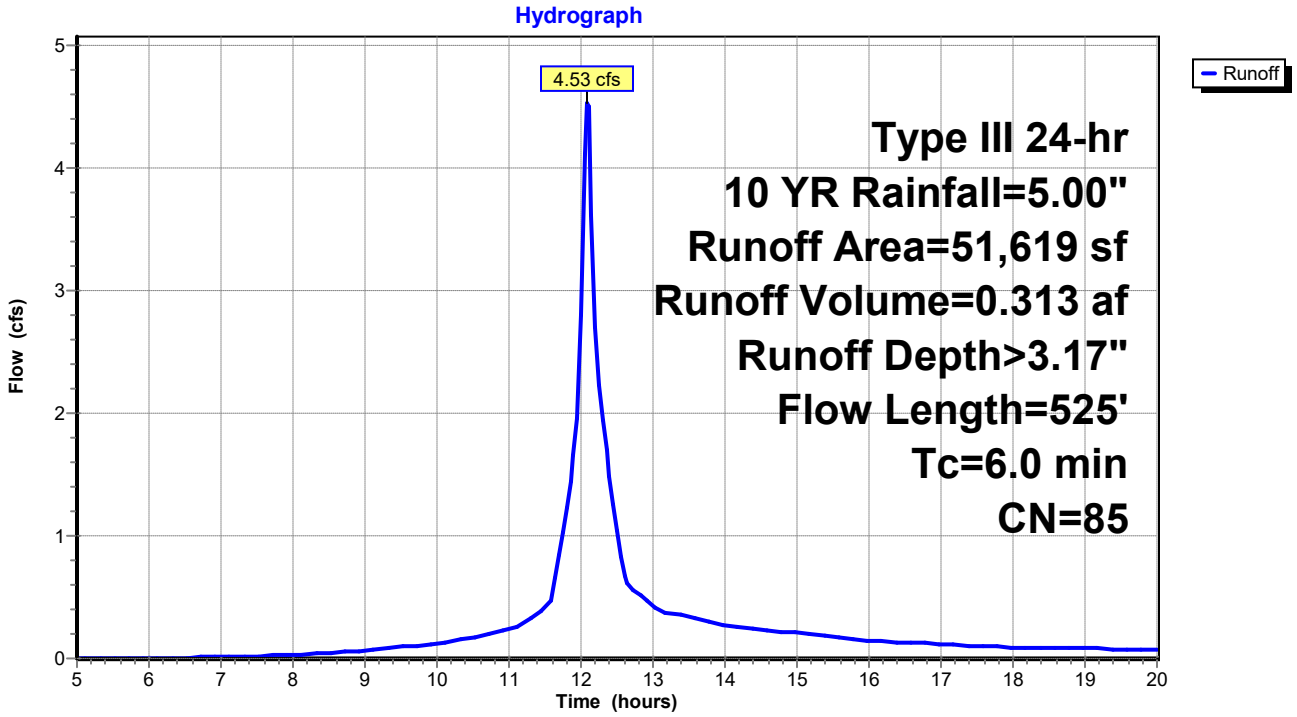
Subcatchment WS-1L-POST: WS-1L-POST



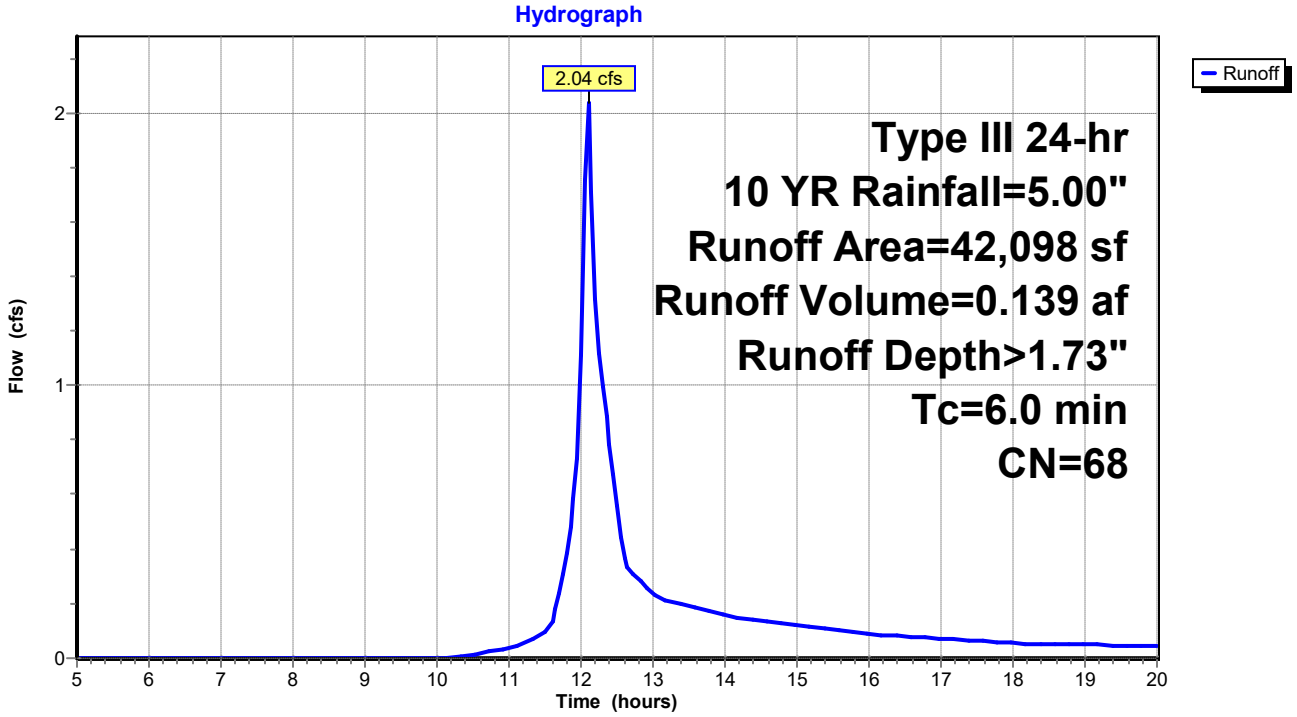
Subcatchment WS-1M-POST: WS-1M-POST



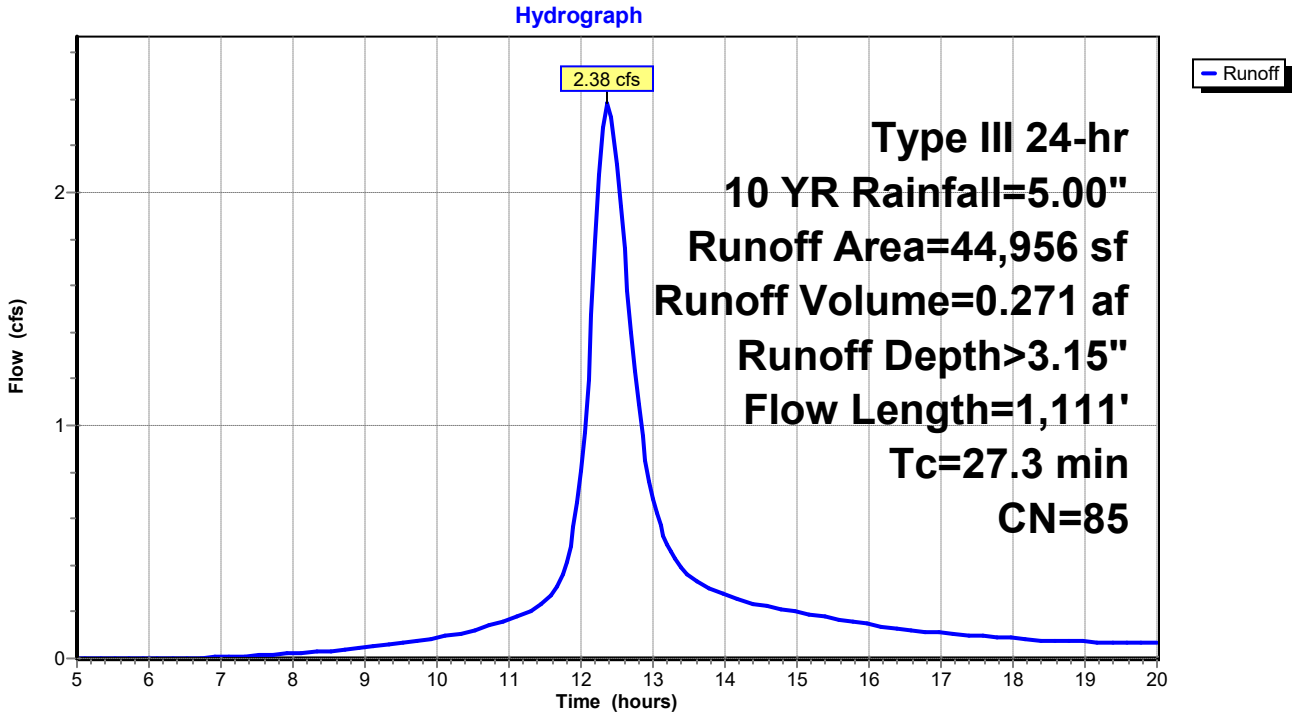
Subcatchment WS-1N-POST: WS-1N-POST



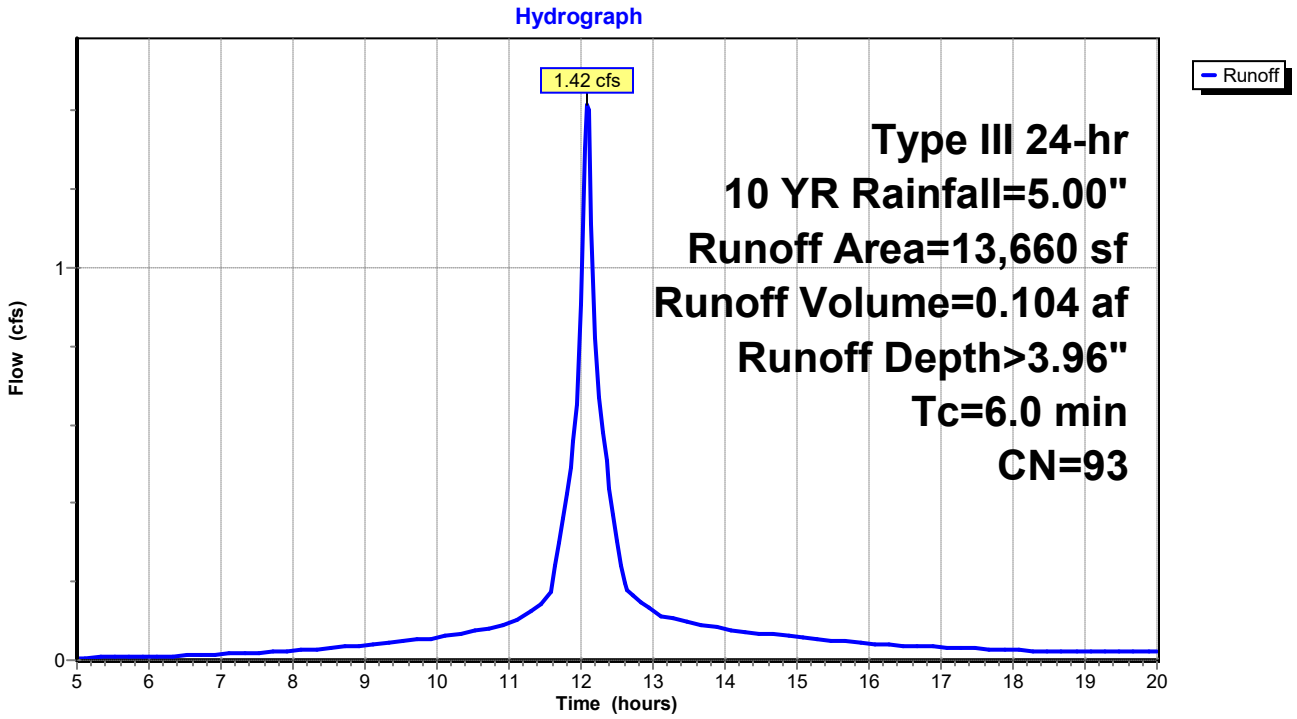
Subcatchment WS-2A-POST: WS-2A-POST



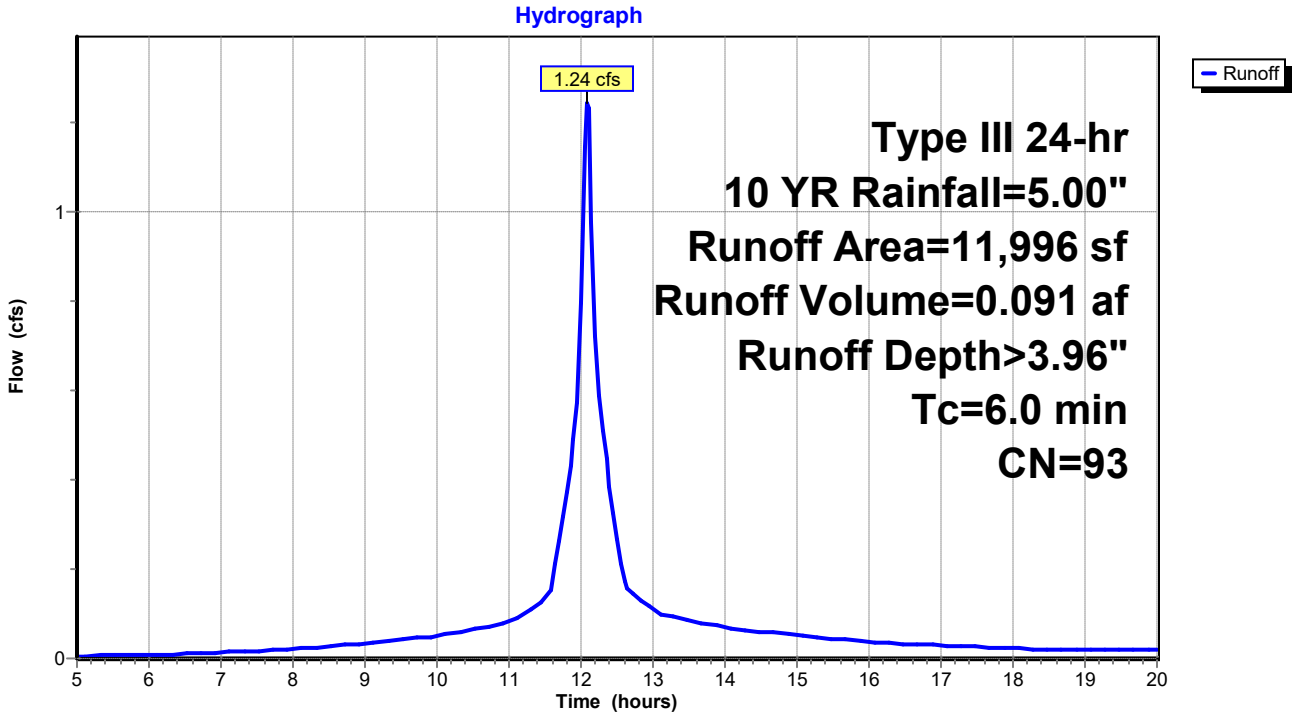
Subcatchment WS-2B-POST: WS-2B-POST



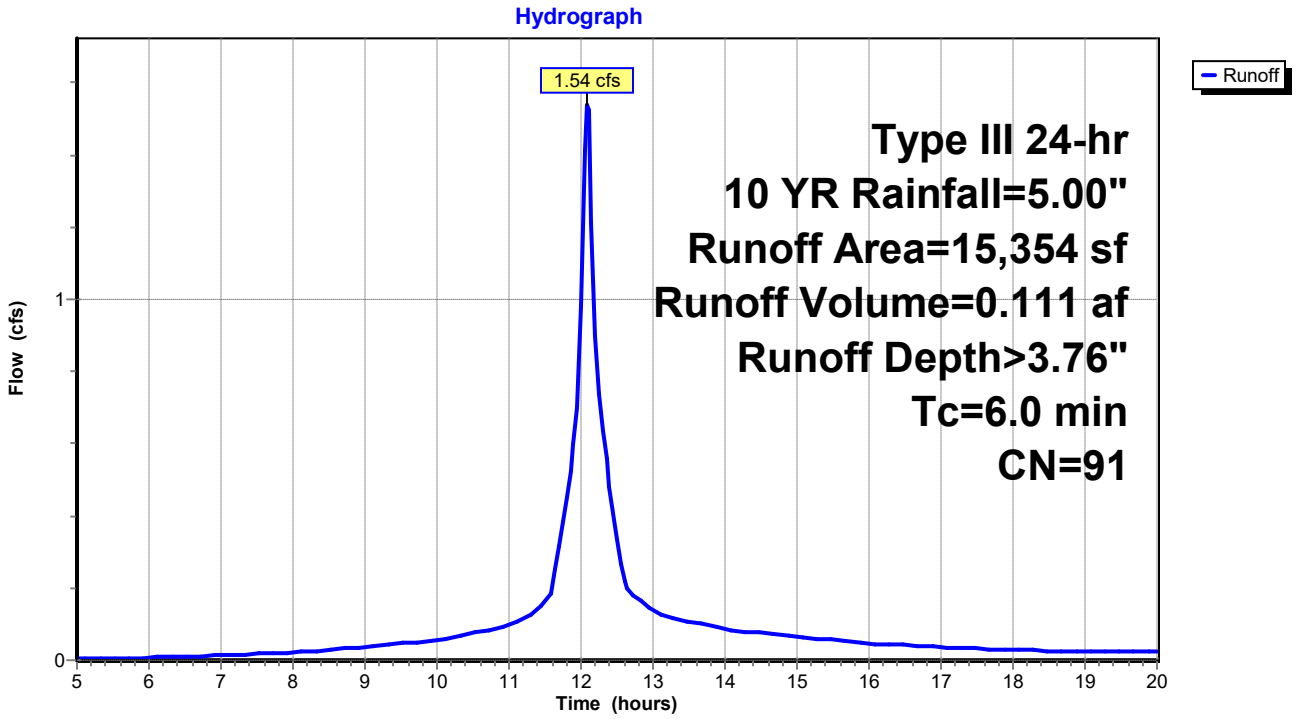
Subcatchment WS-2C-POST: WS-2C-POST



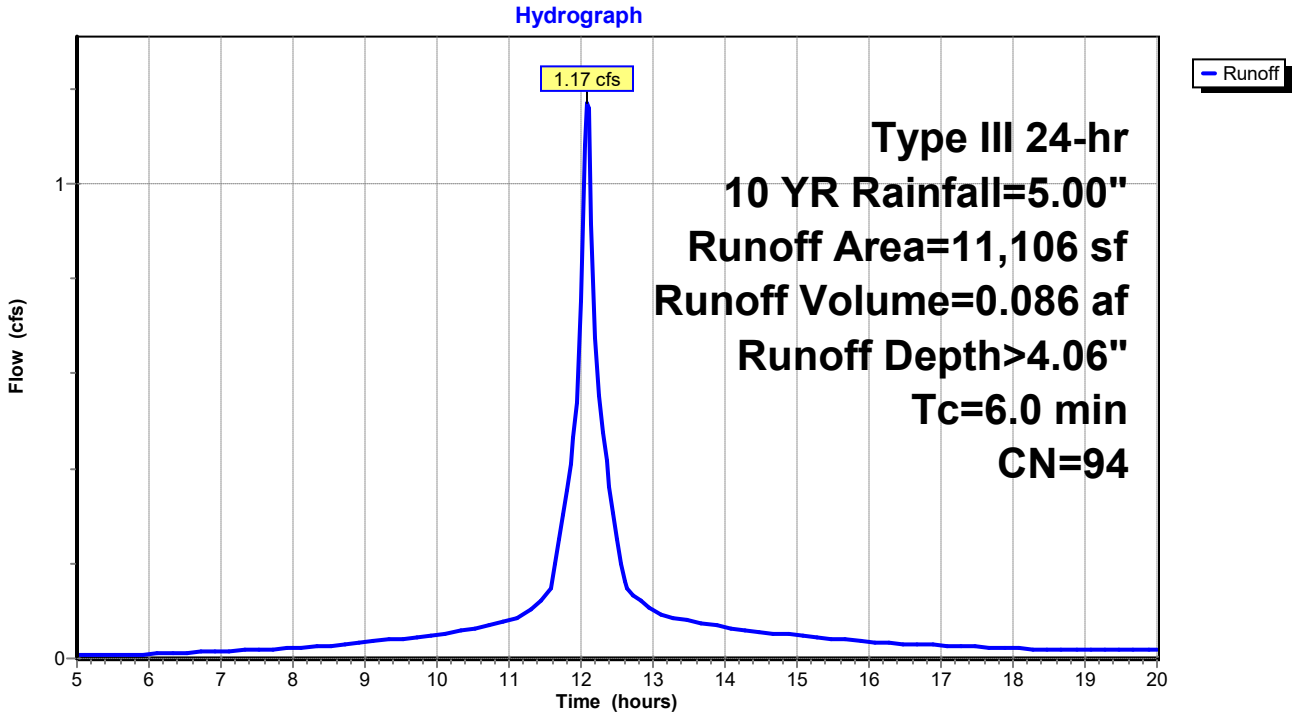
Subcatchment WS-2D-POST: WS-2D-POST



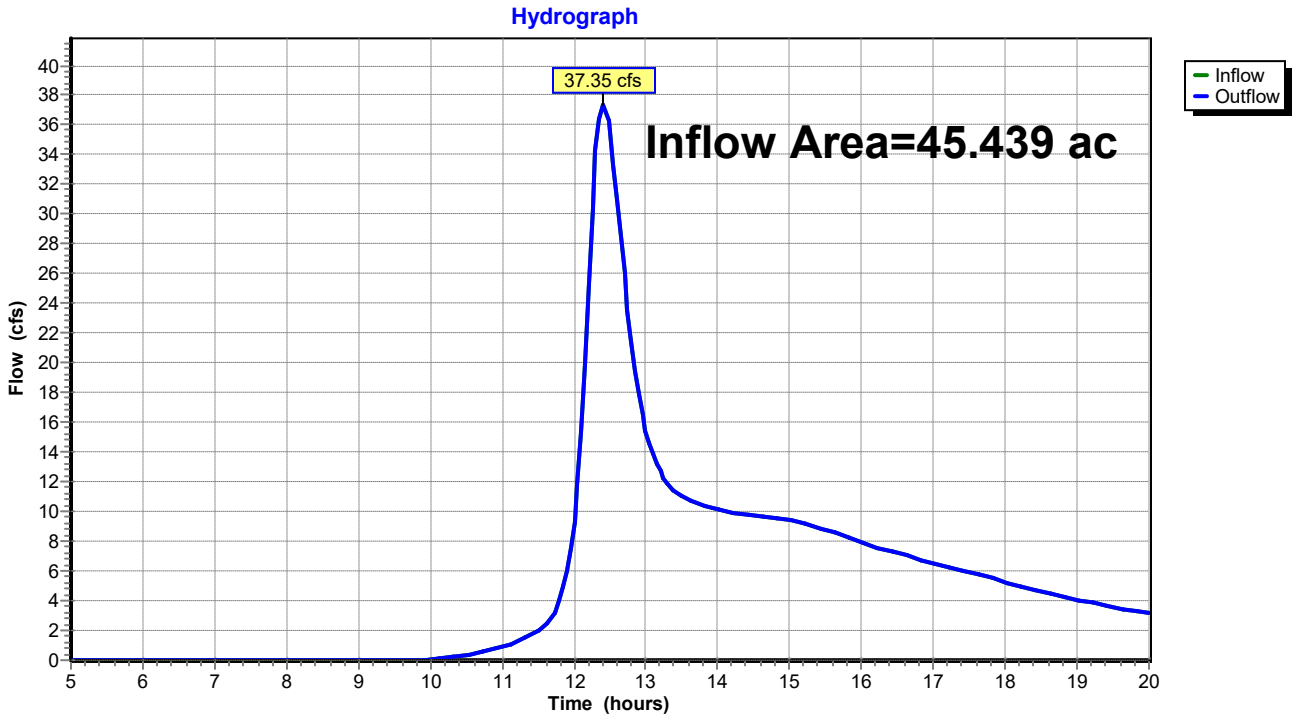
Subcatchment WS-2E-POST: WS-2E-POST



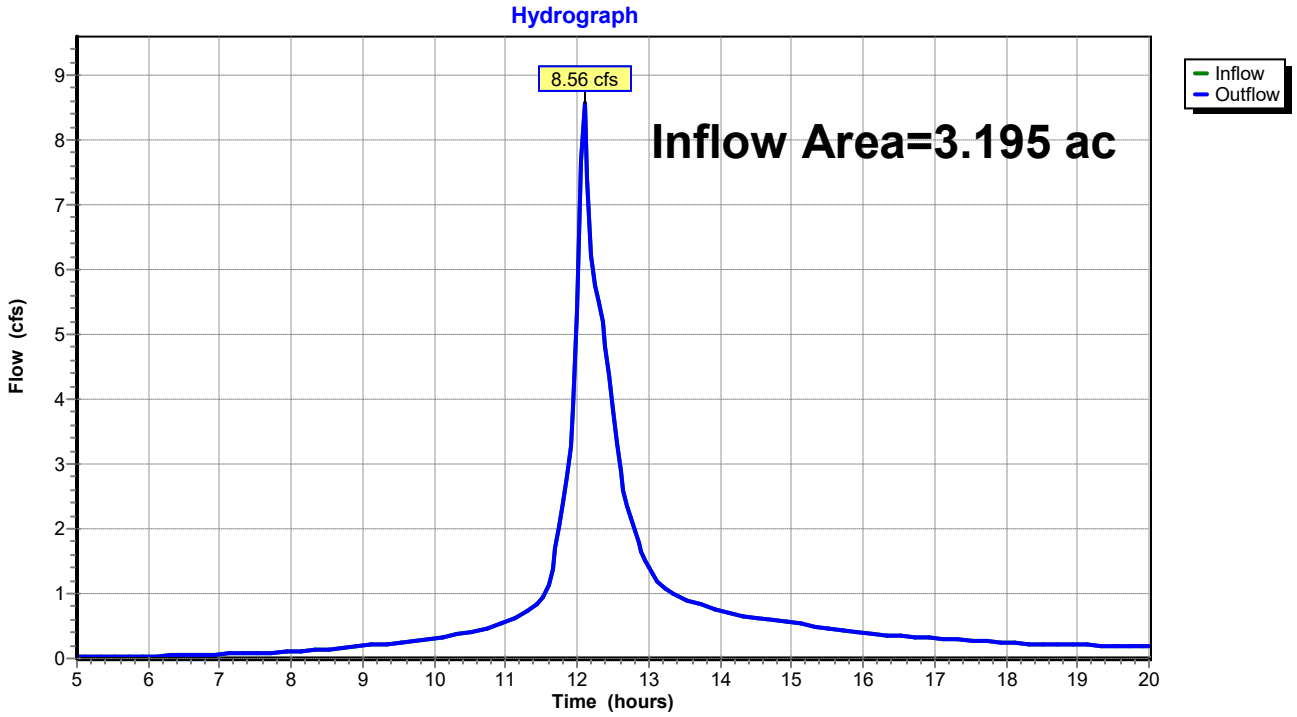
Subcatchment WS-2F-POST: WS-2F-POST



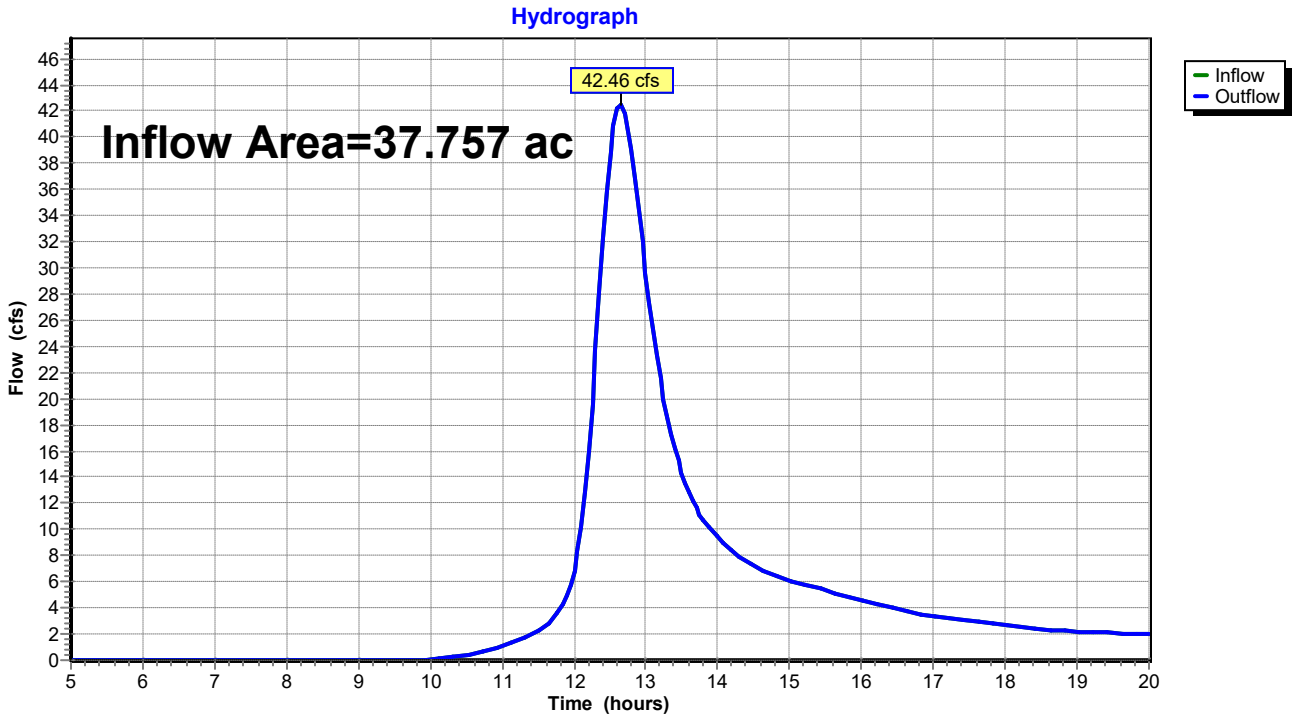
Reach DP-1-POST: DP-1-POST



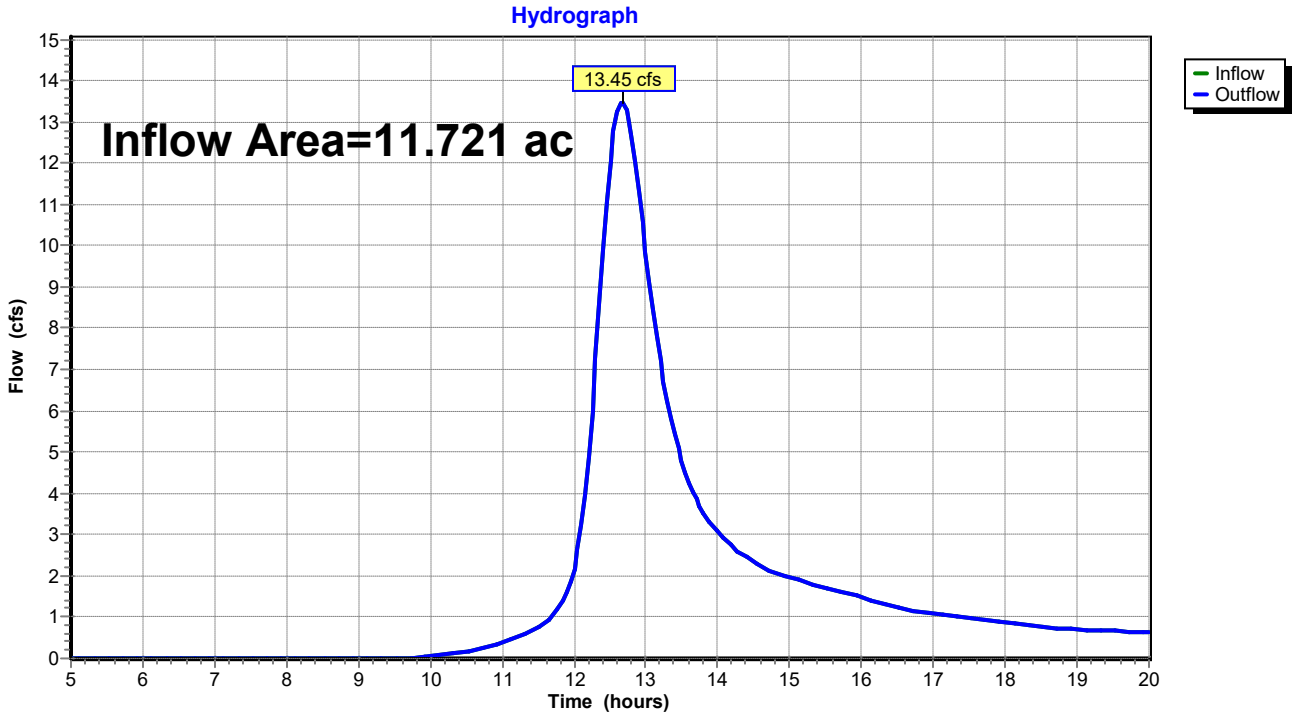
Reach POST-DP2: POST-DP2



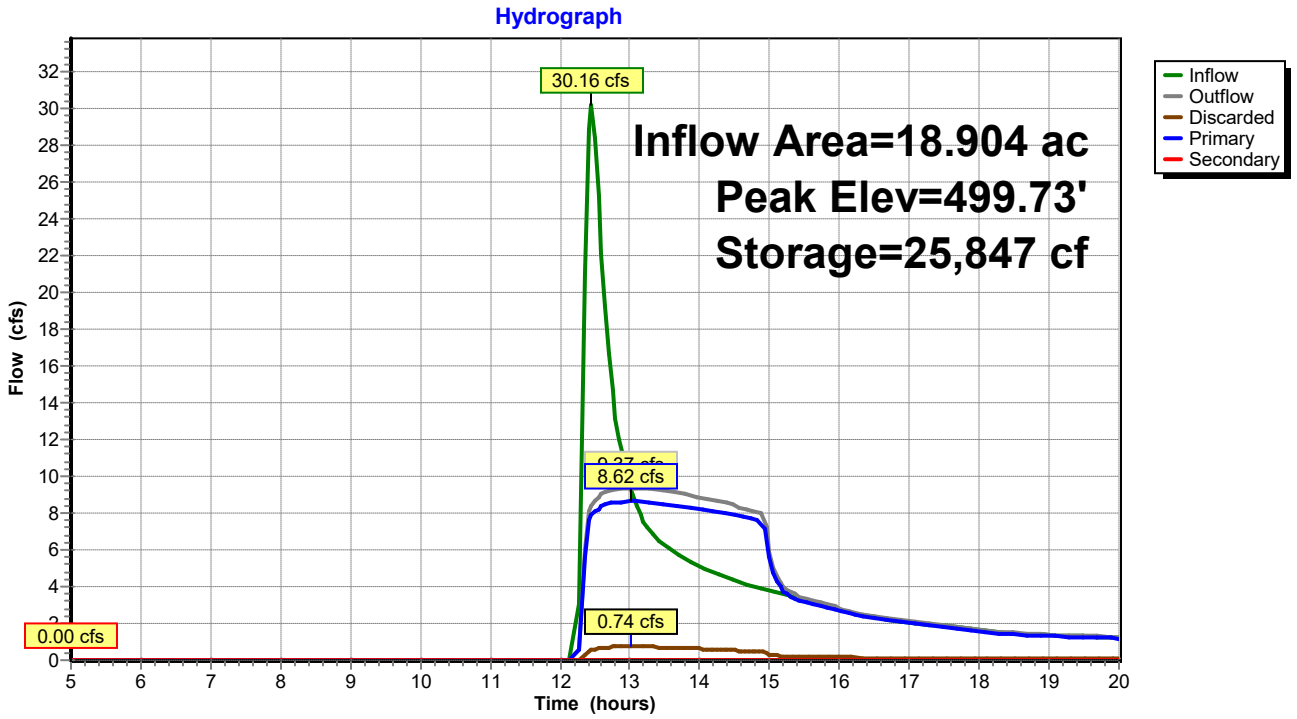
Reach PRE-DP1: PRE-DP1



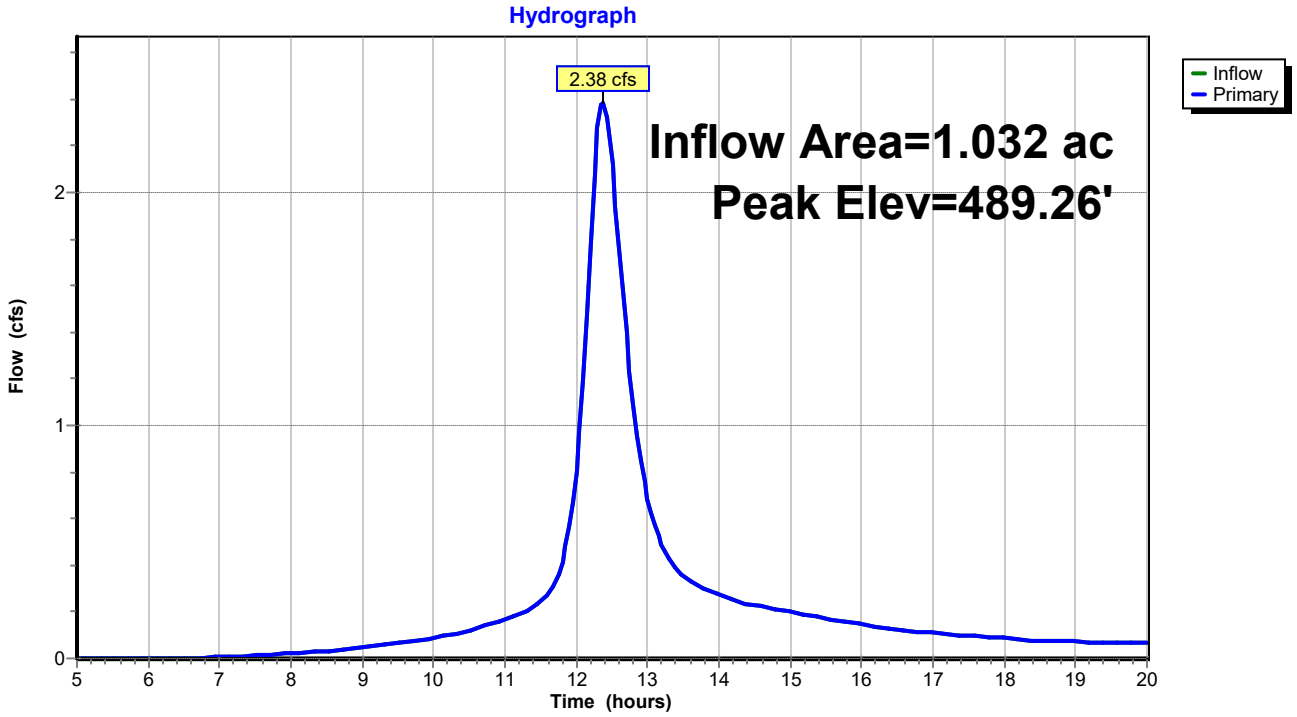
Reach PRE-DP2: PRE-DP2



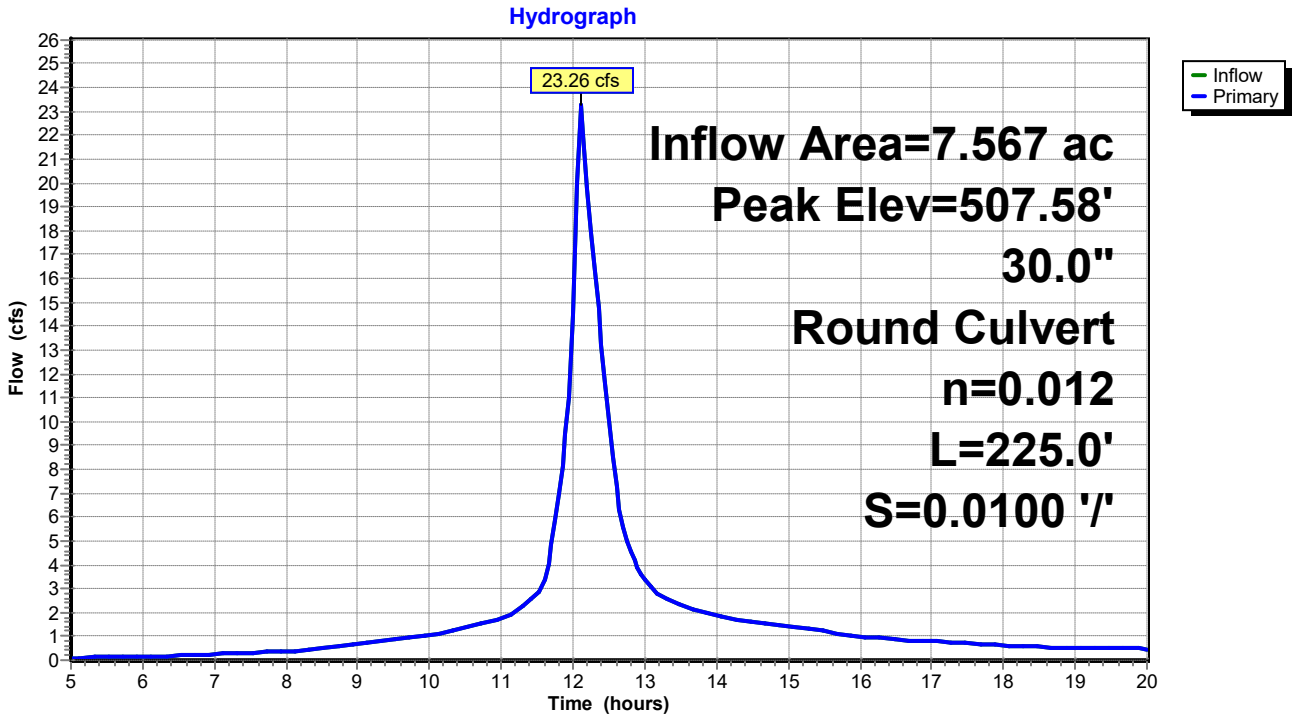
Pond BI: Bioretention



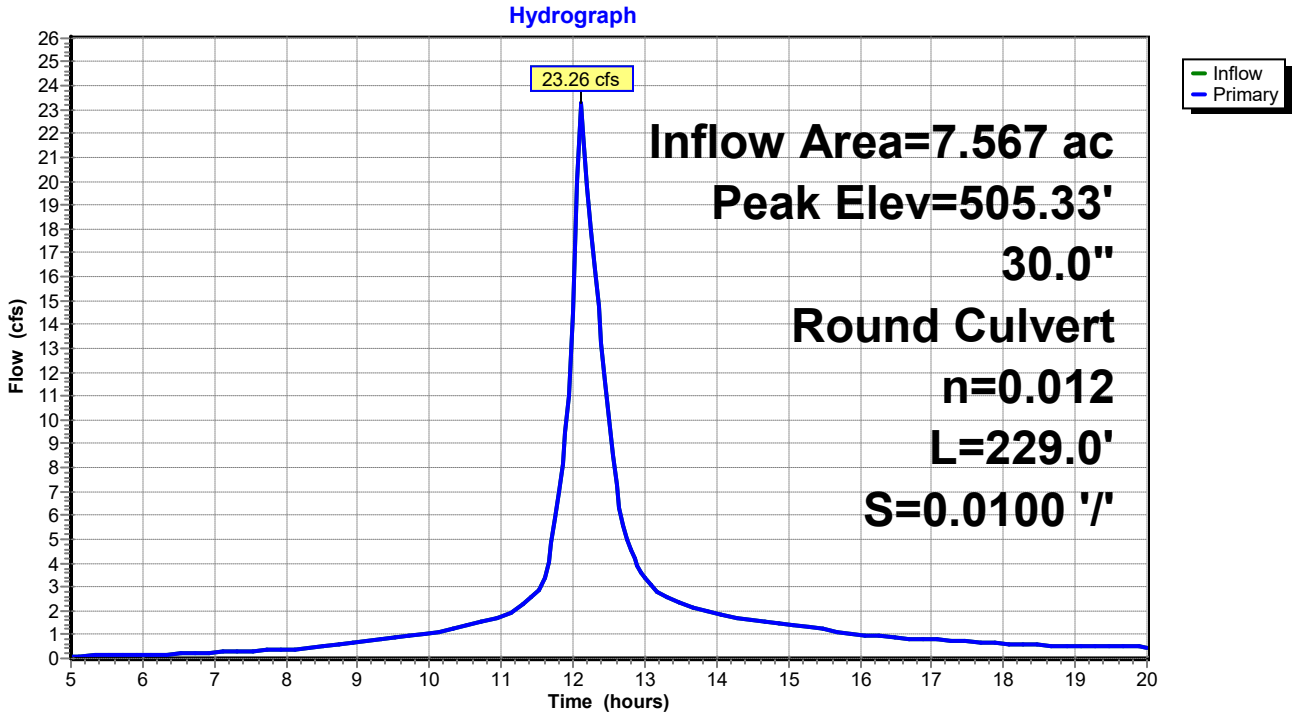
Pond CB #1: CB #1



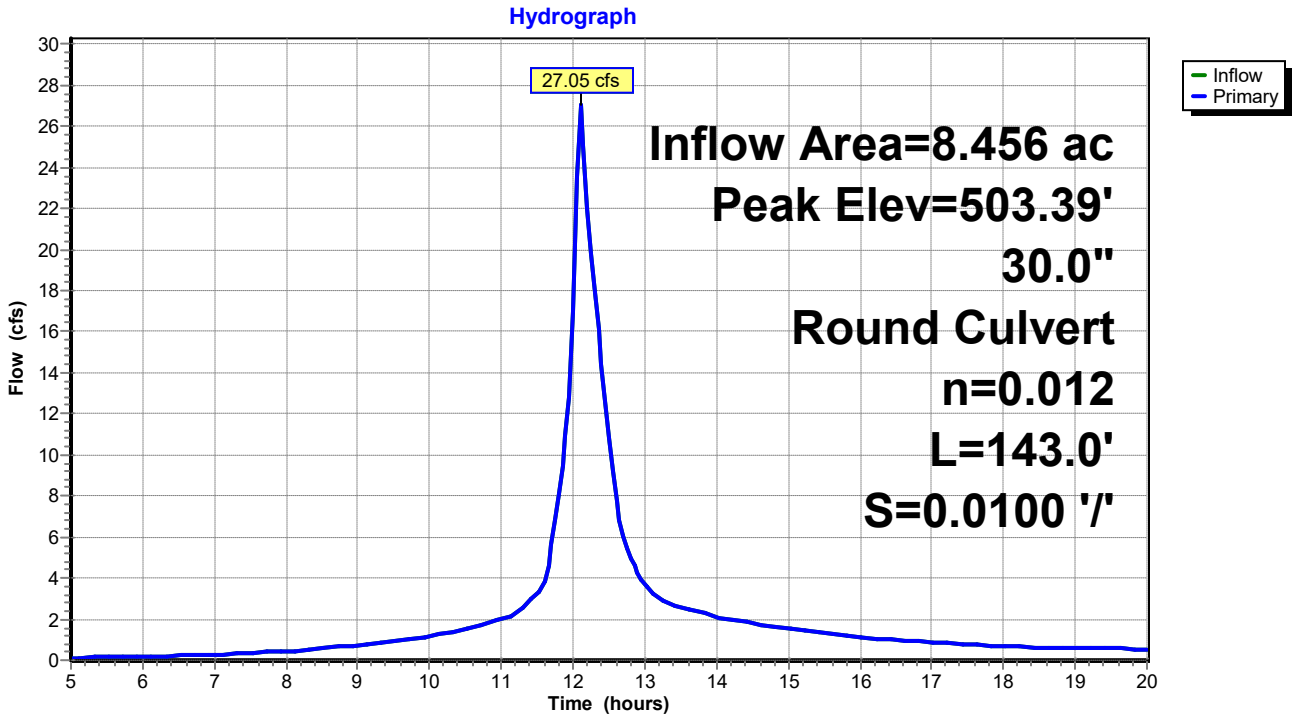
Pond CB #10: CB #10



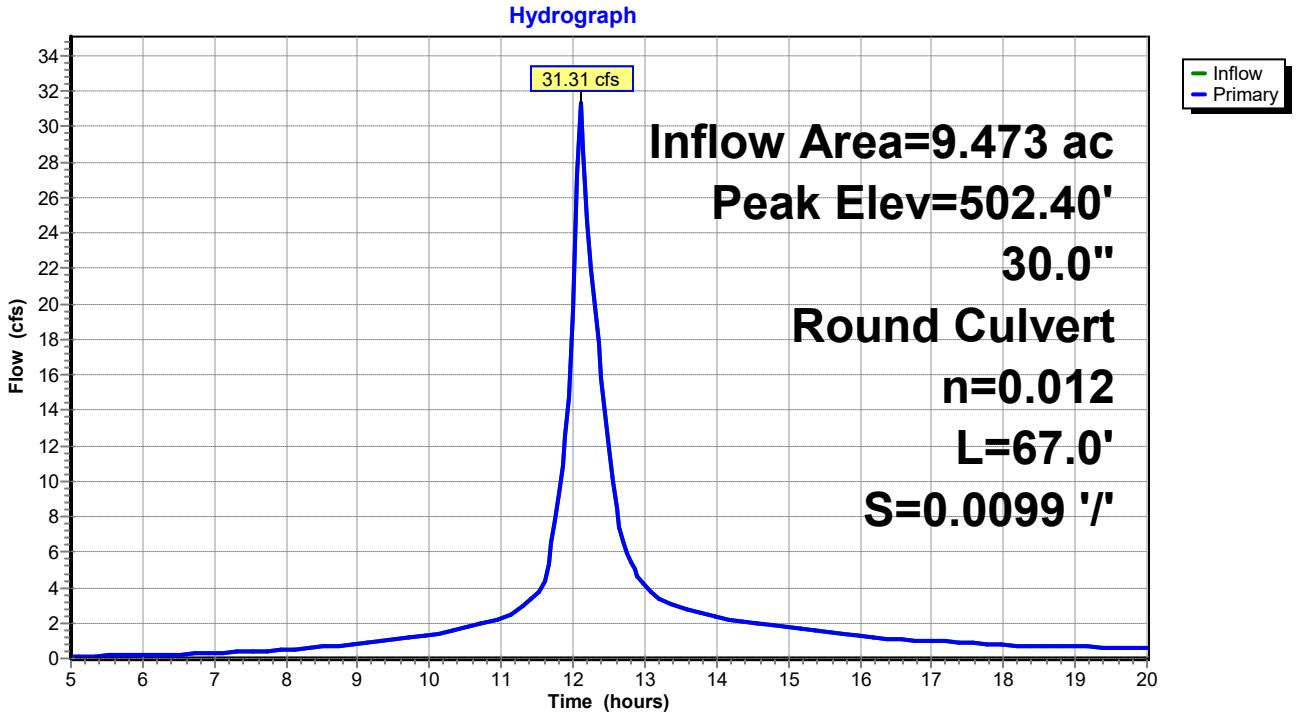
Pond CB #11: CB #11



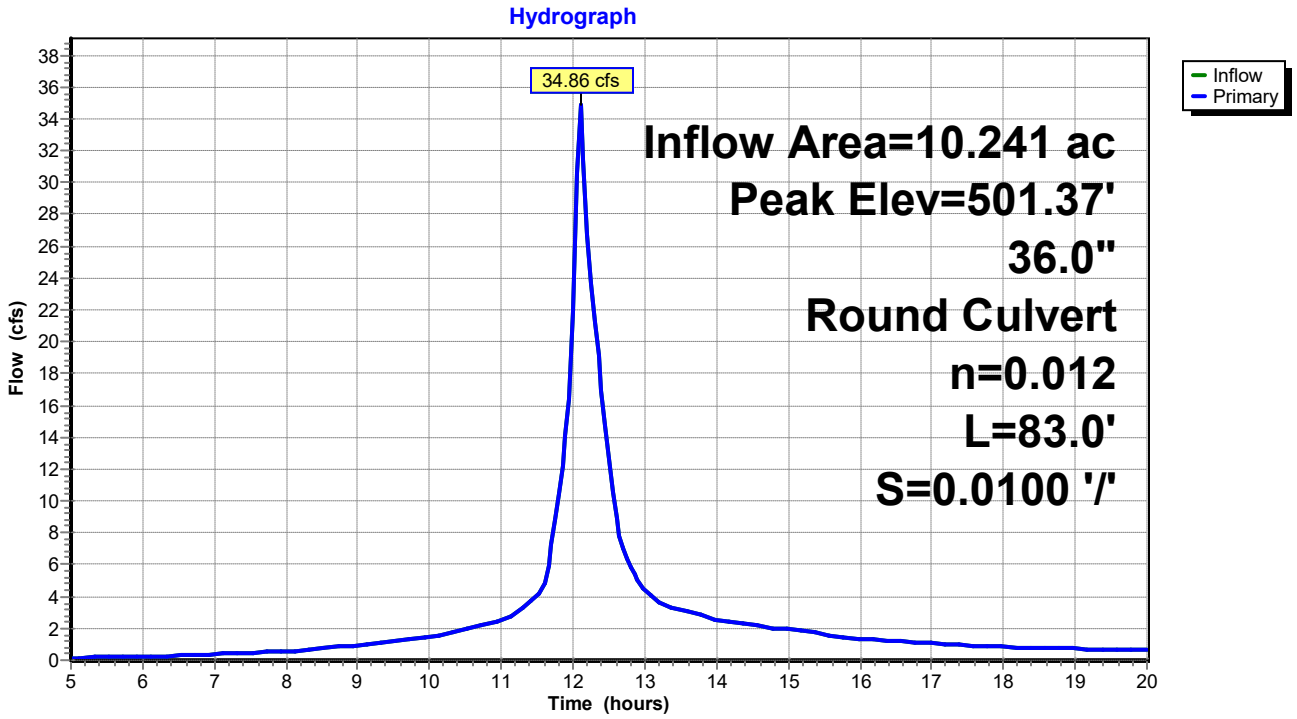
Pond CB #13: CB #13



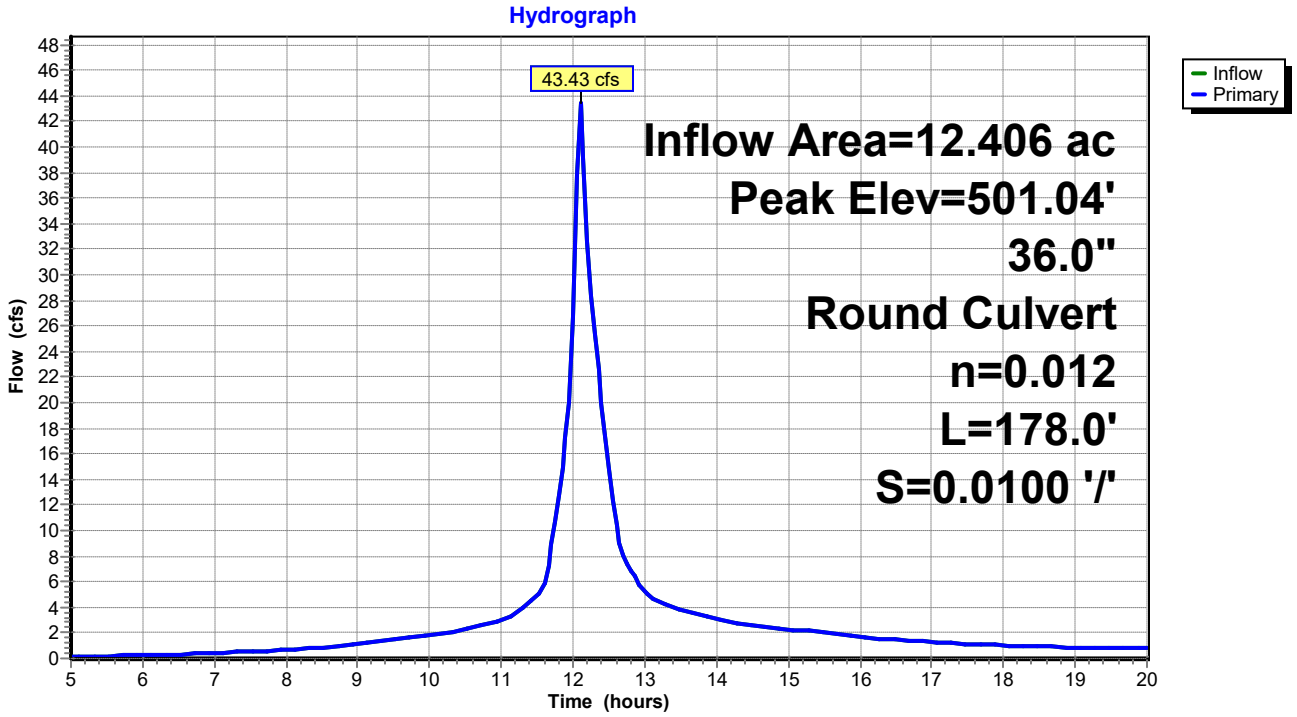
Pond CB #14: CB #14



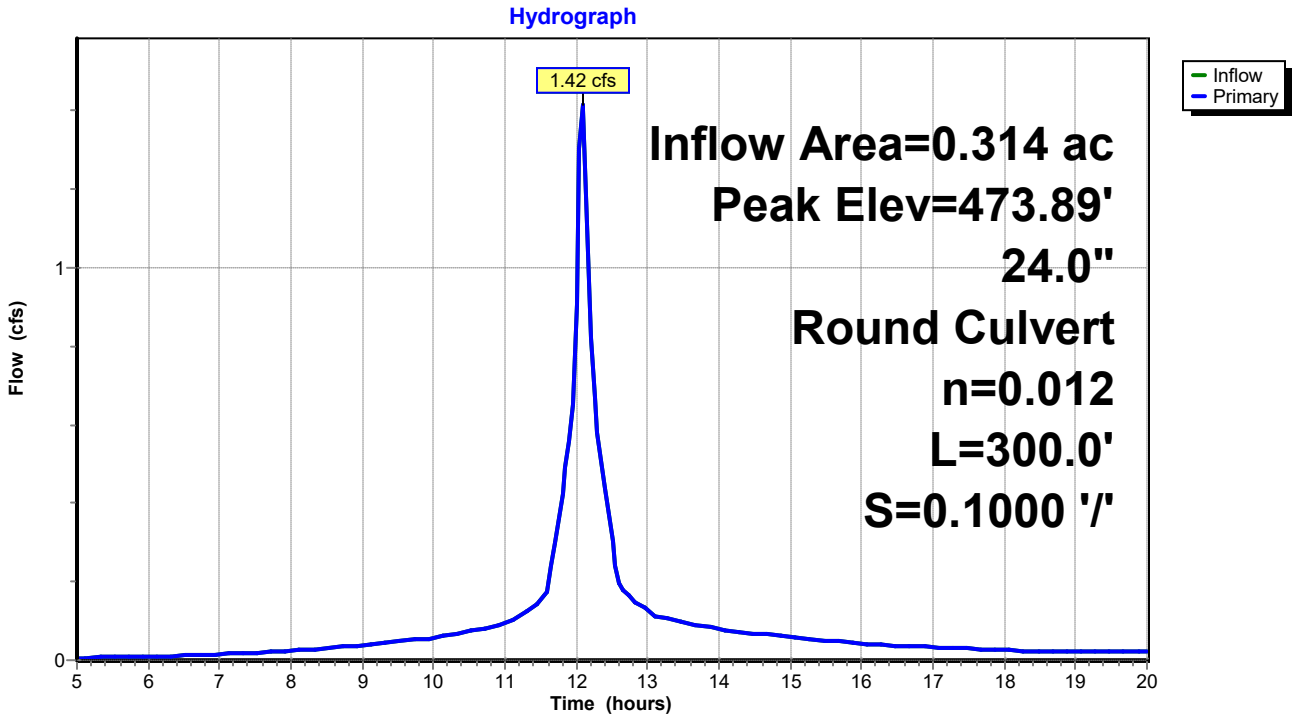
Pond CB #15: CB #15



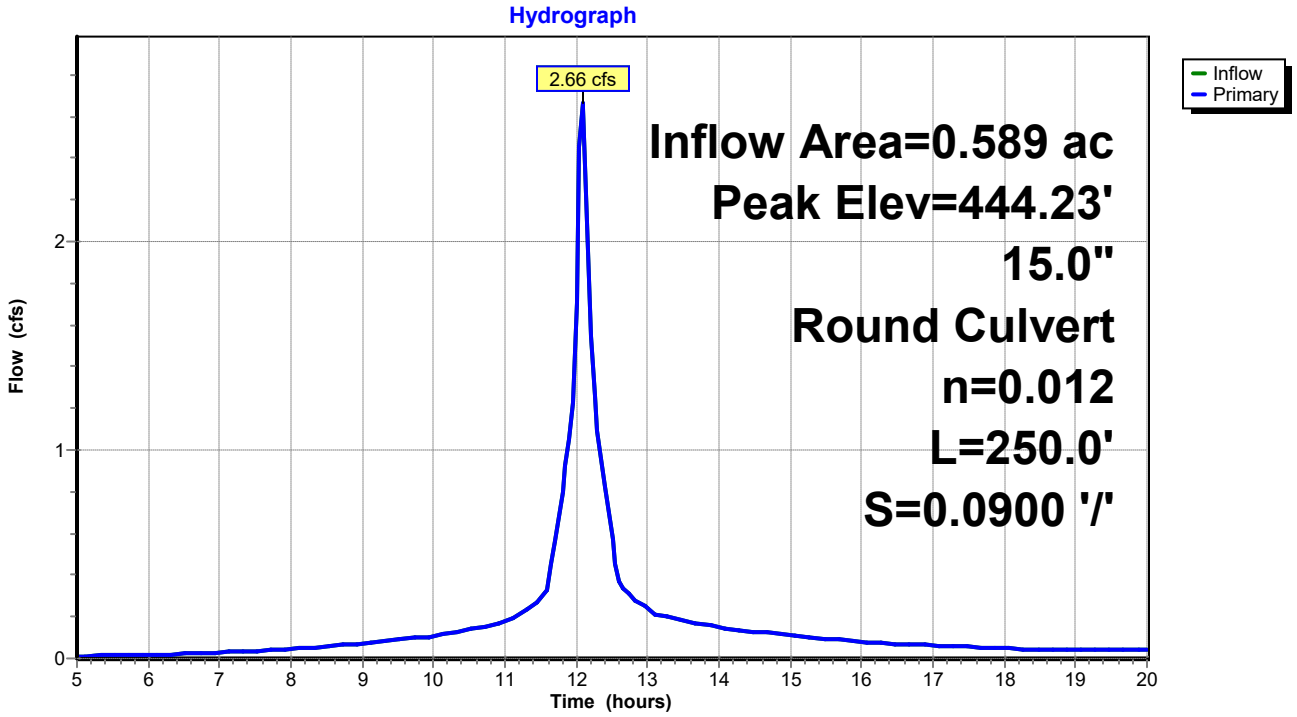
Pond CB #16: CB #16



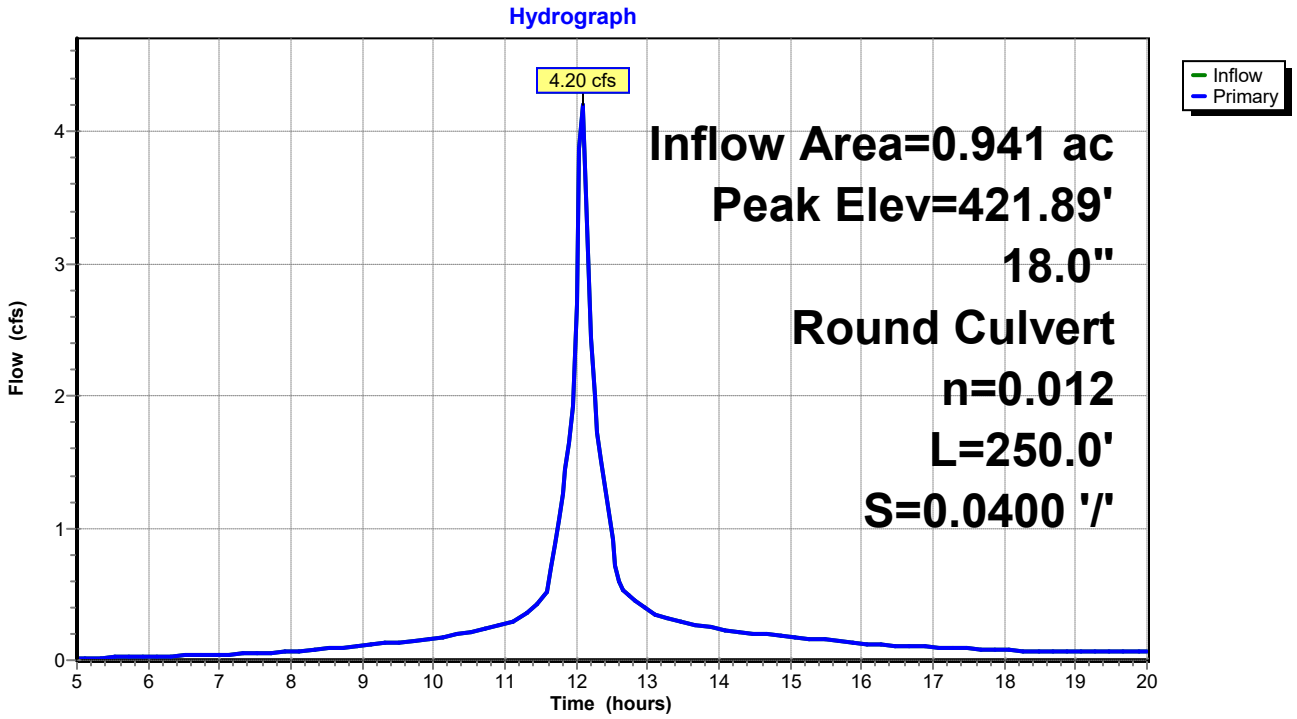
Pond CB #2: CB #2



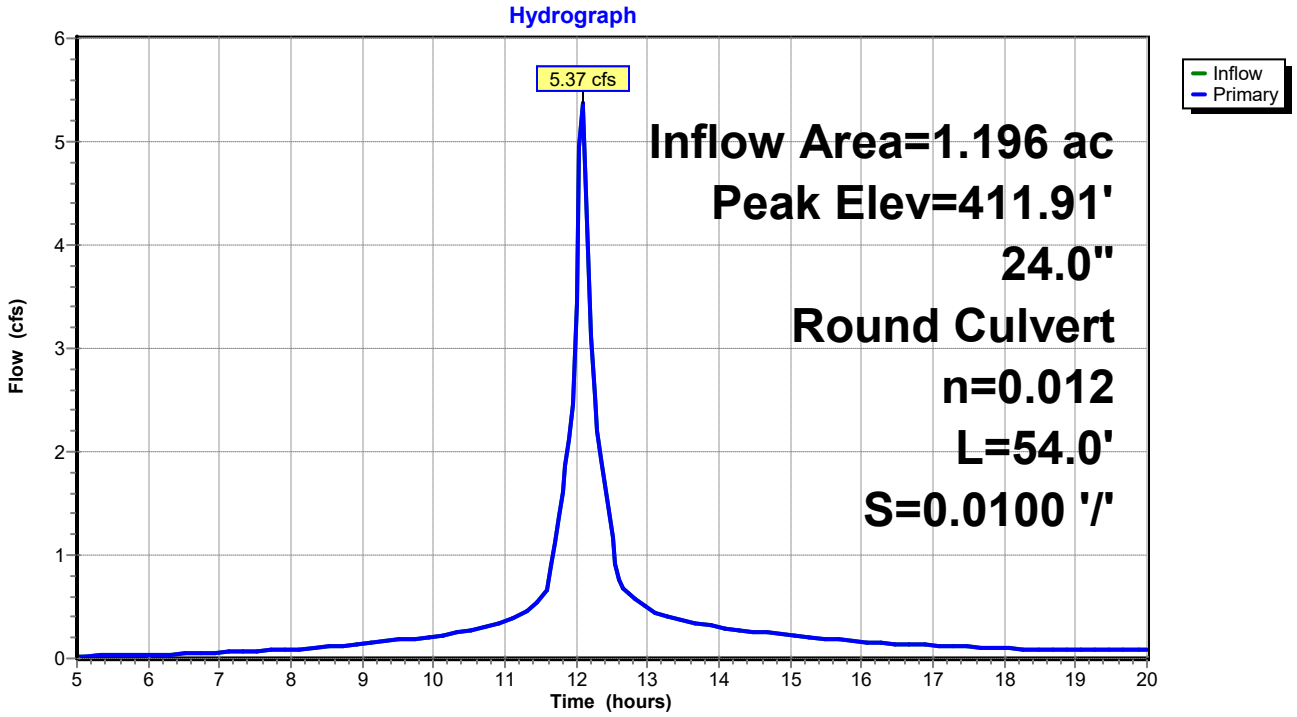
Pond CB #3: CB #3



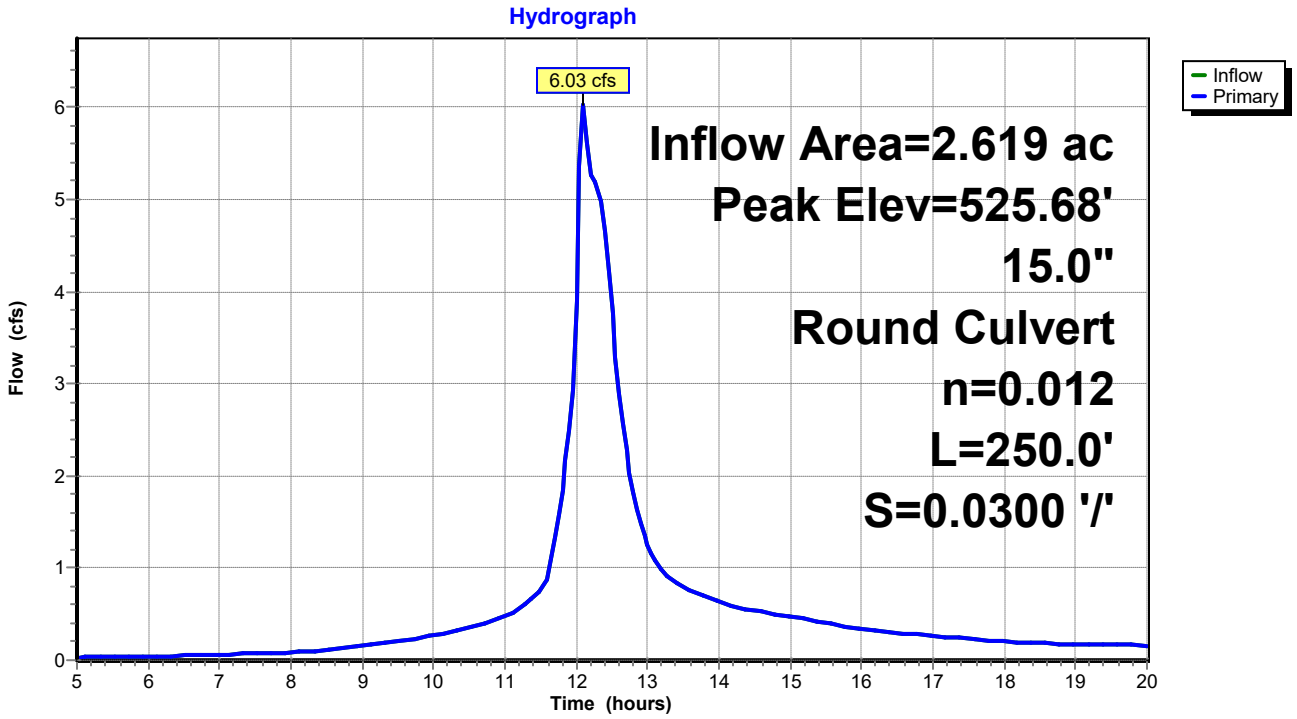
Pond CB #4: CB #4



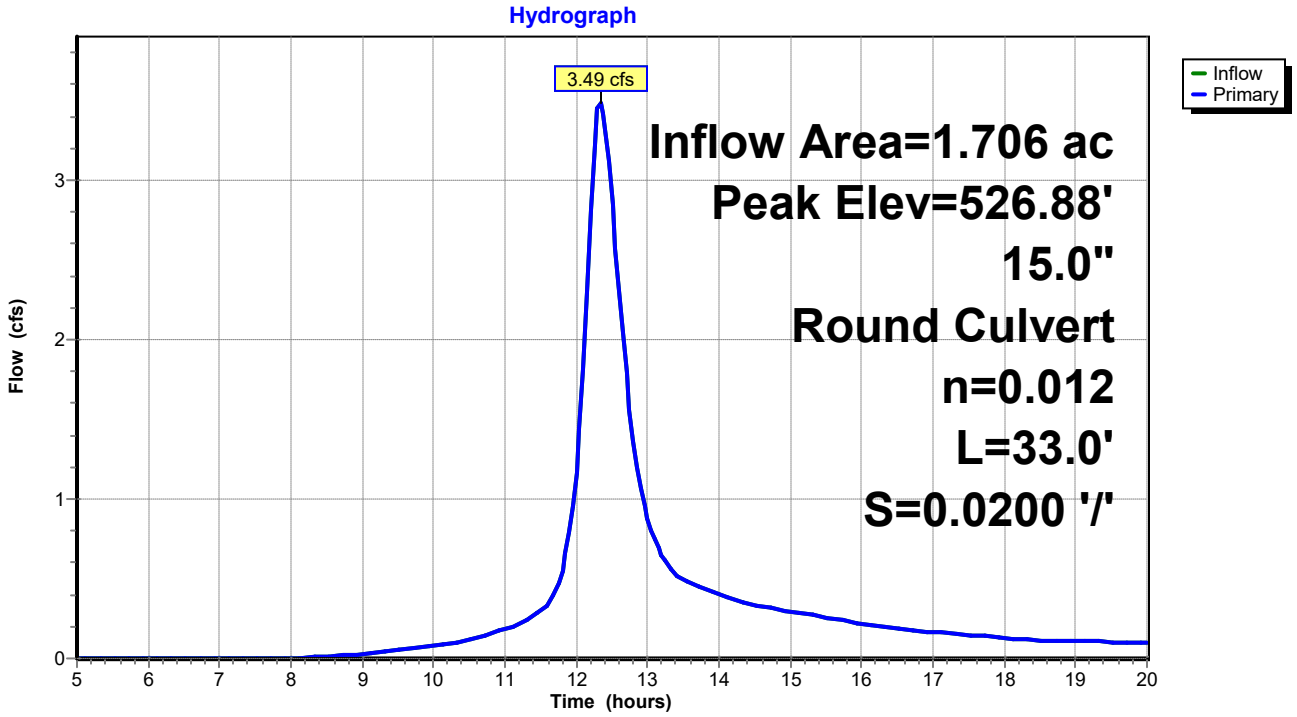
Pond CB #5: CB #5



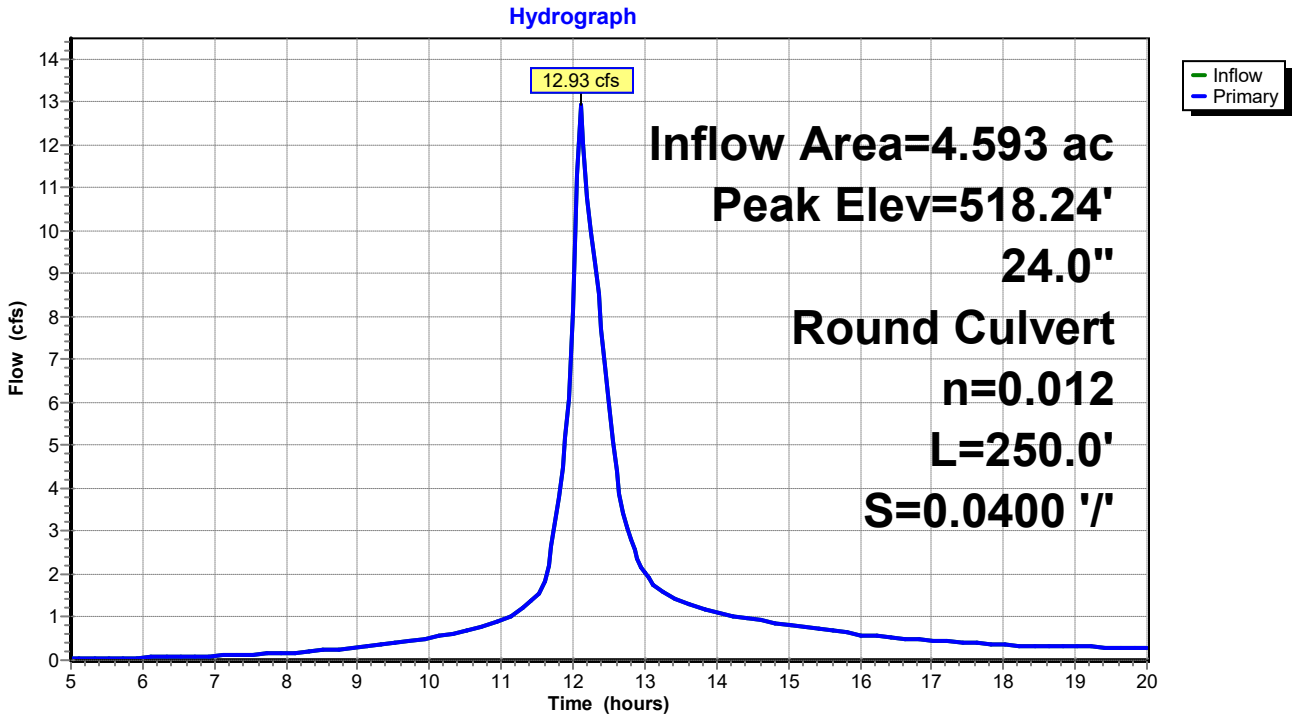
Pond CB #7: CB #7



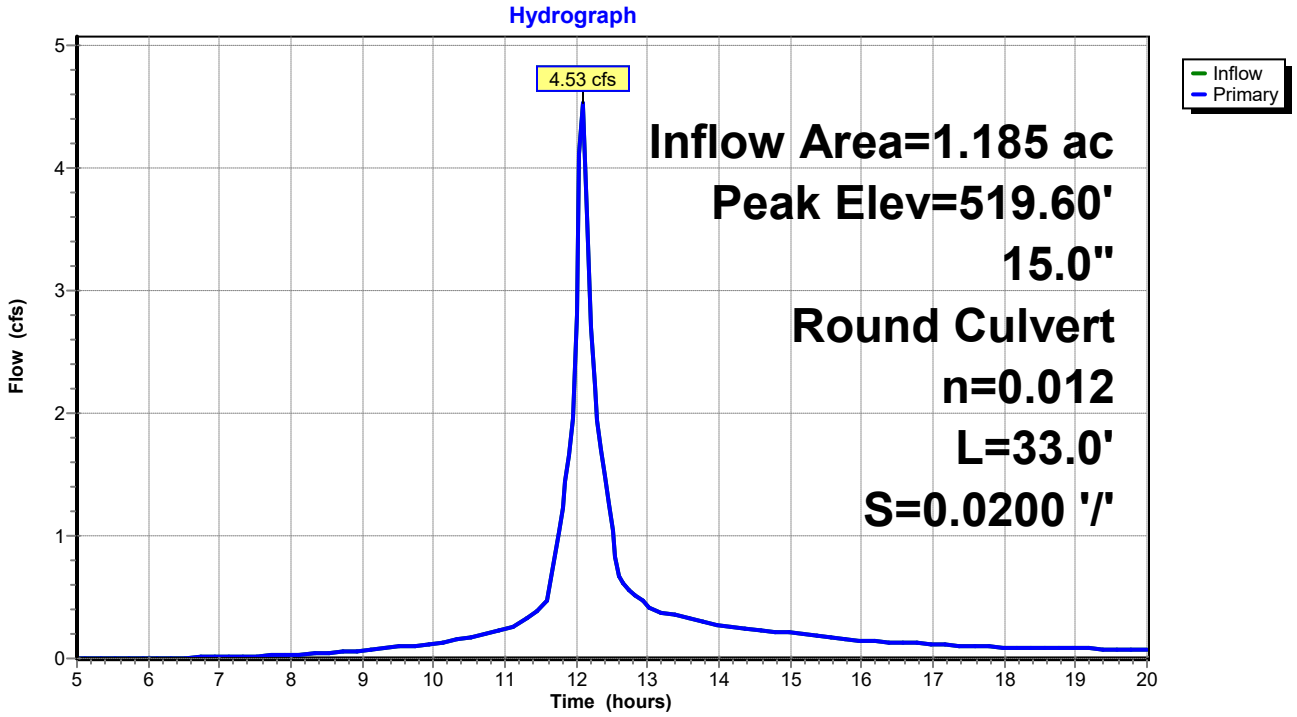
Pond CB #7-A: CB #7-A



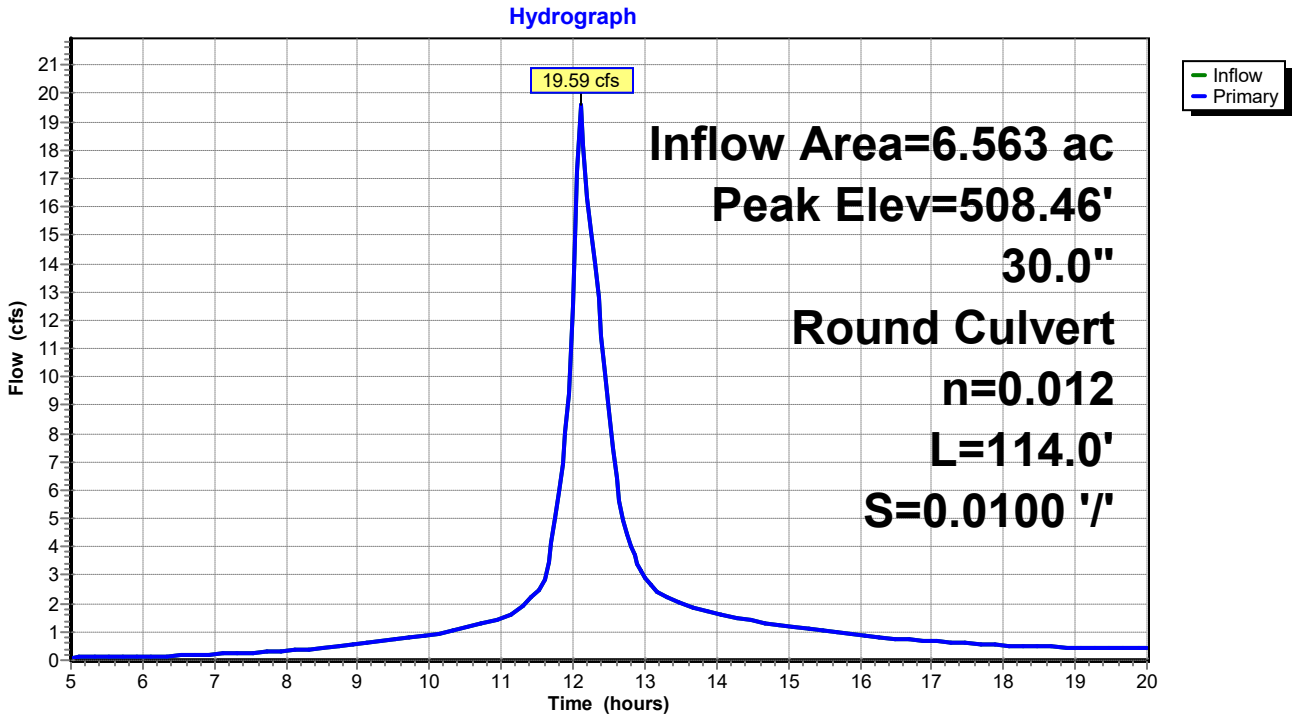
Pond CB #8: CB #8



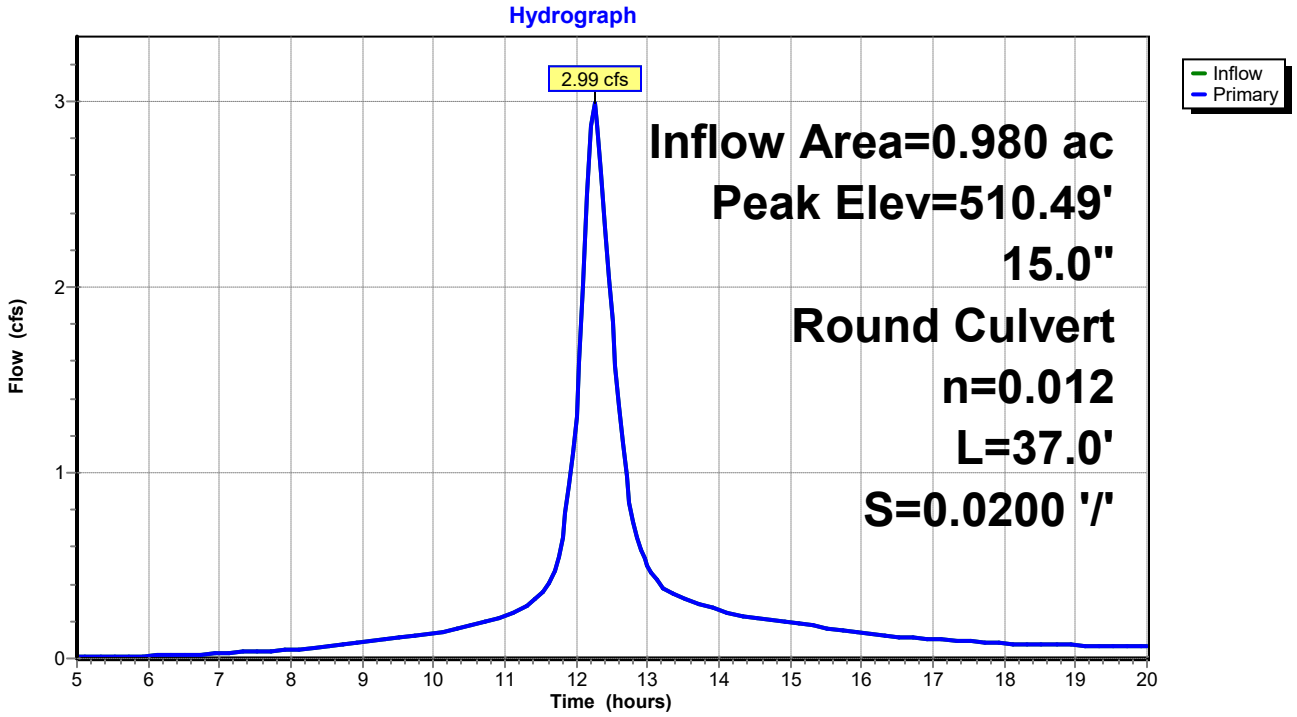
Pond CB #8A: CB #8A



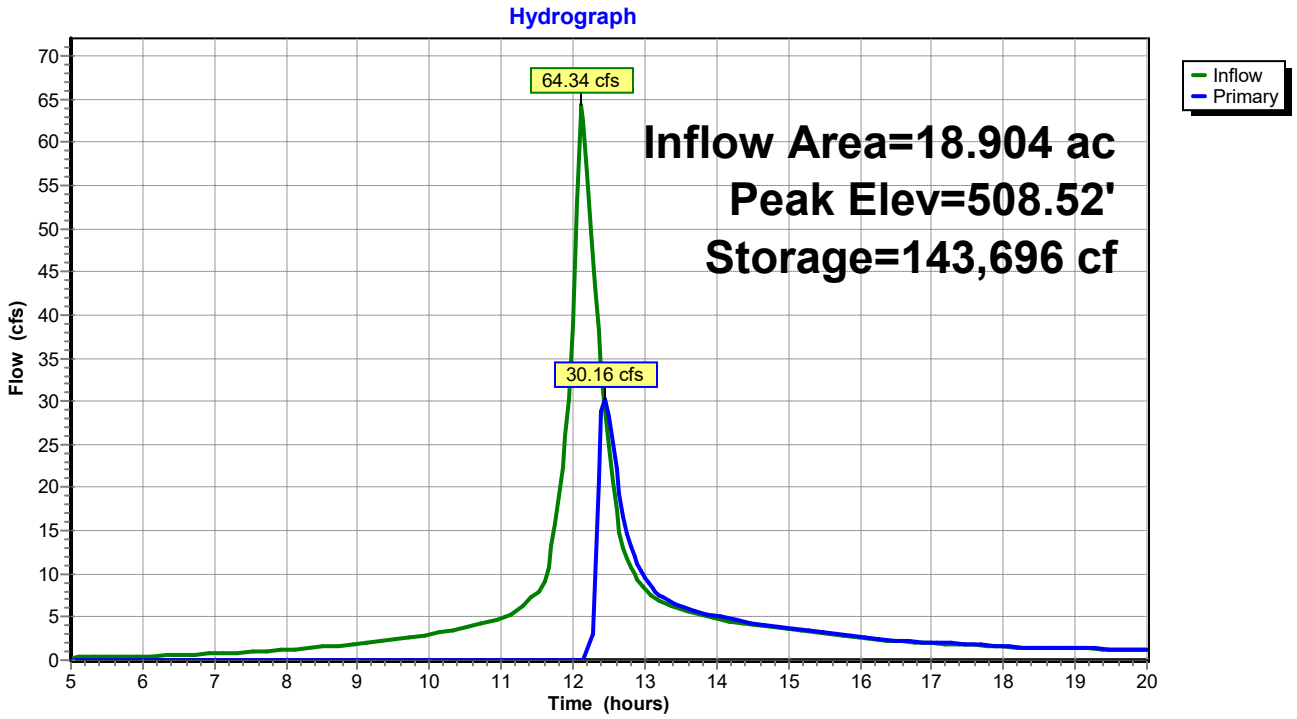
Pond CB #9: CB #9



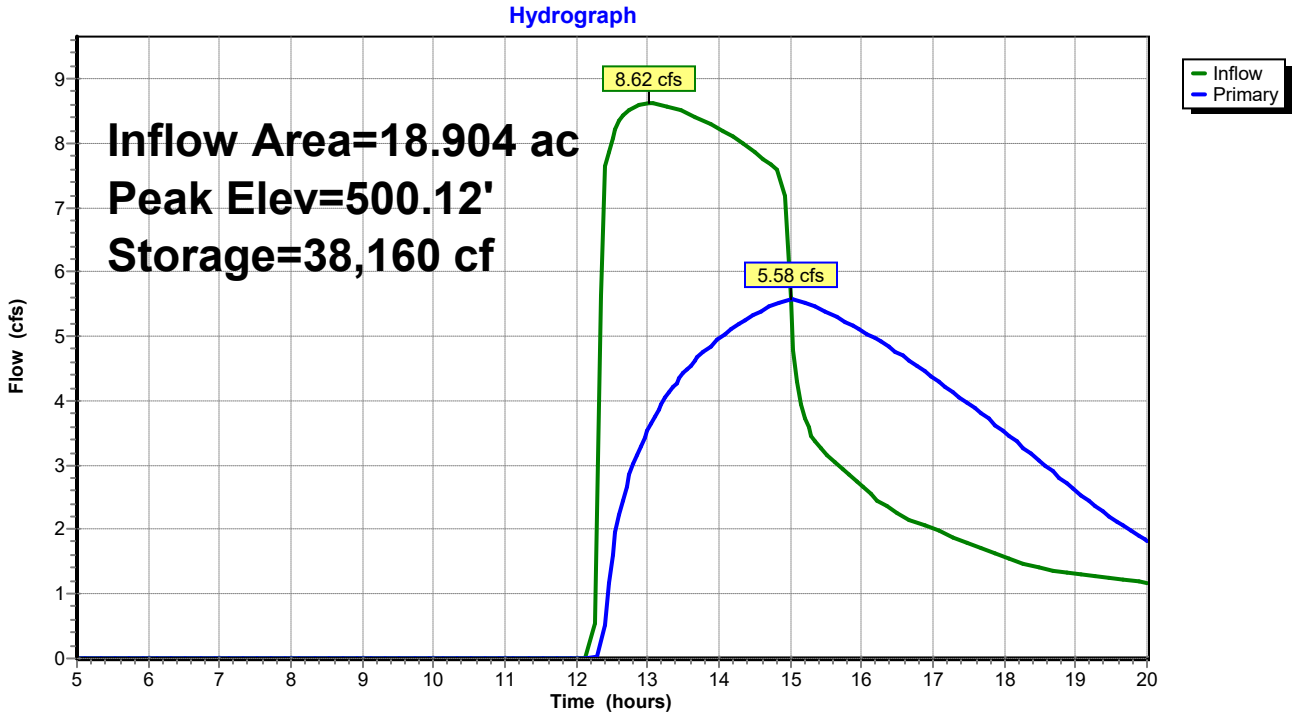
Pond CB #9A: CB #9A



Pond SB: Sediment Basin



Pond SWB: SWB


Hydrograph
Inflow Area=18.904 ac
Peak Elev=500.12'
Storage=38,160 cf
8.62 cfs
5.58 cfs
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
9
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRE-WS1: PRE-WS1 Runoff Area=1,644,711 sf 1.37% Impervious Runoff Depth>4.63"
Flow Length=1,329' Tc=45.2 min CN=71 Runoff=102.61 cfs 14.563 af

Subcatchment PRE-WS2: PRE-WS2 Runoff Area=510,563 sf 9.18% Impervious Runoff Depth>4.74"
Flow Length=1,248' Tc=47.0 min CN=72 Runoff=31.86 cfs 4.631 af

Subcatchment WS-1A-POST: Runoff Area=283,058 sf 83.54% Impervious Runoff Depth>7.28"
Flow Length=489' Tc=13.5 min CN=94 Runoff=41.94 cfs 3.945 af

Subcatchment WS-1B-POST: WS-1B-POST Runoff Area=74,328 sf 10.93% Impervious Runoff Depth>5.60"
Flow Length=550' Tc=24.0 min CN=79 Runoff=7.36 cfs 0.796 af

Subcatchment WS-1C-POST: Runoff Area=1,155,873 sf 1.57% Impervious Runoff Depth>4.54"
Flow Length=1,294' Tc=26.8 min CN=70 Runoff=90.56 cfs 10.044 af

Subcatchment WS-1D-POST: WS-1D-POST Runoff Area=39,753 sf 84.72% Impervious Runoff Depth>7.38"
Flow Length=409' Tc=6.0 min CN=95 Runoff=7.36 cfs 0.561 af

Subcatchment WS-1E-POST: WS-1E-POST Runoff Area=34,386 sf 69.94% Impervious Runoff Depth>7.09"
Flow Length=550' Tc=13.2 min CN=92 Runoff=5.08 cfs 0.466 af

Subcatchment WS-1F-POST: WS-1F-POST Runoff Area=43,116 sf 92.86% Impervious Runoff Depth>7.54"
Flow Length=395' Tc=6.0 min CN=97 Runoff=8.05 cfs 0.622 af

Subcatchment WS-1G-POST: WS-1G-POST Runoff Area=42,702 sf 67.31% Impervious Runoff Depth>6.87"
Flow Length=446' Tc=18.7 min CN=90 Runoff=5.45 cfs 0.561 af

Subcatchment WS-1H-POST: WS-1H-POST Runoff Area=43,730 sf 69.82% Impervious Runoff Depth>6.99"
Flow Length=253' Tc=10.4 min CN=91 Runoff=6.91 cfs 0.585 af

Subcatchment WS-1I-POST: WS-1I-POST Runoff Area=38,705 sf 70.50% Impervious Runoff Depth>6.99"
Flow Length=427' Tc=6.0 min CN=91 Runoff=6.98 cfs 0.518 af

Subcatchment WS-1K-POST: WS-1K-POST Runoff Area=44,314 sf 55.33% Impervious Runoff Depth>6.89"
Flow Length=382' Tc=6.7 min CN=90 Runoff=7.79 cfs 0.584 af

Subcatchment WS-1L-POST: WS-1L-POST Runoff Area=33,451 sf 91.16% Impervious Runoff Depth>7.46"
Flow Length=417' Tc=6.0 min CN=96 Runoff=6.22 cfs 0.478 af

Subcatchment WS-1M-POST: WS-1M-POST Runoff Area=94,291 sf 58.74% Impervious Runoff Depth>6.67"
Flow Length=462' Tc=7.4 min CN=88 Runoff=15.92 cfs 1.202 af

Subcatchment WS-1N-POST: WS-1N-POST Runoff Area=51,619 sf 52.81% Impervious Runoff Depth>6.33"
Flow Length=525' Tc=6.0 min CN=85 Runoff=8.73 cfs 0.625 af

Subcatchment WS-2A-POST: WS-2A-POST Runoff Area=42,098 sf 49.31% Impervious Runoff Depth>4.34"
Tc=6.0 min CN=68 Runoff=5.18 cfs 0.350 af

Subcatchment WS-2B-POST: WS-2B-POST Runoff Area=44,956 sf 48.02% Impervious Runoff Depth>6.30"
Flow Length=1,111' Tc=27.3 min CN=85 Runoff=4.62 cfs 0.541 af

Subcatchment WS-2C-POST: WS-2C-POST Runoff Area=13,660 sf 86.33% Impervious Runoff Depth>7.19"
Tc=6.0 min CN=93 Runoff=2.50 cfs 0.188 af

Subcatchment WS-2D-POST: WS-2D-POST Runoff Area=11,996 sf 79.78% Impervious Runoff Depth>7.19"
Tc=6.0 min CN=93 Runoff=2.19 cfs 0.165 af

Subcatchment WS-2E-POST: WS-2E-POST Runoff Area=15,354 sf 72.42% Impervious Runoff Depth>6.99"
Tc=6.0 min CN=91 Runoff=2.77 cfs 0.205 af

Subcatchment WS-2F-POST: WS-2F-POST Runoff Area=11,106 sf 83.41% Impervious Runoff Depth>7.29"
Tc=6.0 min CN=94 Runoff=2.04 cfs 0.155 af

Reach DP-1-POST: DP-1-POST Inflow=93.75 cfs 14.532 af
Outflow=93.75 cfs 14.532 af

Reach POST-DP2: POST-DP2 Inflow=17.03 cfs 1.605 af
Outflow=17.03 cfs 1.605 af

Reach PRE-DP1: PRE-DP1 Inflow=102.61 cfs 14.563 af
Outflow=102.61 cfs 14.563 af

Reach PRE-DP2: PRE-DP2 Inflow=31.86 cfs 4.631 af
Outflow=31.86 cfs 4.631 af

Pond BI: Bioretention Peak Elev=501.44' Storage=165,374 cf Inflow=107.54 cfs 7.858 af
Discarded=2.08 cfs 0.973 af Primary=11.22 cfs 6.762 af Secondary=0.00 cfs 0.000 af Outflow=13.31 cfs 7.735 af

Pond CB #1: CB #1 Peak Elev=489.48' Inflow=4.62 cfs 0.541 af
Outflow=4.62 cfs 0.541 af

Pond CB #10: CB #10 Peak Elev=509.88' Inflow=42.71 cfs 4.216 af
30.0" Round Culvert n=0.012 L=225.0' S=0.0100 '/' Outflow=42.71 cfs 4.216 af

Pond CB #11: CB #11 Peak Elev=507.63' Inflow=42.71 cfs 4.216 af
30.0" Round Culvert n=0.012 L=229.0' S=0.0100 '/' Outflow=42.71 cfs 4.216 af

Pond CB #13: CB #13 Peak Elev=506.46' Inflow=49.49 cfs 4.734 af
30.0" Round Culvert n=0.012 L=143.0' S=0.0100 '/' Outflow=49.49 cfs 4.734 af

Pond CB #14: CB #14 Peak Elev=506.51' Inflow=57.24 cfs 5.317 af
30.0" Round Culvert n=0.012 L=67.0' S=0.0099 '/' Outflow=57.24 cfs 5.317 af

Pond CB #15: CB #15 Peak Elev=503.71' Inflow=63.36 cfs 5.795 af
36.0" Round Culvert n=0.012 L=83.0' S=0.0100 '/' Outflow=63.36 cfs 5.795 af

Pond CB #16: CB #16 Peak Elev=504.84' Inflow=79.28 cfs 6.997 af
36.0" Round Culvert n=0.012 L=178.0' S=0.0100 '/' Outflow=79.28 cfs 6.997 af

Pond CB #2: CB #2 Peak Elev=474.06' Inflow=2.50 cfs 0.188 af
24.0" Round Culvert n=0.012 L=300.0' S=0.1000 '/' Outflow=2.50 cfs 0.188 af

Pond CB #3: CB #3 Peak Elev=444.65' Inflow=4.69 cfs 0.353 af
15.0" Round Culvert n=0.012 L=250.0' S=0.0900 '/' Outflow=4.69 cfs 0.353 af

Pond CB #4: CB #4 Peak Elev=422.41' Inflow=7.46 cfs 0.558 af
18.0" Round Culvert n=0.012 L=250.0' S=0.0400 '/' Outflow=7.46 cfs 0.558 af

Pond CB #5: CB #5 Peak Elev=412.35' Inflow=9.51 cfs 0.713 af
24.0" Round Culvert n=0.012 L=54.0' S=0.0100 '/' Outflow=9.51 cfs 0.713 af

Pond CB #7: CB #7 Peak Elev=528.37' Inflow=11.42 cfs 1.357 af
15.0" Round Culvert n=0.012 L=250.0' S=0.0300 '/' Outflow=11.42 cfs 1.357 af

Pond CB #7-A: CB #7-A Peak Elev=528.08' Inflow=7.36 cfs 0.796 af
15.0" Round Culvert n=0.012 L=33.0' S=0.0200 '/' Outflow=7.36 cfs 0.796 af

Pond CB #8: CB #8 Peak Elev=520.10' Inflow=24.36 cfs 2.448 af
24.0" Round Culvert n=0.012 L=250.0' S=0.0400 '/' Outflow=24.36 cfs 2.448 af

Pond CB #8A: CB #8A Peak Elev=521.20' Inflow=8.73 cfs 0.625 af
15.0" Round Culvert n=0.012 L=33.0' S=0.0200 '/' Outflow=8.73 cfs 0.625 af

Pond CB #9: CB #9 Peak Elev=510.09' Inflow=36.08 cfs 3.631 af
30.0" Round Culvert n=0.012 L=114.0' S=0.0100 '/' Outflow=36.08 cfs 3.631 af

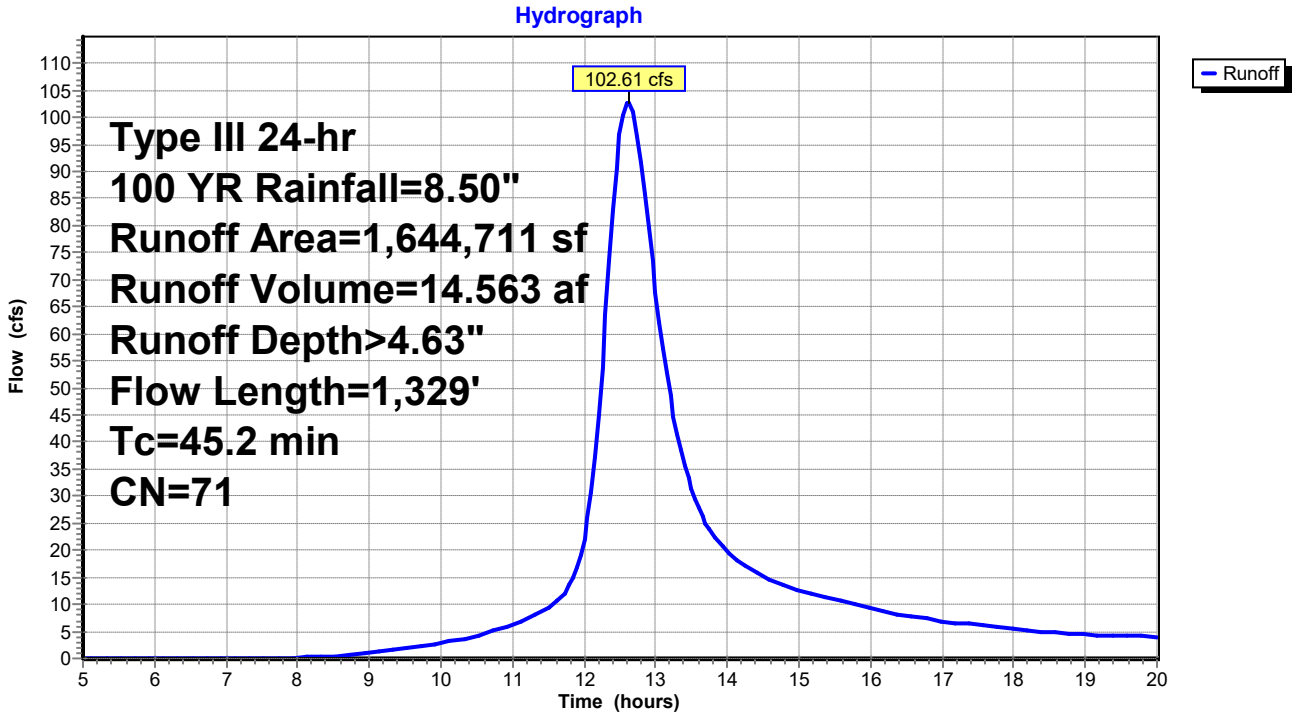
Pond CB #9A: CB #9A Peak Elev=511.07' Inflow=5.45 cfs 0.561 af
15.0" Round Culvert n=0.012 L=37.0' S=0.0200 '/' Outflow=5.45 cfs 0.561 af

Pond SB: Sediment Basin Peak Elev=509.21' Storage=159,320 cf Inflow=115.92 cfs 10.942 af
Outflow=107.54 cfs 7.858 af

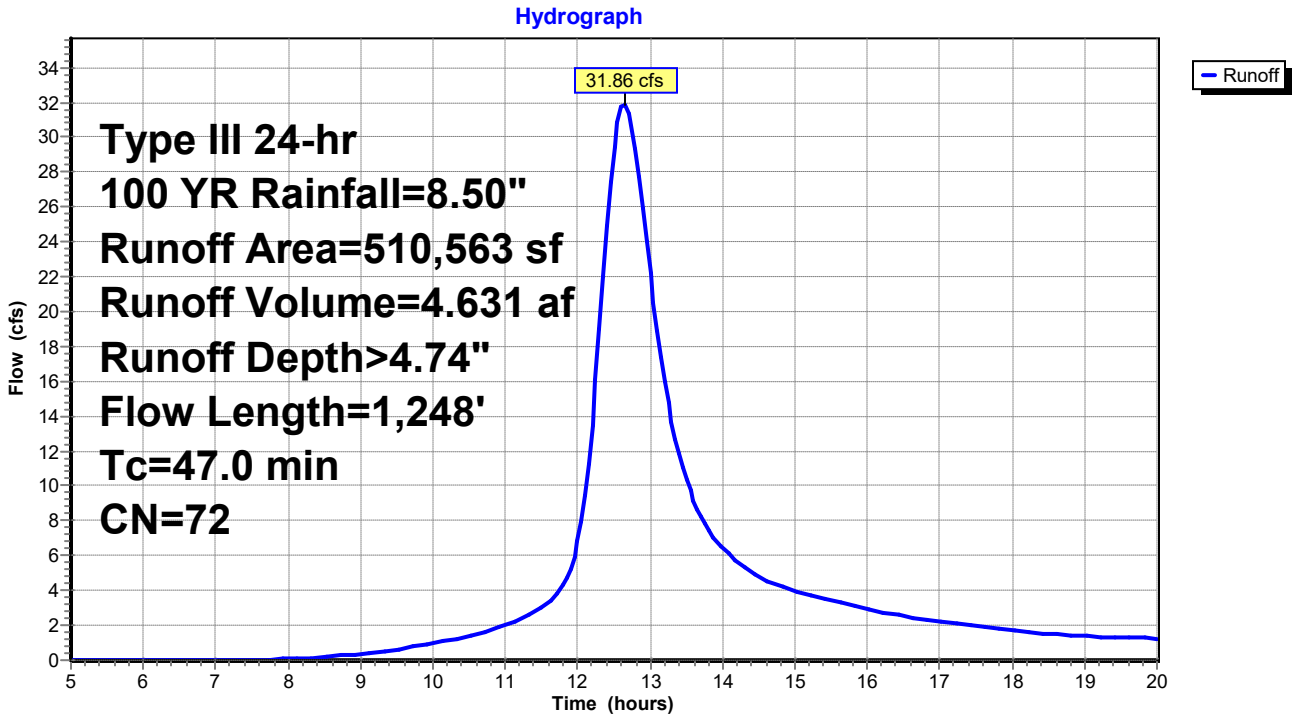
Pond SWB: SWB Peak Elev=504.37' Storage=99,322 cf Inflow=11.22 cfs 6.762 af
Outflow=8.08 cfs 4.488 af

Total Runoff Area = 98.112 ac Runoff Volume = 41.784 af Average Runoff Depth = 5.11"
82.73% Pervious = 81.165 ac 17.27% Impervious = 16.947 ac

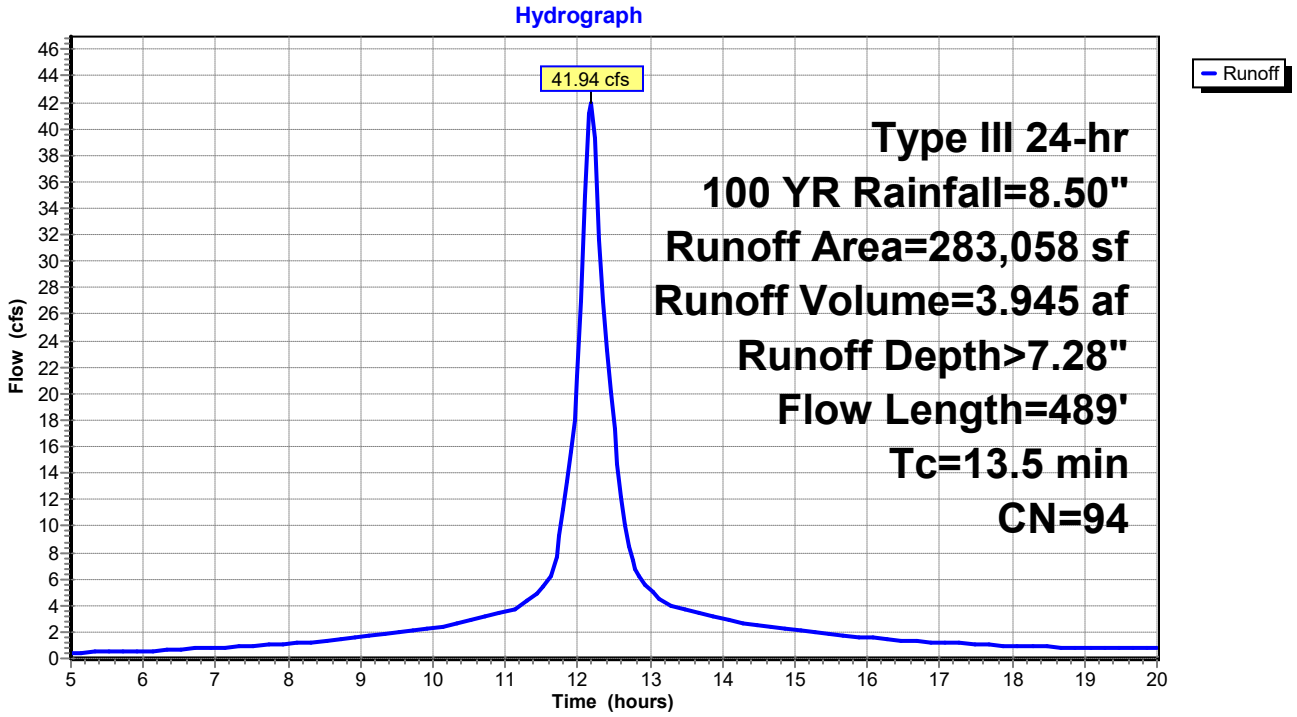
Subcatchment PRE-WS1: PRE-WS1



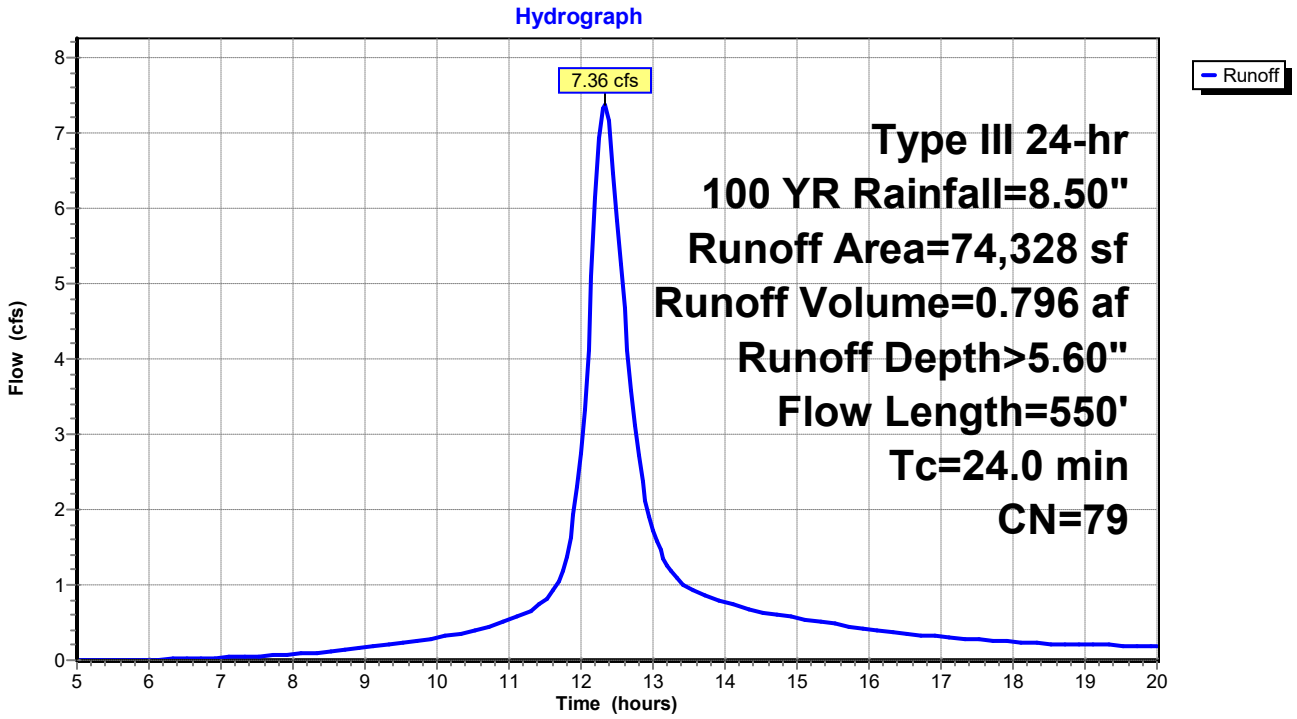
Subcatchment PRE-WS2: PRE-WS2



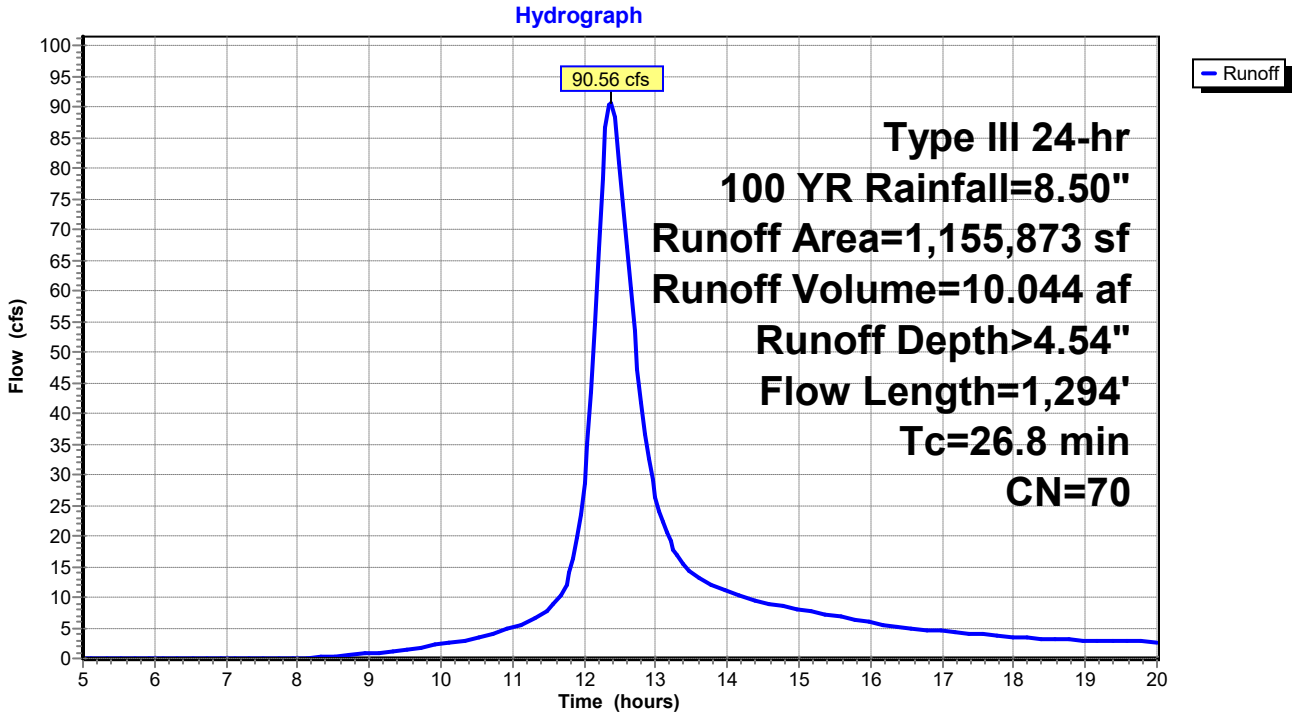
Subcatchment WS-1A-POST: WS-1A-POST



Subcatchment WS-1B-POST: WS-1B-POST



Subcatchment WS-1C-POST: WS-1C-POST



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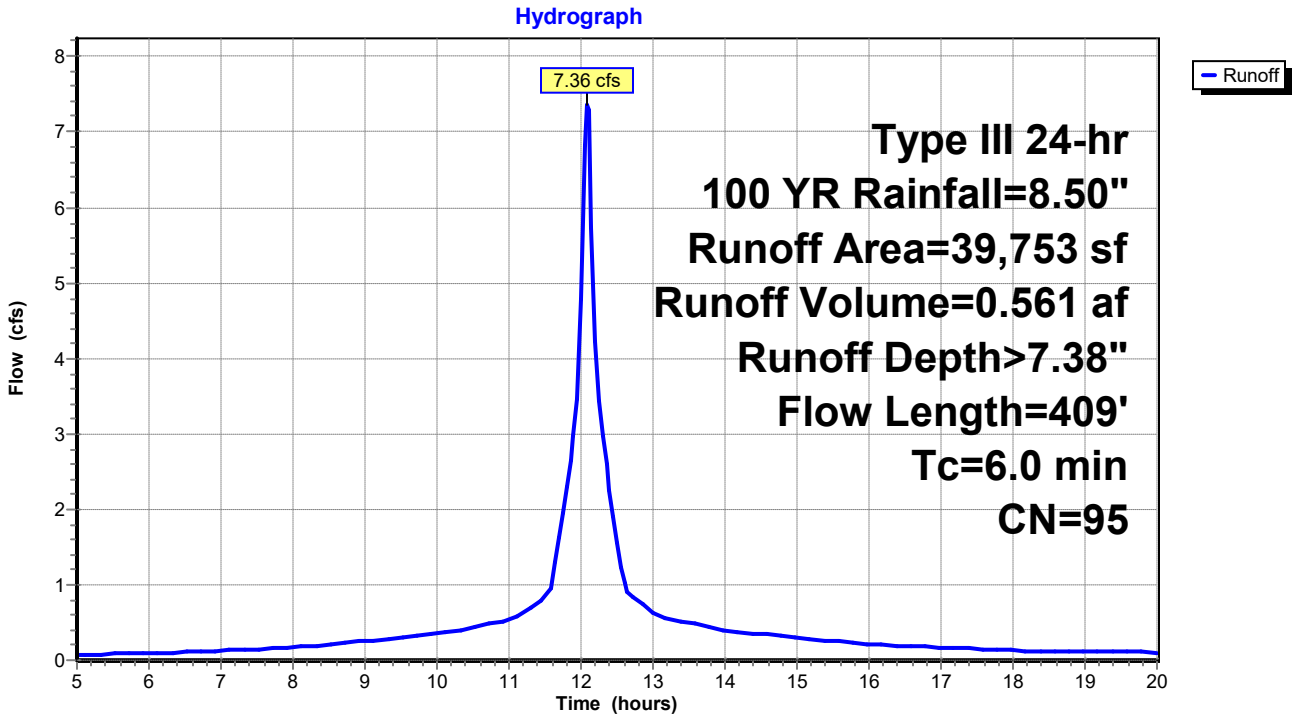
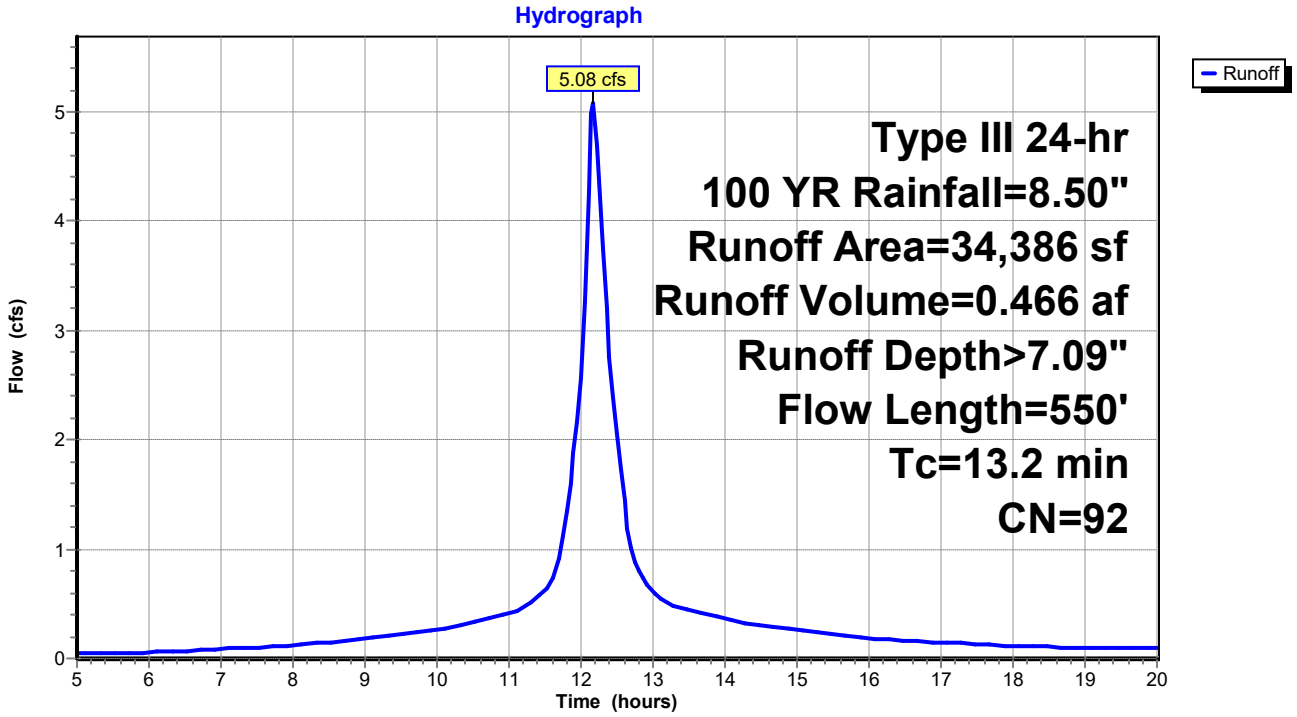
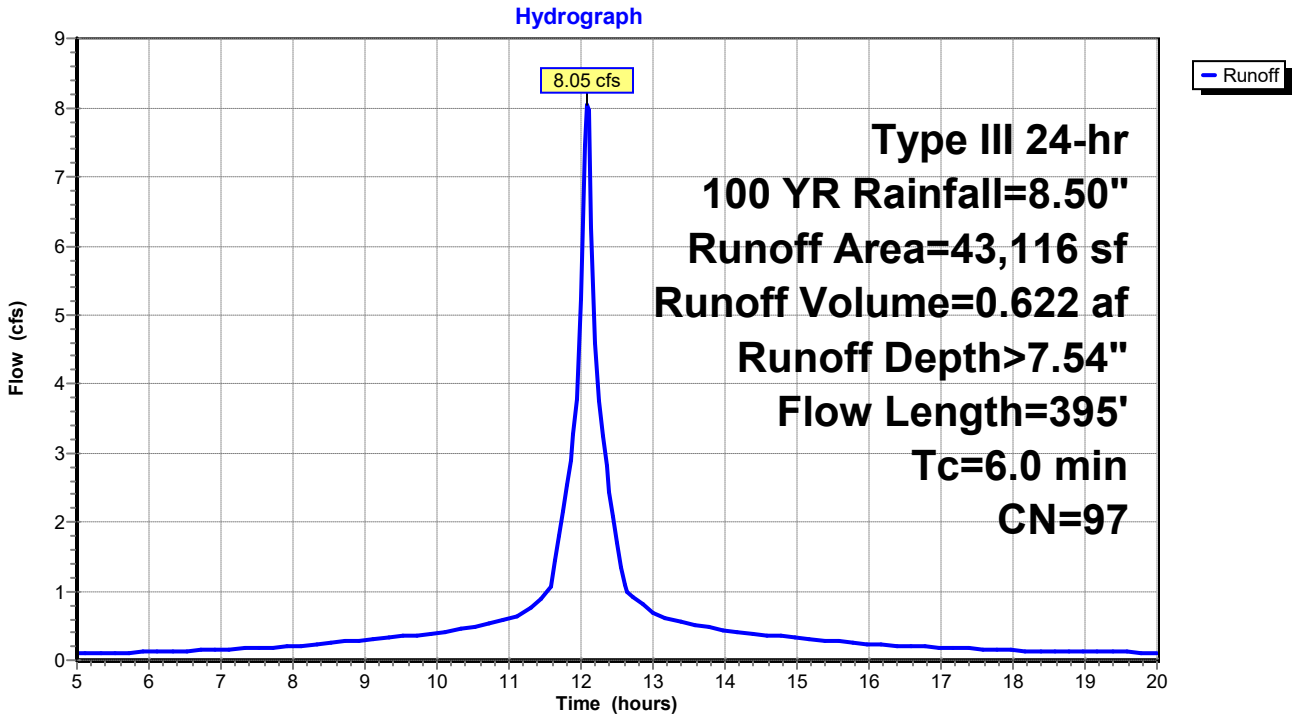


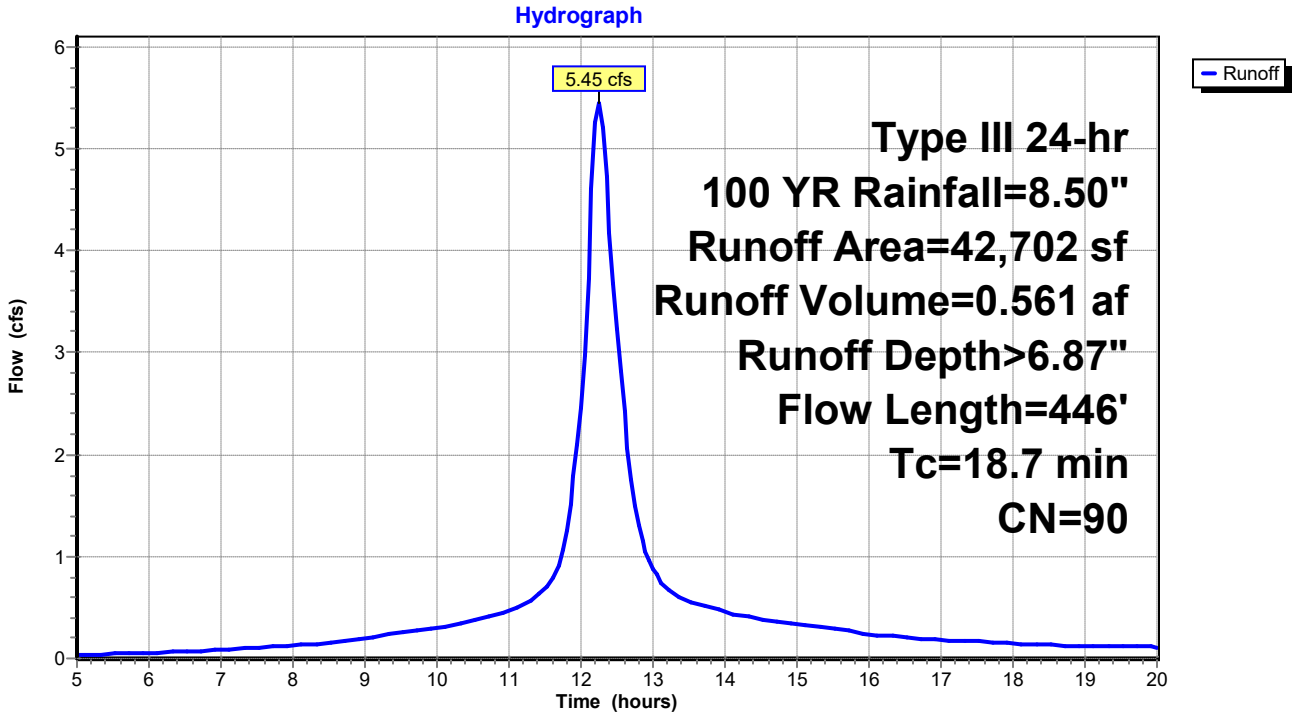
Subcatchment WS-1E-POST: WS-1E-POST



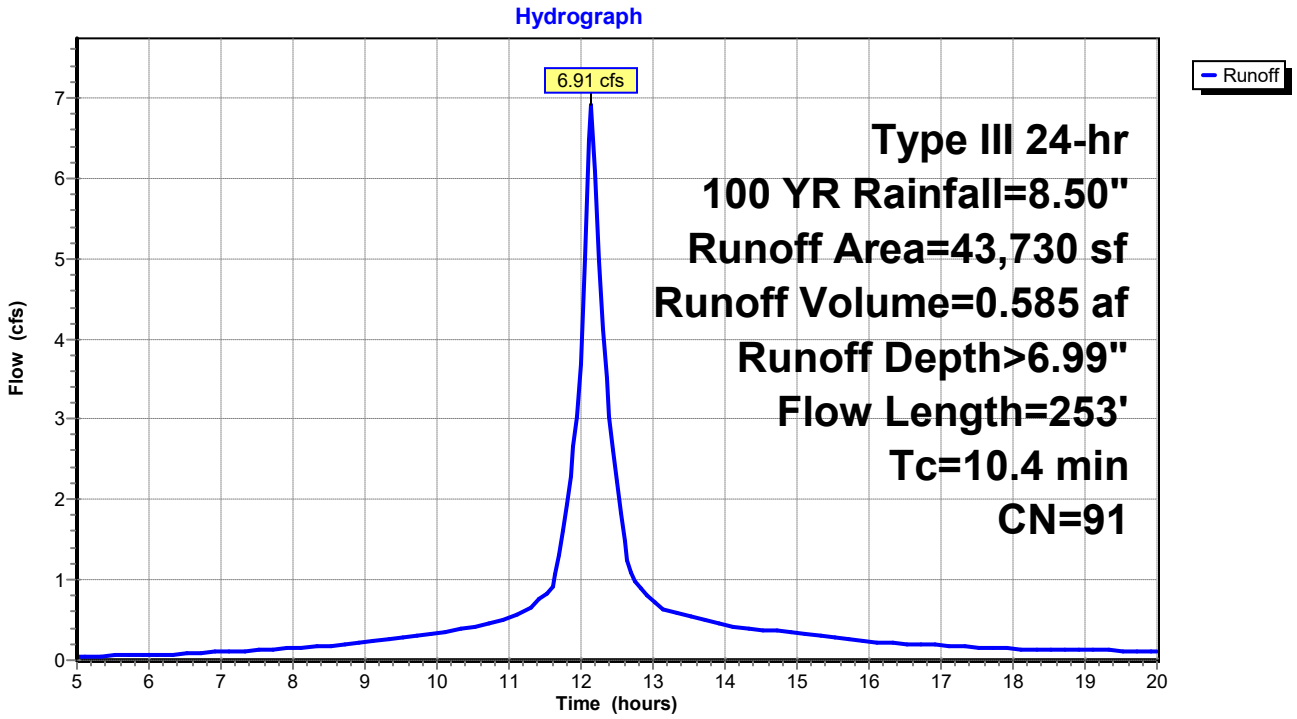
Subcatchment WS-1F-POST: WS-1F-POST



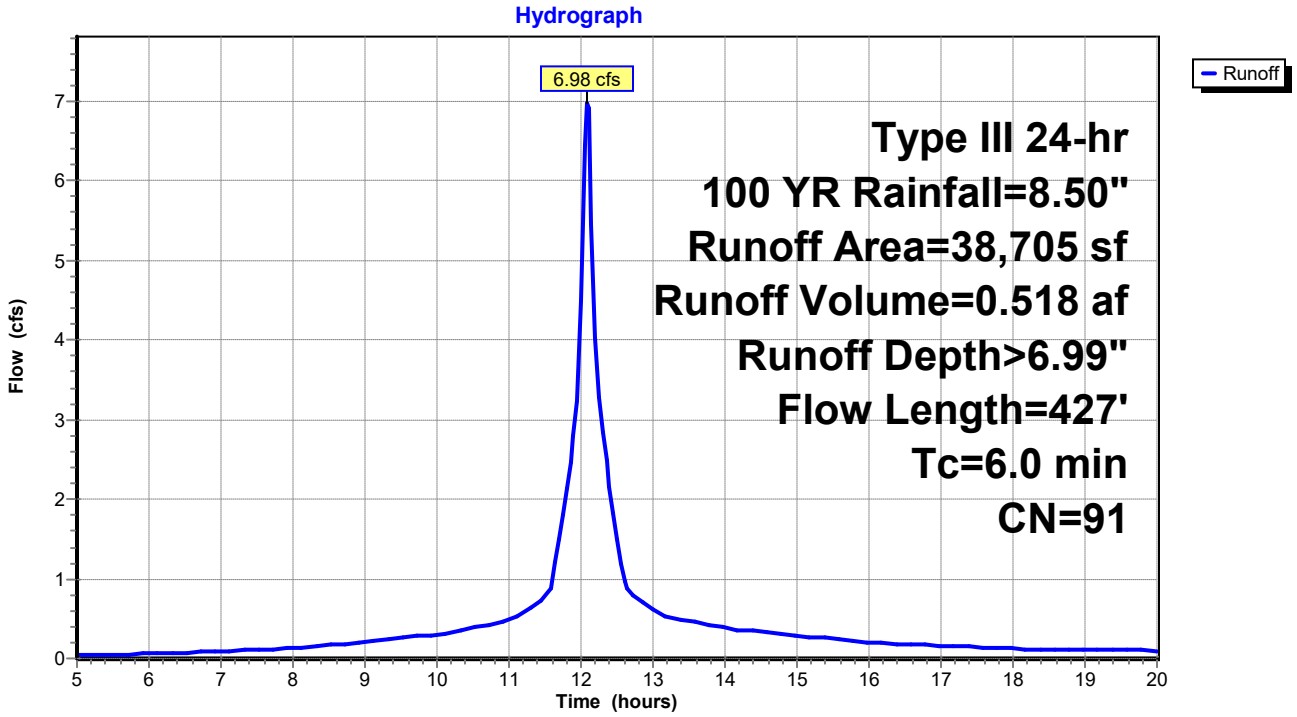
Subcatchment WS-1G-POST: WS-1G-POST



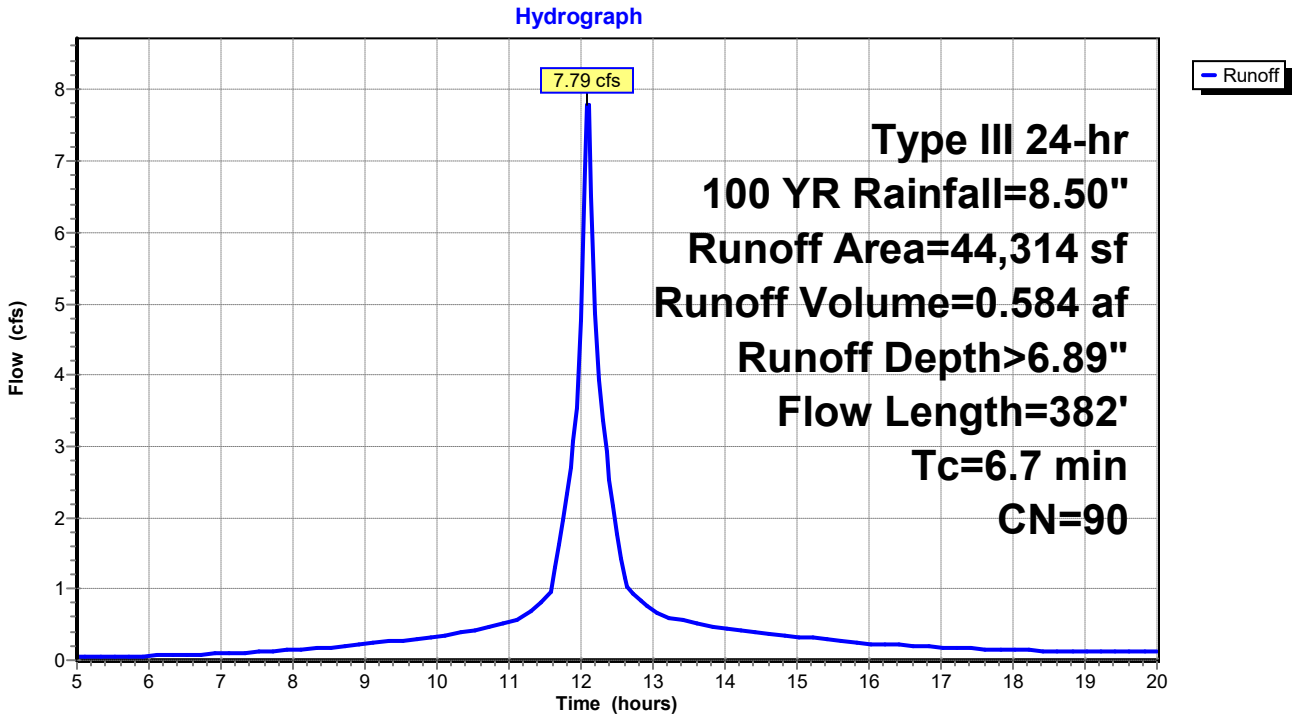
Subcatchment WS-1H-POST: WS-1H-POST



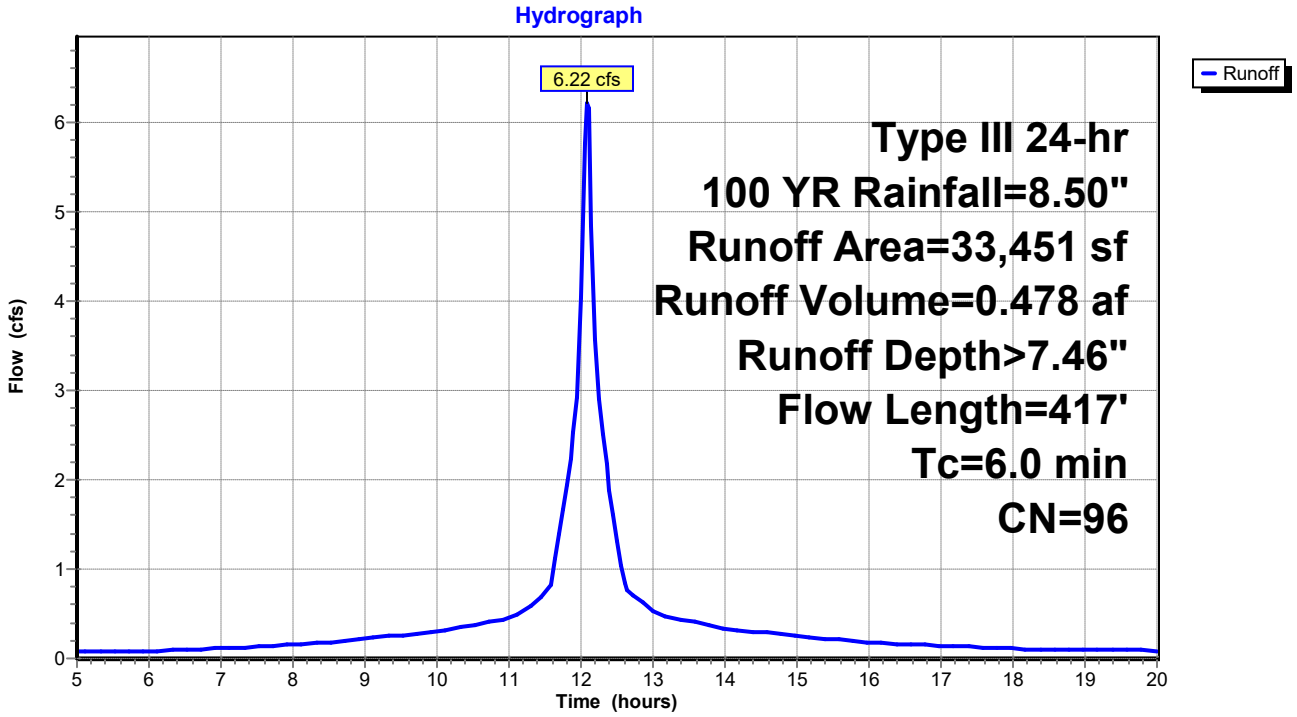
Subcatchment WS-1I-POST: WS-1I-POST



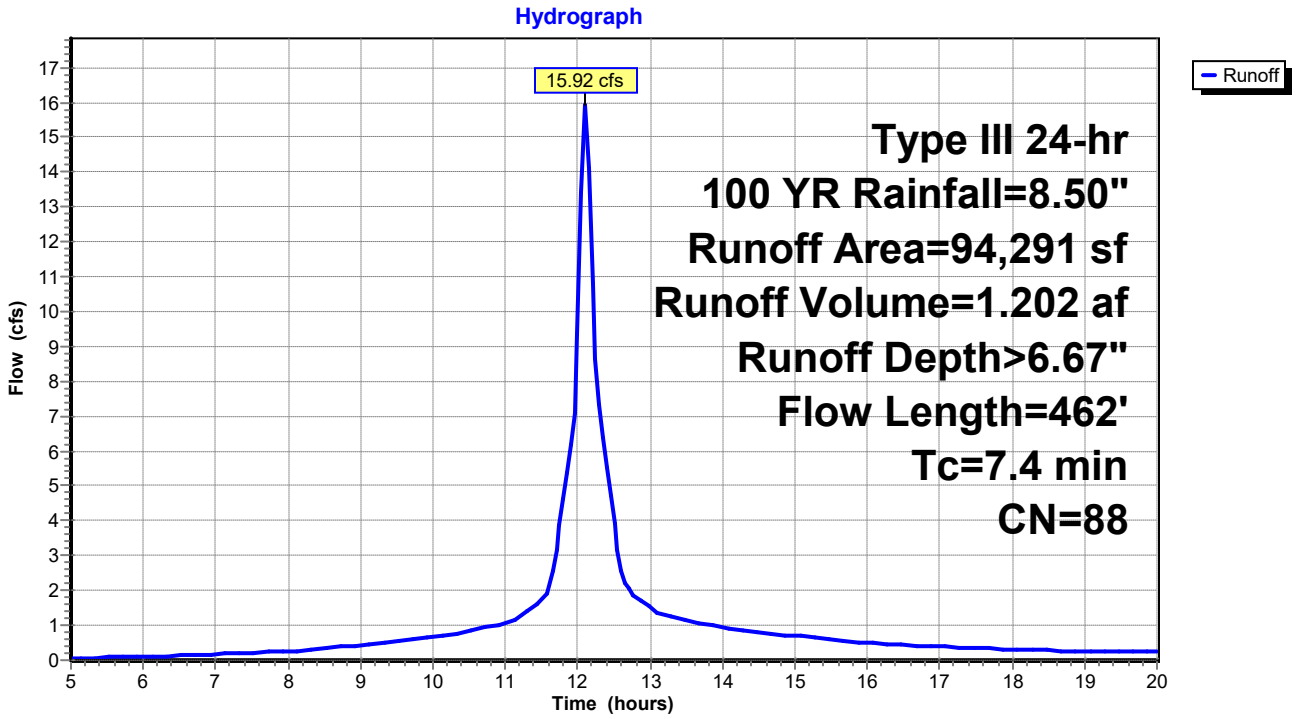
Subcatchment WS-1K-POST: WS-1K-POST



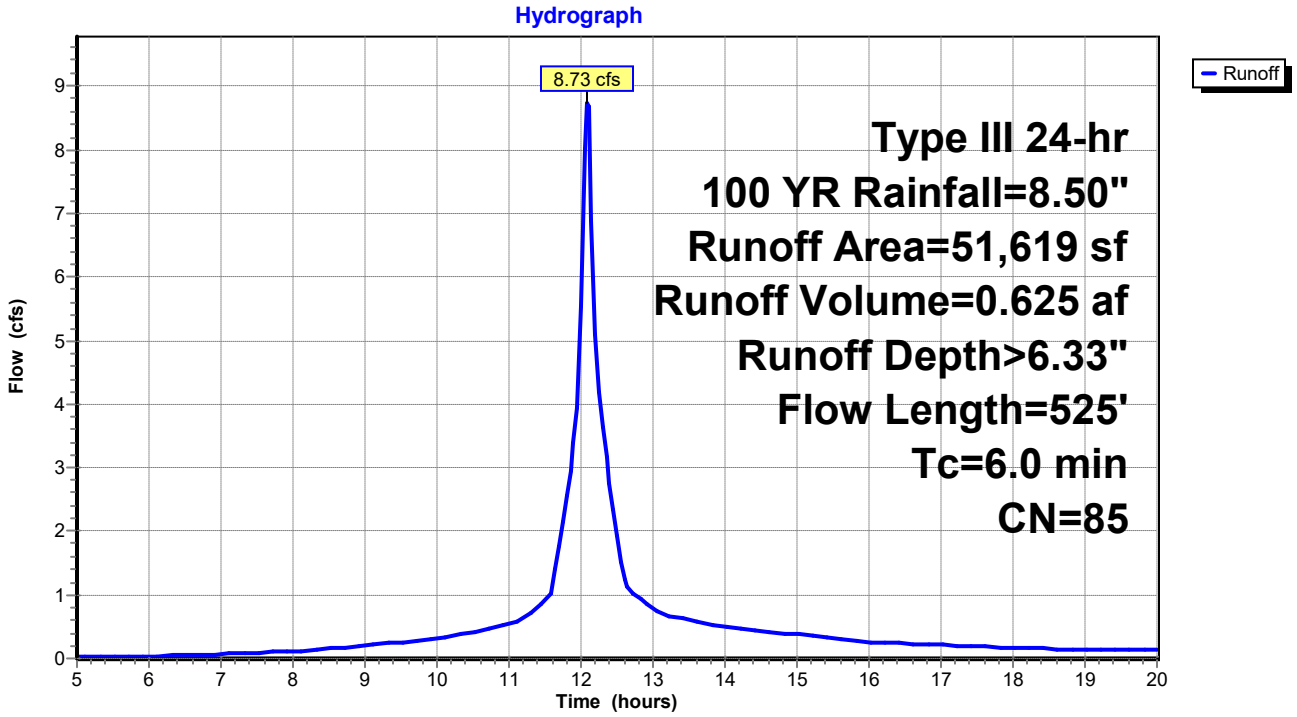
Subcatchment WS-1L-POST: WS-1L-POST



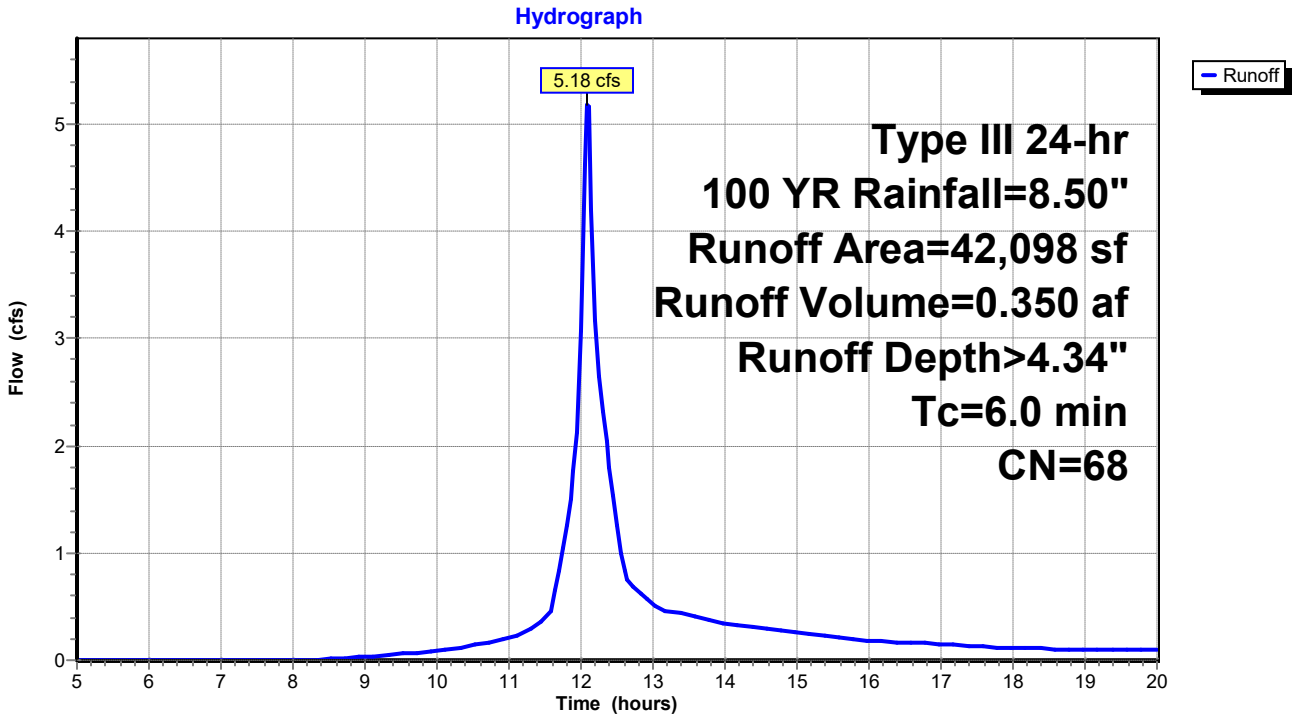
Subcatchment WS-1M-POST: WS-1M-POST



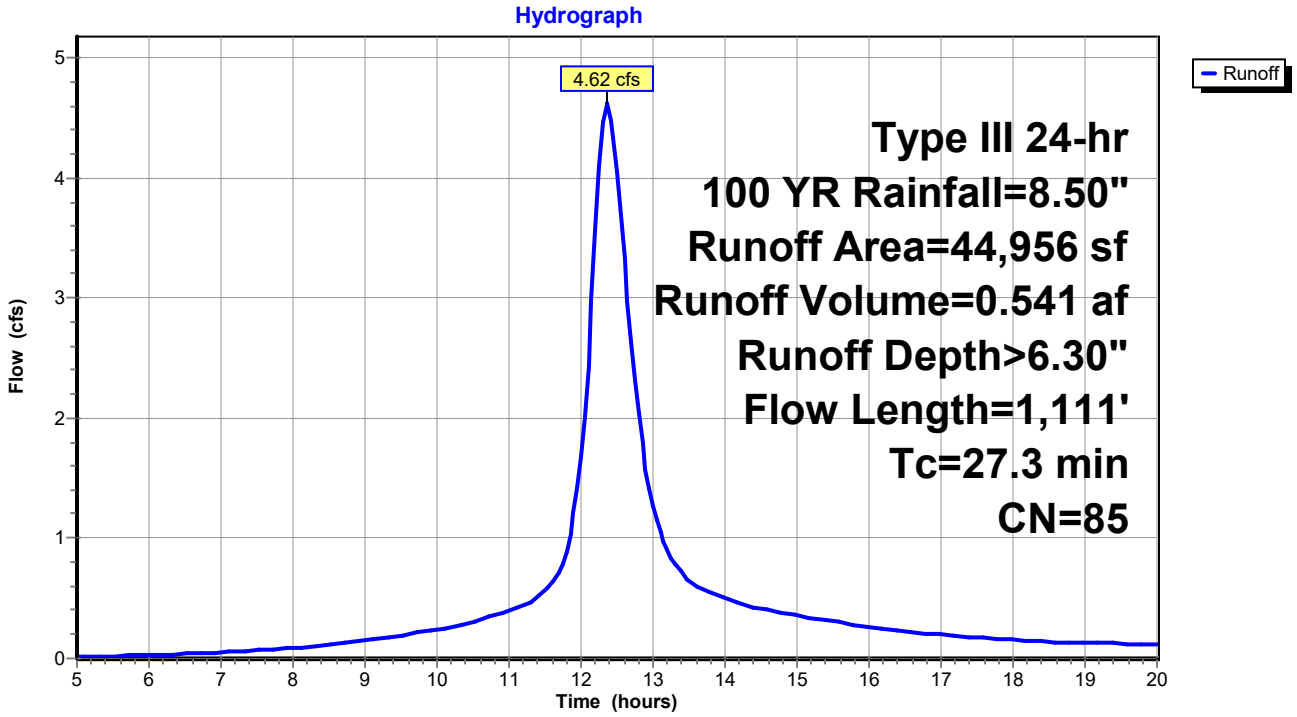
Subcatchment WS-1N-POST: WS-1N-POST



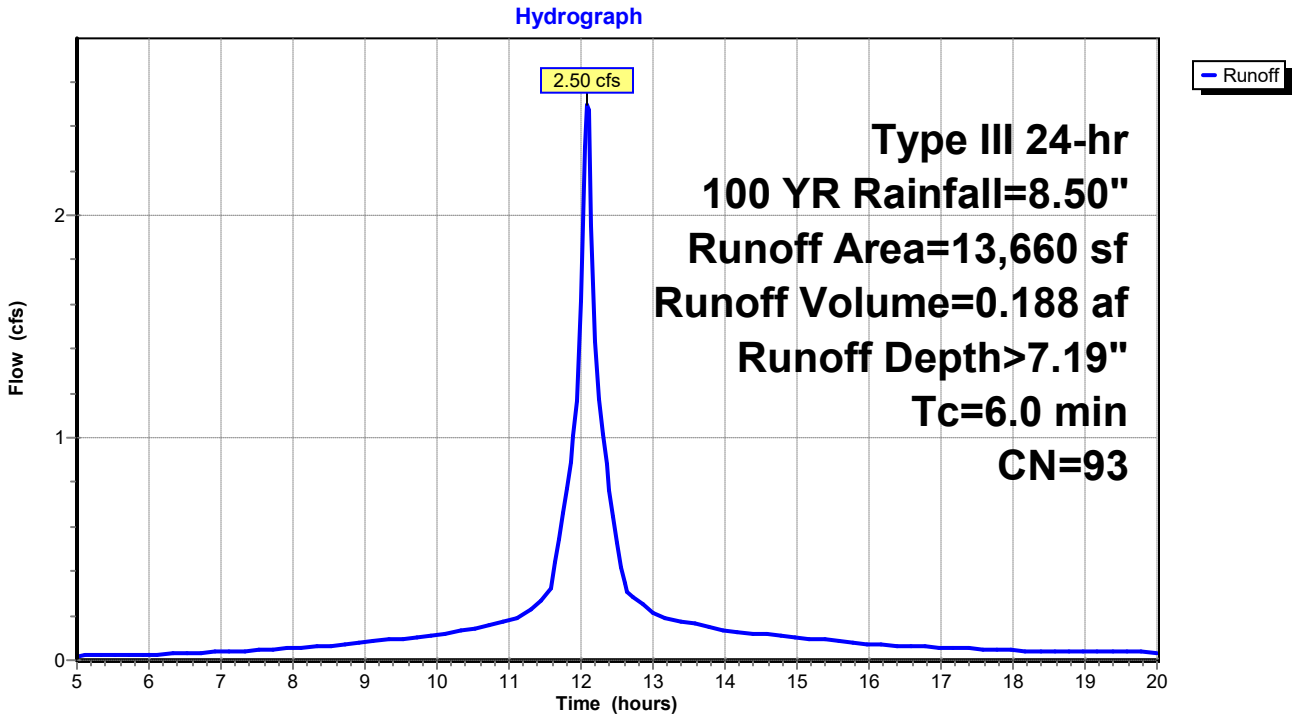
Subcatchment WS-2A-POST: WS-2A-POST



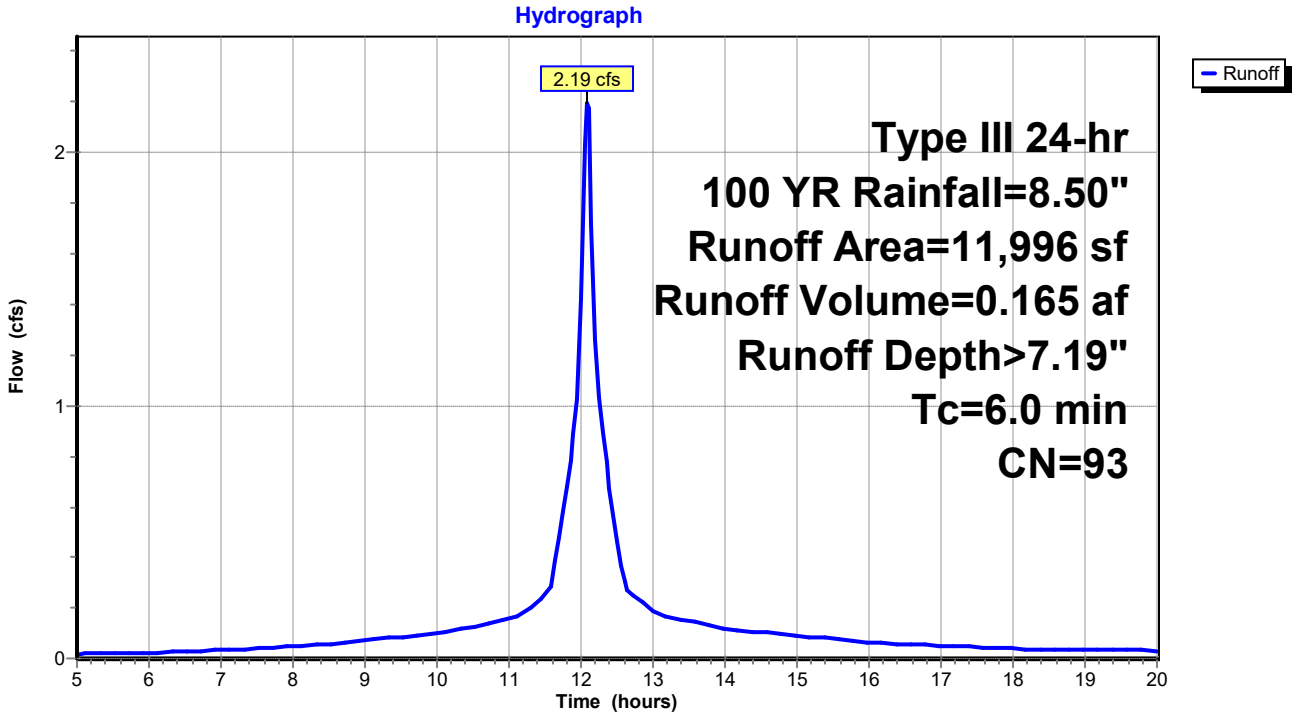
Subcatchment WS-2B-POST: WS-2B-POST



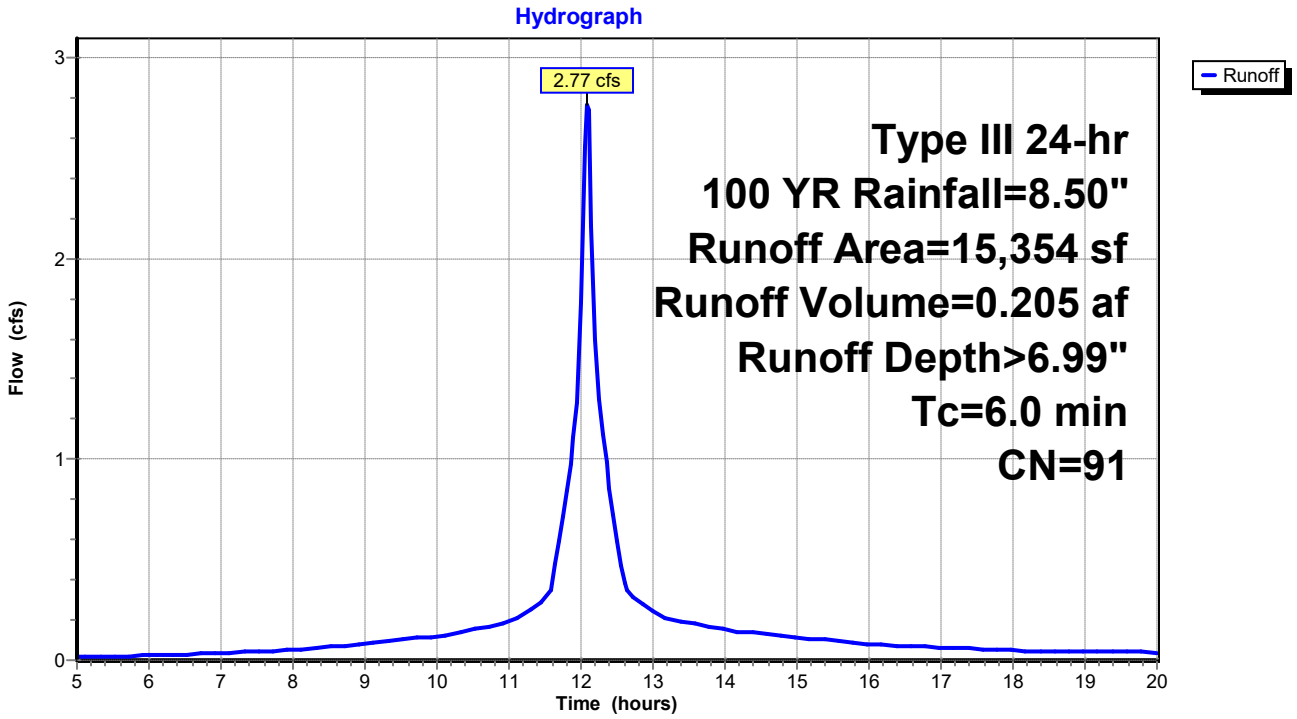
Subcatchment WS-2C-POST: WS-2C-POST



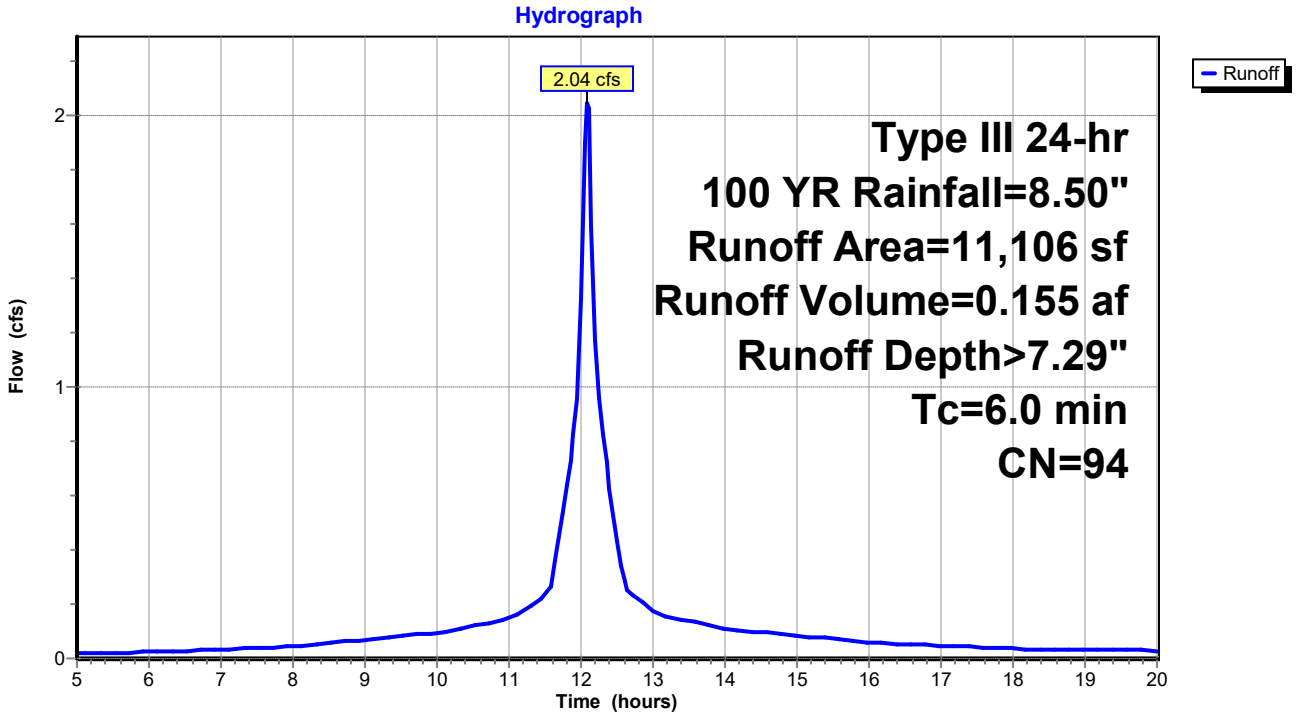
Subcatchment WS-2D-POST: WS-2D-POST



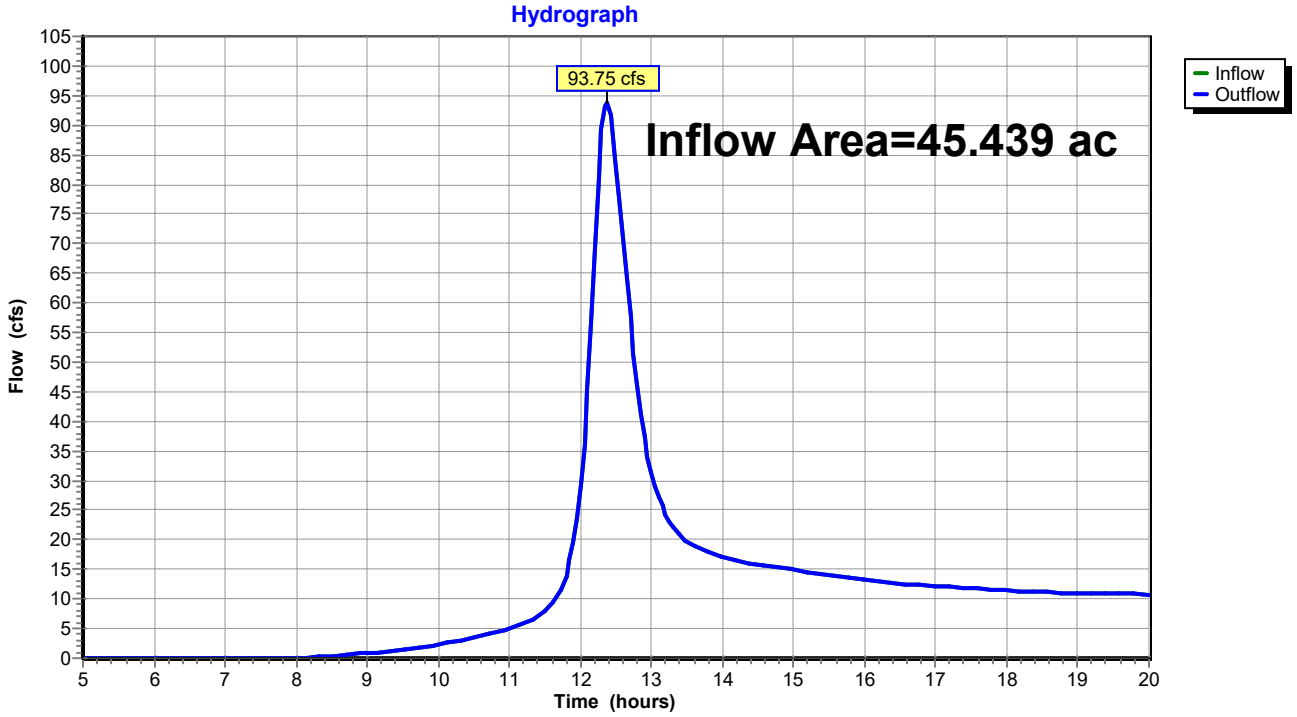
Subcatchment WS-2E-POST: WS-2E-POST



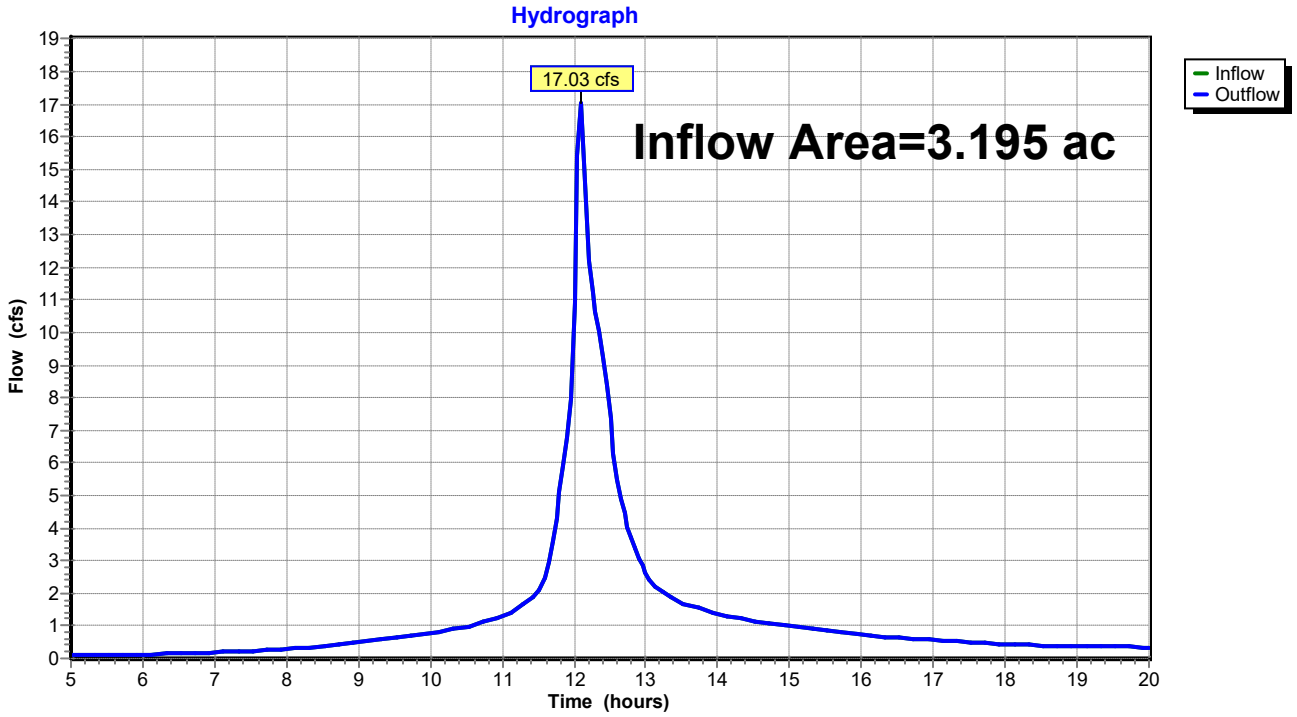
Subcatchment WS-2F-POST: WS-2F-POST



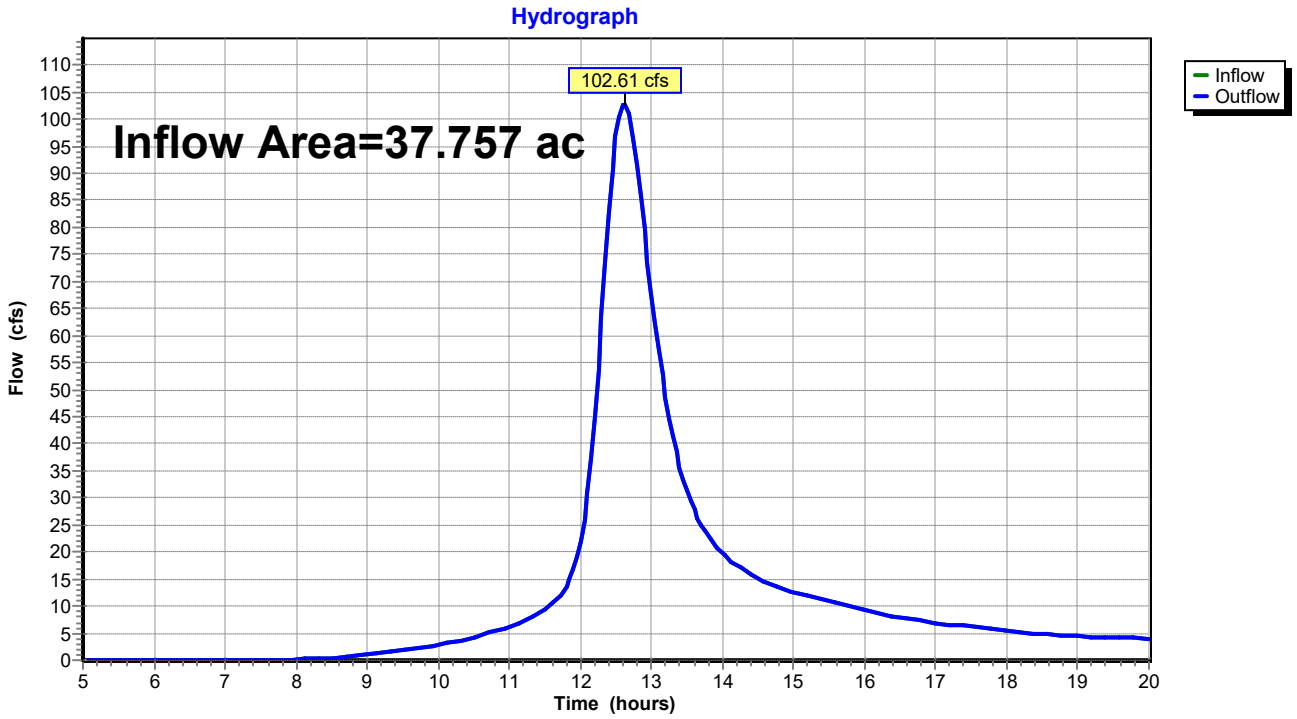
Reach DP-1-POST: DP-1-POST



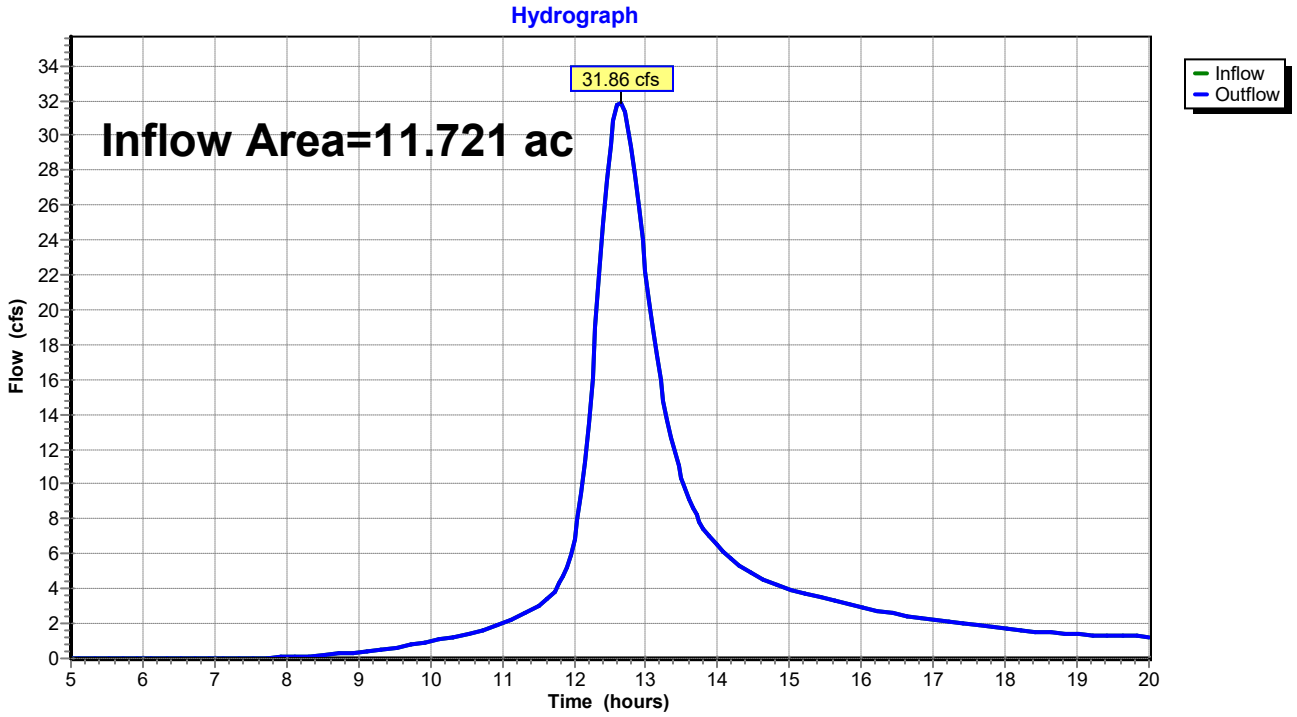
Reach POST-DP2: POST-DP2



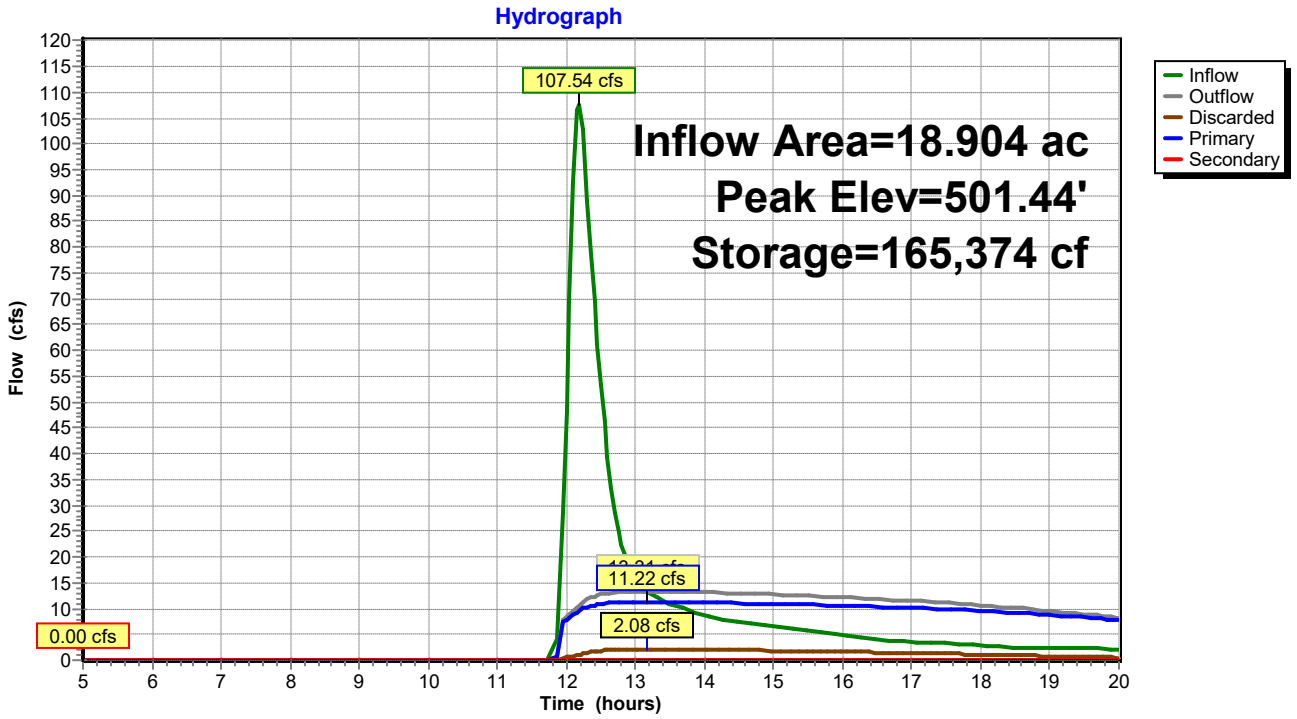
Reach PRE-DP1: PRE-DP1



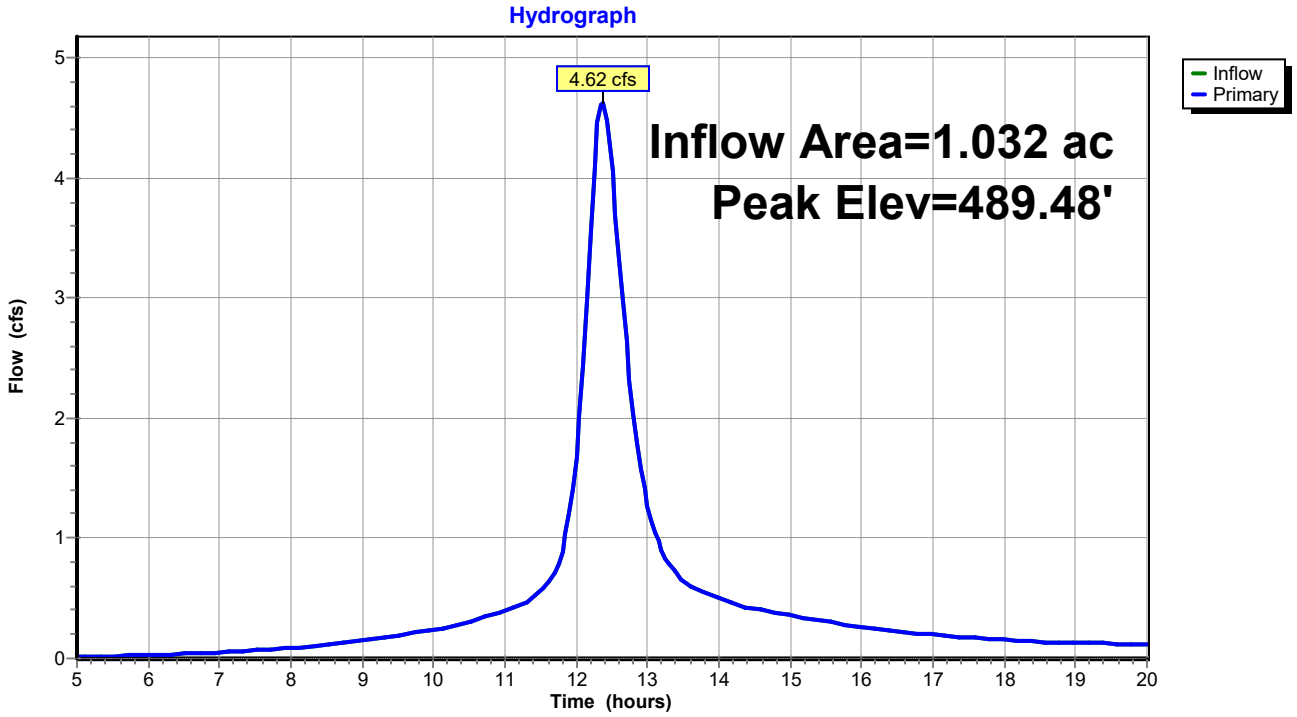
Reach PRE-DP2: PRE-DP2



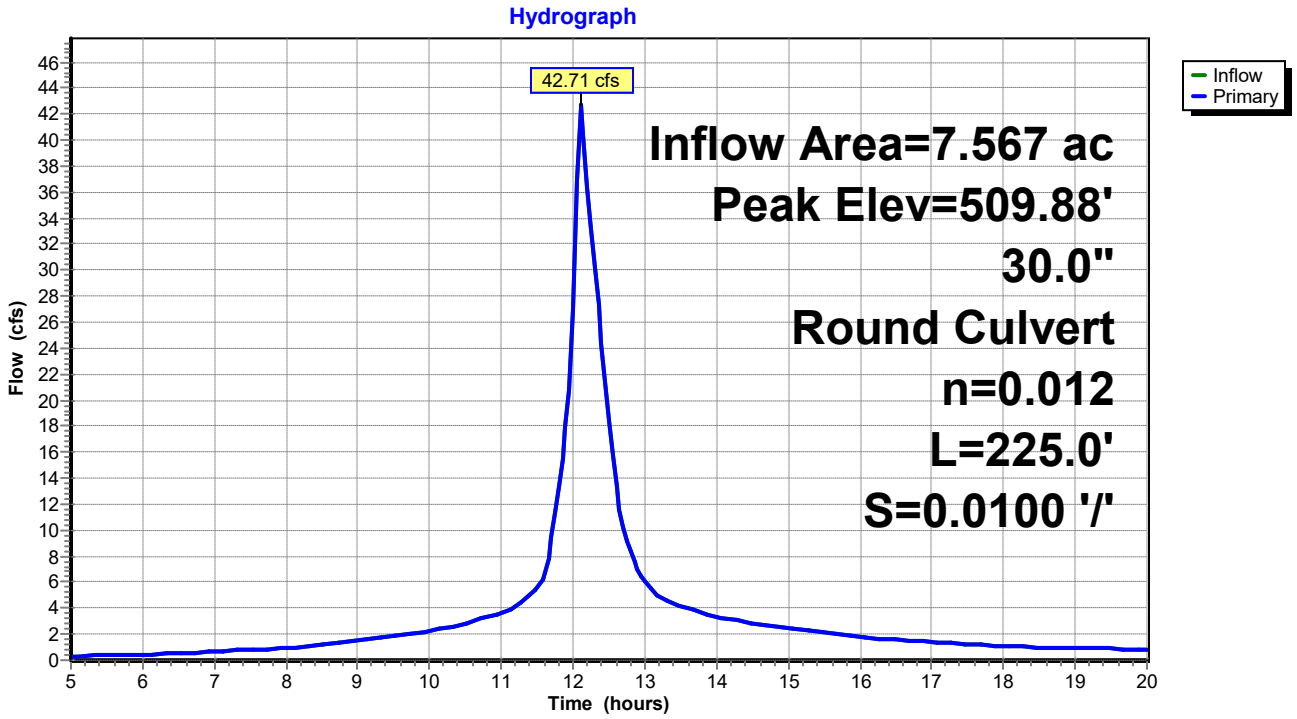
Pond BI: Bioretention



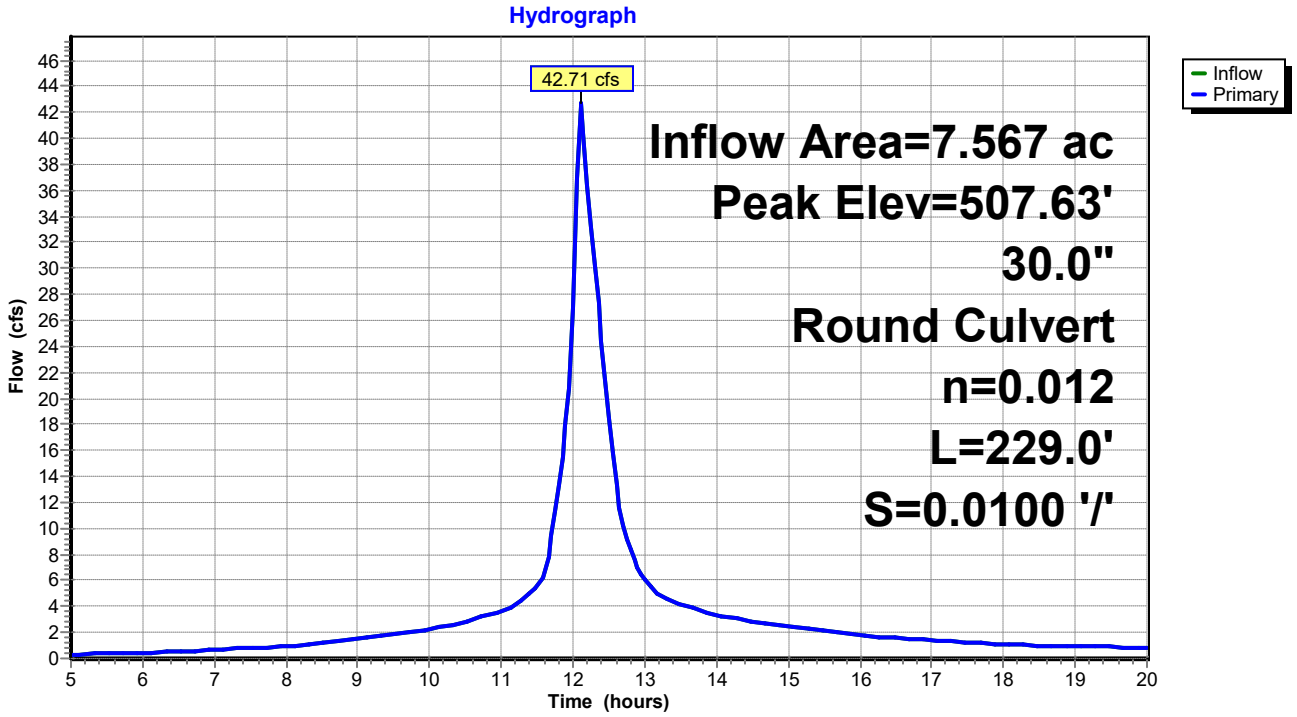
Pond CB #1: CB #1



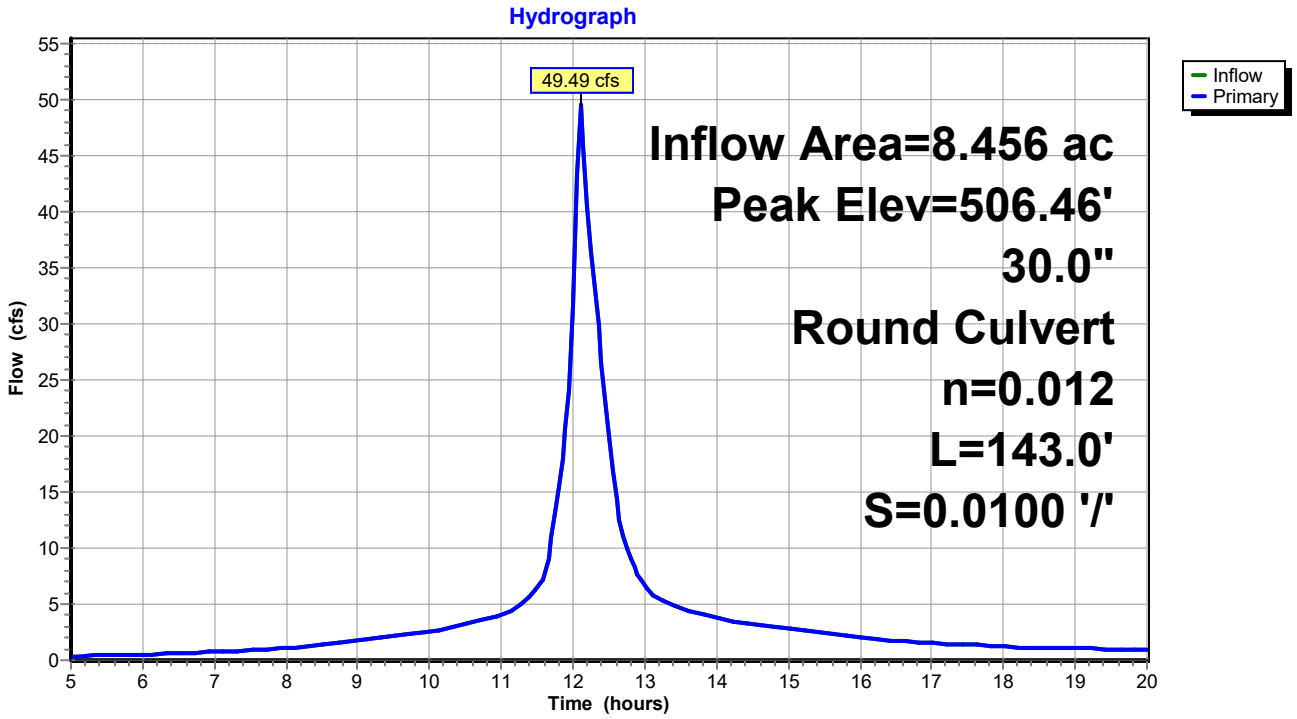
Pond CB #10: CB #10



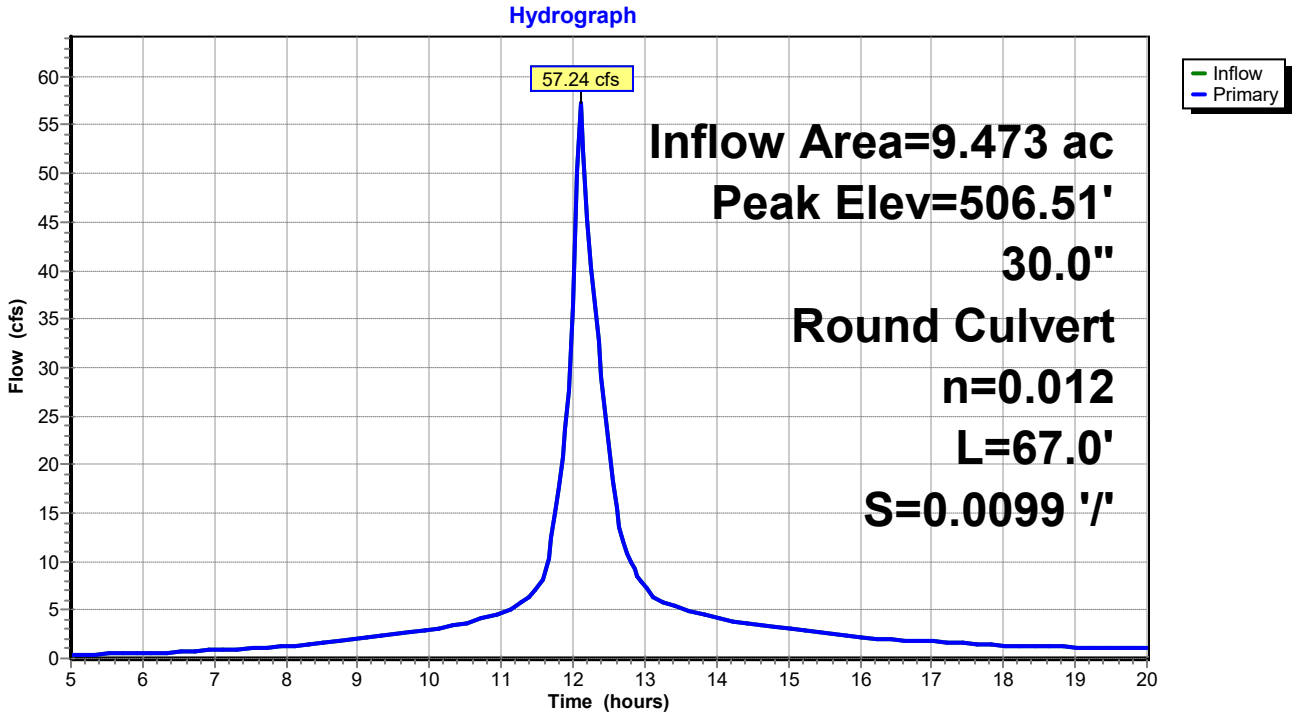
Pond CB #11: CB #11



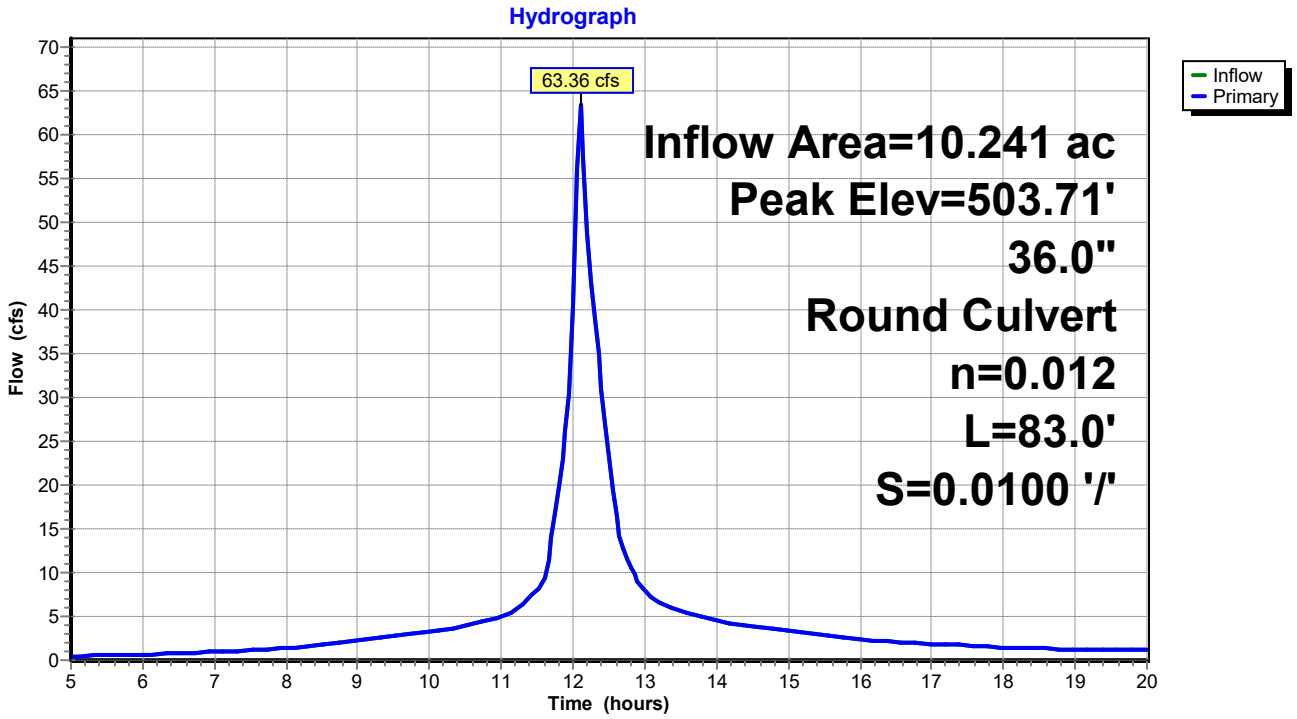
Pond CB #13: CB #13



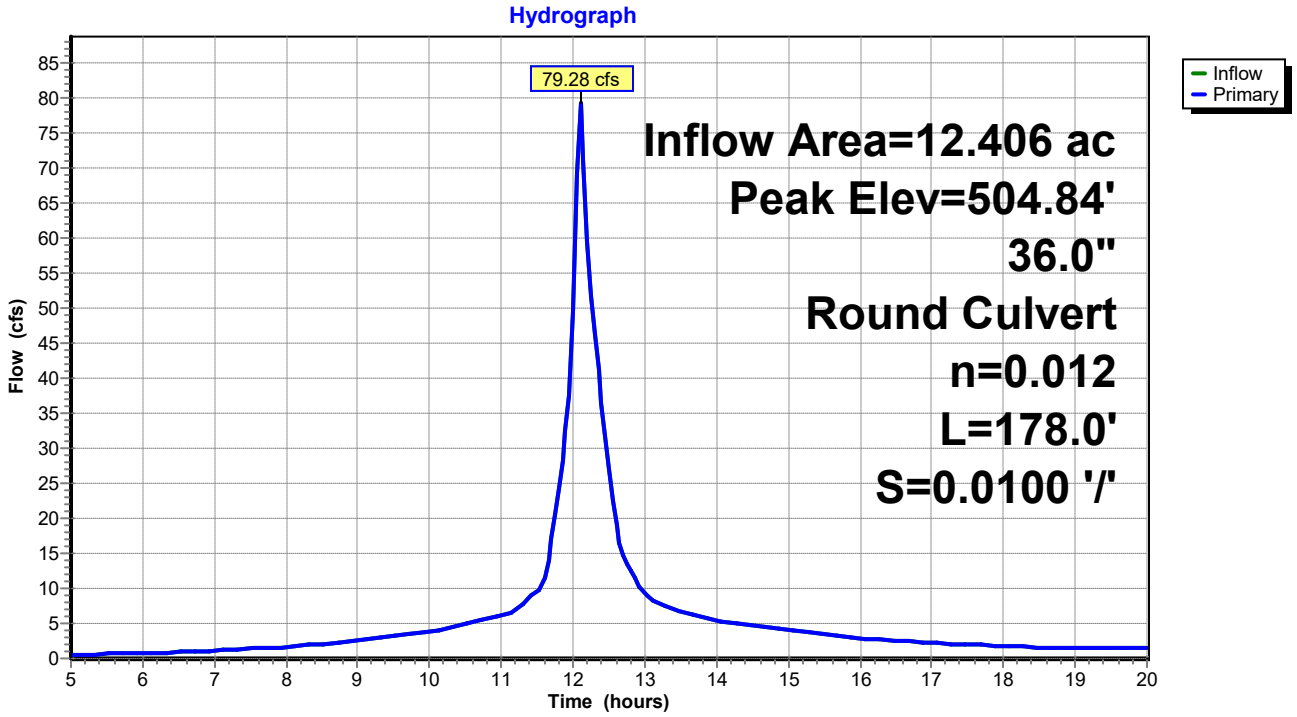
Pond CB #14: CB #14



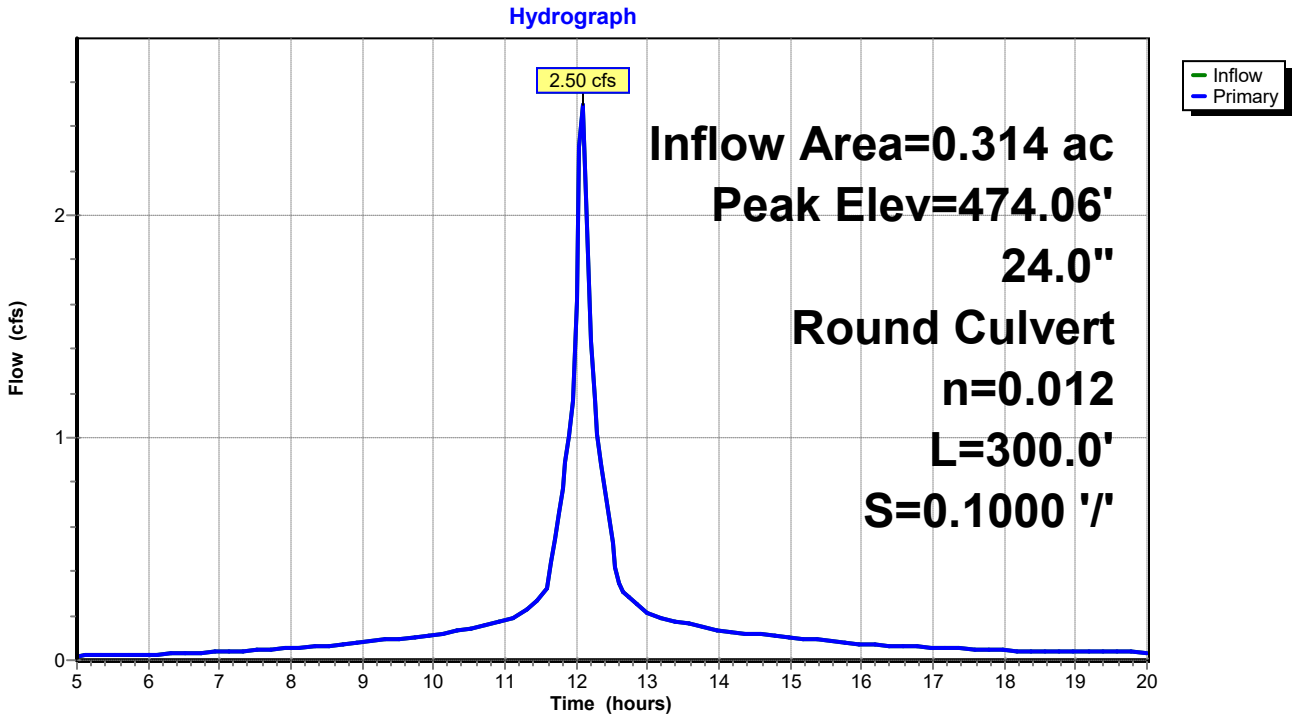
Pond CB #15: CB #15



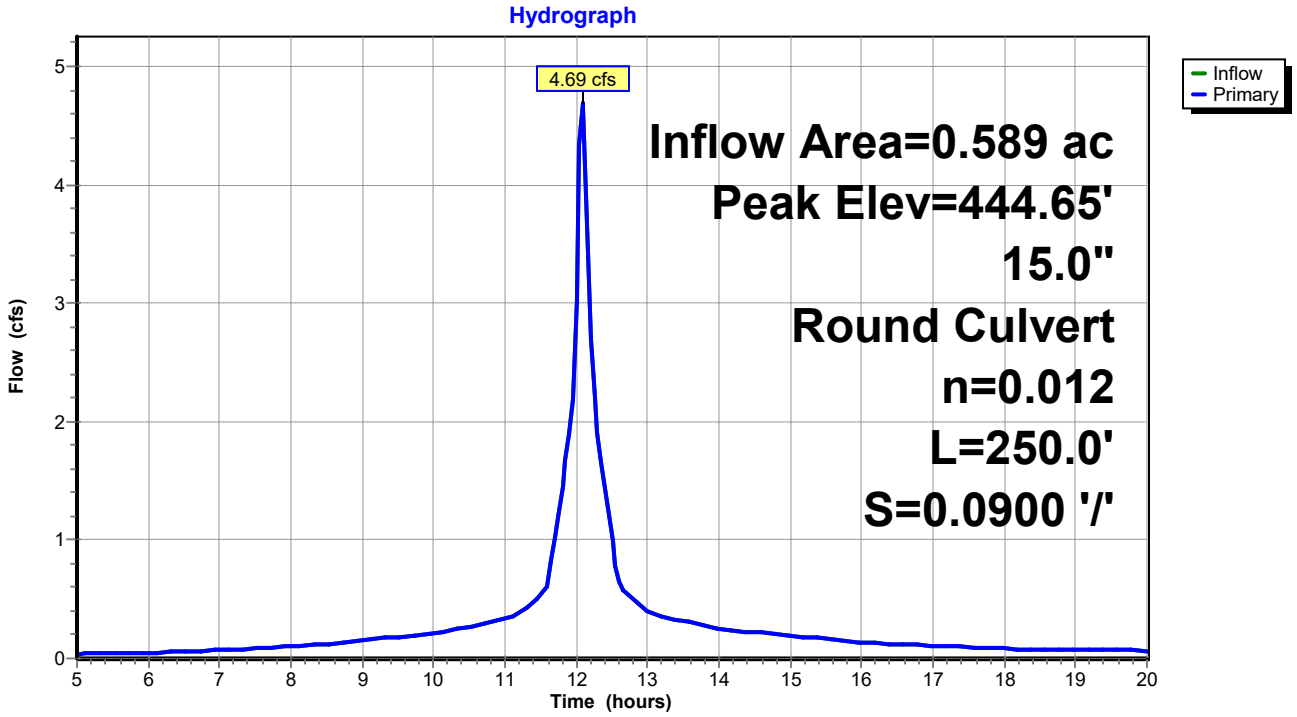
Pond CB #16: CB #16



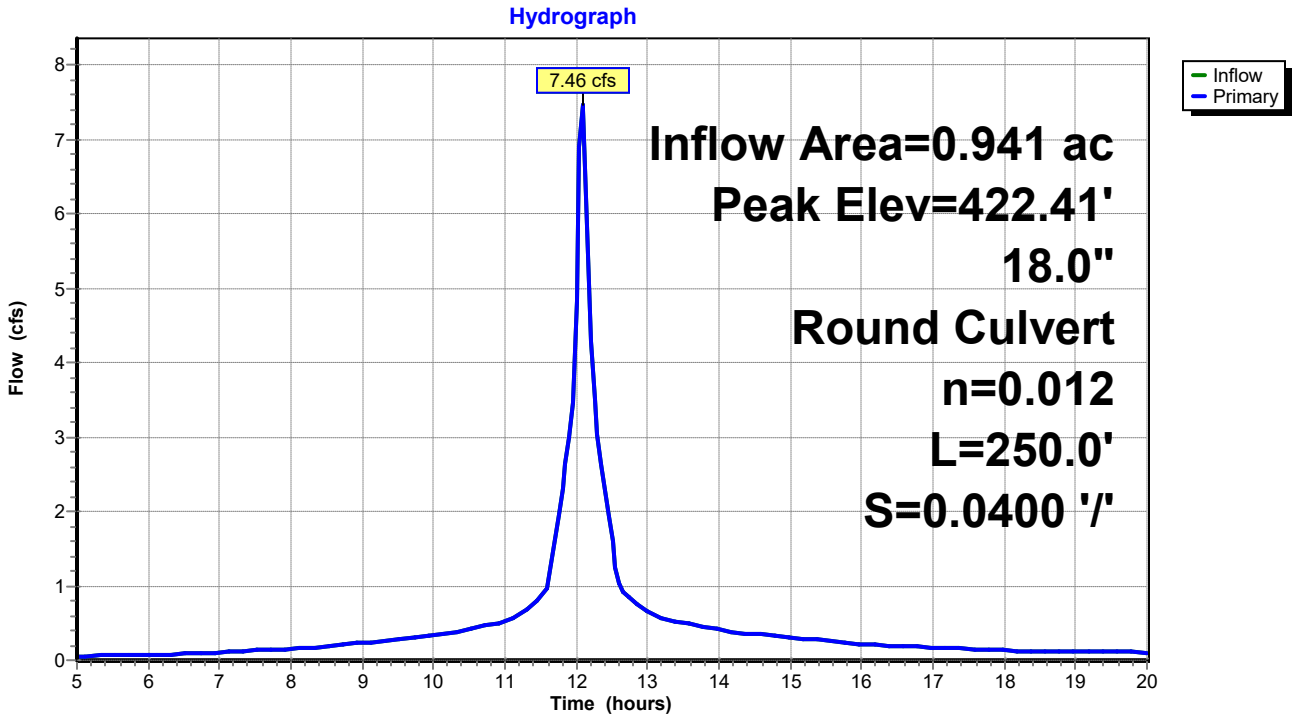
Pond CB #2: CB #2



Pond CB #3: CB #3



Pond CB #4: CB #4



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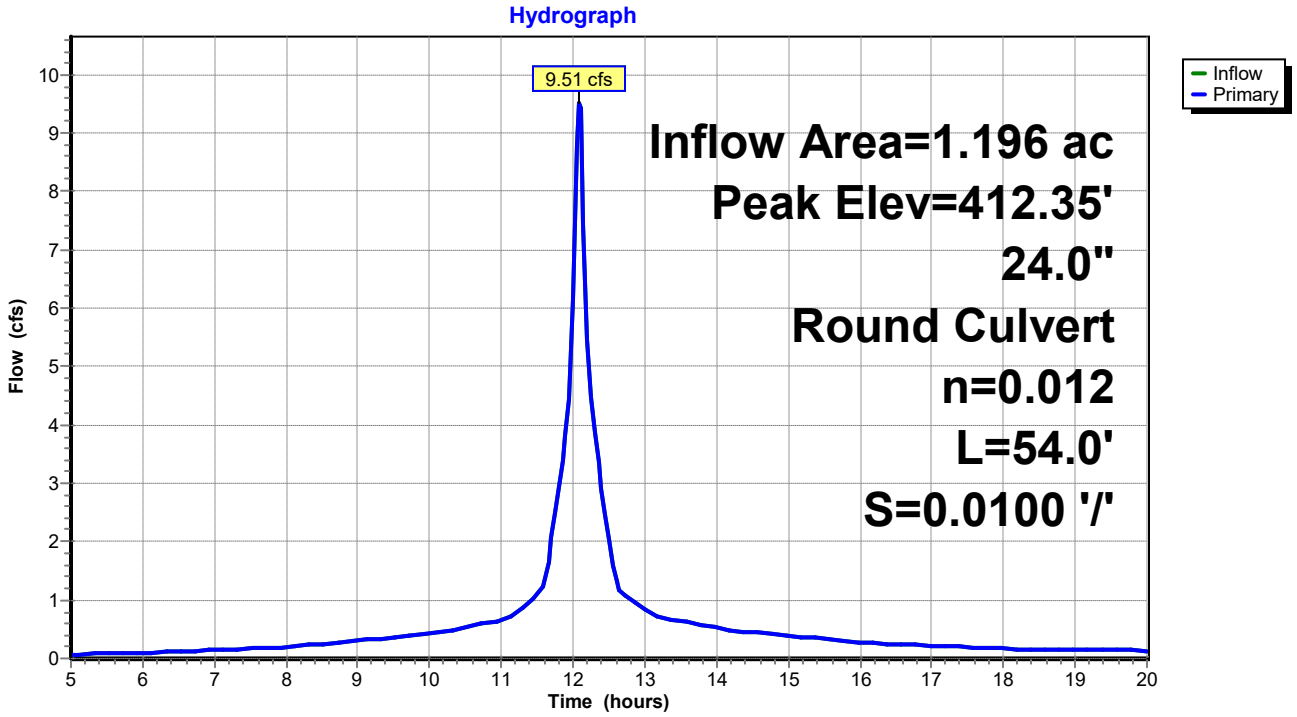
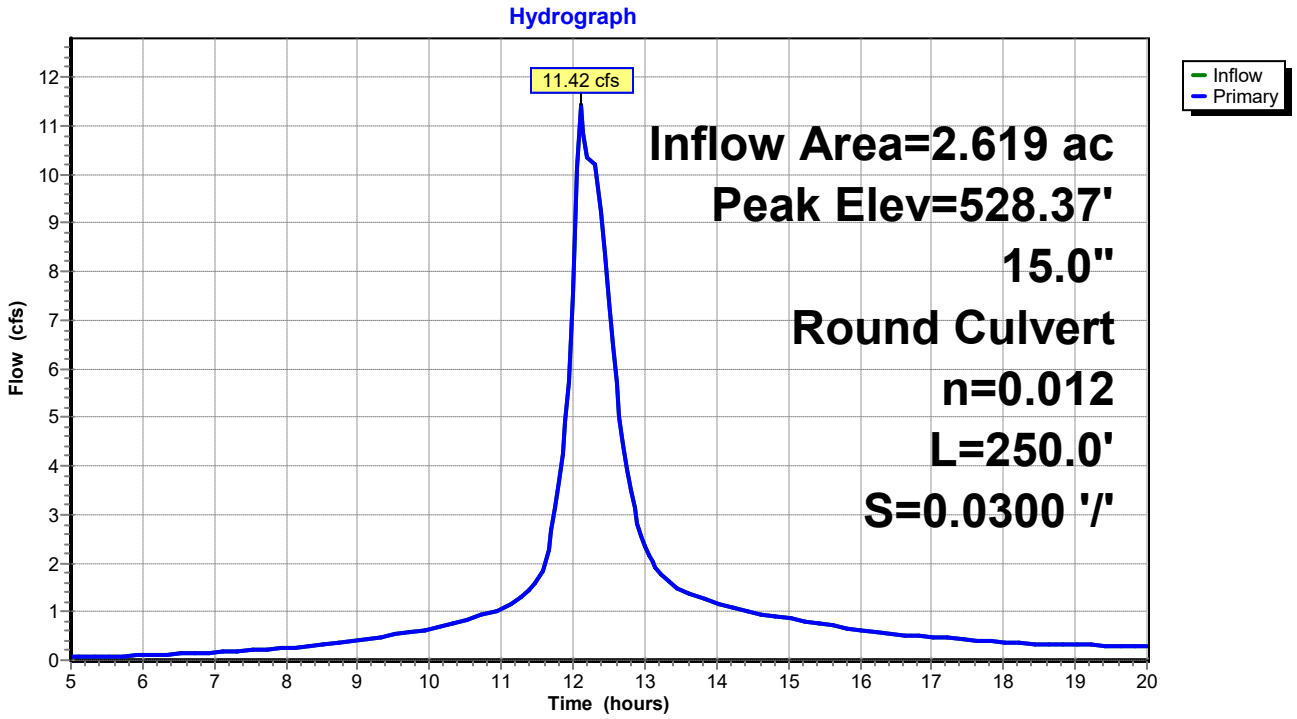
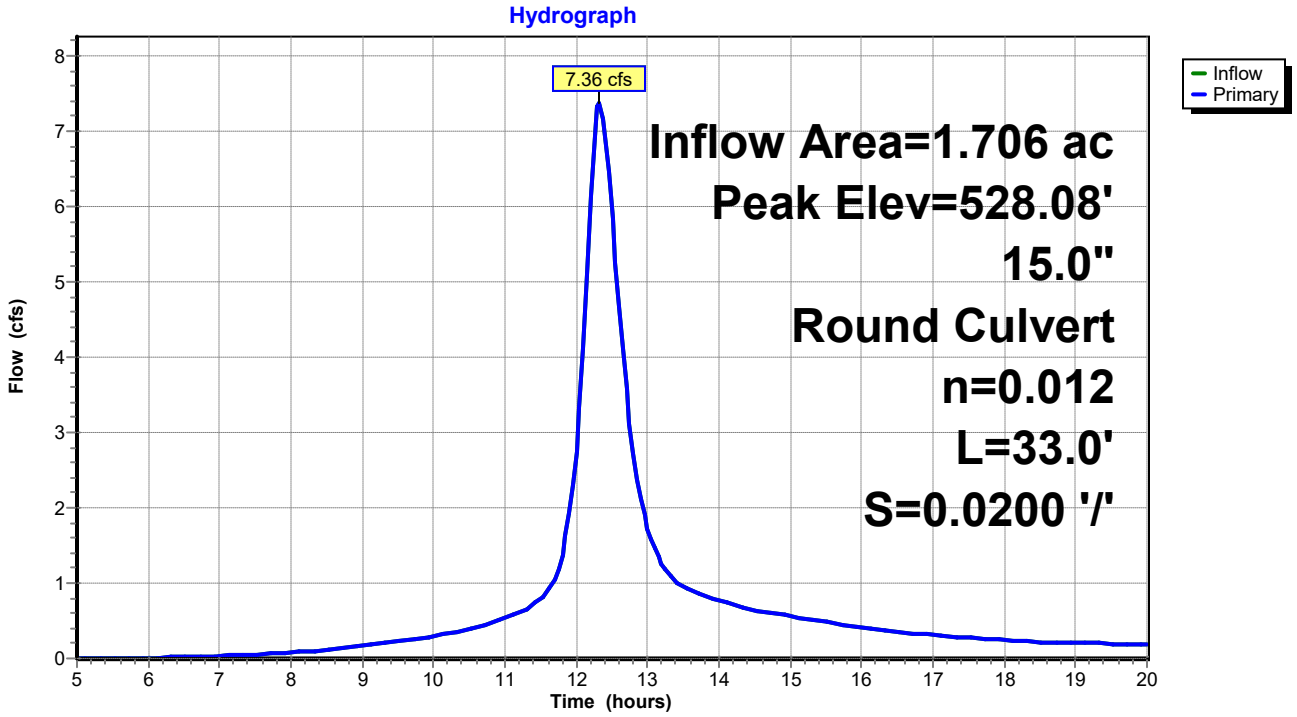


Pond CB #7: CB #7



Pond CB #7-A: CB #7-A



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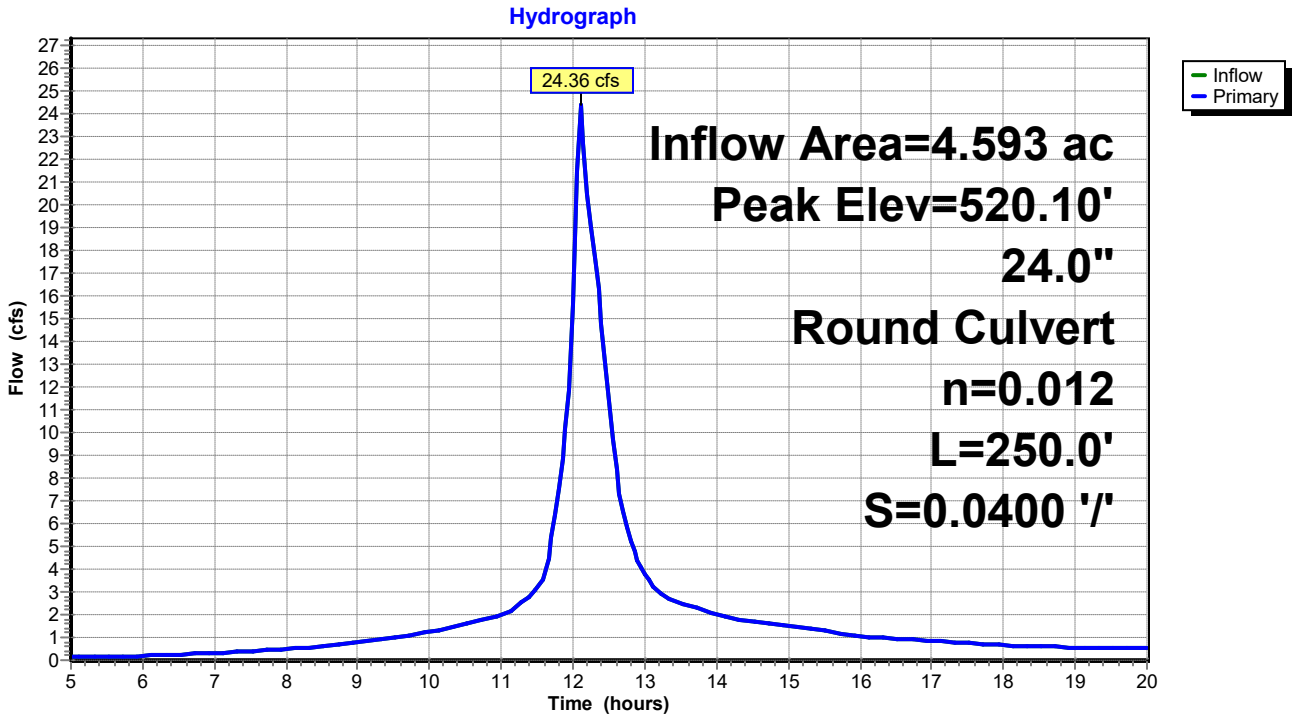
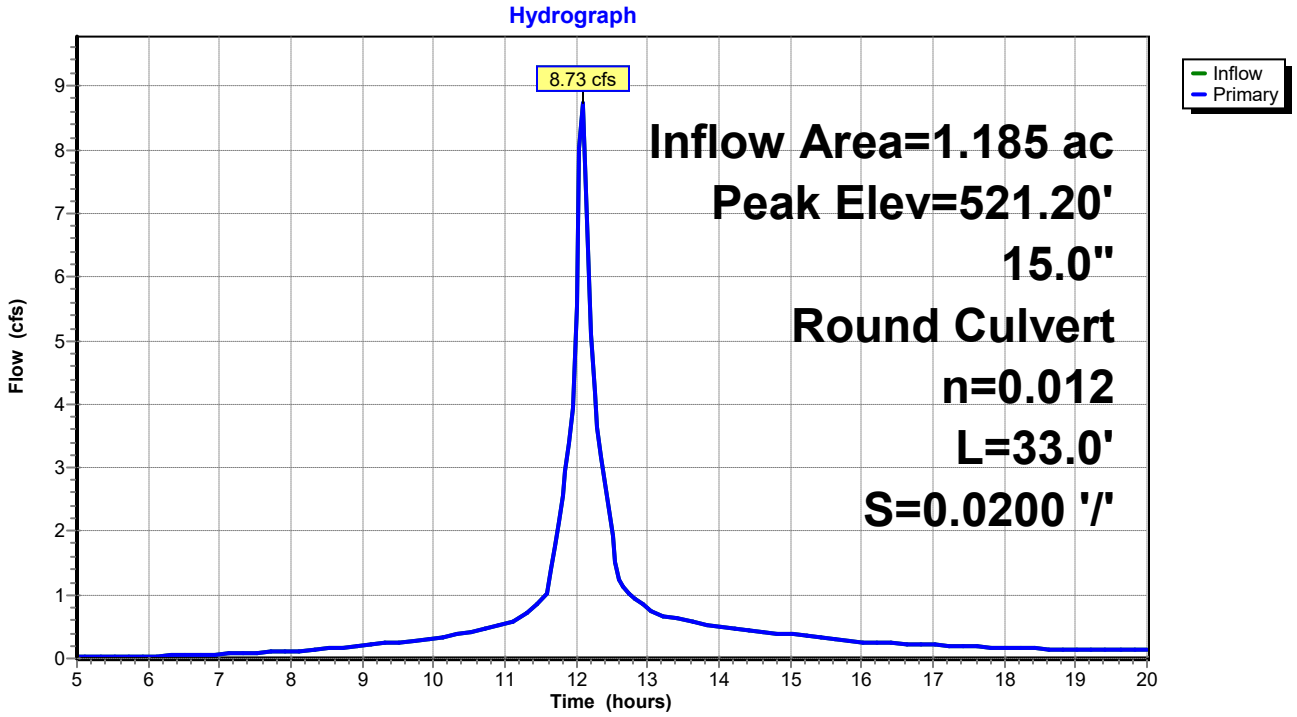
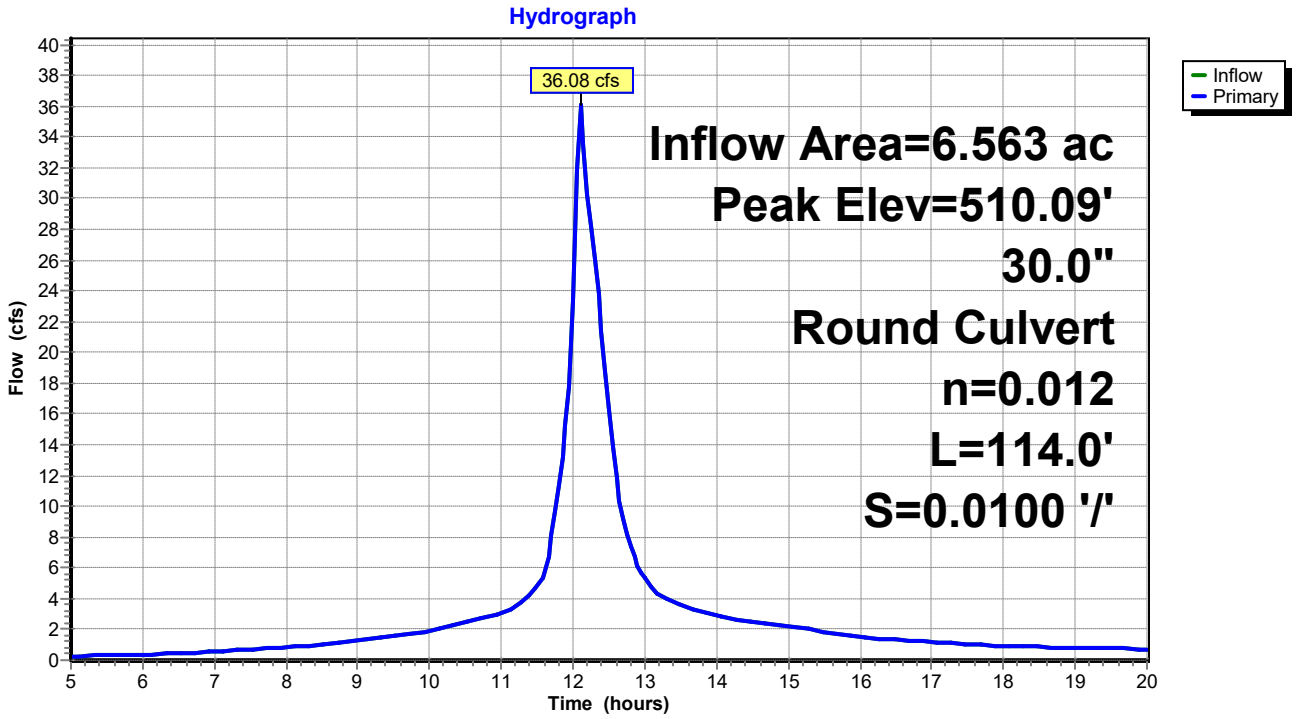


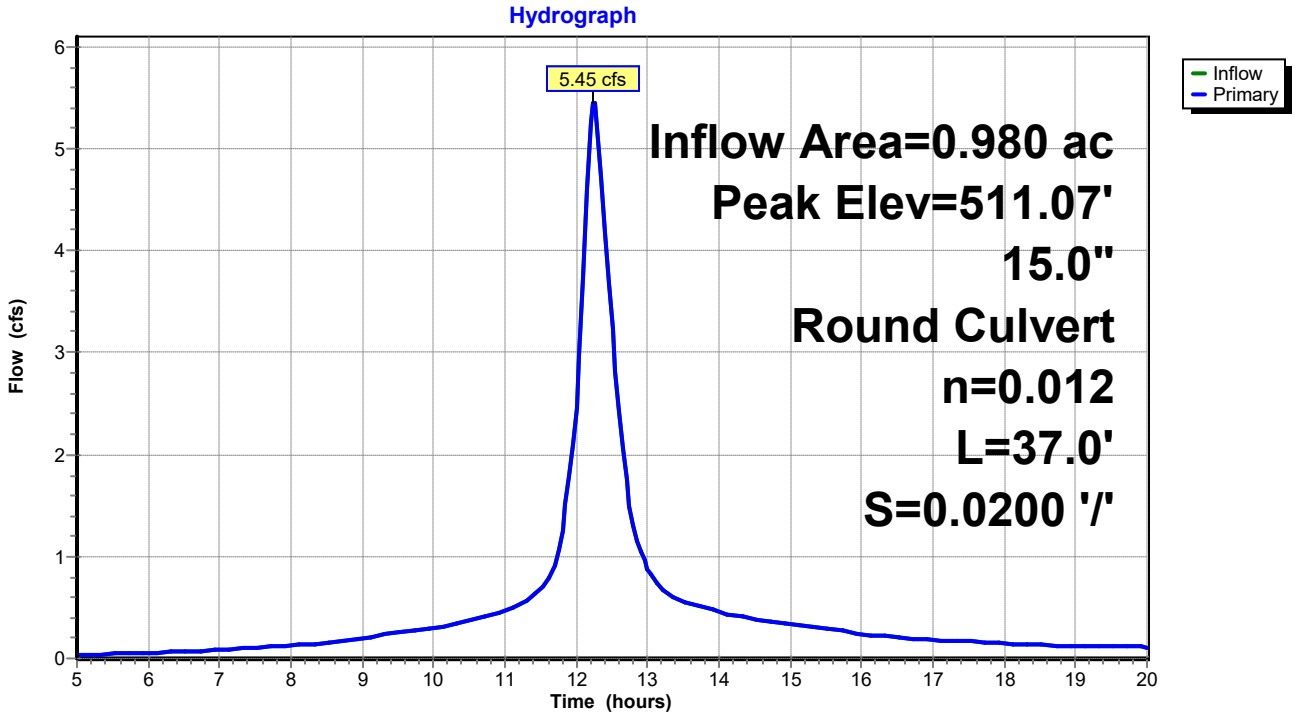
Pond CB #8A: CB #8A



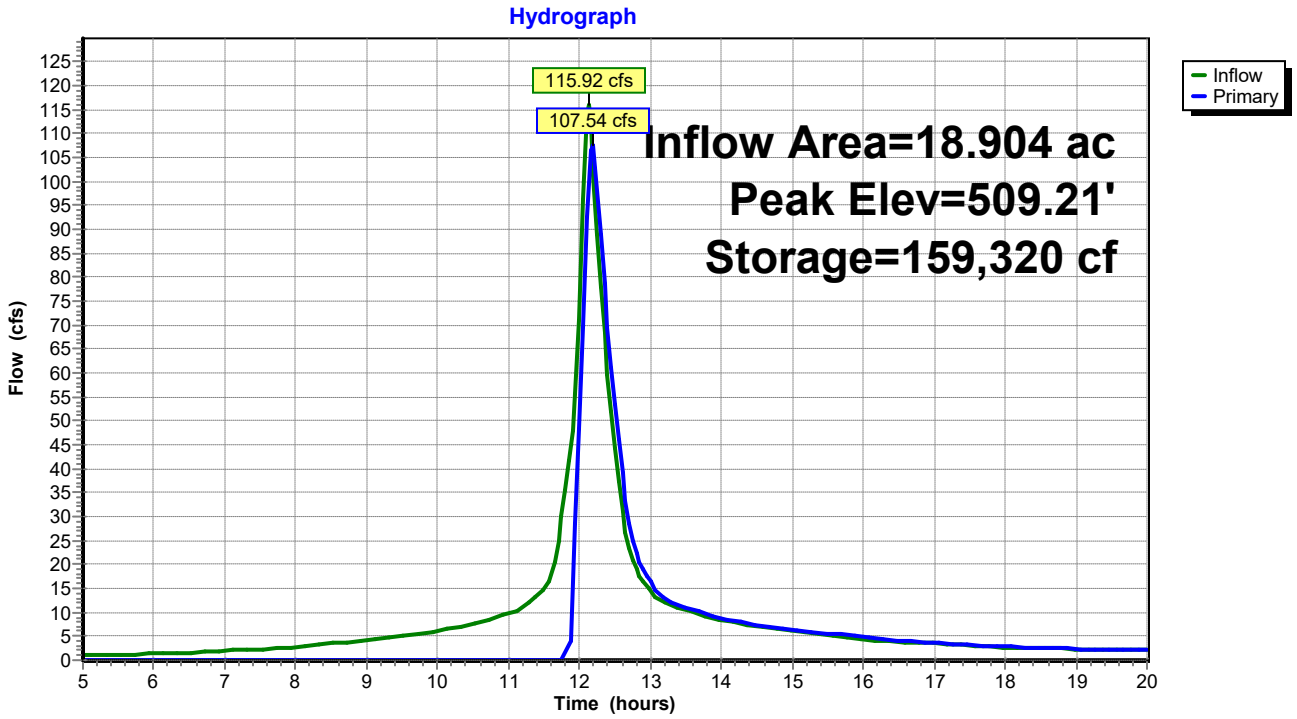
Pond CB #9: CB #9



Pond CB #9A: CB #9A



Pond SB: Sediment Basin



Pond SWB: SWB

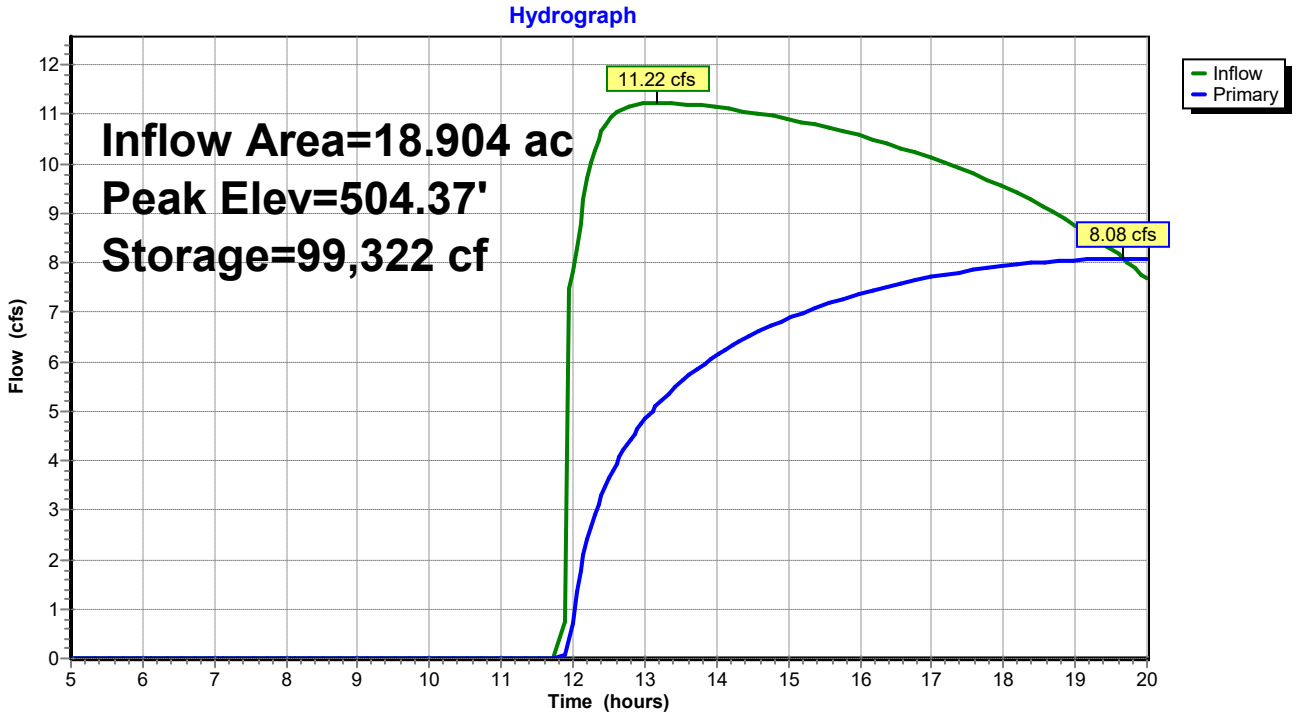

Hydrograph
Inflow Area=18.904 ac
Peak Elev=504.37'
Storage=99,322 cf
11.22 cfs
8.08 cfs
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
9
10
11
12
5
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TABLE OF CONTENTS

10 YR Event

APPENDIX C

ATTACHMENT 1

Construction Stormwater Compliance Inspection Report

Project Name and Location:	Date:	Page 1 of 2
	Permit # (if any): **NYR**	
Municipality: County:	Entry Time:	Exit Time:
On-site Representative(s) and contact information:	Weather Conditions:	
Name and Address of SPDES Permittee/Title/Phone/Fax Numbers: Contacted: Yes ☐ No ☐		

INSPECTION CHECKLIST

SPDES Authority

	Yes	No	N/A		Law, rule or permit citation
1.	☐	☐	☐	Is a copy of the NOI posted at the construction site for public viewing?	
2.	☐	☐	☐	Is an up-to-date copy of the signed SWPPP retained at the construction site?	
3.	☐	☐	☐	Is a copy of the SPDES General Permit retained at the construction site?	

SWPPP Content

	Yes	No	N/A		Law, rule or permit citation
4.	☐	☐	☐	Does the SWPPP describe and identify the erosion & sediment control measures to be employed?	
5.	☐	☐	☐	Does the SWPPP provide a maintenance schedule for the erosion & sediment control measures?	
6.	☐	☐	☐	Does the SWPPP describe and identify the post-construction SW control measures to be employed?	
7.	☐	☐	☐	Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?	
8.	☐	☐	☐	Does the SWPPP include all the necessary 'CONTRACTOR CERTIFICATION' statements?	
9.	☐	☐	☐	Is the SWPPP signed/certified by the permittee?	

Recordkeeping

	Yes	No	N/A		Law, rule or permit citation
10.	☐	☐	☐	Are inspections performed as required by the permit (every 7 days and after ½" rain event)?	
11.	☐	☐	☐	Are the site inspections performed by a qualified professional?	
12.	☐	☐	☐	Are all required reports properly signed/certified?	
13.	☐	☐	☐	Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status?	

Visual Observations

	Yes	No	N/A		Law, rule or permit citation
14.	☐	☐	☐	Are all erosion and sediment control measures installed/constructed?	
15.	☐	☐	☐	Are all erosion and sediment control measures maintained properly?	
16.	☐	☐	☐	Have all disturbances of 5 acres or more been approved prior to the disturbance?	
17.	☐	☐	☐	Are stabilization measures initiated in inactive areas?	
18.	☐	☐	☐	Are permanent stormwater control measures implemented?	
19.	☐	☐	☐	Was there a discharge into the receiving water on the day of inspection?	
20.	☐	☐	☐	Are receiving waters free of there evidence of turbidity, sedimentation, or oil ? (If no , complete Page 2)	

Overall Inspection Rating: ❑ Satisfactory ❑ Marginal ❑ Unsatisfactory	
Name/Agency of Lead Inspector:	**Signature of Lead Inspector:**
Names/Agencies of Other Inspectors:	

Water Quality Observations

Describe the discharge(s) [source(s), impact on receiving water(s), etc.] ____

____

____

____

____

Describe the quality of the receiving water(s) both upstream and downstream of the discharge____

____

____

____

____

Describe any other water quality standards or permit violations ____

____

____

Additional Comments:____

____

____

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____

____

____

____

____

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____

☐ Photographs attached

APPENDIX D

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.38

(Submission #: HQ4-27P6-ABNFJ, version 1)

Details

Originally Started By	Michael Morgante
Alternate Identifier	Site Plan & Subdivision for Prospect Acres
Submission ID	HQ4-27P6-ABNFJ
Submission Reason	New
Status	Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
BG Holdings NY 3 LLC

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

Owner/Operator Contact Person First Name
Solomon

Owner/Operator Mailing Address
201 Prospect Road

City
Monroe

State
NY

Zip
10950

Phone
718-687-4247

Email
mannyg@keydevelopersny.com

Federal Tax ID
NONE PROVIDED

> If the owner/operator is an organization, provide the Federal Tax ID number, or Employer Identification Number (EIN), in the format xx-xxxxxxx. If the owner/operator is an individual and not an organization, enter "Not Applicable" or "N/A" and do not provide the individual's social security number.

Project Location

Project/Site Name
Site Plan & Subdivision for Prospect Acres

Street Address (Not P.O. Box)
201 Prospect Road

Side of Street
East

City/Town/Village (THAT ISSUES BUILDING PERMIT)
V of South Blooming Grove

State
NY

Zip
10950

DEC Region
3

> The DEC Region must be provided. Please use the NYSDEC Stormwater Interactive Map (https://gisservices.dec.ny.gov/gis/stormwater/) to confirm which DEC Region this site is located in. To view the DEC Regions, click on "Other Useful Reference Layers" on the left side of the map, then click on "DEC Administrative Boundary." Zoom out as needed to see the Region boundaries.
> For projects that span multiple Regions, please select a primary Region and then provide the additional Regions as a note in Question 39.

County
ORANGE

Name of Nearest Cross Street
Peddler Hill Road

Distance to Nearest Cross Street (Feet)
2000

Project In Relation to Cross Street
South

Tax Map Numbers Section-Block-Parcel
202-1-11 & 12

Tax Map Numbers
NONE PROVIDED

> If the project does not have tax map numbers (e.g. linear projects), enter “Not Applicable” or "N/A".

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates
41.38477917250474,-74.18715633016357

Project Details

2. What is the nature of this project?
Redevelopment with increase in impervious area

> For the purposes of this eNOI, “New Construction” refers to any project that does not involve the disturbance of existing impervious area (i.e. 0 acres). If existing impervious area will be disturbed on the project site, it is considered redevelopment with either increase in impervious area or no increase in impervious area.

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse
Single Family Home

Post-Development Future Land Use
Multifamily Residential

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.
NONE PROVIDED

---

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
48.7

Total Area to be Disturbed (acres)
21.6

Existing Impervious Area to be Disturbed (acres)
1.6

Future Impervious Area Within Disturbed Area (acres)
8.3

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

---

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

A (%)
0

B (%)
0

C (%)
90

D (%)
10

7. Is this a phased project?
Yes

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

Start Date
08/01/2024

End Date
08/01/2026

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

> Drainage ditches and storm sewer systems are not considered surface waterbodies. Please identify the surface waterbody that they discharge to. If the nearest surface waterbody is unnamed, provide a description of the waterbody, such as, “Unnamed tributary to Niagara River.”

9a. Type of waterbody identified in question 9?
Wetland/Federal Jurisdiction On Site (Answer 9b)

Other Waterbody Type Off Site Description
NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?
Delineated by Consultant

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?
No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?
No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?
No

> Please use the DEC Stormwater Interactive Map (https://gisservices.dec.ny.gov/gis/stormwater/) to confirm if this site is located in one of the watersheds of an AA or AA-S classified water. To view the watershed areas, click on “Permit Related Layers” on the left side of the map, then click on “Class AA AAS Watersheds.”

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey?
No

If Yes, what is the acreage to be disturbed?
NONE PROVIDED

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

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

16. What is the name of the municipality/entity that owns the separate storm sewer system?
NONE PROVIDED

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

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

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

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

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?
Yes

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

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

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

SWPPP Preparer
Arden Consulting Engineers, PLLC

Contact Name (Last, First)
Michael Morgante

Mailing Address
PO Box 340

City
MONROE

State
NY

Zip
10949

Phone
8457828114

Email
mam@ardenconsulting.net

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) Scan the signed form
4) Upload the scanned document
Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification
swpppcert.pdf - 06/01/2024 09:33 AM
Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

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

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

Temporary Structural
Dust Control
Sediment Basin
Sediment Traps
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical
None

Vegetative Measures
Mulching
Seeding
Straw/Hay Bale Dike

Permanent Structural
Retaining Wall
Rock Outlet Protection

Other
NONE PROVIDED

Post-Construction Criteria

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

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Reduction of Clearing and Grading
Preservation of Buffers

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).
All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
1.33

29. Post-construction SMP Identification

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)
0.53

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?
No

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

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)
0.33

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

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)
2.1

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

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
2.63

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
Yes

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

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

CPv Required (acre-feet)
NONE PROVIDED

CPv Provided (acre-feet)
NONE PROVIDED

36a. The need to provide channel protection has been waived because:
Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

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

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
54.34

Post-Development (CFS)
45.67

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
130.37

Post-Development (CFS)
111.53

37a. The need to meet the Qp and Qf criteria has been waived because:
NONE PROVIDED

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

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

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
NONE PROVIDED

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)
NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)
NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)
NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)
48.64

Total Contributing Impervious Acres for Dry Swale (O-1)
NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)
47.42

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)
NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)
NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)
NONE PROVIDED

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

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
NONE PROVIDED

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

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

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

Manufacturer of Alternative SMP
NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

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

If SPDES Multi-Sector GP, then give permit ID
NONE PROVIDED

If Other, then identify
NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?
No

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth
NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.
NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?
Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
Yes

MS4 SWPPP Acceptance Form Download

Download form from the link below. Complete, sign, and upload.
MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload
swpppaccept.pdf - 06/01/2024 09:52 AM
Comment
NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.
Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form
constnoioocert.pdf - 06/01/2024 09:54 AM
Comment
NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
6/1/2024 9:54 AM	constnoioocert.pdf	Attachment	Michael Morgante
6/1/2024 9:52 AM	swpppaccept.pdf	Attachment	Michael Morgante
6/1/2024 9:33 AM	swpppcert.pdf	Attachment	Michael Morgante

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

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

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

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

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

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

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

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

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

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

_____

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

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

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

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

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

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

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

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

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

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

V. Additional Information/Explanation:

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

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

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

Printed Name:

Title/Position:

Signature:	Date:

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

VII. Qualified Inspector Certification - Final Stabilization:

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

Printed Name:	
Title/Position:	
Signature:	Date:

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

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

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

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

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), 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 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, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. 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 GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department 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.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

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 I.B.1. (a) – (f) of this permit. 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 I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, 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 the *Stormwater Pollution Prevention Plan* (“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.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (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;

   (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 temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) 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 E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily 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**. 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 designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(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. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall 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 Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, 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 post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall 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 shall 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 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. 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 site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *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 discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) 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 discharges directly 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 Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (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 shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall 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 shall 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 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. 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 site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *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 *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) 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 *discharge*s directly 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* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(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 Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice 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 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase 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 shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions 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 *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, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall 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 standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general 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 the Department determines that a modification of the 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. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those 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"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name 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.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name 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.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive 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.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (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/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); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained 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.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. 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 I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

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*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department 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 shall 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 the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department 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. of this permit.

6. 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 post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "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 or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s 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* shall 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 construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall 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);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. 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;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. 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;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. 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*;

k. 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

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. 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. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, 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.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. 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;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (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;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. 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 Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *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 conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

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 post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall 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 shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

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. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit 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 if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, 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 Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   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 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 E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than 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 E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

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* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall 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;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. 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;

h. Description and sketch 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;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. 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 post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper 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* shall 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* shall 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* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

   a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices 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,

d. for post-construction stormwater management practices 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 policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

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). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall 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.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP 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 (5) 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.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed 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 permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) 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. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit 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.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, 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 shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. 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 shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, 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 conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, 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 reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
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)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - 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
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
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.

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 –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means 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 - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means 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.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, 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.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that 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) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that 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 - means that 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.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means 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) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger 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 (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means 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 (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):

(i) Owned or operated by a State, city, town, 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*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means 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.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means 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 –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means 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 conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means 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 - means 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 - means 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 Department 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 Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department 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 post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means 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 Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice 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) – means 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.).

Regulated, Traditional Land Use Control MS4 - means 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).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- 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),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- 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,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- 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*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means 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 – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name 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.

Streambank – as used in this permit, means 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) – means 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 post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions 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 – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that 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 Loads (TMDLs) - A TMDL is 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 on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department 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.6., 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 Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means 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 or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- 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 E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

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 watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- 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 projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, 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.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) 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:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *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 project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- 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

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- 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 E
- 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 E
- 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 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 larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- 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) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- 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 over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- 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 post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- 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

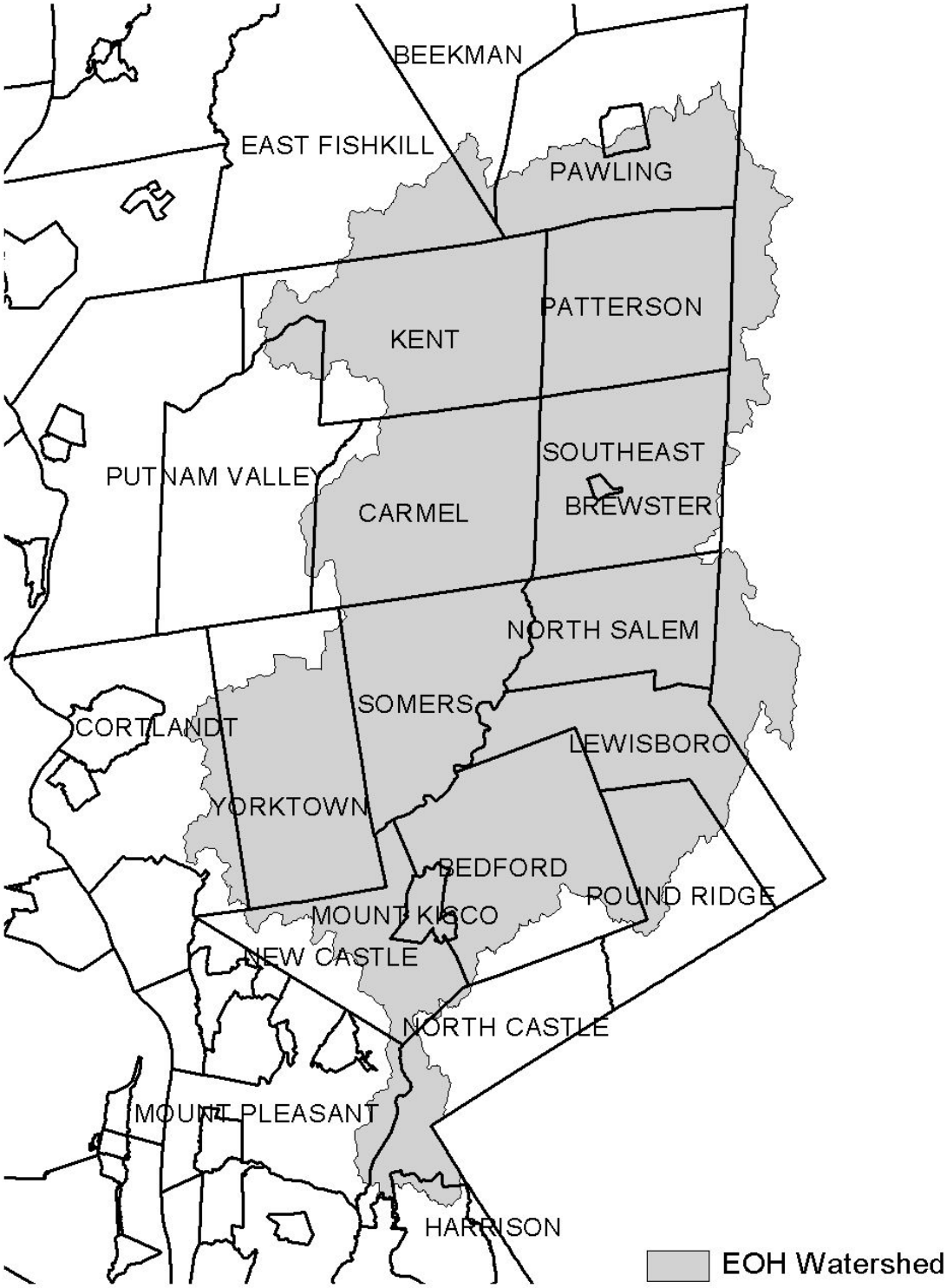


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

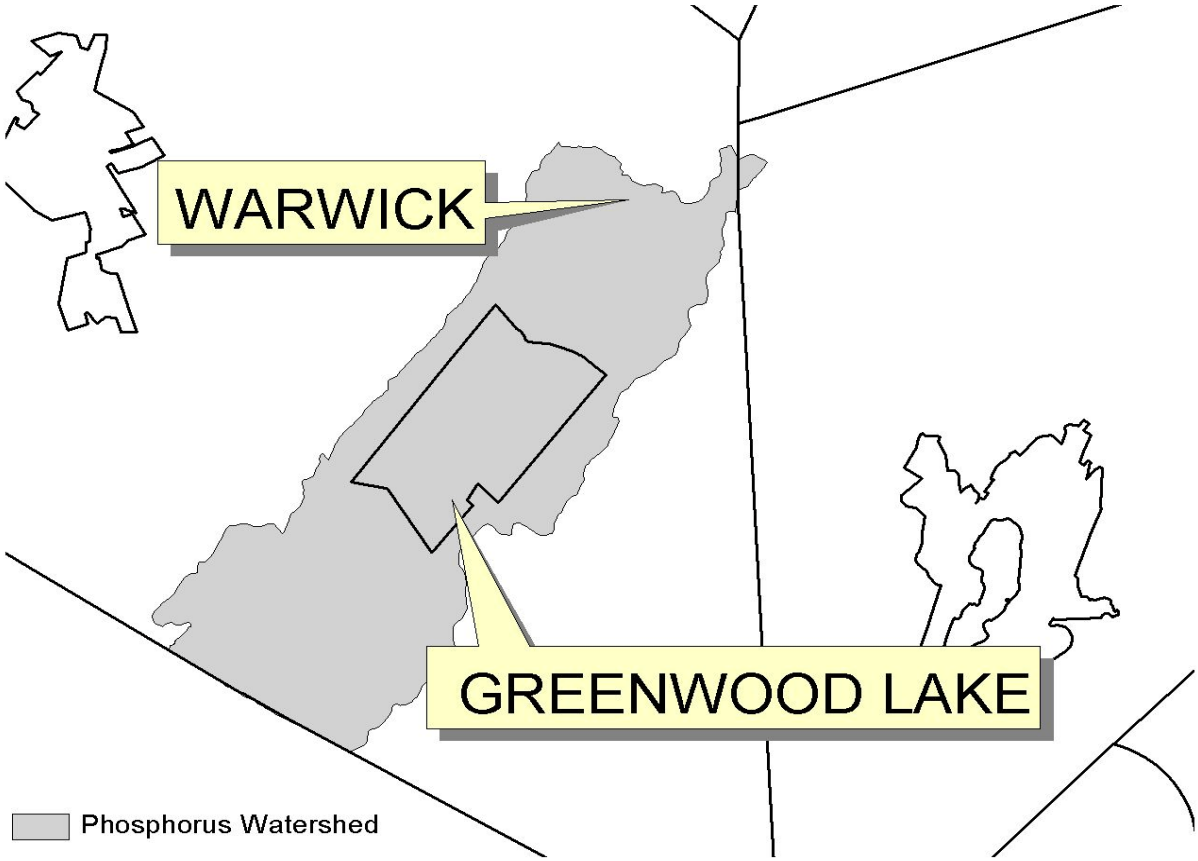


Figure 4 - Oscawana Lake Watershed

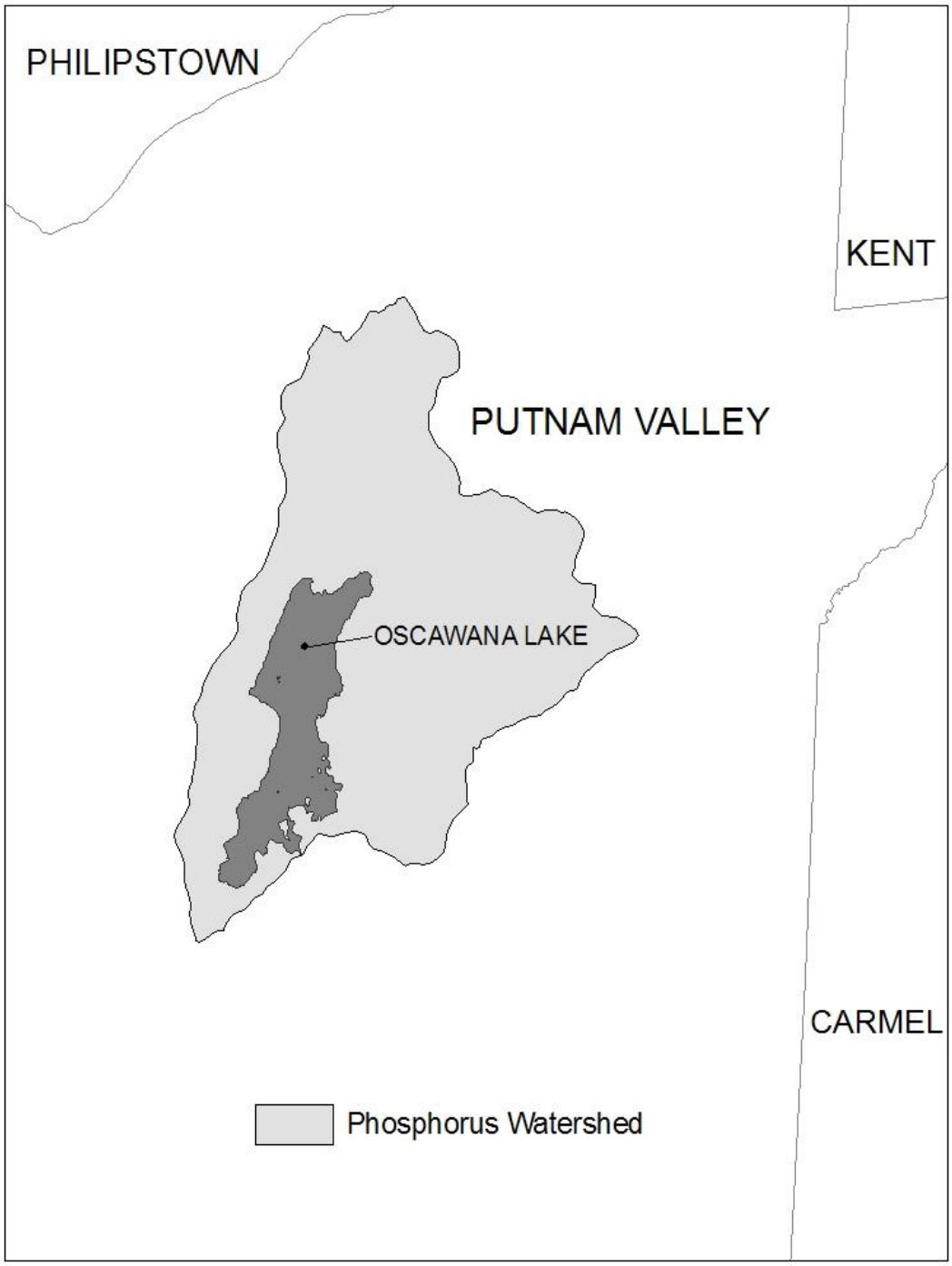
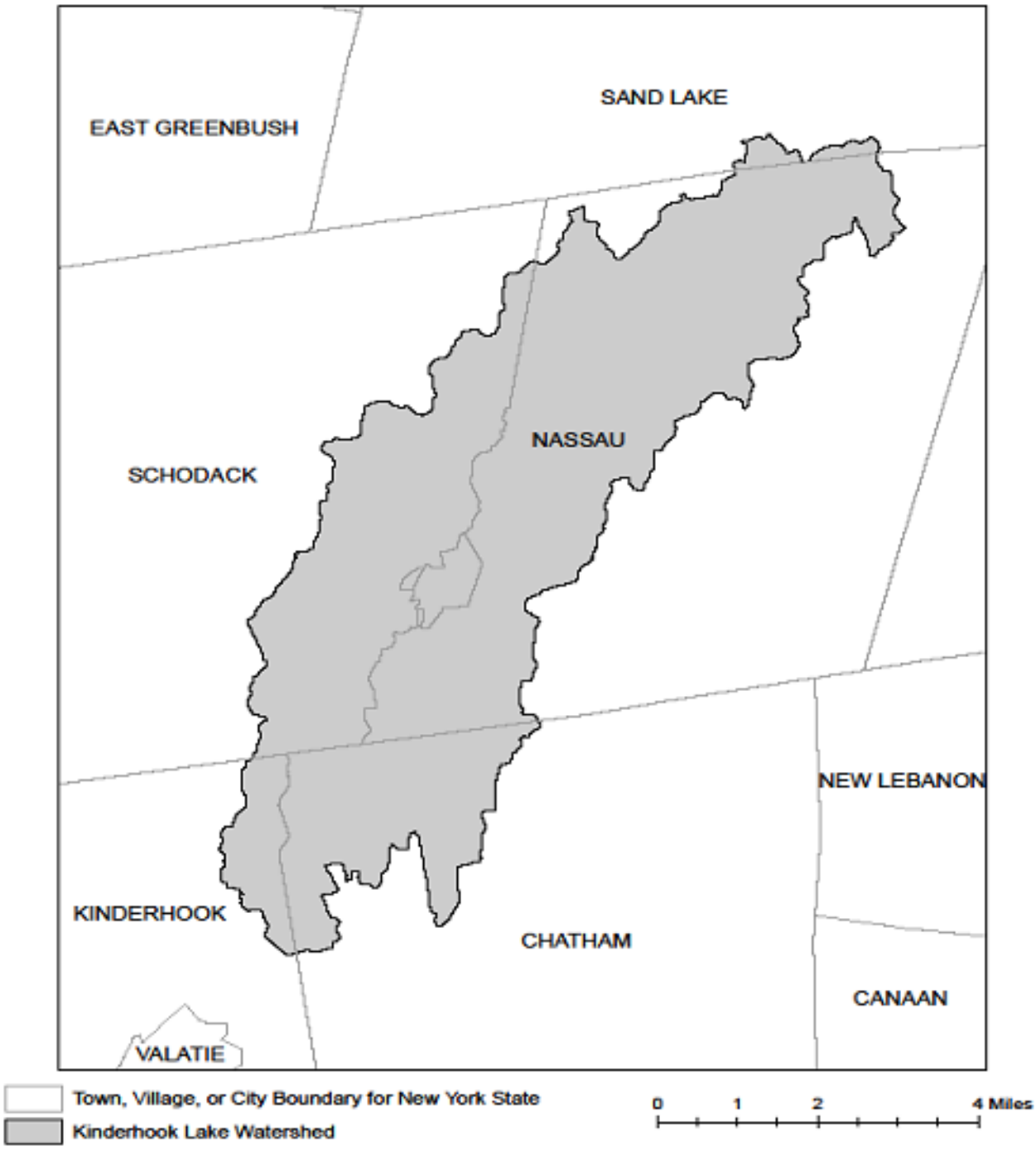


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC 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	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 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	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 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	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX E

CONSTRUCTION WASTE MANAGEMENT & SPILL PREVENTION PLAN

At the commencement of construction, land clearing materials will be collected and stored on-site for re-use. Construction debris such as cardboard, concrete, metal, wood and similar garbage will be collected in dumpsters and disposed of properly. An open top container will be on site during construction. The contractor will be responsible for organizing and placing containers on site and timely removal/replacement when containers are filled to capacity.

On-site storage of fuel chemicals shall be equipped with a spill kit. The contractor must provide secondary containment for storing any hazardous chemicals on site.

All equipment stored on site shall be inspected daily by the contractor for any oil or lubricant spills or leaks. Any leaks shall be repaired immediately. In addition, all equipment must be closely inspected prior to working in the Village R.O.W.

The contractor shall clean all spills immediately and shall report all spills to the New York State Department of Environmental Conservation.

This plan will be displayed in the construction jobsite trailer at all times.

APPENDIX F

Contractor Certification Statement

_____ NYR_____ _____

Name of Construction Site | DEC Permit ID | Municipality (MS4)

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

Name _____ Title _____

Signature _____ Date _____

Company Name & Address _____ Phone_____

_____

Project Site Address _____

Provisions Responsible for _____

_____

_____

Information on the Trained Certified Contractor or Subcontractor

_____ _____ _____

Name of Trained Employee | Title of Trained Employee | NYSDEC SWT#

A copy of this signed contractor certification statement must be maintained in the SWPPP on site.

APPENDIX G

Village of South Blooming Grove
Stormwater Management Facility Easement and Maintenance Agreement

THIS AGREEMENT is made this ____ day of _____ 2024 by and between the Village of Bloomingburg, having an address at 811 NYS Route 208, Monroe, NY 10950 ("Municipality" or "Village") and BG Holdings NY 3 LLC, a New York limited liability company (or individual or corporation) having an address at 201 Prospect Road, Monroe, NY 10950 (the "Facility Owner").

WHEREAS, the Facility Owner is the owner of certain real property in the Village of South Blooming Grove, County of Orange, State of New York, consisting of approximately 48.64 acres more particularly described in Schedule "A" annexed hereto and made a part hereof (the "Property"); and with a street address of 201 Prospect Road, in the Village of South Blooming Grove, Orange County, New York and further known as Section 202, Block 1, Lot 11 and Section 202, Block 1, Lot 22 Village of South Blooming Grove; and

WHEREAS, the project plans were approved by the Village of South Blooming Grove Planning Board on _____, 20___ with various conditions; and

WHEREAS, the Municipality and the Facility Owner have to enter into an agreement to provide for the long-term maintenance and continuation of stormwater control measures and facilities approved by the Municipality for the below named project; and

WHEREAS, the Municipality and the Facility Owner desire that the stormwater control measures and facilities be built in accordance with the approved project plans and thereafter be maintained, cleaned, repaired, replaced and continued in perpetuity in order to ensure optimum performance of the components.

NOW, THEREFORE, the Municipality and the Facility Owner agree as follows:

1. This agreement binds the Municipality and the Facility Owner, its successors and assigns to the maintenance provisions depicted in the approved project plans and described in the Stormwater Pollution Prevention Plan (SWPPP) which are on file with the Municipality's Stormwater Management Officer and where the operation and maintenance requirements are clearly set forth. The Facility Owner shall remain solely responsible for operation and maintenance in perpetuity and the Town assumes no operation, maintenance, control or responsibility in respect thereof.

2. The Facility Owner shall install, maintain, clean, repair, replace and continue the stormwater control measures depicted on the approved project plans for the Facility on and about the Property, as necessary to ensure optimum performance of the measures and in accordance with the approved design specifications. The stormwater control measures are identified in the Stormwater Pollution Prevention Plan (SWPPP) approved by the Municipality and shall be in accord with the project plans approved by the Planning Board.

3. The Facility Owner shall be responsible for all expenses, costs and professional fees related to the installation and perpetual maintenance of the stormwater control measures and shall promptly comply with any future regulatory requirements as applicable and shall indemnify and hold the Municipality harmless from all actions,

proceedings, including regulatory proceedings, including the Towns reasonable professional fees related thereto, and for all claims, damages, injuries and fines relative to the stormwater control measures and facilities.

4. The Facility Owner shall provide for the periodic inspection of the stormwater control measures, not less than once every 2 years, to determine the condition and integrity of the measures. Such inspection shall be performed by a Professional Engineer licensed by the State of New York. The inspecting engineer shall prepare and submit to the Municipality within 30 days of the inspection, a written report of the findings including recommendations for those actions necessary for the continuation of the stormwater control measures. The Facility Owner shall undertake necessary maintenance, repairs and replacement of the stormwater control measures pursuant to the SWPPP or at the direction of the Municipality or in accordance with the recommendations of the inspecting engineer.

5. The Facility Owner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the stormwater control measures except in accordance with written approval of the Municipality. The obligations of the Facility Owner under paragraphs 2, 3 and 4 of this Agreement shall toll upon the completion of the establishment of a drainage district of the Municipality and the acceptance of the dedication of the stormwater control measures by the Municipality. Notwithstanding, the Municipality shall have no obligation to establish any such drainage district nor accept ownership of any of the stormwater control measures.

6. This agreement shall be recorded in the Office of the County Clerk, County of Orange at the expense of the Facility owner and shall be referenced in any offering plan and/or prospectus, lease, contract of sale or future transfer, however, the failure to so reference shall not affect the validity of this Agreement. All rights, title and privileges herein granted, including all benefits and burdens, shall run with the land and shall be binding upon and inure to the benefit of the parties hereto, their respective heirs, executors, administrators, successors, assigns and legal representatives.

7. If ever the Municipality determines that the Facility Owner has failed to construct or maintain the stormwater control measures and facilities in accordance with the project plans or has failed to undertake corrective action specified by the Municipality or by the inspecting engineer, the Municipality is authorized to undertake such steps as reasonably necessary for the preservation, continuation or maintenance of the stormwater control measures and facilities and is hereby authorized by the owner to assess the expenses thereof as a lien against the property to be collected in the same fashion as other municipal taxes. In lieu thereof, the Facility Owner shall reimburse the Municipality for all actual costs and expenses, incurred in enforcing this Agreement and curing a violation.

8. At any time after a violation of this Agreement is alleged by the Municipality, the owner, at the sole discretion of the Municipality, shall post security in an amount and in a form acceptable to the Municipality to ensure the owner's future performance and maintenance of the stormwater control measures.

9. The Facility Owner hereby grants to the Town, its authorized agents, contractors and employees, a permanent easement which runs with the land to enter upon the Property at reasonable times to inspect the stormwater control measures whenever the Town

deems necessary to ensure that the facility is maintained in proper working condition to meet design standards, and to undertake such steps as the Town deems reasonably necessary for the preservation, continuation or maintenance of the stormwater control measures. The Facility Owner hereby releases and shall hold the Town harmless from any damages as a result of such entry and work. It is expressly understood and agreed that the Town is under no obligation to construct or routinely maintain or repair the stormwater control facilities, and in no event shall this agreement be construed to impose any such obligation on the Town.

10. The Facility Owner shall complete the site work within one (1) year of the issuance of permits for the site work, and conduct all site disturbance work in accordance with the approved SWPPP and in compliance with the approved project plans. In the event that the Facility Owner fails to complete the site work within one (1) year of the issuance of permits for the site work or fails to maintain/repair the facilities, the Municipality, upon giving twenty (20) days written notice to the Facility Owner, and a demand to complete, perform and correct by a date certain, and upon default of said Facility Owner, the Municipality shall have the right to complete the site work and/or to maintain/repair the facilities and to take such steps as it deems appropriate to either complete the site work or to stabilize and restore the site and/or to maintain/repair the facilities, and to recover its cost per paragraph 7 above. The time required to notice may be reduced to that deemed practicable and reasonable upon recommendation of the Engineer for the Town and upon the engineer's certification that an emergency condition exists which requires action to be undertaken immediately and does not allow time to give notice to the Facility Owner and an opportunity to correct in the manner specified above.

11. The governing bodies of the parties hereto have authorized the respective signatories to this Agreement.

IN WITNESS WHEREOF, the parties have duly executed this agreement as of the day and year first above written.

VILLAGE OF SOUTH BLOOMING GROVE
NAME OF RECORD MS4 Officer:

By:_____ **By:**_____

Mayor George Kalaj **BG Holdings NY 3 LLC**

STATE OF NEW YORK:)
) SS.
COUNTY OF ORANGE:)

On the ___ day of _____, in the year 2024 before me, the undersigned, personally appeared **George Kalaj** personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

STATE OF NEW YORK:)
) SS.
COUNTY OF ORANGE:)

On the ___ day of _____, in the year 2024 before me, the undersigned, personally appeared **Solomon Feder** personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

APPENDIX H

STORMWATER
OPERATION, MAINTENANCE AND MANAGEMENT INSPECTION CHECKLIST

Project: *****
Location: ****

Site Status: _____

Date: _____

Time: _____

Inspector: _____

Maintenance Item	Satisfactory / Unsatisfactory	Comments
1.		
2.		
3.		

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

Actions to be taken:

_____

_____

_____

_____

_____

_____

_____

_____

CATCH BASIN INSPECTION FORM

Job No: _____ **Town:** _____ **Inspector:** _____ **Date:** _____

Catch Basin I.D.	_____	**Final Discharge from Structure?** Yes ☐ No ☐ **If Yes, Discharge to Outfall No:** _____	
Catch Basin Label:	**Stencil** ☐ **Ground Insert** ☐	**Sign** ☐ **None** ☐ **Other** _____	
Basin Material :	Concrete ☐ Corrygated metal ☐ Stone ☐ Brick ☐ Other: _____ ☐	**Catch basin Condition :**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐
Pipe Material:	Concrete ☐ HDPE ☐ PVC ☐ Clay Tile ☐ Other: _____	**Pipe Measurements:**	Inlet Dia. (in) d= _____ Outlet Dia.(in) D= _____

Required Maintenance / Problems (Check all that apply):

☐ Tree Work Required
☐ New Grate is Required
☐ Pipe is Blocked
☐ Frame Maintenance is Required
☐ Remove Accumulated Sediment
☐ Pipe Maintenance is Required
☐ Basin Undermined or Bypassed
☐ Cannot Remove Cover
☐ Ditch Work
☐ Corrosion at Structure
☐ Erosion Around Structure
☐ Remove Trash & Debris
☐ Need Cement Around Grate
Other: _____

Catch Basin Grate Type:	**Sediment Buildup Depth:**	**More than 50% full?**	**Description of Flow:**	**Street Name/ Structure Location:**
Bar ☐ Cascade: ☐ Other: _____ Properly Aligned : Yes ☐ No ☐	0-6 (in): _____ 6-12(in): _____ 12-18(in): _____ 18-24(in): _____ 24+ (in): _____	Yes ☐ No ☐	Heavy ☐ Moderate ☐ Slight ☐ Trickling ☐	

***If the outlet is submerged check yes and indicate approximate height of water above the Outlet invert.** H above invert (in): _	Yes ☐	No ☐

☐ **Flow** ☐ **Standing Water (check one or both)**	**Observations:**		**Circle those present:**
	Color:		Foam / Oil Sheen / Sanitary Waste / Bacterial Sheen / Orange Staining / Floatables / Excessive sediment / Pet Waste / Optical Enhancers / Other: _____
	Odor:		
Weather Conditions:		Dry > 24 hours ☐ Wet ☐	
Sample of Screenings Collected for Analysis? Yes ☐ No ☐			
Amount of sediment removed:			
Comment:			

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Bioretention Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	**Follow-Up Actions**
 ☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and mulch areas of bare soil to establish vegetation. ☐ Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. ☐ If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ Other:

BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
	☐ Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
 ☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Other:
 ☐ Open containers of oil, grease, paint, or other substances	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

BR Inlets

Stand in the Bioretention cell itself and look for all the places where water flows in. Often there will be multiple points of inflow to the practice.

Problem (Check if Present)	Follow-Up Actions
 ☐ Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell.	☐ Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. ☐ Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. ☐ Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. ☐ For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell. ☐ Dispose of all material properly where it will not re-enter the Bioretention cell. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Bioretention cell.
 ☐ Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.	☐ For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. ☐ In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick.	☐ Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms. ☐ Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface. ☐ Other:
 ☐ Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom.	☐ Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell . ☐ If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible. ☐ Remove trash, vegetative debris, and other undesirable materials. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the Bioretention surface. ☐ Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas. ☐ Source: Stormwater Maintenance, LLC.	☐ Try filling the eroded areas with clean topsoil or sand, and cover with mulch. ☐ If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas. ☐ If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell. ☐ Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., “sinkhole”) due to some underground problem.
 ☐ The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that bioretention surface is intended to be flat. Check during or immediately after a rainstorm.	☐ If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface. ☐ Check the surface with a string and bubble level to get the surface as flat as possible. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ Water stands on the surface more than 72 hours after a rainstorm and /or wetland-type vegetation is present. The Bioretention cell does not appear to be draining properly.	☐ Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 ☐ Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc.	☐ If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling. ☐ If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water. ☐ Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly. ☐ If weeds or invasive plants have overtaken the whole Bioretention cell , bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above. ☐ Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell. ☐ Other: ☐ Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.

BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 ☐ Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.	☐ The original plants are likely not suited for the actual conditions within the Bioretention cell . If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season. ☐ Other: ☐ Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist.

BR Outlets

Examine outlets that release water out of the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
☐ Erosion at outlet	☐ Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.
 ☐ Outlet obstructed with mulch, sediment, debris, trash, etc.	☐ Remove the debris and dispose of it where it cannot re-enter the Bioretention cell . ☐ Other: ☐ Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

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Bioretention Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: BIORETENTION NOTE: Key Source for this Information *(CSN, 2013)*	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
☐ Condition 1: Small pockets of standing water Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have bad soil media, try scraping off top 3 inches of media and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas. ☐ Condition 2: Standing water is widespread or covers entire surface Requires diagnosis and resolution of problem: • Clogged underdrain? • Filter fabric between soil media and underdrain stone? • Need to install underdrain if not present? • Too much sediment/grit washing in from drainage area? • Too much ponding depth? • Improper soil media?	• Soil media is clogged and problem is not evident from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice. ☐ Level 3 inspection necessary
Observed Condition: Vegetation is sparse or out of control	
☐ Condition 1: Original design planting plan seems good but has not been maintained, so there are many invasives and/or dead plants Will require some horticultural experience to restore vegetation to intended condition by weeding, pruning, removing plants, and adding new plants. ☐ Condition 2: Original design planting plan is unknown or cannot be actualized A landscape architect or horticulturalist will be needed to redo the planting plan. Will likely require analysis of soil pH, moisture, organic content, sun/shade, and other conditions to make sure plants match conditions. Plan should include invasive plant management and maintenance plan to include mulching, watering, disease intervention, periodic thinning/pruning, etc.	• Vegetation deviates significantly from original planting plan; Bioretention has been neglected and suffered from deferred maintenance. • Owner/responsible party does not know how to maintain the practice. ☐ Level 3 inspection necessary
Observed Condition: Bioretention does not conform to original design plan in surface area or storage	
☐ Condition 1: Level 2 Inspection reveals that practice is too small based on design dimension, does not have adequate storage (e.g., ponding depth) based on the plan, and/or does not treat the drainage area runoff as indicated on the plan Small areas of deviation can be corrected by the property owner or responsible party, but it is likely that a Qualified Professional will have to revisit the design and attempt a redesign that meets original objectives or that can be resubmitted to the municipality for approval.	• More than a 25% departure from the approved plan in surface area, storage, or drainage area; sometimes less than this threshold at the discretion of the Level 2 inspector. ☐ Level 3 inspection necessary

Level 2 Inspection: BIORETENTION NOTE: Key Source for this Information *(CSN, 2013)*	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Severe erosion of filter bed, inlets, or around outlets	
☐ Condition 1: Erosion at inlets The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a more non-erosive lining and/or to extend the lining further down to where inlet slopes meet the Bioretention surface. If problem persists, analysis by a Qualified Professional is warranted. ☐ Condition 2: Erosion of Bioretention filter bed This is often caused by "preferential flow paths" through and along the Bioretention surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads). ☐ Condition 3: Erosion on side slopes Again, the issue is likely linked with unanticipated flow paths down the side slopes (probably overland flow that concentrates as it hits the edge of the slope). For small or isolated areas, try filling, compacting, and re-establishing healthy ground cover vegetation. If the problem is more widespread, further analysis is required to determine how to redirect the flow.	• Erosion (rills, gullies) is more than 12 inches deep at inlets or the filter bed or more than 3 inches deep on side slopes. • If the issue is not caused by moving water but some sort of subsurface defect. This may manifest as a sinkhole or linear depression and be associated with problems with the underdrain stone or pipe or underlying soil. ☐ Level 3 inspection necessary
Observed Condition: Significant sediment accumulation, indicating an uncontrolled source of sediment	
☐ Condition 1: Isolated areas of sediment accumulation, generally less than 3-inches deep Sediment source may be from a one-time or isolated event. Remove accumulated sediment and top 2 to 3 inches of Bioretention soil media; replace with clean material. Check drainage area for any ongoing sources of sediment. ☐ Condition 2: Majority of the surface is caked with "hard pan" (thin layer of clogging material) or accumulated sediment that is 3-inches deep or more This can be caused by an improper construction sequence (drainage area not fully stabilized prior to installation of Bioretention soil media) or another chronic source of sediment in the drainage area. Augering several holes down through the media can indicate how severe the problem is; often the damage is confined to the first several inches of soil media. Removing and replacing this top layer (or to the depth where sediment incursion is seen in auger holes) can be adequate, as long as the problem does not recur.	• More than 2 inches of accumulated sediment cover 25% or more of the Bioretention surface area. • "Hard pan" of thin, crusty layer covers majority of Bioretention surface area and seems to be impeding flow of water down through the soil media. • New sources of sediment seem to be accumulating with each significant rainfall event. ☐ Level 3 inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Pond and Wetland Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

PW Drainage Area

Look for areas that are uphill from the pond.

Problem (Check if Present)	**Follow-Up Actions**
☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and straw areas of bare soil to establish vegetation. ☐ Fill in eroded areas with soil, compact, seed and mulch with straw to establish vegetation. ☐ Other:

☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Kick-Out to Level 2 Inspection: If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ If large areas of soil have been eroded or larger channels are forming, this may require rerouting of flow paths or use of an erosion-control seed mat or blanket to reestablish acceptable ground cover or anchor sod where it is practical.
 ☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Remove excessive vegetation or woody debris that can block drainage systems. ☐ Other:
 ☐ Open containers of oil, grease, paint, or other substances exposed to rain in the drainage area	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

Pond Inlets

Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.).

Problem (Check if Present)	Follow-Up Actions
 ☐ Inlets are buried, covered or filled with silt, debris, or trash, or blocked by excessive vegetation.	☐ If the problem can be remedied with hand tools and done in a safe manner, remove vegetation, trash, woody debris, etc. from blocking inlet structures. ☐ Other: ☐ Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.

Pond Inlets

Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.).

Problem (Check if Present)		Follow-Up Actions
	☐ Inlets are buried, covered or filled with silt, debris, or trash, or blocked by excessive vegetation.	☐ Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.
	☐ Inlets are broken, and, with pieces of pipe or concrete falling into the pond, there is erosion around the inlet, there is open space under the pipe, or there is erosion where the inlet meets the pond	☐ Kick-Out to Level 2 Inspection: These types of structural or erosion problems are more serious and will require a qualified contractor to repair.

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	☐ The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.	☐ If the problem can be remedied with hand tools and done in a safe manner, use a flat shovel or other equipment to remove small amounts of sediment. ☐ Remove trash and excessive vegetation from forebays if this can be done in a safe manner. ☐ Other:

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	☐ The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.	☐ Kick-Out to Level 2 Inspection: Large amounts of sediment or debris will have to be removed by a qualified contractor. ANY condition that poses a safety concern for working in standing water or soft sediments should be referred to a Level 2 Inspection or qualified contractor.
	☐ The pond area itself has accumulated sediment, trash, debris, or excessive vegetation that is choking the flow of the water, OR the pond area is covered with algae or aquatic plants.	☐ Level 1 includes handling only small amounts of material that can be removed by hand, or with rakes or other hand tools. Do not attempt any repair that poses a safety issue. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Most cases will call for a Level 2 Inspection and/or a qualified contractor. ☐ You are not sure what type and amount of vegetation is supposed to be in the pond. ☐ The algae or aquatic plants should be identified so that proper control techniques can be applied.
	☐ The side slopes of the pond are unstable, eroding, and have areas of bare dirt.	☐ If there are only minor areas, try filling in small rills or gullies with topsoil, compacting, and seeding and mulching all bare dirt areas with an appropriate seed. Alternatively, try using herbaceous plugs to get vegetation established in tricky areas, such as steep slopes. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion and many bare dirt areas on steep side slopes will require a Level 2 Inspection and repair by a qualified contractor.

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
 	☐ The riser structure is clogged with trash, debris, sediment, vegetation, etc., OR is open, unlocked, or has a steep drop and poses a safety concern. The pond level may have dropped below its "normal" level.	☐ If you can safely access the riser on foot or with a small boat, clear minor amounts of debris and remove it from the pond area for safe disposal. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The riser cannot be accessed safely, the amount of debris is substantial, or the riser seems to be completely clogged and the water level has risen too high. ☐ There are safety issues with the riser and concern about access to pipes, drops, or any other life safety concern. ☐ The riser is leaning, broken, settling or slumping, corroded, eroded or any other structural problem.
	☐ The dam/embankment is slumping, sinking, settling, eroding, or has medium or large trees growing on it.	☐ If there are small isolated areas, try to fix them by adding clean material (clay and topsoil) and seeding and mulching. ☐ Periodically mow embankments to enable inspection of the banks and to minimize establishment of woody vegetation. ☐ Remove any woody vegetation that has already established on embankments. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Most of these situations will require a Level 2 Inspection or evaluation and repair by a qualified contractor. Seepage through the dam or problems with the pipe through the dam can be a serious issue that should be addressed to avoid possible dam failure.

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	☐ The emergency spillway or outfall (if it exists) has ☐ Erosion, settlement, or loss of material. Rock-lined spillways have excessive debris or vegetation.	☐ Clear light debris and vegetation. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Displacement of rock lining, excessive vegetation and erosion/settlement may warrant review and decision by Level 2 Inspector to check against original plan. ☐ Any uncertainty about the integrity of the emergency spillway should be referred to a Level 2 Inspector. ☐ Erosion or settlement such that design has been compromised should be reviewed by an engineer.

PW Pond Outlet

Examine the outlet of the pipe on the downstream side of the dam/embankment where it empties into a stream, channel, or drainage system.

Problem (Check if Present)	Follow-Up Actions
 ☐ The pond outlet is clogged with sediment, trash, debris, vegetation, or is eroding, caving in, slumping, or falling apart.	☐ If there is a minor blockage, remove the debris or vegetation to allow free flow of water. ☐ Remove any accumulated trash at the outlet. ☐ Outlet: ☐ Kick-Out to Level 2 Inspection: ☐ If the area at the outlet cannot be easily accessed or if the blockage is substantial, a Level 2 Inspection is warranted. ☐ Erosion at and downstream of the outfall should be evaluated by a qualified professional. ☐ Any structural problems, such as broken pipes, structures falling into the stream, or holes or tunnels around the outfall pipe, should be evaluated by a Level 2 Inspector and will require repair by a qualified contractor. ☐ The pool of water at the outlet pipe is discolored, has an odor, or has excessive algae or vegetative growth.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Pond and Wetland Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: PONDS and WETLANDS

Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
Observed Condition: Bare Soil or Erosion in the Drainage Area	
☐ Condition 1: Extensive problem spots, but no channels or rills forming Reseed problem areas. If problem persists or grass does not take, consider hiring a landscape contractor. ☐ Condition 2: Problem is extensive, and rills/channels are beginning to form May be necessary to divert or redirect water that is causing the erosion problem. If it appears that simple regrading—such as installing a berm or leveling a low spot–will fix the problem, make repairs and ensure that the problem is repaired after the next storm.	• Large rills or gullies are forming in the drainage area. • An attempt to regrade the drainage area has been unsuccessful. • Fixing the problem would require major regrading (i.e., redirecting more than a 100-square-foot area. • It is not clear why the problem is occurring. ☐ Level 3 inspection necessary
Observed Condition: Manholes or Inlet Pipe Buried or Covered with Vegetation	
☐ Condition 1: Nearest manhole and inlet pipe not found Consult as-built drawings to get to closest suspected location and use metal detector to search for metal manhole cover. If unsuccessful, identify nearest drain inlets and approximate pipe direction to locate next manhole. ☐ Condition 2: Manhole located and inspected Never enter a manhole, except by following confined-space entry protocols. If outlet pipe is not visible or greater than 25% full of sediment/debris or trash, it will typically require a qualified contractor to flush, clean and clear blockages. ☐ Condition 3: Inlet pipe not found at pond Clear vegetation and brush that may be covering the inlet pipe. Buried inlet pipes may be found through use of a metal probe. ☐ Condition 4: Inlet pipe buried in sediment or blocked by vegetation Once located, the pipe path can be cleared of vegetation with brush hook or other brush tools. Light digging may clear sediment from the end of the pipe.	• To locate buried manholes and lost storm lines, it is sometimes necessary to hire a pipeline inspection contractor with televising equipment or ground-penetrating radar and enter at the closest upstream access point. • Locating a buried inlet pipe may require wading in the edge of the pond and using a metal probe and brush axe to find and expose the pipe. • If other than light digging is necessary to remove accumulated sediment, a contractor with heavy equipment may be required. ☐ Level 3 inspection necessary

Level 2 Inspection: PONDS and WETLANDS	
Recommended Repairs and Required Skills	**Triggers for Level 3 Inspection**
Observed Condition: Pipe or Headwall Settlement, Erosion, Corrosion or Failure	
☐ Condition 1: Pipe or headwall settlement or failure Severe sinkholes, settlement or corrosion should be kicked out to Level 3 Inspection. ☐ Condition 2: Flow not confined to pipe and visible outside pipe wall With flashlight, observe the inside of the pipe and note its condition. Take photographs. Look for sinkholes developing that indicate pipe failure beneath the surface. Kick out to Level 3 inspection.	• Where blockages are visible, a decision is needed on whether to clear them or leave in place. If a third of the pipe is full of sediment, it should be removed by a contractor with pipe-cleaning equipment. • Corrosion of inlet pipes that allows flow around the pipe exterior is a structural concern because it can lead to settlement, sinkholes and undermining pond embankment. Evidence of this type of failure may require specialized pipe-inspection equipment and investigation by an engineer. ☐ Level 3 inspection necessary
Observed Condition: Pond Conditions	
☐ Condition 1: Pond pre-treatment zone is full of sediment or not constructed as shown on as-built drawings. ☐ Condition 2: Excessive buildup of sediment or overgrowth If the pre-treatment area or pond pool is overgrown or filled with sediment so that the original design is compromised, corrective measures are required. If plants have died, then replanting is necessary. If none of the original design exists due to alteration or sediment, kick out to Level 3 inspection.	• It may require inspection by an engineer to determine next steps for clearing, replanting or reconstruction. • Erosion or settlement such that design has been compromised should be reviewed by an engineer. Recurring erosion may require redesign and/or regrading to direct flow away from eroding area. • If sediment has filled more than 50% of the pond's capacity, dredging is likely needed and should be evaluated by a qualified contractor. • Removal or control of excessive algae or aquatic plants can be assessed by a qualified pond maintenance company. ☐ Level 3 inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Tree Planting Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

TP Watering

Inspect the trees to determine whether they need watering.

Problem (Check if Present)	**Follow-Up Actions**
☐ Soil is not moist to the touch and/or it has not rained in a week, and leaves/needles are starting to appear wilted/dry.	☐ Water trees deeply and slowly near the base. Soaker hoses and drip irrigation work best for deep watering of trees and shrubs. ☐ Other:

TP Mulch

Mulch should be applied in the late spring and during leaf fall. Check the depth of mulch regularly. Rake the old mulch to break up any matted layers and to refresh the appearance.

Problem (Check if Present)	Follow-Up Actions
☐ Mulch is too thin or thick (should be approximately 3" deep) or does not extend to tree canopy (or 5' radius if tree has a larger than 10' canopy reach).	☐ Add or remove mulch around tree canopy to maximum 5' radius but not within 3" of the bark. ☐ If mulch is against the stems or tree trunks, pull it back several inches to expose the base of the trunk and root crown. ☐ Other:

TP Pruning

Examine the branches and tree shape.

Problem (Check if Present)	Follow-Up Actions
☐ Presence of suckers, dead or diseased branches, branches that interfere with pedestrian traffic	☐ Selective cutting ☐ Prune to make the tree more aesthetically pleasing and remove disease. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Use an arborist or landscaper for more extensive pruning jobs.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

> "I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Tree Planting Stormwater Management Practices
Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: TREE PLANTING	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Appearance of fungus or pest damage	
☐ Condition 1: Fungus, discoloration, browning leaves or holes in leaves Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection. ☐ Condition 2: Burrowing insects, holes Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection.	• Any concerns about how to address infestation or disease ☐ Level 3 inspection necessary