# GREENE COUNTY

# COMMUNITY SERVICES BUILDING

# STORMWATER POLLUTION PREVENTION PLAN

JANUARY 2026

TOWN OF CAIRO
GREENE COUNTY
NEW YORK

PREPARED FOR:
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*The Stormwater Pollution Prevention Plan (SWPPP) dated January 2026 applies exclusively to Phase 1 of the Community Services Building Project.*

# Table of Contents

# Table of Figures & Appendices

# 1 INTRODUCTION

The purpose of this report is to present erosion and sediment control measures and stormwater management practices that will be implemented as part of the proposed community services office building at the parcel, Tax ID: 83.00-4-1, located on County Route 84 in the Town of Cairo, Greene County and State of New York. The development will be include an approximately 20,000 sf new community office building, a 1,200 sf maintenance garage, asphalt parking area with access to County Route 84, concrete sidewalks, various utilities (elec., storm, sanitary, water, tele, etc.) and it will also include stormwater management facilities. The following Stormwater Pollution Prevention Plan (SWPPP) has been completed to mitigate any increase in stormwater peak flow rates and while providing runoff water quality associated with the proposed improvements at the site. Mitigation measures will include standard management practices as outlined in the New York State Stormwater Management Design Manual and the New York State Standards and Specifications for Erosion and Sediment Control.

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## 1.1 DESIGN REQUIREMENTS

Pursuant to Section 401 of the Clean Water Act, Stormwater discharges from construction activities to surface waters of the United States are unlawful unless they are authorized by a Pollution Discharge Elimination System permit. Given the scope of the project, coverage under the New York State Pollution Discharge Elimination System (SPDES) Permit (GP-0-25-001) is required, and is attached in Appendix A. As such, a Notice of Intent (NOI) is required to be filed with the New York State Department of Environmental Conservation (NYSDEC). The NOI Acceptance Letter will be inserted in Appendix A once it is obtained.

This Stormwater Pollution Prevention Plan (SWPPP) for the Project was prepared in accordance with the following:

- NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-25-001)
- New York State Stormwater Management Design Manual, January 2024
- New York State Standards and Specifications for Erosion and Sediment Control, York State Department of Environmental Conservation, July 2016.

The SWPPP outlines site specific guidelines for preventing stormwater runoff and potential pollutants from adversely impacting water resources during and following site construction. The three components of a SWPPP are the control of erosion and sediment, water quantity control, and water quality control. The objective of the SWPPP is to comply with the NYSDEC SPDES Permit GP-0-25-001 guidelines for the following practices:

- Prevention of sediment to receiving waters during construction,
- Prevention of adverse effects to the stormwater quality impacts upon receiving waters during and after construction,

- Attenuation of peak runoff rates following development when compared to pre-developed rates,
- Maintenance of stormwater facilities during and after construction.

The SWPPP, as contained herein, may be revised based upon site conditions observed during or following construction. All proposed modifications shall be in accordance with the NYSDEC technical standards as outlined in GP-0-25-001 and shall be approved prior to implementation. This plan represents the minimum measures required to prevent erosion and sediment loss and control stormwater runoff and water quality. The contractor is responsible for installing additional measures as directed by the Engineer-in-Charge to prevent water quality violations and maintain compliance with the SPDES permit conditions. Revisions to the SWPPP should be noted.

## 1.2 EXISTING CONDITIONS

The project site (referred to as the "Site") is located in the Town of Cairo, on tax parcel 83.00-4-1. It extends southward from the northern property line along County Route 84 to Main Street. The site's topography of the site features a steep slope descending from the western boundary toward a wetland area, where four NYSDEC freshwater wetland boundaries are situated. Beyond the wetlands, the terrain continues with a gentle downward slope to the eastern boundary. The site is primarily composed of wooded areas and grassy brush, with no existing structures present. Stormwater is expected to infiltrate across much of the site; however, surface runoff will generally flow toward the eastern boundary.

A review of Flood Insurance Rate Maps (FIRM) prepared by FEMA for the project area indicates that the site lies within Zone X, which corresponds to the 0.2% annual chance flood (commonly referred to as the 500-yr flood). While Zone X approaches the eastern boundary, it does not encroach upon the site. The project area can be found on map panel 36039C0242F, included as Figure 5 of this report.

According to the USGS Web Soil Survey, five distinct soil types are present on the site. Approximately 60% of the area is classified as Hydrologic Soil Group (HSG) A, indicating high infiltration potential (see **Appendix F**). The following table outlines the soil types found within the project area.

Table 1: Project Site Hydrologic Soil Group

| Map Unit Symbol | Map Unit Name | Rating |
|---|---|---|
| Ur | Udorthents, loamy | A |
| VaB | Valois gravelly loam, 3 to 8 percent slopes | B |
| OrB | Oquaga very channery silt loam, 3 to 8 percent slopes | C |
| AwE | Arnot-Oquaga complex, 25 to 45 percent slopes | D |
| ArB | Arnot channery silt loam, 3 to 8 percent slopes | D |

During the design process it was found via soil test pits and geotechnical investigations that the soils present throughout the entirety of the site more closely align to silty loam versus the loamy Udorthents. This field verification has been applied to the calculations that follow throughout this document.

## 1.3 PROPOSED CONDITIONS

The proposed construction activities will disturb a total of approximately 5.5 acres. However, it is anticipated that greater than 5 acres of soil will be not disturbed at any one time. The construction will be performed in two construction phases, Phase 1 – Site Clearing & Grubbing and Phase 2 –

Building Installation and Site Improvements. Phase 1 includes clearing, grubbing & removal of all trees and shrubs within the clearing extents. All excavations will be backfilled as necessary and the disturbed area stabilized. Phase 2 includes but is not limited to constructing a new health services office building and maintenance garage with 113 parking spaces, a new driveway access road as well as various utilities (electric, water, sewer, storm etc.). Part of the storm utilities include the following; a collection system with several catch basins, drainage manholes and piping, and a bioretention system.

In general, the construction activities to be performed include:

Phase 1

- Installation of erosion and sediment control measures/fencing,
- Tree clearing, grubbing and removal from site
- Stabilization of disturbed areas.
- Permanent stabilization of disturbed areas.

Phase 2

- Installation of erosion and sediment control measures/fencing,
- Stripping of topsoil (as needed),
- Establish soil stockpile areas,
- Begin Site Utility (water, sewer, storm, elec etc.) installations.
- Begin excavations for building foundations.
- Backfill areas of excavation.
- Construct new buildings.
- Installation of fencing (as necessary) & all exterior equipment adjacent to building
- Installation of stormwater management areas.
- Final grading and pavement/concrete.
- Stabilization of disturbed areas.
- Permanent stabilization of disturbed areas.

The main purpose of this report is to analyze the stormwater runoff generated by the developed conditions while providing improved stormwater quality. The stormwater runoff under proposed conditions will maintain existing drainage patterns and ultimately discharge out of the proposed outlet at the eastern corner of the property line.

The proposed onsite improvements have been designed to limit their impact on natural features. The areas draining to the analysis point have been delineated using topographic maps, aerial and field surveys, and proposed grading plans.

## 1.4 RESPONSIBILITIES OF INVOLVED PARTIES

### Engineer's Responsibilities on behalf of the Owner/Operator

- Prepare the SWPPP using good engineering practices, Best Management Practices, and in compliance with all federal, state and local permit requirements. This preparation shall also include providing a description of the Project as it relates to site ownership and development responsibilities.
- Prepare the NOI form for the Operator's signature and forward to Operator for signature; SWPPP must be completed prior to NOI submittal.
- Include a signed NOI in the SWPPP prepared for the Project.

- Participate at the pre-construction meeting with Contractor and appropriate subcontractors, which should include a review of all parties the requirements of the SWPPP, if requested by Operator.
- Review Contractor's SWPPP records on a periodic basis to ensure compliance with requirements for reports and inspection and maintenance logs, if requested by Operator.
- Certify to Operator the Contractor's compliance with SWPPP record keeping requirements, if requested by Operator.

## Operator's Responsibilities

- Require the Contractor to implement fully the SWPPP prepared for the site by the Operator's Engineer.
- Forward a copy of the original permit certificate received from the regulatory agency to the Contractor for inclusion in the SWPPP Ledger and display at the Project.
- Ensure through periodic observations by Operator's Project Manager and documentation that the Contractor is implementing the controls, inspections, maintenance, record-keeping, and all other requirements of the SWPPP.
- File an appropriately signed Notice of Termination ("NOT") form when site work construction is completed and stabilization is achieved. **(Appendix A)**
- Request and receive all SWPPP records from the Contractor and archive those records for a minimum of five (5) years after the NOT is filed.

## Contractor's Responsibilities

- Sign the SWPPP Contractor's Certification Form in the SWPPP prepared for the Project **(Appendix I).**
- Provide subcontractor training and require all subcontractors to sign the Subcontractor's Certification Form in the SWPPP prepared for the Project **(Appendix I).**
- Implement the Erosion and Sediment Control Plans, and other requirements of the SWPPP.
- Provide Trained Individuals, and documentation of qualifications, for the controls implemented at the Project.
- Conduct all necessary inspections at the required intervals and prepare and retain written documentation of those inspections and all other written documentation required by the Construction General Permit.
- Keep a copy of the SWPPP, all NOI's, permit certificates, permit language, Materials Management Process (MMP), inspection records, and other required records on the Project.
- Post in a prominent place at the Project entrance and inside the job trailer office wall those documents required to be posted under the terms of the Construction General Permit including, the NOI **(Appendix A).**
- Update and make changes to the SWPPP and supporting documents (such as the BMPs) as needed and with the approval of the Operator and the Operator's Engineer.
- Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, and written records required by the Construction General Permit to the Operator for archiving.

# 2 HYDROLOGIC STORMWATER MANAGEMENT

## 2.1 HYDROLOGIC ANALYSIS METHODOLOGY

The quantity of stormwater runoff generated from a watershed can be affected by land development and site improvement projects. Construction activities that change surface vegetation, grades and amounts of impervious areas can decrease groundwater infiltration. This reduction in infiltration will result in an increase in overland stormwater runoff rates. As a result, hydrologic modeling analyses are performed to evaluate the net effect the proposed site improvements will have on the existing site.

Guidelines outlined by USDA Soil Conservation Services were followed while calculating the runoff curve number and time of concentration for each subarea. The runoff curve numbers (CN) are based on weighted averages of ground cover and soil types. Topographic maps, soils surveys and site visits were used to determine ground cover and underlying soils.

Time of concentration (Tc) represents the time it takes for surface runoff to travel from the most hydraulically distant point within the watershed to the point of analysis. Surface slope, roughness, channel slope and shape, flow patterns and runoff velocities are factors that directly affect the time of concentration. Runoff velocities are based on ground characteristics and flow type. Stormwater runoff flows through drainage areas as sheet flow, shallow concentrated flow, open channel flow or flow in storm sewers. Runoff often begins as sheet flow in the upper limits of the subarea and can be characterized as flow over a broad surface area such as short stretches of grass and/or pavement. Sheet flow then gradually develops into shallow concentrated flow. Open channel flow or concentrated flow occurs when shallow concentrated flow converges into well-defined ditches or storm sewers. The sum of each travel time over the individual surface within the subarea determines the time of concentration.

To determine net changes in hydrologic conditions from proposed construction at the site, it was necessary to create a model of how the site currently exists and compare that with proposed site conditions. Below are descriptions of how modeling was performed.

## 2.2 HYDROLOGIC STORM EVENTS

HydroCAD V10 software was used to create hydrologic models and using synthetic storm events to calculate runoff hydrographs. These synthetic storm events are based on statistical analysis of actual storm events for different durations over a broad geographical area. The Soil Conservation Services categorizes rainfall by distribution type associated to a geographical area and by the total number of inches of precipitation that is assumed to occur over a 24-hour duration.

As part of the Stormwater Management Design Manual, July 2024 (Design Manual), specifically section 4.9 Rainfall Data, Distribution Curves and Hydrologic Modeling speaks to creating project specific rainfall distribution curves versus using the pre-established rainfall distributions (Type I, II, III, IV). These steps were followed and project specific rainfall distribution curves were used to analyze the runoff for the project. Table 2, below, indicates rainfall depth from each storm event.

Table 2: Rainfall Data

| Design Storm Event | Total Rainfall Depth (Inches) |
|---|---|
| 1-Year | 2.49 |
| 2-Year | 2.99 |
| 10-Year | 4.47 |
| 25-year | 5.63 |
| 50-year | 6.71 |
| 100-Year | 8.01 |

# 3 HYDROLOGIC ANALYSIS OF EXISTING CONDITIONS

## 3.1 EXISTING CONDITIONS

For the purposes of this analysis, the extent of the hydrologic model was limited to those areas impacted by the proposed improvement areas. All areas within the project limits currently drain to one outlet location identified as a single design point defined to characterize the natural drainage pattern of the watershed.

Design Point 1 (DP-1) is located at an existing culvert inlet at the southeastern corner of the property where surface runoff exits the site through an 18" corrugated metal pipe (CMP) ultimately discharging to a ravine across County Road 84. DP-1 consists of one (1) contributing catchment identified as E1. E1 is approximately 18.2 acres in size. This catchment is primarily composed of woods in poor condition generally falling within the Hydrologic Soil Groups of C or D. A small portion of the catchment contains existing roadways and building roof runoff. Also, there are four NYSDEC wetlands in the northwest quadrant of the site. Runoff initiates as sheet flow from a high point near Main Street, transitioning into shallow concentrated flow as it continues through the wooded area. It continues in this form through the wooded area, a hard pan/bare soil zone and across a wetland. Then it continues as shallow concentrated flow through the wooded area until eventually reaching the road side swale, where the runoff flows via channel flow to the design point.

The limits of the drainage boundaries were defined based on Lidar contours from NYS and USGS maps were used as necessary to gauge the complete picture for the drainage analysis. A copy of the existing conditions drainage map is included as Figure 2.

See Table 3 for a summary of the existing catchments.

**Table 3: Existing Conditions – Drainage Areas**

| Design Point | Drainage Area | Area (Acres) | Weighted CN | Tc (mins) |
|---|---|---|---|---|
| DP-1 | Drainage Area – 1 DA-1/E1 | 18.2 | 80 | 40.6 |

## 3.2 EXISTING CONDITIONS – HYDROLOGIC ANALYSIS RESULTS

The following table (Table 4) summarizes the peak flows generated from the watershed for the existing site for the various storm events (see **Appendix C** for HydroCAD calculations and results).

**Table 4: Runoff – Existing Conditions**

| DESIGN POINT | 1-YEAR STORM | 10-YEAR STORM | 100-YEAR STORM |
|---|---|---|---|
| DP-1 | 7.4 cfs | 21.5 cfs | 47.2 cfs |

# 4 HYDROLOGIC ANALYSIS OF PROPOSED CONDITIONS

## 4.1 PROPOSED CONDITIONS

The proposed project includes the development of an office building, a maintenance/storage building, site sidewalks/pathways, asphalt access driveway & parking lot, and associated site utilities. Stormwater runoff generated from the new construction will be directed to the proposed stormwater management facilities via sheet flow and the proposed onsite storm sewer pipes. The stormwater management facilities, along with green infrastructure techniques, will provide the required runoff reduction volume, water quality volume, and water quantity mitigation as outlined in the New York State Stormwater Management Design Manual.

The proposed onsite improvements have been designed to limit their impact on natural features. To comply with the water quality and quantity requirements of the General Permit GP-0-25-001, the stormwater runoff from portions of the proposed site will be directed to the stormwater management facilities. Portions of the site will be re-contoured to accommodate the proposed site improvements. To analyze the proposed site improvements, the stormwater management plan utilizes the same singular design point as discussed from the existing conditions (see Figure 3).

Design Point 1 (DP-1) is located at the same location as the existing culvert pipe, however a new structure and corresponding pipe are proposed as the existing structures are failing. The location is at the southeastern corner of the property, where runoff exits the site through a single outlet. DP-1 consists of three contributing catchments identified in Table 5 below.

Drainage catchment P1 is approximately 9.90 acres in size and is primarily composed of wooded areas in poor condition generally have a hydraulic soil group rating of C or D. It also includes several NYSDEC wetlands and adjacent bare soil / hardpan areas. Runoff initiates as sheet flow from a high point near Main Street, transitioning into shallow concentrated flow as it continues through the wooded area. It continues in this form through the bare soil & wetlands and continues as shallow concentrated flow through wooded areas until reaching the county road side ditch. At which point it turns to channel flow. Eventually it the runoff Reach's through the adjacent catchment (P3), ultimately discharging at DP-1.

Drainage Catchment P2 is approximately 4.7 acres in size and consists mainly of wooded areas in poor condition generally having a hydraulic soil group rating of C. It also has a few small areas of existing pavement contributing runoff as well as some roof runoff. Runoff initiates as sheet flow from a high point on Main Street. It transitions into shallow concentrated flow throughout the wooded area until it reaches DP-1.

Drainage Catchment P3 is approximately 3.6 acres in size and consists mainly of impervious surfaces such as roadways, a parking lot, and a building. In addition, there's a substantial amount of grass areas (swales, lawn etc) in and around the impervious surfaces. Runoff begins as sheet flow across an asphalt pavement, and transitions to shallow concentrated flow across the pavement. The flow then changes to pipe flow through a series of drainage pipes until it reaches DP-1.

See Table 5 for a summary of the proposed subareas.

### Table 5: Proposed Conditions – Drainage Areas

| Design Point | Drainage Area | Area (Acres) | Weighted CN | Tc(min) |
|---|---|---|---|---|
| DP-1 | P1 – Drainage Area – 1 | 9.9 | 81 | 37.6 |
| | P2 – Drainage Area – 2 | 4.72 | 78 | 27.9 |
| | P3 – Drainage Area – 3 | 3.58 | 88 | 6.0 |

## 4.2 PROPOSED CONDITIONS – HYDROLOGIC ANALYSIS RESULTS

The following table summarizes the peak flows generated from the proposed site for the various storm events at the analysis point (see **Appendix D** for hydrologic calculations and results).

### Table 6: Runoff – Proposed Conditions

| DESIGN POINT | 1-YEAR STORM | 10-YEAR STORM | 100-YEAR STORM |
|---|---|---|---|
| DP-1 | 8.8 cfs | 24.1 cfs | 51.01 cfs |

Using the same design points as defined under existing conditions, stormwater flows have been reviewed to ensure the peak flows are mitigated per the SPDES General Permit. Table 7 summarizes the peak flows generated from the site under existing, proposed and mitigated conditions for the various storm events at each design point. As its shown below, the rates decrease from existing conditions to proposed conditions, this is due to the poor nature of the existing soils. Curve number adjustments via the change in cover type have minimal effects on the runoff rates in the two separate scenarios. The stormwater filtering practices and stormwater detention and respective outlet structures have been designed to limit the projects impact on natural features and to reduce the peak flow rates from the site for 10-year and 100-year 24-hour storm events to comply with the water quantity requirements of the General Permit GP-0-25-001 (see **Appendix C and D** for computer calculations and results). As seen in the table below, the mitigated conditions are reduced from the proposed conditions which were already reduced from the existing conditions.

### Table 7: Runoff – Existing, Proposed & Mitigated Conditions

| DESIGN POINT 1 | 1-YEAR STORM EVENT | 10-YEAR STORM EVENT | 100-YEAR STORM EVENT |
|---|---|---|---|
| Existing Conditions | 7.4 cfs | 21.5 cfs | 47.2 cfs |
| Proposed Conditons | 8.8 cfs | 24.1 cfs | 51.01 cfs |
| Mitigated Conditions | 7.2 cfs | 21.0 cfs | 45.1 cfs |

# 5 STORMWATER MANAGEMENT FACILITY - HYDRAULIC SUMMARY

## 5.1 STORMWATER MANAGEMENT FACILITY RESULTS

Stormwater management facilities will be constructed at the site and receive drainage from the developed impervious areas. The stormwater management facilities are designed to mitigate the increased stormwater runoff generated from the addition of impervious cover. The stormwater management facilities will decrease the rate at which the stormwater is discharged from the site.

The stormwater management facilities have been sized using the criteria set forth within the NYS Stormwater Management Design Manual and the computer modeling software "HydroCAD." This software analyzes the peak inflow from the watershed areas and calculates discharge based upon storage characteristics such as depth, area, volume, and outlet structure controls (computer calculations and results are included in **Appendix D**).

The proposed stormwater management facilities have been designed to mitigate the 10-year and 100-year storm events as required by the SPDES General Permit. Additionally, the facilities have been designed to provide 24-hour extended detention volume of the post-development 1-year storm (Channel Protection Volume, CPv. Due to the conditions of the development at the site, the peak runoffs have decreased post development. However, the design includes additional detention within the bioretention system during larger storm events (10 yr & 100 yr events).

The peak outflows and ponding elevations from the stormwater management facilities during the various storm events is summarized in Table 7.

Table 8: Filtration Bioretention System

## 5.2 ON-SITE SEWER DESIGN METHODOLOGY

The proposed onsite stormwater drainage pipes are designed to capture the stormwater runoff associated with the proposed building, parking lots, and access road and then direct it to the stormwater chambers. HydroCAD was used to size the full flow capacities for the proposed storm sewer system using Smooth Interior Corrugated Polyethylene Pipe (HDPE) with a Manning's roughness coefficient of 0.013. Calculations for the outlet structures are included in **Appendix E**.

# 6 STORMWATER QUALITY MANAGEMENT

## 6.1 STORMWATER QUALITY ANALYSIS METHODOLOGIES

The quality of runoff generated within a watershed can be affected by land development and site improvement projects. Pollutants carried by surface runoff can degrade the water quality downstream.

The minimum threshold for mitigating water quality has been established within the NYS SPDES General Permit requirements for stormwater discharges from construction disturbances greater than one (1) acre. The technical standards associated with the SPDES General Permit require the capture and treatment of 90% of the average annual stormwater runoff volume.

Water quality can be further enhanced by meeting the runoff reduction volume requirement. The intent of the requirement is to utilize green infrastructure techniques and standard stormwater management practices to replicate pre-development hydrology. Runoff reduction volume is a function of the Hydrologic Soil Group Specific Reduction Factor and can be calculated using the methods given in the NYS DEC Stormwater Management Design Manual. The Uniform Stormwater Sizing Criteria within the manual was used to calculate the required water quality volume and runoff reduction volume for the project. The calculations are included in **Appendix E**.

## 6.2 STORMWATER QUALITY & RUNOFF REDUCTION ANALYSIS DATA

New development projects require water quality volume treatment for 100% of the new impervious cover if standard stormwater practices are utilized. Required water quality volume is adjusted based on the amount of new impervious cover.

To meet full water quality volume (WQv) and minimum runoff reduction volume (RRv) criteria for the entire project, stormwater devices were used at the site as described below:

Greene County Community Services Building Site – New Building and Access Driveway/Parking Lot

The proposed building and associated hardscapes (including the parking lot and access driveway) are located within an area that was previously undeveloped. Because of this, 100% of the Water Quality Volume (WQv) must be provided for all new impervious surfaces, along with meeting the Runoff Reduction Volume (RRv) requirement. To satisfy these requirements, a standard Stormwater Management Practice (SMP) with RRv capacity, specifically a Filtration Bioretention system (F-5), has been incorporated into the design. See **Appendix E** for system sizing information.

The water quality and runoff reduction requirements for the project site were analyzed for the disturbed development area and are summarized below:

Total Required WQv = 0.26 acre-feet
Total Required Min. RRv = 0.044 acre-feet

The following section discusses the techniques used to reduce the RRv and measures reviewed to achieve the RRv.

### Soil Restoration

Soil restoration is required for this project in all pervious areas within the development limits where soils have been disturbed and will be vegetated after construction. This restoration process is

intended to return the soil to its original properties and porosity by performing deep tilling and incorporating soil amendments, as outlined in the Stormwater Management Design Manual.

The potential green infrastructure techniques used for Runoff Reduction are discussed below based on the site limitations and constraints.

### Green Infrastructure

The proposed filtration bioretention system has been designed to provide treatment to meet the requirements for a portion of the WQv and to meet the minimum RRv. The bioretention has been sized appropriately to reduce 4,480 cf for RRv and the remaining 6,669 cf for WQv.

## 6.3 CLIMATE CHANGE CONSIDERATIONS

This report presents the consideration for future physical risks due to climate change, in accordance with Part III.A.2 of the permit. Overall site planning, control measures and practices, conveyance systems and detention systems were evaluated against the seven (7) physical risks identified by NYSDEC due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR 490, and associated guidance. **Appendix J** provides a description of each consideration, specifically the project.

# 7 EROSION AND SEDIMENT CONTROL MEASURES

## 7.1 SUMMARY OF EROSION AND SEDIMENT CONTROL MEASURES

Temporary erosion and sediment control features have been incorporated into the design of the proposed site improvements. These measures shown on the plans and in the SWPPP indicate the suggested minimum measures required by the NYS SPDES General Permit. Site conditions may warrant the installation of additional measures and/or the modification of existing measures. Erosion and sediment control is an ever-changing process that is dependent on-site conditions and construction methods employed.

A temporary construction entrance and staging areas will be established for the project area to prevent sediment and debris from being transported by vehicles off the construction site. Stockpile areas will be surrounded with a silt fence to prevent the movement of soil. The permanent erosion and sediment control features include the re-establishment of permanent grass, diversions swales & check dams as well as flow diffusers into the bioretention system.

The erosion and sediment control plans have been developed to prevent the unwanted movement of soil during the construction phases. Temporary filter fabric inlet protection will be placed around drainage structures, silt fence will be installed throughout the site, and check dams will be placed within any swales.

## 7.2 SUMMARY OF POLLUTION PREVENTION MEASURES

All construction materials (oils, hydraulic fluids, etc.) shall be stored within a storage trailer to prevent exposure to stormwater, thus preventing the materials from becoming a pollutant source. Additionally, the contractor shall review the site daily and collect all waste material. All waste material shall be immediately removed from the site to prevent exposure to stormwater. On an occasion where the material cannot be immediately removed, a silt fence and trenches shall be installed immediately. Any spills shall be immediately removed from the site and disposed of in a legal and environmentally sensitive manner.

The contractor will be required to be familiar with the requirements of the SPDES General Permit, the construction documents and this Stormwater Pollution Prevention Plan. Conditions may require amendments to the Stormwater Pollution Prevention Plan, but only with the authorization from a qualified professional.

## 7.3 CONSTRUCTION SEQUENCE SCHEDULE

Detailed construction sequences have been included on the site plans and summarized below.

### Construction Sequence – Phase 1: Bulk Clearing, Grubbing and Removal

#### Step 1 – Pre-Construction Actions

The stabilized construction entrances (temporary County Entrance) shall be established to capture mud and debris from entering the public highways, clear and grub areas as necessary. All bare areas shall be stabilized within 14 days with gravel or vegetative cover. Construction ditches, silt fence, and orange construction fencing shall be installed as shown on the construction drawing prior to work.

#### Step 2 – Site Staging and Coordination

Coordinate staging areas with Owner, Engineer, and County/Town Highway Superintendent (off-site) as necessary.

#### Step 3 – Erosion Control

All perimeter areas and slopes shall be stabilized immediately. If construction activities cease during the contract timeline, stockpiles and exposed areas shall be stabilized by seed, mulch or other appropriate measures as soon as possible, but in no case more than 14 days after construction activity has ended. All areas shall be temporarily or permanently stabilized if work is delayed.

#### Step 4 – Sediment Control

All temporary silt fencings shall be in place to prevent sediment from being transported offsite. All areas shall be stabilized with stone fill or seeded as shown on the construction drawings. All sediment from the temporary inlet protection areas shall be removed as necessary. All necessary controls shall be kept in place and maintained to prevent sediment entering existing municipal infrastructure until the site is stabilized.

#### Step 5 – Site Clearing

Cutting and Removal of Trees plus grinding of stumps, chipping of understory and Temporary Stabilization. Strip topsoil and stockpile as necessary for final stabilization.

Excavated areas are to be backfilled to existing grade and stabilized. Other disturbed areas are to be restored and temporarily stabilized with topsoil and seed.

#### Step 6 – Maintenance and Inspection

During construction, inspection shall be performed every 7 calendar days by an owner retained qualified professional and recorded in the inspection schedule. Two inspections every 7 calendar days will be required once greater than 5 acres of earth has been disturbed. All practices shall be adequately operational, maintained and sediment removed as needed. All inspections shall look for evidence of erosion on the site, sediment entering the drainage systems, and signs of soil and mud transported from the site. All control measures shall be routinely maintained whenever a problem is identified. All paperwork shall be kept on-site.

#### Step 7 – Final Restoration and Stabilization

Once all areas are cleared & grubbed, they are to receive final stabilization (seed and mulch mix). Sediment Traps (if necessary) to remain and be maintained by Owner/future contractor. Remove all temporary erosion and sediment control devices.

## Construction Sequence – Phase 2: Building Installation and Site Improvements

### Step 1 – Pre-Construction Actions

The stabilized construction entrances (County Temp Entrance) shall be established to capture mud and debris from entering the public highways, clear and grub areas as necessary. All bare areas shall be stabilized within 14 days with gravel or vegetative cover. Construction ditches, silt fence, and orange construction fencing shall be installed as shown on the construction drawing prior to work.

### Step 2 – Site Staging and Coordination

Coordinate staging areas with Owner, Engineer, and Town Highway Superintendent (off-site) as necessary.

### Step 3 – Demolition and Excavation

Demolition, Excavation, Backfill and Temporary Stabilization. Excavation and removal of existing materials offsite. Excavated areas are to be backfilled with stone to existing grade and stabilized. Other disturbed areas are to be restored and temporarily stabilized with topsoil and seed.

### Step 4 – Runoff and Drainage Control

Divert offsite stormwater runoff from disturbed areas. All temporary and permanent ditches shall be installed and lined with stone/rock or seeded (as needed).

### Step 5 – Erosion Control

All perimeter areas and slopes shall be stabilized immediately. If construction activities cease during construction, stockpiles and exposed areas shall be stabilized by seed, mulch or other appropriate measures as soon as possible, but in no case more than 14 days after construction activity has ended. All areas shall be temporarily or permanently stabilized if work is delayed.

### Step 6 – Sediment Control

All temporary silt fencings shall be in place to prevent sediment from being transported offsite. All areas shall be stabilized with stone fill or seeded as shown on the construction drawings. All sediment from the temporary inlet protection areas shall be removed as necessary. All necessary controls shall be kept in place and maintained to prevent sediment entering existing municipal infrastructure until the site is stabilized.

### Step 7 – Initial Grading

Limit the initial clearing to areas where sediment control measures need to be installed. Once all sediment control measures are installed, excavation and fill activities associated with the with bulk grading for building pads, parking lot and access road can begin. As fill is being brought to the site, wall foundations and building slabs should be installed to protect all subgrades from weathering or erosion. Unsuitable soil will have to be removed and replaced with structural fill. All topsoil shall be stockpiled, protected, and stabilized. The asphalt areas shall be stabilized with their subbase to prevent erosion. Limit all grading and clearing activities to under 5 acres. Stabilize disturbed areas with temporary or permanent erosion control measures before starting additional disturbance.

### Step 8 – Maintenance and Inspection

During construction, inspection shall be performed every 7 calendar days by an owner retained qualified professional and recorded in the inspection schedule. Two inspections every 7 calendar days will be required once greater than 5 acres of earth has been disturbed. All practices shall be adequately operational, maintained and sediment removed as needed. All inspections shall look for evidence of erosion on the site, sediment entering the drainage systems, and signs of soil and mud transported from the site. All control measures shall be routinely maintained whenever a problem is identified. All paperwork shall be kept on-site.

### Step 9 – Buildings, Walls, Utility Construction

Once all erosion and sediment controls are in place and bulk grading has been completed, the contractor is to start building construction, and storm, water and sewer utilities. All excavations are to be backfilled with suitable material (ROB in unpaved areas and subbase/structural fill in areas of pavement and concrete.

### Step 10 – Grading and Landscaping

All disturbed areas shall be stabilized with either stone or the appropriate seed mixture as defined in the contract documents. All stabilization shall be completed no later than 14 days after construction activity has ended. All temporary measures shall be removed once grass, etc. has been established. Install all plantings.

### Step 11 – Final Restoration and Stabilization

Once all project components are installed, all areas are to receive final stabilization (seed and mulch mix or impervious surface). Sediment basin to be converted to permanent stilling basin. Remove all temporary erosion and sediment control devices.

## 7.4 POST CONSTRUCTION MAINTENANCE PLAN

Maintenance of the stormwater management facilities and storm sewer system will be part of the annual maintenance completed by the Owner/Operator of the property. The stormwater management facilities should be inspected every five years and periodically cleaned to remove the accumulation of sediment. Trash and debris should be removed from the stormwater structures as needed. All facilities shall be maintained in accordance with the NYSDEC Maintenance Guidance for Stormwater Management Practices dated March 31, 2017.

# 8 SUMMARY OF FINDINGS

The proposed Stormwater Management Plan provides water quality treatment with opportunities for infiltration of surface runoff and reduces the potential for soil erosion.

## 8.1 SUMMARY OF PROPOSED HYDROLOGIC STORMWATER MANAGEMENT

The stormwater management facilities have been designed to utilize detention to attenuate the peak runoff rates. The impacts of the proposed improvements are evaluated by comparing the proposed and existing peak discharge rates at the analysis point located at the final discharge point for stormwater runoff generated from the three drainage areas. The SPDES General Permit for Stormwater Discharges identifies the 10-year and 100-year storm frequencies as the desired design storm events in which the existing peak stormwater discharge rate represents the peak allowable discharge rate in pre-developed conditions. The 24-hour extended detention of the post-developed 1-year, 24-hour storm event (Channel Protection Volume) has also been satisfied with the proposed stormwater management facility. The water quality volume (WQv) and runoff reduction volume (RRv) components have also been met through the application of a filtration bioretention system.

## 8.2 SUMMARY OF PROPOSED EROSION AND SEDIMENT CONTROL

The Stormwater Management Plan for the proposed site improvements utilizes the best management practices outlined in New York State Stormwater Management Design Manual and New York Standards and Specifications for Erosion and Sediment Control. Disturbance to areas within the project work limits will be minimized. Those areas to be disturbed by construction activities are mitigated using methods outlined on the Erosion and Sediment Control Plan and Detail Sheets. Additionally, all the general recording requirements for inspections outlined within the SPDES General Permit shall be followed accordingly.

# 9 OWNER RESPONSIBILITY

## 9.1 SITE ASSESSMENT AND INSPECTIONS

The following requirements set forth apply to all permittees applying for coverage under the SPDES General Permit for Stormwater Runoff from Construction Activities, GP-0-25-001 and are contained within said permit. **The requirements detailed below are only a partial list and are the sole responsibility of the Operator/Owner. For a complete list of Operator/Owner responsibilities and requirements, please refer to GP-0-25-001.**

The operator/owner shall:

- In accordance with the requirements in the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, inspect the erosion and sediment controls identified in the SWPPP to ensure they are being maintained in effective operating condition always.
- For construction sites where soil disturbance activities have been temporarily suspended (winter shutdown, etc.) and temporary stabilization measures have been applied to all disturbed areas, the owner or operator can stop conducting inspections. The owner or operator shall begin conducting inspections in accordance with Part IV.B.1 as soon as soil disturbance activities resume.
- For construction sites where soil disturbance activities have been shut down with partial project completion, the owner or operator 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.
- Have a qualified professional (professional engineer, certified professional in erosion and sediment control or soil scientist) conduct an assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and have been installed or implemented to ensure the overall preparedness of the site for commencement of construction.
- 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.
- 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. When performing just two (2) inspections every seven (7) calendar days, the inspection shall be separated by a minimum of two (2) full calendar days.
- For construction sites where soil disturbance activities have been temporary suspended (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 Regional Office stormwater contact person in writing prior to reducing the frequency of inspections.
- For construction sites where the 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 Regional Office stormwater contact person 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 a qualified inspector(s) perform a final inspection and certify that all disturbed areas have achieved final stabilization, 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 by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the Notice of Termination (NOT). The owner or operator shall then submit the completed NOT form to the address in Part II.B.1.

- At a minimum, the qualified inspector shall inspect all erosion and sediment control practices 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, and all points of discharge from the construction site.
- The qualified inspector shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include or address the following:
    - Date and time of inspection;
    - Name and title of person(s) performing inspection;
    - A description of the weather and soil conditions (dry, wet, saturated) at the time of the inspection;
    - A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharge of sediment from the construction site. Include discharges from conveyance systems (pipes, culverts, ditches, etc.) and overland flow;
    - Identification of all erosion and sediment control practices that need repair or maintenance;
    - Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
    - Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
    - 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; and
    - Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s).
    - Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching;
    - Document any excessive deposition of sediment or ponding of water along barrier or diversion systems;
    - Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water;

    - Maintain a record of all inspection reports.
- Within one (1) 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 any corrective actions that need to take place. 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.
- All inspection reports shall be signed by a qualified inspector. Pursuant to Part II.D.2, the inspection reports shall be maintained on site with the SWPPP.
- The operator shall initiate stabilization measures as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
- The operator shall make all contractors and subcontractors sign a copy of the certification statement in Part III.A.6 of the Permit, GP-0-25-001. All certifications must be included in the SWPPP and all new contractors and subcontractors need to similarly certify;
- The operator shall retain copies of the SWPPP, NOI, NOI Acknowledgment Letter, MS4 SWPPP Acceptance form, Inspection Reports and any reports submitted in conjunction with this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of five years from the date that the site is finally stabilized;
- The operator shall retain copies of the SWPPP required by this permit at the construction site from the date of initiation of construction activities to the date of final stabilization.

**Additional requirements are listed in the SPDES General Permit, GP-0-25-001 and are the sole responsibility of the Operator/Owner.**

# 10 ADMINISTRATIVE COMPLIANCE

## 10.1 COMPLIANCE WITH OTHER FEDERAL, STATE, AND LOCAL REGULATIONS

At a minimum, the Contractor will obtain copies of any and all local and state regulations which are applicable to Storm Water Management, Erosion and Sediment Control, and pollution minimization at this Project and will comply fully with such regulations. The Contractor will submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. The Contractor will comply with all conditions of the *NYSDEC* General Permit for Stormwater Discharges from Construction Activities including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the Project and allowing regulatory personnel access to the Project and to records in order to determine compliance. The Contractor shall also comply with any additional or more stringent requirements imposed by the permit issued by an approved state storm water program, or with permits issued, or requirements imposed by the Town to which the Project discharges storm water. Requirements with which the Contractor must comply include installation of post-construction measures required by the State, County, or City.

# 11 MATERIALS MANAGEMENT PLAN

## 11.1 PROGRESS DRAWINGS

A Progress Drawing consisting of a print of the Erosion and Sediment Control Plans shall be posted inside the job trailer wall. The Progress Drawing will be used to record the locations of the Job Trailer, Sanitary Waste Facilities, Solid Waste Facilities, Fuel Storage Area, Equipment Service Area, and Concrete Washout Pit. Any time any of these facilities are relocated on the site, a new location will be noted on the Progress Drawing and a Modification Report (**Appendix K**) will be prepared.

## 11.2 MATERIALS COVERED

The following materials or substances are expected to be present onsite during construction:

- Concrete/Additives/Wastes
- Detergents
- Paints/Solvents
- Acids
- Solid and construction wastes
- Soil stabilization additives
- Cleaning solvents
- Petroleum based products
- Pesticides
- Fertilizers
- Sanitary wastes

## 11.3 MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. The Contractor's Superintendent will be responsible for ensuring that these procedures are followed:

### 1. Good Housekeeping

The following good housekeeping practices will be followed onsite during construction:

- An effort will be made to store only enough products required to do the job.

- All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or in a containment area. At a minimum, all containers will be stored with their lids on when not in use. Drip pans shall be provided under all dispensers.
- Products will be kept in their original containers with the original manufacturer's label in legible condition.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The Contractor's Superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

## 2. Hazardous Substances

These practices will be used to reduce the risks associated with Hazardous Substances. Material Safety Data Sheets (MSDS's) for each product with hazardous properties that is used at the Project will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the job trailer at the Project. Each employee who must handle a Hazardous Substance will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

- Products will be kept in original containers with the original labels in legible condition.
- Original labels and MSDS's will be procured and used for each product.
- If surplus product must be disposed manufacturer's and local/state/federal required methods for proper disposal must be followed.

## 3. Hazardous Waste

It is imperative that all Hazardous Waste be properly identified and handled in accordance with all applicable Hazardous Waste Standards, including the storage, transport and disposal of the Hazardous Wastes. There are significant penalties for the improper handling of Hazardous Wastes. It is important that the Site Superintendent seeks appropriate assistance in making the determination of whether a substance or material is a Hazardous Waste. For example, Hazardous Waste may include certain Hazardous Substances, as well as pesticides, paints, paint solvents, cleaning solvents, pesticides, contaminated soils, and other materials, substances or chemicals that have been discarded (or are to be discarded) as being out-of-date, contaminated, or otherwise unusable, and can include the containers for those substances; other materials and substances can also be or become Hazardous Wastes, however. The Contractor's Superintendent is also responsible for ensuring that all site personnel are instructed as to these Hazardous Waste requirements and also that the requirements are being followed.

## 4. Product Specific Practices

The following product specific practices will be followed on the job site:

### Petroleum Products

All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Petroleum storage tanks shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters. Maximum total aggregate above ground storage capacity (for the total permit area) shall not exceed 1,320 gallons (which includes both bulk and equipment operational storage volumes in fuel tanks 55 gallons and greater). Total aggregate petroleum

storage exceeding 1,320 gallons shall require preparation, certification (using a Professional Engineer or providing a Self-Certified SPCC Plan if applicable) and implementation of a Spill Prevention Control and Countermeasures (SPCC) Plan. The SPCC Plan must be prepared and fully implemented prior to the commencement of work. The SPCC Plan, if needed, will be furnished by the Contractor. Any petroleum storage tanks stored onsite will be located within a containment area that is designed with an impervious surface between the tank and the ground. The secondary containment must be designed to provide a containment volume that is equal to 110% of the volume of the largest tank. Any mobile petroleum tank shall be parked in a vehicular service area surrounded by a berm that provides a containment volume that is equal to 110% of the volume of the largest tank. Containment must provide sufficient volume to contain expected precipitation and 110% volume of the largest tank. Accumulated rainwater or spills from containment areas are to be promptly pumped into a containment device and disposed of properly by a licensed Hazardous Waste transporter. Drip pans shall be provided for all dispensers. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations. The location of any fuel tanks and/or equipment storage areas must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.

### Fertilizers

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

### Paints, Paint Solvents, and Cleaning Solvents

All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

### Concrete Wastes

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in specifically designated diked and impervious washouts which have been prepared to prevent contact between the concrete wash and storm water. Waste generated from concrete wash water shall not be allowed to flow into drainage ways, inlets, receiving waters or highway right of ways, or any location other than the designated concrete washout. Waste concrete may be poured into forms to make riprap or other useful concrete products. Proper signage designating the “Concrete Washout” shall be placed near the facility. Concrete Washouts shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters.

The hardened residue from the concrete wash out areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the Contractor. Maintenance of the washout is to include removal of hardened concrete. The Facility shall have sufficient volume to contain all the concrete waste resulting from washout and a minimum freeboard of 12 inches. Facility shall not be filled beyond 95% capacity and shall be cleaned out once 75% full unless a new facility is constructed. The Contractor’s Superintendent will be responsible for seeing that these procedures are followed.

Saw-cut Portland Cement Concrete (PCC) slurry shall not be allowed to enter storm drains or Watercourses. Saw-cut residue should not be left on the surface of pavement or be allowed to flow over and off pavement. Residue from saw-cutting and grinding shall be collected by vacuum and disposed of in the concrete washout facility.

The Project may require the use of multiple concrete wash out areas. These concrete wash out areas are to be made available to all trades and subcontractors working on the Project. The Contractor may designate certain wash out areas for particular trades or subcontractors, but the Contractor is responsible for the management of all concrete washout areas on the Project. All concrete wash out areas will be located in an area where the likelihood of the area contributing to storm water discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to storm water discharges. The location of concrete wash out area(s) must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.

### Solid and Construction Wastes

All waste materials will be collected and stored in an appropriately covered container and/or securely contained metal dumpster rented from a local waste management company which must be a licensed solid waste management company. The dumpster will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied at a minimum of once per week or more often if necessary. Once building construction has commenced, the dumpster will be emptied at a minimum of once per week or when 95% full, or more often if necessary, to prevent over-flow and the trash will be hauled to a landfill. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal.

All waste dumpsters and roll-off containers will be in an area where the likelihood of the containers contributing to storm water discharges is negligible. Solid waste containers shall be located no less than 50 feet from any storm inlet, drainage way, or surface water. If required, additional BMPs must be implemented, such as gravel bags, wattles, dikes, berms, and fences around the base to prevent waste from contributing to storm water discharges. The location of waste dumpsters and roll-off containers must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.

### Sanitary Wastes

A minimum of one portable sanitary unit will be provided for every ten (10) workers on the site. All sanitary waste will be collected from the portable units a minimum of one time per week by a licensed portable facility provider in complete compliance with local and state regulations.

All sanitary waste units will be located in an area where the likelihood of the unit contributing to storm water discharges is negligible. Additional containment BMPs must be implemented, such as gravel bags or specially designed plastic skid containers around the base, to prevent wastes from contributing to storm water discharges. The location of sanitary waste units must be identified on the PROGRESS DRAWING by the contractor once the locations have been determined.

### Contaminated Soils

Any contaminated soils (resulting from spills of Hazardous Substances or Oil or discovered during the course of construction) which may result from Construction Activities will be contained and cleaned up in accordance with applicable state and federal regulations. Contaminated soils not resulting from Construction Activities, or which pre-existed Construction Activities, but which are discovered by virtue of Construction Activities, should be reported in the same manner as spills, but with sufficient information to indicate that the discovery of an existing condition is being reported. If there is a release that occurs by virtue of the discovery of existing contamination, this should be reported as a spill, if it otherwise meets the requirements for a reportable spill.

## 5. Spill Prevention and Response Procedures

The Contractor will train all personnel in the proper handling and cleanup of spilled Hazardous Substances or Oil. No spilled Hazardous Substances or Oil will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the Contractor's Superintendent to be properly trained, and to train all personnel in spill prevention and clean up procedures.

1. In order to prevent or minimize the potential for a spill of Hazardous Substances or Oil to come into contact with storm water, the following steps will be implemented:
    a. All Hazardous Substances or Oil (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use.
    b. The minimum practical quantity of all such materials will be kept at the Project.
    c. A spill control and containment kit (containing, for example, absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.
    d. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
    e. It is the Contractors responsibility to ensure that all Hazardous Waste discovered or generated at the Project site is disposed of properly by a licensed hazardous material disposal company. The Contractor is responsible for not exceeding Hazardous Waste storage requirements mandated by the EPA or state and local authority.
2. In the event of a spill of Hazardous Substances or Oil, the following procedures must be followed:
    **a. All measures must be taken to contain and abate the spill and to prevent the discharge of the Hazardous Substance or Oil to storm water or off-site. (The spill area must be kept well-ventilated and personnel must wear appropriate protective clothing to prevent injury from contact with the Hazardous Substances.)**
    b. **If the release is equal to or in excess of a reportable quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The SWPPP must identify measures to prevent the recurrence of such releases and to respond to such releases. The form in Appendix O must be completed in accordance with this requirement**.

# 12 CONTROL OF NON-STORMWATER DISCHARGES

Certain types of discharges are allowable under the NYSDEC General Permit for Stormwater Discharges from Construction Activities, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined previously in this SWPPP will be strictly followed to ensure that no contamination of these non-storm water discharges takes place. The following non-storm water discharges are allowed by the NYSDEC and may occur at the Project:

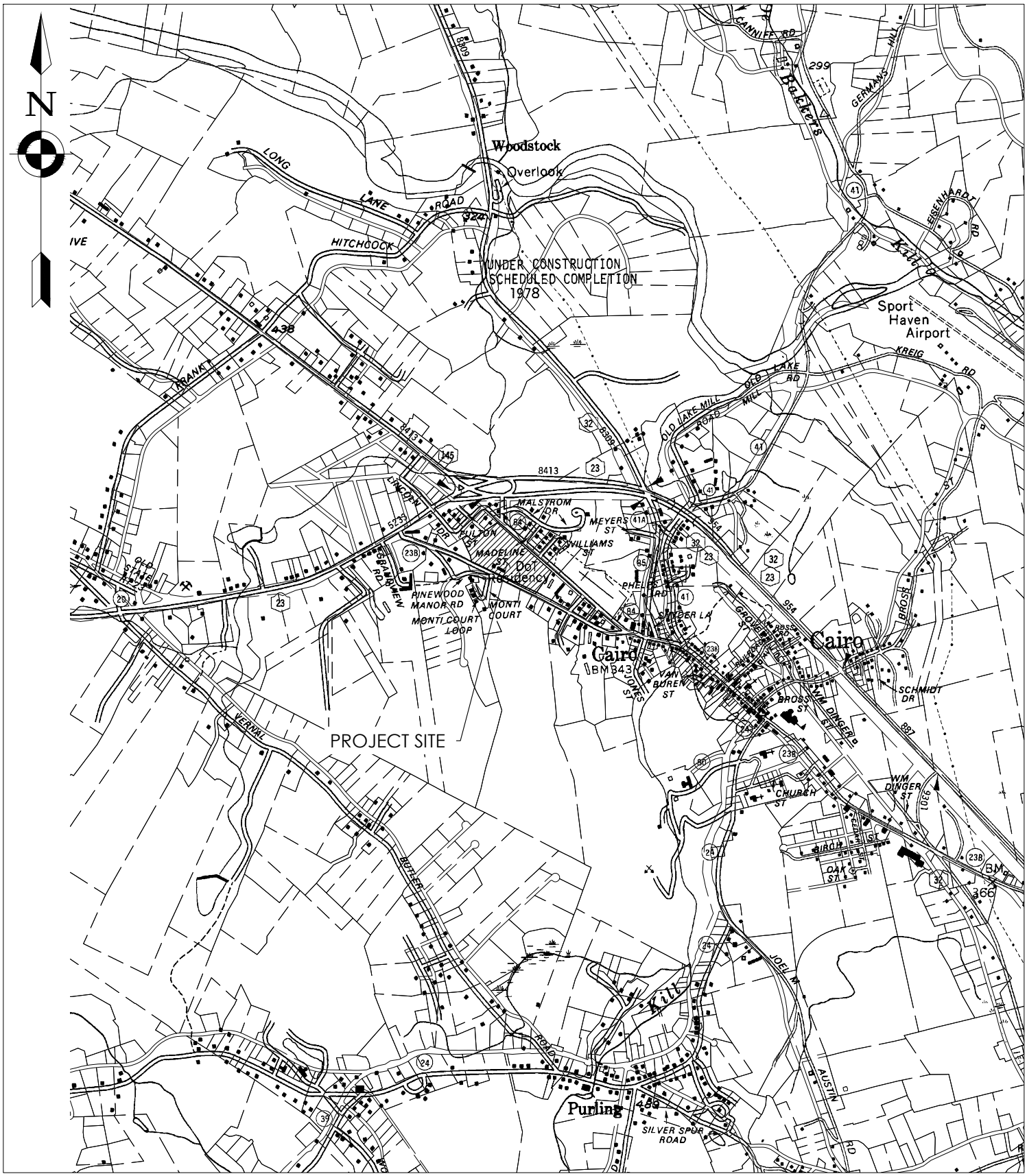
- Discharges from fire-fighting activities;
- Fire hydrant flushings;
- Waters used to wash vehicles where detergents are not used;
- Water used to control dust;
- Potable water including uncontaminated water line flushings;
- Routine external building wash down that does not use detergents;
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- Uncontaminated air conditioning or compressor condensate;
- Uncontaminated ground water or spring water;
- Foundation or footing drains where flows are not contaminated with process materials such as solvents;
- Uncontaminated excavation dewatering;
- Landscape irrigation

# 13 HISTORICAL PLACES

There are no places or properties which are listed or would be eligible for listing on the State or National Register of Historic Places that will be impacted by this construction. The New York State Historic Preservation Office map is provided in **Appendix G** indicates the area does not fall within an archeological sensitive area therefore subsequent information was not requested by SHPO to determine the projects “No Effect” on these potential areas.

# FIGURE 1

SITE LOCATION MAP

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Date last accessed: 1/13/2026 2:21 PM
Date last plotted: 1/13/2026 2:21 PM
Plotted By: Bryce Recer

| Project Number | Drawn By | Checked By | Scale | Issued |
|---|---|---|---|---|
| R23.14877.01 | BGR | ALL | 1" = 2000' | 12/16/25 |


CPL | Architecture Engineering Planning
26 IBM Road
Poughkeepsie, NY 12601
CPLteam.com
NY ENGINEERING FIRM CERTIFICATE #0021419


Client Name
**GREENE COUNTY**

Project Name
**COMMUNITY SERVICES BUILDING**

Drawing Title
**SITE LOCATION MAP**

Drawing Number
**FIG-1**

# FIGURE 2

PRE-DEVELOPMENT CONDITIONS MAP


50 0 50 100 150

SCALE: 1" = 50'

## PRE-DEVELOPMENT CONDITIONS

SCALE: 1" = 50'

DP-X — DESIGN POINT SYMBOL

EX — SUBCATCHMENT SYMBOL

1R — REACH SYMBOL

1P — POND SYMBOL

Tc FLOW PATH


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26 IBM Road
Poughkeepsie, NY 12601
CPLteam.com
NY ENGINEERING FIRM CERTIFICATE #0021419


**PROJECT INFORMATION**

Project Number
R23.14877.01

Client Name
**GREENE COUNTY**

Project Name
**COMMUNITY SERVICES BUILDING**

Project Address
774 MAIN STREET,
CAIRO, NY 12413

**PROJECT STRUCTURES**

- COMMUNITY SERVICES BUILDING (CS)
- MAINTENANCE BUILDING (MB)

**PROJECT ISSUE & REVISION SCHEDULE**

| No. | Date | Description |
|---|---|---|

**PROFESSIONAL STAMPS**

FOR REVIEW ONLY
NOT FOR PERMIT OR CONSTRUCTION



**SHEET INFORMATION**

| Issued | Scale |
|---|---|
| 12/16/25 | AS NOTED |
| Project Status | |
| DESIGN | |
| Drawn By | Checked By |
| BGR | ALL |

Drawing Title
PRE DEVELOPMENT CONDITIONS

Drawing Number
CS
FIG 2


Plotted By: Bryce Recer
Date last plotted: 1/13/2026 2:22 PM
Date last accessed: 1/13/2026 2:16 PM
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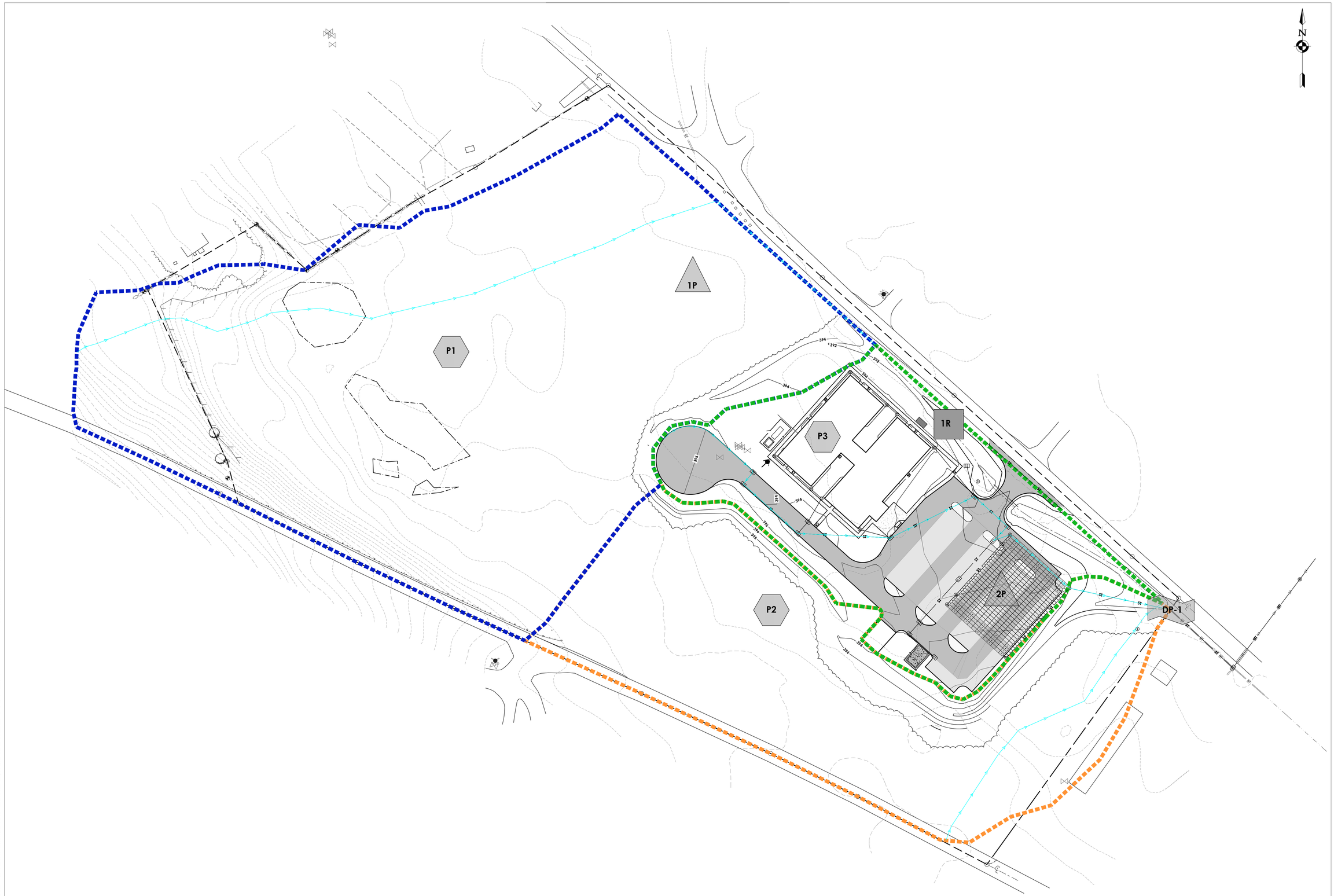
Sheet Size: 30x42

# FIGURE 3

POST-DEVELOPMENT CONDITIONS PLAN




## POST-DEVELOPMENT CONDITIONS

SCALE: 1" = 50'

DP-X — DESIGN POINT SYMBOL

PX — SUBCATCHMENT SYMBOL

1R — REACH SYMBOL

1P — POND SYMBOL

Tc FLOW PATH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NY ENGINEERING FIRM CERTIFICATE #0021419


**PROJECT INFORMATION**

Project Number
R23.14877.01

Client Name
**GREENE COUNTY**

Project Name
**COMMUNITY SERVICES BUILDING**

Project Address
774 MAIN STREET, CAIRO, NY 12413

**Multiple Building Names**

- COMMUNITY SERVICES BUILDING (CS)
- MAINTENANCE BUILDING (MB)

**PROJECT ISSUE & REVISION SCHEDULE**

| No. | Date | Description |
|---|---|---|

**PROFESSIONAL STAMPS**

FOR REVIEW ONLY
NOT FOR PERMIT OR CONSTRUCTION



**SHEET INFORMATION**

| Issued | Scale |
|---|---|
| 12/16/25 | AS NOTED |

Project Status
DESIGN

| Drawn By | Checked By |
|---|---|
| BGR | ALL |

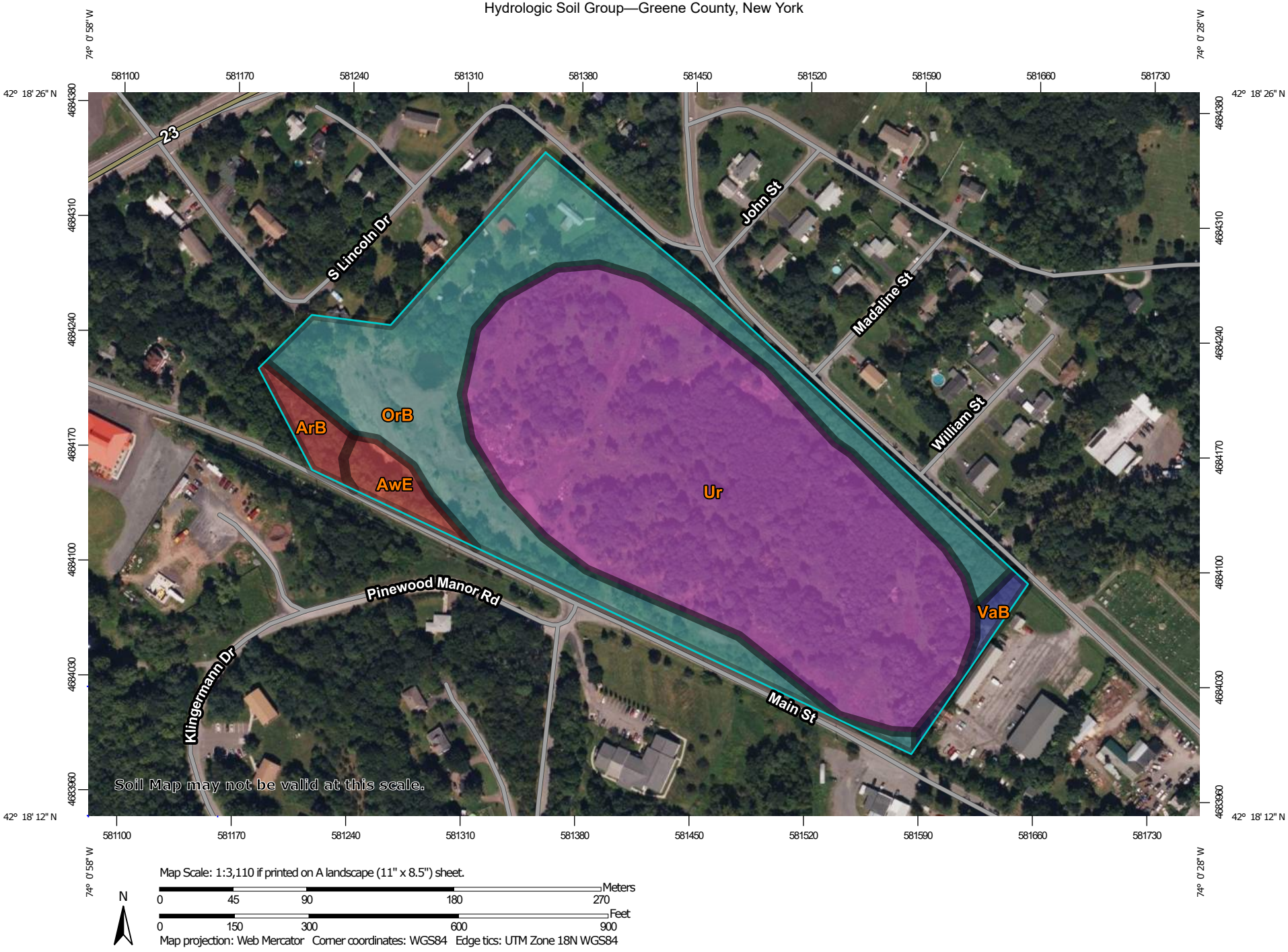
Drawing Title
POST DEVELOPMENT CONDITIONS

Drawing Number
CS FIG 3

Sheet size: 30"x42"
Drawing Name: C:\Users\bracer\DC\ACCDocs\CPL\R23.14877.01-Greene County Community Services Building\Project Files\01 Design\03 Civil\CAD\Design\GCED_R23.14877.01_SWPPP_c2.dwg
Date last accessed: 1/13/2026 8:45 AM
Date last plotted: 1/13/2026 2:12 PM
Plotted By: Bryce Racer

# FIGURE 4

SOILS MAP


74° 0' 58" W
74° 0' 28" W
42° 18' 26" N
42° 18' 12" N
581100
581170
581240
581310
581380
581450
581520
581590
581660
581730
4684380
4684310
4684240
4684170
4684100
4684030
4683960
23
S Lincoln Dr
John St
Madaline St
William St
Pinewood Manor Rd
Klingermann Dr
Main St
ArB
OrB
AwE
Ur
VaB
Soil Map may not be valid at this scale.
Map Scale: 1:3,110 if printed on A landscape (11" x 8.5") sheet.
N
0 45 90 180 270 Meters
0 150 300 600 900 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

## MAP LEGEND

**Area of Interest (AOI)**

- Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**

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

**Soil Rating Lines**

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

**Soil Rating Points**

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

**Water Features**

- Streams and Canals

**Transportation**

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

**Background**

- Aerial Photography

## MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Greene County, New York
Survey Area Data: Version 23, Aug 26, 2024

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

Date(s) aerial images were photographed: Sep 4, 2020—Nov 7, 2020

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

# Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| ArB | Arnot channery silt loam, 3 to 8 percent slopes | D | 0.4 | 2.1% |
| AwE | Arnot-Oquaga complex, 25 to 45 percent slopes | D | 0.5 | 2.4% |
| OrB | Oquaga very channery silt loam, 3 to 8 percent slopes | C | 6.5 | 33.2% |
| Ur | Udorthents, loamy | A | 11.9 | 61.1% |
| VaB | Valois gravelly loam, 3 to 8 percent slopes | B | 0.2 | 1.2% |
| **Totals for Area of Interest** | | | **19.6** | **100.0%** |

## Description

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

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

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

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

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

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

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

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff: None Specified*

*Tie-break Rule:* Higher

# FIGURE 5

FEMA FIRMETTE MAP

# NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

**Base map** information shown on this FIRM was derived from digital orthophotography provided by the New York State Office of Cyber Security & Critical Infrastructure Coordination. This information was produced as 30-centimeter resolution natural color orthoimagery from photography dated April 2004 and 30-centimeter resolution color infrared orthoimagery from photography dated April 2001.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

CTP Cooperating Technical Partners

This digital FIRM was produced through a unique cooperative partnership between the New York State Department of Environmental Conservation (NYSDEC) and FEMA. As part of the effort, NYSDEC has joined in a Cooperative Technical Partnership agreement to produce and maintain FEMA's digital FIRM.


# LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

| | |
|---|---|
| **ZONE A** | No Base Flood Elevations determined. |
| **ZONE AE** | Base Flood Elevations determined. |
| **ZONE AH** | Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined. |
| **ZONE AO** | Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined. |
| **ZONE AR** | Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood. |
| **ZONE A99** | Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined. |
| **ZONE V** | Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined. |
| **ZONE VE** | Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined. |

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

| | |
|---|---|
| **ZONE X** | Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. |

OTHER AREAS

| | |
|---|---|
| **ZONE X** | Areas determined to be outside the 0.2% annual chance floodplain. |
| **ZONE D** | Areas in which flood hazards are undetermined, but possible. |

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

| | |
|---|---|
| | 1% annual chance floodplain boundary |
| | 0.2% annual chance floodplain boundary |
| | Floodway boundary |
| | Zone D boundary |
| | CBRS and OPA boundary |
| | Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities. |
| 513 | Base Flood Elevation line and value; elevation in feet* |
| (EL 987) | Base Flood Elevation value where uniform within zone; elevation in feet* |

* Referenced to the North American Vertical Datum of 1988

| | |
|---|---|
| A — A | Cross section line |
| 3 — 3 | Limited detail cross section line |
| 23 — 23 | Transect line |
| 87°07'45", 32°22'30" | Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere |
| 2°76000mN | 1000-meter Universal Transverse Mercator grid values, zone NAD 1983 UTM Zone 18N |
| 600000 FT | 5000-foot grid ticks: New York State Plane coordinate system, central (FIPSZONE 3101), Transverse Mercator projection |
| DX5510 X | Bench mark (see explanation in Notes to Users section of this FIRM panel) |
| M1.5 | River Mile |

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
MAY 16, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0242F

# FIRM

**FLOOD INSURANCE RATE MAP**

for GREENE COUNTY, NEW YORK
ALL JURISDICTIONS

CONTAINS:

| COMMUNITY | NUMBER |
|---|---|
| CAIRO, TOWN OF | 360286 |

**PANEL 242 OF 531**
**MAP SUFFIX: F**
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER**
**36039C0242F**

**EFFECTIVE DATE**
**MAY 16, 2008**

Federal Emergency Management Agency

# APPENDIX A

GENERAL PERMIT GP-0-25-001
NOTICE OF INTENT
NOTICE OF TERMINATION

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

**CONSTRUCTION ACTIVITY**

Permit No. GP-0-25-001

Construction General Permit (CGP)

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

of the Environmental Conservation Law

Effective Date: January 29, 2025 Expiration Date: January 28, 2030

Scott E. Sheeley

Chief Permit Administrator

Scott E. Sheeley JAN. 29, 2025

Authorized Signature Date

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

## PREFACE

Pursuant to Section 402 of the Clean Water Act (CWA), and 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), *stormwater discharges* from certain *construction activities* are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York State administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, and Article 70, as well as 6 NYCRR Parts 621 and 750.

C*onstruction activities* constitute construction of a *point source* and, therefore, pursuant to ECL sections 17-0505, 17-0701, and 17-0803, the *owner or operator* must have coverage under a SPDES permit prior to *commencement of construction activities*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**SPDES CONSTRUCTION GENERAL PERMIT (CGP) GP-0-25-001**
**FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES**

# Table of Contents

## Part I. How to Obtain Coverage and General Requirements

To be covered under this permit, the *owner or operator* must meet all eligibility requirements in Part I.A. and follow the requirements for obtaining permit coverage in Part I.D., F., or G.

### A. Eligibility Requirements

For a *common plan of development or sale*, the *phase(s)* that meet the eligibility requirements in Part I.A. may obtain coverage under this permit even if other *phase(s)* of the same *common plan of development or sale* do not meet the eligibility requirements and require an individual SPDES permit.

1. The *owner's or operator's construction activities* involve soil disturbances of:

    a. one or more acres; or

    b. less than one acre which are part of a *common plan of development or sale* that will ultimately disturb one or more acres; or

    c. less than one acre where NYSDEC has determined that a SPDES permit is required for *stormwater discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of pollutants to *surface waters of the State*.

        i. 5,000 square feet or more, but less than one acre, and are in the New York City Watershed located east of the Hudson River, Appendix C Figure 1; or

        ii. 20,000 square feet or more, but less than one acre, within the municipal boundaries of the City of New York (NYC); or

        iii. less than 20,000 square feet which are part of a *common plan of development or sale* that will ultimately disturb 20,000 square feet or more, but less than one acre, within the municipal boundaries of NYC; or

        iv. that creates 5,000 square feet or more of *impervious area* within the municipal boundaries of NYC.

2. *Discharges* from the *owner's or operator's construction activities* are/were not:

    a. already covered by a different SPDES permit; or

    b. covered under a different SPDES permit that was denied, terminated, or revoked; or

    c. identified in an expired individual SPDES permit that was not renewed; or

    d. required to obtain an individual SPDES permit or another general SPDES permit in accordance with Part VII.K.

3. If *construction activities* may adversely affect a species that is endangered or threatened, the *owner or operator* must obtain a:

    a. permit issued pursuant to 6 NYCRR Part 182 for the project; or

    b. letter issued by NYSDEC of non-jurisdiction pursuant to 6 NYCRR Part 182 for the project.

4. If *construction activities* have the potential to affect an *historic property*, the *owner or operator* must obtain one of the following:

    a. documentation that the *construction activity* is not within an archeological buffer area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant:

        i. 1-5 acres of disturbance - 20 feet; or

        ii. 5-20 acres of disturbance - 50 feet; or

iii. 20+ acres of disturbance - 100 feet.

b. NYSDEC consultation form sent to OPRHP,[1] and copied to NYSDEC's Agency Historic Preservation Officer (APO), and

i. the State Environmental Quality Review Act (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or

ii. documentation from OPRHP that the *construction activity* will result in No Impact; or

iii. documentation from OPRHP providing a determination of No Adverse Impact; or

iv. a Letter of Resolution signed by the *owner or operator*, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA).

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

i. No Affect; or

ii. No Adverse Affect; or

iii. Executed Memorandum of Agreement.

d. documentation that SHPA Section 14.09 has been completed by NYSDEC or another state agency.

5. If *construction activities* are subject to SEQR, the *owner or operator* must obtain documentation that SEQR has been satisfied.

6. If *construction activities* are not subject to SEQR, but subject to the equivalent environmental review from another New York State or federal agency, the

[1] The consultation form can be submitted, along with other project information, through OPRHP's Cultural Resource Information System (CRIS) portal. If submitted through CRIS, paper copies of the consultation form need not be mailed.

*owner or operator* must obtain documentation that project review, pursuant to a process equivalent to SEQR from another New York State or federal agency, has been satisfied.

7. If *construction activities* require Uniform Procedures Act (UPA) Permits (see 6 NYCRR Part 621) from NYSDEC, or the equivalent from another New York State or federal agency, the *owner or operator* must:

    a. obtain all such necessary permits; or

    b. receive notification from NYSDEC pursuant to 6 NYCRR 621.3(a)(4) excepting Part I.A.7.a.

8. *Construction activities* are not eligible if they meet the following criteria in Part I.A.8.a. or b.:

    a. For linear transportation and linear utility project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

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

        iii. disturb two or more acres of *steep slope*.

    b. For all other project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

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

        iii. disturb one or more acres of *steep slope*.

## B. Types of *Discharges* Authorized

1. The following *stormwater discharges* are authorized under this permit:

   a. *Stormwater discharges*, including *stormwater* runoff, snowmelt runoff, and surface runoff and drainage, associated with *construction activity*, are authorized under this permit provided that appropriate *stormwater* controls are designed, installed, and maintained in accordance with Part II. and Part III.

   b. *Stormwater discharges* from construction support activities at the *construction site* (including concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas) if the following requirements are met:

      i. The support activity is directly related to the *construction site* required to have permit coverage for *stormwater discharges*; and

      ii. The support activity is not a commercial operation, nor does it serve multiple unrelated *construction sites*; and

      iii. The support activity does not continue to operate beyond the completion of the *construction activity* at the site it supports; and

      iv. *Stormwater* controls are implemented in accordance with Part II. and Part III. for *discharges* from the support activity areas.

2. The following non-*stormwater discharges* associated with *construction activity* are authorized under this permit:

   a. Non-*stormwater discharges* listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "*Discharges* from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; and

   b. Non-*stormwater discharges* of waters to which other components have not been added that are used in accordance with the *SWPPP* to control dust or irrigate vegetation in stabilized areas; and

   c. Uncontaminated *discharges* from *dewatering* operations

3. Authorized *discharges* of *stormwater* or authorized *discharges* of non-*stormwater*, commingled with a *discharge* authorized by a different SPDES permit and/or a *discharge* that does not require SPDES permit authorization, are also authorized under this permit.

## C. Prohibited *Discharges*

1. Non-*stormwater discharges* prohibited under this permit include but are not limited to:

    a. Wastewater from washout of concrete; and

    b. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and

    c. Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance; and

    d. Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

    e. Toxic or hazardous substances from a spill or other release.

## D. Electronic Notice of Intent (eNOI) Submittal

To receive authorization in accordance with Part I.D.3.b., the *owner or operator* must submit a complete eNOI in accordance with the requirements in Part I.D. The eNOI contains questions to: ensure eligibility requirements in Part I.A. have been met; obtain *owner or operator* contact information; obtain the total area to be disturbed and the existing/future *impervious areas* (rounded to the nearest tenth of an acre); confirm *Traditional Land Use Control MS4 Operator* jurisdiction over construction projects; satisfy the EPA eRule requirements; confirm that the Water Quality-Based Effluent Limitations in Part II. have been met; demonstrate consideration of the future risks due to climate change in accordance with Part III.A.2.; and confirm that the other *Stormwater Pollution Prevention Plan (SWPPP)* requirements in Part III. have been met.

1. An eNOI may be submitted for:

    a. *construction activities* that are not part of a *common plan of development or sale*; or

b. an entire *common plan of development or sale*; or

c. separate *phase(s)* of a *common plan of development or sale* if the following requirements are met:

    i. the *common plan of development or sale* meets the eligibility requirements of Part I.A.5. or 6.; and

    ii. the *phase(s)* meet(s) all other eligibility requirements of Part I.A.; and

    iii. Part III.C. Required *SWPPP* Components by Project Type is based on the *common plan of development or sale*, not the *phase(s)*; or

d. *tree clearing* that is associated with, or will support, a *renewable energy* generation, transmission, or storage project that meets Part I.A.5. and 6., if the *tree clearing*:

    i. meets all other eligibility requirements of Part I.A.; and

    ii. will occur in NYSDEC's Regions 3-9; and

    iii. is not within ¼ mile of a bat hibernaculum protected pursuant to 6 NYCRR Part 182; and

    iv. will occur between November 1st and March 31st.

2. As prerequisites for submitting an eNOI, the *owner or operator* must:

    a. prepare a *SWPPP* for Part I.D.1.a., b., c., or d. in accordance with Part III.; and

    b. based on the following criteria, upload the following signature forms signed in accordance with Part VII.J. to the eNOI prior to submission:

        i. for all eNOIs:

            1. the SWPPP Preparer Certification Form, Appendix F, signed by the *SWPPP* preparer; and

2. the Owner/Operator Certification Form, Appendix J, signed by the *owner or operator*; and

ii. if an eNOI includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that will *discharge* to the *MS4(s)*:

1. determine if the *Traditional Land Use Control MS4 Operator(s)* have review authority. A *Traditional Land Use Control MS4 Operator* does not have review authority where:

a. the *owner or operator* of the *construction activities* in Part I.D.2.b.ii. is the same entity as the *Traditional Land Use Control MS4 Operator* identified in Part I.D.2.b.ii.; or

b. there is a statute exempting the *owner or operator* from zoning review by the *Traditional Land Use Control MS4 Operator*; or

c. there is no such statute per Part I.D.2.b.ii.1.b., the *Traditional Land Use Control MS4 Operator* concludes, after public hearing, that it does not have zoning review authority in accordance with Legal Memorandum LU14 Updated January 2020 “Governmental Immunity from Zoning and Other Legislation”; and

2. if the *Traditional Land Use Control MS4 Operator(s)* have review authority, submit the *SWPPP* to the *Traditional Land Use Control MS4 Operator(s)* for review and have:

a. if outside the municipal boundaries of NYC: the MS4 SWPPP Acceptance Form, Appendix G, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.; or

b. if within the municipal boundaries of NYC: The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval Form, Appendix H, signed by the principal executive officer or ranking elected official from the Traditional Land Use Control MS4 Operator, or by a duly authorized representative of that person in accordance with Part VII.J.2.; and

3. if the *Traditional Land Use Control MS4 Operator* does not have review authority, have the MS4 No Jurisdiction Form, Appendix I, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.

3. Submitting an eNOI:

a. The *owner or operator* must submit a complete Notice of Intent electronically using a NYSDEC approved form.[2]

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

i. If an eNOI is received for a *SWPPP* that deviates from one of the technical standards but demonstrates *equivalence* in accordance with Part III.B.1.a.ii. or Part III.B.2.b.ii., if the *SWPPP* includes *construction activities* that are not within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)*, and/or if the *SWPPP* includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that do not have review authority in accordance with Part I.D.2.b.ii.1., the authorization date indicated in the LOA will be 60 business days after the eNOI submission date.

[2] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

c. If *Traditional Land Use Control MS4 Operator(s)* have review authority in accordance with Part I.D.2.b.ii.2., the *owner or operator* must, within five business days of receipt of the LOA, send an electronic copy of the LOA to the *Traditional Land Use Control MS4 Operator(s)* with review authority.

## E. General Requirements for *Owners or Operators* with Permit Coverage

1. As of the date the LOA is received, the *owner or operator* must make the eNOI, *SWPPP*, and LOA available for review and copying in accordance with the requirements in Part VII.H. When applicable, as of the date an updated LOA is received, the *owner or operator* must make the updated LOA available for review and copying in accordance with the requirements in Part VII.H.

2. The *owner or operator* must ensure compliance with all requirements of this permit and that the provisions of the *SWPPP*, including any changes made to the *SWPPP* in accordance with Part III.A.5., are properly implemented and maintained from the *commencement of construction activity* until:

   a. all areas of disturbance have achieved *final stabilization;* and

   b. the owner's or operator's coverage under this permit is terminated in accordance with Part V.A.5.a.

3. As of the date of the *commencement of construction activities* until Part I.E.2.a. and b. have been met, the *owner or operator* must maintain at the *construction site*, a copy of:

   a. all documentation necessary to demonstrate eligibility with this permit; and

   b. this permit; and

   c. the *SWPPP*; and

   d. the signed SWPPP Preparer Certification Form; and

   e. the signed MS4 SWPPP Acceptance Form or signed NYCDEP SWPPP Acceptance/Approval Form or signed MS4 No Jurisdiction Form (when applicable); and

   f. the signed Owner/Operator Certification Form; and

g. the eNOI; and

h. the LOA; and

i. the LOA transmittal to the Traditional Land Use Control MS4 Operator in accordance with Part I.D.3.c. (when applicable).

4. The *owner or operator* must maintain at the *construction site*, until Part I.E.2.a. and b. have been met, as of the date the documents become final or are received, a copy of the:

   a. responsible contractor's or subcontractor's certification statement(s) in accordance with Part III.A.7.; and

   b. inspection reports in accordance with Part IV.C.4. and 6.; and

   c. Request to Disturb Greater Than Five Acres and the Authorization Letter to Disturb Greater Than Five Acres in accordance with Part I.E.6. (when applicable); and

   d. Request to Continue Coverage and the Letter of Continued Coverage (LOCC) in accordance with Part I.F.2. and 4. (when applicable); and

   e. The updated LOA(s) in accordance with Part I.E.9. (when applicable).

5. The *owner or operator* must maintain the documents in Part I.E.3. and 4. in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection. The documents must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If electronic documents are kept on site, the *owner or operator* must maintain functional equipment on site available to an inspector during normal hours of operation such that an inspector may view the electronic documents in a format that can be read in a similar manner as a paper record and in a legally dependable format with no less evidentiary value than their paper equivalent.

6. The *owner or operator* must meet the following requirements prior to disturbing greater than five acres of soil at any one time:

   a. The *owner or operator* must submit a written Request to Disturb Greater Than Five Acres to:

i. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, if a *Traditional Land Use Control MS4 Operator* does not have review authority in accordance with Part I.D.2.b.ii.1.; or

ii. the *Traditional Land Use Control MS4 Operator*, if a *Traditional Land Use Control MS4 Operator* has review authority in accordance with Part I.D.2.b.ii.1.; or

iii. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, and each involved *Traditional Land Use Control MS4 Operator*, if the project spans multiple municipalities with more than one *Traditional Land Use Control MS4 Operator* involved with review authority in accordance with Part I.D.2.b.ii.1.

b. The written Request to Disturb Greater Than Five Acres must include:

i. The SPDES permit identification number (Permit ID); and

ii. Full technical justification demonstrating why alternative methods of construction that would result in five acres of soil disturbance or less at any one time are not feasible; and

iii. The phasing plan for the project and sequencing plans for all *phases* from the *SWPPP* in accordance with Part III.B.1.d.; and

iv. Plans with locations and details of erosion and sediment control practices such that the heightened concern for erosion when disturbing greater than five acres at one time has been addressed; and

v. Acknowledgment that "the *owner or operator* will comply with the requirements in Part IV.C.2.b."; and

vi. Acknowledgment that "the *owner or operator* will comply with the requirements in Part II.B.1.b."

c. The *owner or operator* must be in receipt of an Authorization Letter to Disturb Greater Than Five Acres, which will include when the

authorization begins and ends and indicate a maximum area (acres) of soil disturbance allowed at any one time, from:

i. NYSDEC, if Part I.E.6.a.i. or iii. apply; or

ii. the *Traditional Land Use Control MS4 Operator*, if Part I.E.6.a.ii. applies.

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

8. If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE).[3] *Construction activity* shall not resume until written permission to do so has been received from the RWE.

9. To be authorized to implement modifications to the information previously submitted in the eNOI, the *owner or operator* must:

   a. notify NYSDEC via email at Stormwater_info@dec.ny.gov requesting access to update the eNOI; and

   b. update the eNOI to reflect the modifications and resubmit the eNOI in accordance with Part I.D.; and

   c. receive an updated LOA.

10. The eNOI, *SWPPP*, LOA, updated LOAs (when applicable), and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

[3] The Regional Water Manager where a DEC Region does not have a RWE.

## F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001

When applicable:

1. Upon the effective date of this permit, an *owner or operator* of *a construction activity*, with coverage under GP-0-20-001, will have interim coverage under GP-0-25-001 for 45 calendar days starting on the effective date of GP-0-25-001 so long as the *owner or operator* maintains compliance with all applicable requirements of this permit.

2. Within 30 calendar days of the effective date of this permit, the *owner or operator*, with coverage under GP-0-20-001, must submit a complete Request to Continue Coverage electronically using a NYSDEC approved form,[4] which contains the information identified in Part I.F.3. below, if:

   a. the *owner or operator* continues to implement the SMP component in conformance with the technical standards in place at the time of initial project authorization; and

   b. the *owner or operator* will comply with all non-design requirements of GP-0-25-001.

3. The Request to Continue Coverage form contains questions to: ensure eligibility requirements in Part I.A. have been met; verify *owner or operator* contact information; verify the permit identification number; verify the original eNOI submission ID, if applicable; verify Part I.F.2.a. and b.; verify the version of the Design Manual that the technical/design components conform to; and receive an updated Owner/Operator Certification Form, Appendix I.

4. The *owner or operator* has obtained continued coverage under GP-0-25-001 as of the date indicated in the LOCC, which is sent by NYSDEC after a complete Request to Continue Coverage form is submitted.

5. If the owner or operator does not submit the Request to Continue Coverage form in accordance with Part I.F.2. and 3., coverage under this permit is automatically terminated after interim coverage expires.

[4] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

## G. Change of *Owner or Operator*

When applicable:

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

    a. The new *owner or operator* must meet the applicable prerequisites for submitting an eNOI in accordance with Part I.D.2.; and

    b. The new *owner or operator* must submit an eNOI in accordance with Part I.D.3.; and

    c. Permit coverage for the new *owner or operator* will be effective upon receipt of the LOA in accordance with Part I.D.3.b.; and

    d. The new *owner or operator*, upon receipt of their LOA, must provide their Permit ID to the original *owner or operator*; and

    e. If the original *owner or operator* will no longer be the *owner or operator* of the *construction activity* identified in the original *owner's or operator's* eNOI, the original *owner or operator*, upon receipt of the new *owner's or operator's* Permit ID in accordance with Part I.G.1.d., must submit to NYSDEC a completed eNOT in accordance with Part V. that includes the name and Permit ID of the new *owner or operator*; or

    f. If the original *owner or operator* maintains ownership of a portion of the *construction activity*, the original *owner or operator* must maintain their coverage under the permit by modifying their eNOI; modifications to the eNOI must include:

        i. the revised area of disturbance and/or *impervious area(s)*; and

        ii. the revised SMP information, if applicable; and

        iii. a narrative description of what has changed; and

        iv. the new *owner's or operator's* Permit ID for the portion of the project removed from the eNOI.

    *Owners or operators* must follow Part I.E.9. to modify the eNOI.

## Part II. Water Quality-Based Effluent Limitations

### A. Maintaining Water Quality

NYSDEC expects that compliance with the requirements of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any *discharge* to either cause or contribute to a violation of the following *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York:

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

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

3. There must be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the *stormwater discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standard,* the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this permit and document in accordance with Part IV.C.4. of this permit. To address the *water quality standard* violation the *owner or operator* must include and implement appropriate controls in the *SWPPP* to correct the problem or obtain an individual SPDES permit.

If, despite compliance with the requirements of this permit, it is demonstrated that the *stormwater discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if NYSDEC determines that a modification of this permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit, and the *owner or operator* must obtain an individual SPDES permit prior to further *discharges* from the *construction site*.

### B. Effluent Limitations Applicable to *Discharges* from *Construction Activities*

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part II.B.1.a., b., c., d., and e. These limitations represent the

degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement, and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part II.B.1.a., b., c., d., and e. and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (BB), dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in *SWPPP* the reason(s) for the deviation, or alternative design, and provide information in the *SWPPP* demonstrating that the deviation or alternative design is *equivalent* to the technical standard.

    a. **Erosion and Sediment Controls.** At a minimum, erosion and sediment controls must be selected, designed, installed, implemented, and maintained to:

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

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

        iii. *Minimize* the amount of soil exposed during *construction activity*; and

        iv. *Minimize* the disturbance of *steep slope*; and

        v. *Minimize* sediment *discharge*s from the site; and

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

        vii. *Minimize* soil compaction. *Minimizing* soil compaction is not required

where the intended function of a specific area of the site dictates that it be compacted; and

viii. Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

ix. *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of *pollutants* that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has ceased, whether permanently or *temporarily ceased*, the application of soil stabilization measures must be initiated by the end of the next business day and completed within 14 calendar days from the date the current soil disturbance activity ceased. For *construction sites* that *directly discharge* to one of the 303(d) segments listed in Appendix D, or are located in one of the watersheds listed in Appendix C, or are authorized to disturb greater than five acres in accordance with Part I.E.5.a.viii., the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven calendar days from the date the soil disturbance activity ceased.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Select, design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be selected, designed, installed, implemented, and maintained to:

i. *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. Soaps, detergents and solvents cannot be used; and

ii. *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation

and to *stormwater*. *Minimization* of exposure is not required in cases where the exposure to precipitation and to *stormwater* will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of *stormwater* contamination (such as final products and materials intended for outdoor use); and

iii. Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Surface Outlets.** When discharging from basins and impoundments, the surface outlets must be designed, constructed, and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

## C. Post-Construction Stormwater Management Practice (SMP) Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction SMPs, in accordance with Part III.C., must select, design, install, implement, and maintain the SMPs to meet the *performance criteria* in the New York State Stormwater Management Design Manual, dated July 31, 2024 (DM), using sound engineering judgment. Where SMPs are not designed in conformance with the *performance criteria* in the DM, the *owner or operator* must include in the *SWPPP* the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity*, that requires SMPs in accordance with Part III.C., must design the practices to meet the applicable *sizing criteria* in Part II.C.2.a., b., c., or d.

### a. Sizing Criteria for *New Development*

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the total WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv must be calculated in accordance with the criteria in Section 4.2 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the requirements in Part II.C.2.a.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

   **In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.4 of the DM.** The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

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

   2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs without detention or velocity controls; or

   3. The site *directly discharges* into a fifth order or larger water body (stream, river, or lake), or tidal waters, where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

**b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watersheds**

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24-hour design storm over the post-developed watershed and must be calculated in accordance with the criteria in Section 4.3 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part II.C.2.b.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include

documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

**In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.5 of the DM.** The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

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

2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs; or

3. The site *directly discharges* to tidal waters, or a fifth order or larger water body (stream, river, or lake) where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

**c. *Sizing Criteria* for *Redevelopment Activity***

i. Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* must be addressed by one of the following options, as outlined in Section 9.2.1. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C) must calculate the WQv in accordance with Section 4.3 of the DM. All other *redevelopment activities* must calculate the WQv in accordance with Section 4.2 of the DM.

1. Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the DM must be applied to all newly created pervious areas; or

2. Capture and treat 100% of the required WQv, for a minimum of 25% of the disturbed redevelopment *impervious area*, by implementation of standard SMPs or reduced by application of runoff reduction techniques; or

3. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a volume-based alternative SMP, as defined in Section 9.4 of the DM; or

4. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a flow-through alternative SMP sized to treat the peak rate of runoff from the WQv design storm; or

5. Application of a combination of 1 through 4 above that provide a weighted average of at least two of the above methods. Application of this method must be in accordance with the criteria in Section 9.2.1(A)(V) of the DM; or

6. If there is an existing SMP located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 through 5 above.

ii. Channel Protection Volume (CPv) is not required if there is 0% change to hydrology that increases the *discharge* rate and volume from the project site.

iii. *Overbank* Flood Control (Qp) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

iv. Extreme Flood Control (Qf) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

**d. *Sizing Criteria* for Combination of *Redevelopment Activity* and *New Development***

Construction projects, that include both *new development* and *redevelopment activity*, must use SMPs that meet the *sizing criteria* calculated as an aggregate of the *sizing criteria* in Part II.C.2.a. or b. for the *new development* portion of the project and Part II.C.2.c. for the *redevelopment activity* portion of the project.

## Part III. Stormwater Pollution Prevention Plan (SWPPP)

### A. General *SWPPP* Requirements

1. A *SWPPP* must be prepared and implemented by the *owner or operator* of all *construction activity* covered by this permit. All authorized *discharges* must be identified in the *SWPPP*. The *SWPPP* must document the selection, design, installation, implementation and maintenance of the control measures and

practices that will be used to meet the effluent limitations in Part II.B. and, where applicable, the SMP requirements in Part II.C.

2. The *SWPPP* must demonstrate consideration in narrative format of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance.

    a. The owner or operator must consider:

        i. the following physical risks due to climate change:

            (i) increasing temperature; and

            (ii) increasing precipitation; and

            (iii) increasing variability in precipitation, including chance of drought; and

            (iv) increasing frequency and severity of flooding; and

            (v) rising sea level; and

            (vi) increasing storm surge; and

            (vii) shifting ecology.

        ii. for each of the following:

            (i) overall site planning; and

            (ii) location, elevation, and sizing of:

                a. control measures and practices; and

                b. conveyance system(s); and

                c. detention system(s).

3. The *SWPPP* must describe the erosion and sediment control practices and where required, SMPs that will be used and/or constructed to reduce the *pollutants* in *stormwater discharges* and to assure compliance with the

requirements of this permit. In addition, the *SWPPP* must identify potential sources of pollution which may reasonably be expected to affect the quality of *stormwater discharges*.

4. All *SWPPPs*, that require the SMP component in accordance with Part III.B.2., must be prepared by a *qualified professional*.

5. The *owner or operator* must keep the *SWPPP* current so that, at all times, it accurately documents the erosion and sediment control practices that are being used or will be used during construction, and all SMPs that will be constructed on the site. At a minimum, the *owner or operator* must modify the *SWPPP*, including construction drawings:

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

   b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*; and

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

   d. to document the final construction conditions in an as-built drawing.

6. NYSDEC may notify the *owner or operator* at any time that the *SWPPP* does not meet one or more of the minimum requirements of this permit. The notification must be in writing and identify the provisions of the *SWPPP* that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by NYSDEC, the *owner or operator* must make the required changes to the *SWPPP* and submit written notification to NYSDEC that the changes have been made. If the *owner or operator* does not respond to NYSDEC's comments in the specified time frame, NYSDEC may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4.

7. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting, and maintaining the erosion and sediment control practices included in the *SWPPP* and the

contractor(s) and subcontractor(s) that will be responsible for constructing the SMPs included in the *SWPPP*. The *owner or operator* must have each of the contractors and subcontractors identify at least one person from their company to be *trained contractor* that will be responsible for implementation of the *SWPPP*. The *owner or operator* must ensure that at least one *trained contractor* is on site daily when soil disturbance activities are being performed.

The *owner or operator* must have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before the *commencement of construction activities*:

> "I hereby certify under penalty of law that I understand and agree to comply with the requirements of the *SWPPP* and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the requirements of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) Construction General Permit (CGP) for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the *SWPPP* that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for *SWPPP* implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* must attach the certification statement(s) to the copy of the *SWPPP* that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the *SWPPP* after the *commencement of construction activities*, they must also sign the certification statement and provide the information listed above prior to performing *construction activities*.

## B. Required *SWPPP* Contents

1. Erosion and sediment control component - The *owner or operator* must prepare a *SWPPP* that includes erosion and sediment control practices.

    a. Erosion and sediment control practices must be designed:

        i. in conformance with the BB; or

        ii. *equivalent* to the BB if deviating from Part III.B.1.a.i.

    b. If the erosion and sediment control practices are designed in conformance with Part III.B.1.a.ii., the *SWPPP* must include a demonstration of *equivalence* to the BB.

    c. At a minimum, the erosion and sediment control component of the *SWPPP* must include the following:

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

        ii. A site map/construction drawing(s) with north arrows for the project, including a general location map. At a minimum, the site map must show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the *stormwater discharge*(s) and receiving surface water(s); and

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

        iv. A phasing plan for the project and sequencing plans for all *phases*, both of which must address clearing and grubbing, excavation and grading, utility and infrastructure installation, *final stabilization*,

and any other *construction activity* at the site that will result in soil disturbance.

1. The phasing plan must include:

    a. a map delineating and labeling the limits of soil disturbance for all *phases* of a project; and

    b. a table identifying the order and intended schedule of when each *phase* will begin and end its sequencing plan. The table must identify the total disturbed area for each *phase* at any one time and the total disturbed area for the overall project at any one time all on one timeline showing all overlapping quantities of disturbed area at any one time; and

2. A sequencing plan for a specific *phase* must include:

    a. a table indicating the order and intended schedule of *construction activities* within a *phase*, and corresponding construction drawings with a description of the work to be performed; and

    b. all permanent and *temporary stabilization* measures; and

v. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented; and

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

vii. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any

temporary sediment basins and structural practices that will be used to divert flows from exposed soils; and

viii. A maintenance inspection schedule for the contractor(s) and subcontractor(s) identified in Part III.A.7. to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule must be in accordance with the requirements in the BB technical standard; and

ix. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the *stormwater discharges*; and

x. A description and location of any *stormwater discharges* associated with industrial activity other than construction at the site, including, but not limited to, *stormwater discharges* from asphalt plants and concrete plants located on the *construction site*; and

xi. Identification of any elements of the design that are not in conformance with the design criteria in the BB technical standard. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. SMP component – The *owner or operator* of *construction activity* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs.

   a. SMPs must be designed in conformance with the applicable *sizing criteria* in Part II.C.2.a., c., or d.; and

   b. SMPs must be designed in conformance with the *performance criteria*:

      i. in the DM; or

      ii. *equivalent* to the DM if deviating from Part III.B.2.b.i.; or

      iii. in the New York State Stormwater Management Design Manual, dated January 2015 (2015 Design Manual), or *equivalent* to it, if the following criteria are met:

1. The eNOI is submitted in accordance with Part I.D. before January 29, 2027 for *construction activities* that are either:

    a. subject to governmental review and approval:

        i. where the *owner or operator* made any application to that governmental entity prior to the effective date of this permit; and

        ii. such application included a *SWPPP* developed using the 2015 Design Manual or *equivalent* to it; or

    b. not subject to governmental review and approval:

        i. where a fiscal allocation for the *construction activities* has been developed and approved by a governmental entity; and

        ii. the *SWPPP* was developed using the 2015 Design Manual or *equivalent* to it; and

c. If SMPs are designed in conformance with Part III.B.2.b.ii., the *SWPPP* must include the reason(s) for the deviation or alternative design and a demonstration of *equivalence* to the DM; and

d. If SMPs are designed in conformance with Part III.B.2.b.iii., the *SWPPP* must include supporting information or documentation demonstrating that Part III.B.2.b.iii.1.a. or b. apply; and

e. The SMP component of the *SWPPP* must include the following:

    i. Identification of all SMPs to be constructed as part of the project, including which option the SMP designs conform to, either Part III.B.2.b.i., ii., or iii. Include the dimensions, material specifications and installation details for each SMP; and

    ii. A site map/construction drawing(s) showing the specific location and size of each SMP; and

iii. A Stormwater Modeling and Analysis Report that includes:

(i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points; and

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

(iii) Results of *stormwater* modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre- and post-development runoff rates and volumes for the different storm events; and

(iv) Summary table, with supporting calculations, which demonstrates that each SMP has been designed in conformance with the *sizing criteria* included in the DM; and

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

(vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the DM. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the DM.

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

v. Infiltration test results, when required in accordance with Part III.B.2.a.; and

vi. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each SMP. The plan must identify the entity

that will be responsible for the long-term operation and maintenance of each practice; and

3. Enhanced Phosphorus Removal Standards - The *owner or operator* of *construction activity* identified in Table 2 of Appendix B that is located in a watershed identified in Appendix C must prepare a *SWPPP* that includes SMPs designed in conformance with the applicable *sizing criteria* in Part II.C.2.b., c., or d. and the *performance criteria* Enhanced Phosphorus Removal Standards included in the DM. At a minimum, the SMP component of the *SWPPP* must meet the requirements of Part III.B.2.

### C. Required *SWPPP* Components by Project Type

*Owners or operators* of *construction activities*, identified in Table 1 of Appendix B, are required to prepare a *SWPPP* that only includes erosion and sediment control practices designed in accordance with Part III.B.1. *Owners or operators* of the *construction activities*, identified in Table 2 of Appendix B, must prepare a *SWPPP* that also includes SMPs designed in accordance with Part III.B.2 or 3.

For the entire area of disturbance, including the entire *common plan of development or sale* if applicable, the owner or operator must evaluate every bullet from Appendix B Table 1 and Table 2 separately. If bullets from both Table 1 and Table 2 apply, the *SWPPP* must include erosion and sediment control practices for all *construction activities* but SMPs for only those portions of the *construction activities* that fall under Table 2 bullet(s).

## Part IV. Inspection and Maintenance Requirements

### A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures), and all SMPs identified in the *SWPPP*, are inspected and maintained in accordance with Part IV.B. and C.

### B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity*, identified in Tables 1 and 2 of Appendix B, must have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being

implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor must:

a. if the corrective action does not require engineering design:

    i. begin implementing corrective actions within one business day; and

    ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

    i. begin the engineering design process within five business days; and

    ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

2. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. The *trained contractor* must begin conducting the maintenance inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.

3. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational.

**C. *Qualified Inspector* Inspection Requirements**

1. With the exception of the following *construction activities* identified in Tables 1 and 2 of Appendix B, a *qualified inspector* must conduct site inspections for all other *construction activities* identified in Tables 1 and 2 of Appendix B:

    a. the construction of a single-family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than or equal to five (5) acres and is

not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

b. the construction of a single-family home that involves soil disturbances of one (1) or more acres but less than or equal to five (5) acres and is not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

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

d. *construction activities* located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances of 5,000 square feet or more, but less than one acre.

2. The *qualified inspector* must conduct site inspections in accordance with the following timetable:

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

   b. For *construction sites* where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part I.E.6. to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days; or

   c. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* must conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas under the jurisdiction of a *Traditional Land Use Control MS4 Operator,* the *Traditional Land Use Control MS4 Operator* (provided the *Traditional Land Use Control MS4 Operator* is not the *owner or operator* of the *construction activity*) by hard copy or email prior to reducing the inspections to this frequency and again by hard copy or email prior to re-commencing construction; or

d. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the requirement to have the *qualified inspector* conduct inspections ceases if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1., the *Traditional Land Use Control MS4 Operator(s)* (provided the *Traditional Land Use Control MS4 Operator(s)* are not the *owners or operators* of the *construction activity*) in writing prior to the shutdown and again in writing prior to resuming *construction activity*. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* must terminate coverage by meeting the requirements of Part V; or

e. For *construction sites* involving soil disturbance of one (1) or more acres that *directly discharge* to one of the 303(d) segments listed in Appendix D or is located in one of the watersheds listed in Appendix C, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* must inspect:

   a. all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness; and

   b. all SMPs under construction to ensure that they are constructed in conformance with the *SWPPP*; and

   c. all areas of disturbance that have not achieved *final stabilization*; and

   d. all points of *discharge* to *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site*; and

   e. all points of *discharge* from the *construction site*.

4. The *qualified inspector* must prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report must include and/or address all of the following, for all *construction activities* except those listed in Part IV.C.1.:

   a. Permit identification number; and

   b. Date and time of inspection; and

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

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

   e. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This must include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow; and

   f. A description of the condition of all *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This must include identification of any *discharges* of sediment to the *surface waters of the State*; and

   g. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance; and

   h. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced; and

   i. Description and sketch (map) of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection; and

   j. Estimates, in square feet or acres, of the following areas:

i. Total area with active soil disturbance (not requiring either *temporary stabilization* or *final stabilization*); and

ii. Total area with inactive soil disturbance (requiring either *temporary stabilization* or *final stabilization*); and

iii. Total area that has achieved *temporary stabilization*; and

iv. Total area that has achieved *final stabilization*; and

k. Current stage of construction of all SMPs and identification of all *construction activity* on site that is not in conformance with the *SWPPP* and technical standards; and

l. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the SMP(s); and

m. Identification and status of all corrective actions that were required by previous inspection; and

n. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* must attach color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* must also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* must attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* must notify the *owner or operator*, and appropriate contractor or subcontractor identified in Part III.A.7., of any corrective actions that need to be taken. The contractor or subcontractor must:

a. if the corrective action does not require engineering design:

i. begin implementing corrective actions within one business day; and

ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

i. begin the engineering design process within five business days; and

ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

6. All inspection reports must be signed by the *qualified inspector.* In accordance with Part I.E.3., the inspection reports must be maintained on site with the *SWPPP*.

## Part V. How to Terminate CGP Coverage

### A. Electronic Notice of Termination (eNOT) Submittal

The eNOT contains questions to ensure requirements in Part V.A. have been met.

1. An *owner or operator* must terminate coverage when one or more of the following requirements have been met:

a. Total project completion:

i. all *construction activity* identified in the *SWPPP* has been completed; and

ii. all areas of disturbance have achieved *final stabilization*; and

iii. all temporary, structural erosion and sediment control measures have been removed; and

iv. all SMPs have been constructed in conformance with the *SWPPP* and are operational; and

v. an as-built drawing has been prepared; or

b. Planned shutdown with partial project completion:

   i. all soil disturbance activities have ceased; and

   ii. all areas disturbed as of the project shutdown date have achieved *final stabilization*; and

   iii. all temporary, structural erosion and sediment control measures have been removed; and

   iv. all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational; and

   v. an as-built drawing has been prepared; or

c. In accordance with Part I.G. Change of Owner or Operator; or

d. The *owner or operator* has obtained coverage under an alternative general SPDES permit or an individual SPDES permit.

2. For *construction activities* that require *qualified inspector* inspections in accordance with Part IV.C.1. and have met Part V.A.1.a. or b., the *owner or operator* must have the *qualified inspector* perform a final site inspection prior to submitting the eNOT. The *qualified inspector* must, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice(s)" certification statements on the eNOT, certify that all the requirements in Part V.A.1.a. or b. have been achieved.

3. For *construction activities* that are subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1. and meet Part V.A.1.a. or b., the *owner or operator* must have the *Traditional Land Use Control MS4 Operator(s)* sign the "MS4 Acceptance" statement on the eNOT in accordance with the requirements in Part VII.J. A *Traditional Land Use Control MS4 Operator* official, by signing this statement, determined that it is acceptable for the *owner or operator* to submit the eNOT in accordance with the requirements of this Part. A *Traditional Land Use Control MS4 Operator* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) when required in Part V.A.2.

4. For *construction activities* that require SMPs and meet Part V.A.1.a. or b., the *owner or operator* must, prior to submitting the eNOT, ensure one of the following:

    a. for SMP(s) that were constructed by a private entity, but will be owned, operated, and maintained by a public entity, the SMP(s) and any right-of-way(s) needed to operate and maintain such practice(s) have been deeded to the municipality in which the practice(s) is located; or

    b. for SMP(s) that are privately owned, but will be operated and maintained by a public entity, an executed operation and maintenance agreement is in place with the municipality that will operate and maintain the SMP(s); or

    c. for SMP(s) that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record; or

    d. for SMP(s) that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility, the *owner or operator* has policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

5. An *owner or operator* that has met the requirements of Part V.A.1., 2., 3., and 4. must request termination of coverage under this permit by submitting a complete Notice of Termination form electronically using a NYSDEC approved form.[5]

    a. The owner's or operator's coverage is terminated as of the termination date indicated in the Letter of Termination (LOT), which is sent by NYSDEC after a complete eNOT is submitted.

[5] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

## Part VI. Record Retention and Reporting

### A. Record Retention

The *owner or operator* must retain a copy of the documents listed in Part I.E.3. and a copy of the LOT for a period of at least five years from the date that NYSDEC accepts a complete NOT submitted in accordance with Part V.

### B. Reporting

Except for the eNOI, the signature forms associated with the eNOI, and the eNOT, all other written correspondence requested by NYSDEC, including individual permit applications, must be sent to the address of the appropriate DOW (SPDES) Program contact at the Regional Office listed in Appendix E.

## Part VII. Standard Permit Requirements

For the purposes of this permit, examples of contractors and subcontractors include: third-party maintenance and construction contractors.

### A. Duty to Comply

The *owner or operator*, and all contractors or subcontractors, must comply with all requirements of this permit. Any non-compliance with the requirements of this permit constitutes a violation of the New York State Environmental Conservation Law (ECL), and its implementing regulations, and is grounds for enforcement action. Filing of a request for termination of coverage under this permit, or a notification of planned changes or anticipated non-compliance, does not limit, diminish or stay compliance with any requirements of this permit.

### B. Need to Halt or Reduce Activity Not a Defense

The necessity to halt or reduce the *construction activity* regulated by this permit, in order to maintain compliance with the requirements of this permit, must not be a defense in an enforcement action.

### C. Penalties

There are substantial criminal, civil, and administrative penalties associated with violating the requirements of this permit. Fines of up to $37,500 per day for each

violation and imprisonment for up to 15 years may be assessed depending upon the nature and degree of the offense.

### D. False Statements

Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance must, upon conviction, be punished in accordance with ECL §71-1933 and or New York State Penal Law Articles 175 and 210.

### E. Re-Opener Clause

Upon issuance of this permit, a determination has been made on the basis of a submitted Notice of Intent, plans, or other available information, that compliance with the specified permit requirements will reasonably protect classified water use and assure compliance with applicable *water quality standards*. Satisfaction of the requirements of this permit notwithstanding, if operation pursuant to this permit causes or contributes to a condition in contravention of State *water quality standards* or guidance values, or if NYSDEC determines that a modification is necessary to prevent impairment of the best use of the waters or to assure maintenance of *water quality standards* or compliance with other provisions of ECL Article 17 or the Clean Water Act (CWA), or any regulations adopted pursuant thereto, NYSDEC may require such modification and the Commissioner may require abatement action to be taken by the *owner or operator* and may also prohibit such operation until the modification has been implemented.

### F. Duty to Mitigate

The *owner or operator*, and its contractors and subcontractors, must take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

### G. Requiring Another General Permit or Individual SPDES Permit

NYSDEC may require any *owner or operator* authorized to *discharge* in accordance with this permit to apply for and obtain an individual SPDES permit or apply for authorization to *discharge* in accordance with another general SPDES permit.

1. Cases where an individual SPDES permit or authorization to discharge in accordance with another general SPDES permit may be required include, but is not limited to the following:

a. the *owner or operator* is not in compliance with the conditions of this permit or does not meet the requirements for coverage under this permit; and

b. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of *pollutants* applicable to the *point source*; and

c. new effluent limitation guidelines or new source performance standards are promulgated that are applicable to *point sources* authorized to *discharge* in accordance with this permit; and

d. existing effluent limitation guidelines or new source performance standards that are applicable to *point sources* authorized to *discharge* in accordance with this permit are modified; and

e. a water quality management plan containing requirements applicable to such *point sources* is approved by NYSDEC; and

f. circumstances have changed since the time of the request to be covered so that the *owner or operator* is no longer appropriately controlled under this permit, or either a temporary or permanent reduction or elimination of the authorized *discharge* is necessary; and

g. the *discharge* is in violation of section 17-0501 of the ECL; and

h. the *discharge(s)* is a significant contributor of *pollutants*. In making this determination, NYSDEC may consider the following factors:

   i. the location of the *discharge(s)* with respect to *surface waters of the State*; and

   ii. the size of the *discharge(s)*; and

   iii. the quantity and nature of the *pollutants discharged* to *surface waters of the State*; and

   iv. other relevant factors including compliance with other provisions of ECL Article 17, or the CWA.

2. When NYSDEC requires any *owner or operator* authorized by this permit to apply for an individual SPDES permit as provided for in this subdivision, it must notify the *owner or operator* in writing that a permit application is required. This notice must include a brief statement of the reasons for this decision, an application

form, a statement setting a time for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from the *owner's or operator's* receipt of the notification letter, whereby the authorization to *discharge* under this permit must be terminated. NYSDEC may grant additional time upon demonstration, to the satisfaction of the RWE,[6] that additional time to apply for an alternative authorization is necessary or where NYSDEC has not provided a permit determination in accordance with 6 NYCRR Part 621.

3. When an individual SPDES permit is issued to an *owner or operator* authorized to *discharge* under this permit for the same *discharge(s)*, this permit authorization for *construction activities* authorized under the individual SPDES permit is automatically terminated on the effective date of the individual SPDES permit unless termination is earlier in accordance with 6 NYCRR Part 750.

## H. Duty to Provide Information

The *owner or operator* must furnish to NYSDEC, within five business days, unless otherwise set forth by NYSDEC, any information that NYSDEC may request to determine whether cause exists to determine compliance with this permit or to determine whether cause exists for requiring an individual SPDES permit in accordance with 6 NYCRR 750-1.21(e) (see Part VII.G. Requiring Another General Permit or Individual Permit).

The *owner or operator* must make available to NYSDEC, for inspection and copying, or furnish to NYSDEC within 25 business days of receipt of a NYSDEC request for such information, any information retained in accordance with this permit.

Except for Part I.D.4. and 5. and Part I.G., the following applies: where the *owner or operator* becomes aware that it failed to submit any relevant facts on the Notice of Intent, or submitted incorrect information in a Notice of Intent or in any report to NYSDEC, the *owner or operator* must submit such facts or corrected information to NYSDEC within five business days.

## I. Extension

In the event a new permit is not issued and effective prior to the expiration of this permit, and this permit is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, then the *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the requirements of this permit until a new permit is issued and effective.

[6] The Regional Water Manager where a DEC Region does not have a RWE.

## J. Signatories and Certification

The Notice of Intent, Notice of Termination, and reports required by this permit must be signed as provided in 40 CFR §122.22.

1. All Notices of Intent and Notices of Termination must be signed as follows:

    a. For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

        (ii) the manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for Notice of Intent or Notice of Termination requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        Note: NYSDEC does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR §122.22(a)(1)(i). NYSDEC will presume that these responsible corporate officers have the requisite authority to sign the Notice of Intent or Notice of Termination unless the corporation has notified NYSDEC to the contrary. Corporate procedures governing authority to sign a Notice of Intent or Notice of Termination may provide for assignment or delegation to applicable corporate positions under 40 CFR §122.22(a)(1)(ii) rather than to specific individuals.

    b. For a partnership or sole proprietorship. By a general partner or the proprietor, respectively.

c. For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

    1. the chief executive officer of the agency; or

    2. a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. All reports required by this permit, and other information requested by NYSDEC, must be signed by a person described in Part VII.J.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

    a. The authorization is made in writing by a person described in Part VII.J.1. or using the Duly Authorized Form, found on the DEC website; and

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

    c. The written authorization is submitted to NYSDEC.

3. Changes to authorization. If an authorization under Part VII.J.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the *construction activity*, a new authorization satisfying the requirements of Part VII.J.2. must be submitted to NYSDEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under Part VII.J.1. or 2. must make the following certification:

    *I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who*

*manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

5. Electronic reporting. If documents described in Part VII.J.1. or 2. are submitted electronically by or on behalf of the *construction activity* with coverage under this permit, any person providing the electronic signature for such documents must meet all relevant requirements of this section, and must ensure that all of the relevant requirements of 40 CFR Part 3 (including, in all cases, subpart D to Part 3) (Cross-Media Electronic Reporting) and 40 CFR Part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

## K. Inspection and Entry

The *owner or operator* must allow NYSDEC, the USEPA Regional Administrator, the applicable county health department, or any authorized representatives of those entities, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the *discharge*, upon the presentation of credentials and other documents as may be required by law, to:

1. enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the requirements of this permit; and

2. have access to and copy at reasonable times, any records that must be kept under the requirements of this permit, including records required to be maintained for purposes of operation and maintenance; and

3. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

4. sample or monitor at reasonable times, for the purposes of assuring general SPDES permit compliance or as otherwise authorized by the CWA or ECL, any substances or parameters at any location; and

5. enter upon the property of any contributor to the regulated facility or activity under authority of the *owner or operator*.

## L. Confidentiality of Information

The following must not be held confidential: this permit, the fact sheet for this permit, the name and address of any *owner or operator*, effluent data, the Notice of Intent, and information regarding the need to obtain an individual permit or an alternative general SPDES permit. This includes information submitted on forms themselves and any attachments used to supply information required by the forms (except information submitted on usage of substances). Upon the request of the *owner or operator*, NYSDEC must make determinations of confidentiality in accordance with 6 NYCRR Part 616, except as set forth in the previous sentence. Any information accorded confidential status must be disclosed to the Regional Administrator upon his or her written request. Prior to disclosing such information to the Regional Administrator, NYSDEC will notify the Regional Administrator of the confidential status of such information.

## M. Other Permits May Be Required

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

## N. NYSDEC Orders or Civil Decrees/Judgments

The issuance of this permit by the NYSDEC, and the coverage under this permit by the *owner or operator*, does not supersede, revoke, or rescind any existing order on consent or civil Decree/Judgment, or modification to any such documents or to any order issued by the Commissioner, or any of the terms, conditions, or requirements contained in such order or modification therefore, unless expressly noted.

## O. Property Rights

Coverage under this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the *discharge* authorized.

## P. Compliance with Interstate Standards

If the *construction activity* covered by this permit originates within the jurisdiction of an interstate water pollution control agency, then the *construction activity* must also comply with any applicable effluent standards or *water quality standards* promulgated by that interstate agency and as set forth in this permit for such *construction activities*.

## Q. Oil and Hazardous Substance Liability

Coverage under this permit does not affect the imposition of responsibilities upon, or the institution of any legal action against, the *owner or operator* under section 311 of the CWA, which must be in conformance with regulations promulgated pursuant to section 311 governing the applicability of section 311 of the CWA to *discharges* from facilities with *NPDES* permits, nor must such issuance preclude the institution of any legal action or relieve the *owner or operator* from any responsibilities, liabilities, or penalties to which the *owner or operator* is or may be subject pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. section 9601 et seq. (CERCLA).

## R. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, must not be affected thereby.

## S. NYSDEC Approved Forms

The *owner or operator* must provide all relevant information that is requested by NYSDEC, and required by this permit, on all NYSDEC approved forms.

## APPENDIX A – Abbreviations and Definitions

### Abbreviations

APO – Agency Preservation Officer
BB – New York State Standards and Specifications for Erosion and Sediment Control (Blue Book), dated November 2016
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
CPv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DM – New York State Stormwater Management Design Manual (Design Manual), dated July 31, 2024
DOW – Division of Water
EAF – Environmental Assessment Form
ECL – chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law
EPA – U.S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NYC – The City of New York
NYCDEP – The City of New York Department of Environmental Protection
NYSDEC – The New York State Department of Environmental Conservation
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RR – Runoff Reduction
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SMP – Post-Construction Stormwater Management Practice
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

**Definitions**

All definitions in this section are solely for the purposes of this permit. If a word is not italicized in the permit, use its common definition.

**Agricultural Building** – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

**Agricultural Property** – the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023).

**Alter Hydrology from Pre- to Post-Development Conditions** – the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

**Combined Sewer System** – a sewer system which conveys sewage and *stormwater* through a single pipe system to a publicly owned treatment works.

**Commence (Commencement of) Construction Activities** – the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the *SWPPP*. See definition for "*Construction Activity(ies)*" also.

**Common Plan of Development or Sale** – a contiguous area where multiple separate and distinct *construction activities* are occurring, or may occur, under one plan. The "common plan" of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQR) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating *construction activities* may occur on a specific plot. A *common plan of development or sale* is comprised of two or more *phases*.

*Common plan of development or sale* does not include separate and distinct *construction activities* that are occurring, or may occur, under one plan that are at least 1/4 mile apart provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

**Construction Activity(ies)** – identified within 40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i), and 122.26(b)(15)(ii), any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, mechanized logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal.

*Construction activity* does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, which is excluded from the calculation of the soil disturbance for a project. Routine maintenance includes, but is not limited to:

- Re-grading of gravel roads or parking lots; and
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of the ditch; and
- Replacement of existing culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of a ditch; and
- Replacement of existing bridges that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity beneath the bridges; and
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch); and
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*; and
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material; and
- Long-term use of equipment storage areas at or near highway maintenance facilities; and
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*; and
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts; and
- Maintenance of ski trails including brush hog use and mowing; and
- Above ground snowmaking pipe replacement; and
- Replacement of existing utility poles; etc.

**Construction Site** – the land area where *construction activity(ies)* will occur. See also the definitions for "*Commence (Commencement of) Construction Activities"* and "*Common Plan of Development or Sale."*

**Dewatering** – the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

**Directly Discharge(s)(ing) (to a specific surface waterbody)** – runoff flows from a *construction site* by overland flow and the first point of *discharge* is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system and the first point of *discharge* from the separate storm sewer system is the specific surface waterbody.

**Discharge(s)(d)** – any addition of any *pollutant* to waters of the State through an outlet or *point source*.

**Embankment** – an earthen or rock slope that supports a road/highway.

**Equivalent (Equivalence)** – the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

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

**Historic Property** – any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

**Impervious Area (Cover)** – all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and compacted gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

**Infeasible** – not technologically possible, or not economically practicable and achievable considering best industry practices.

**Minimize(ing)(ation)** – reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

**Municipal Separate Storm Sewer System (MS4)** - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. owned or operated by a State, city, town, village, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, *stormwater*, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA, that *discharges* to *surface waters of the State*; and

2. designed or used for collecting or conveying *stormwater*; and

3. which is not a *combined sewer system*; and

4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

**Natural Buffer(s)** – an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

**New Development** – any land disturbance that does not meet the definition of *Redevelopment Activity* included in this appendix.

**New York State Erosion and Sediment Control Certificate Program** – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

**Nonpoint Source(s)** – any source of water pollution or *pollutants* which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

**Overbank** – flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

**Owner or Operator** – the person, persons, or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit requirements.

**Performance Criteria** – the six performance criteria for each group of SMPs in Chapters 5 and 6 of the technical standard, New York State Stormwater Management Design Manual (DM), dated July 31, 2024. These include feasibility, conveyance, pretreatment, treatment, landscaping, and maintenance. It does not include the *Sizing Criteria* (i.e. WQv, RRv, CPv, Qp and Qf) in Part I.C.2. of the permit.

**Phase** – a defined area in which *construction activities* are occurring or will occur separate from other defined area(s).

**Point Source** – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be *discharged*.

**Pollutant(s)** – dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast *discharged* into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq.

**Qualified Inspector** – a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder or other NYSDEC endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any SMPs that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

**Qualified Professional** – a person that is knowledgeable in the principles and practices of *stormwater* management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other NYSDEC endorsed individual(s). Individuals preparing *SWPPPs* that require the SMP component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the *SWPPP* that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

**Redevelopment Activity(ies)** – the disturbance and reconstruction of existing *impervious area*, including *impervious areas* that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

**Renewable Energy** – electricity or thermal energy generated by renewable energy systems through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.

**Site Limitations** – site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical *site limitations* include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of *site limitations* shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

**Sizing Criteria** – the criteria included in Part I.C.2 of the permit that are used to size SMPs. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

**Steep Slope** – land area designated on the current United States Department of Agriculture (USDA) Soil Survey as Soil Slope Phase D, (provided the map unit name or description is inclusive of slopes greater than 25%), or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

**Stormwater** – that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

**Streambank** – the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

**Stormwater Pollution Prevention Plan (SWPPP)** – a project specific report, including construction drawings, that among other things: describes the *construction activity(ies)*, identifies the potential sources of pollution at the *construction site*; describes and shows the *stormwater* controls that will be used to control the *pollutants* (i.e. erosion and sediment controls; for many projects, includes SMPs); and identifies procedures the *owner or operator* will implement to comply with the requirements of the permit. See Part III of the permit for a complete description of the information that must be included in the *SWPPP*.

**Surface Waters of the State** – shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

**Temporarily Ceased** – an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

**Temporary Stabilization** – exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

**Total Maximum Daily Load** (TMDL) – the sum of the allowable loads of a single *pollutant* from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a *pollutant* that a waterbody can receive and still meet *water quality standards*, and an allocation of that amount to the *pollutant's* sources. A TMDL stipulates Waste Load Allocations (WLA) for *point source discharges*, Load Allocations (LA) for *nonpoint source*s, and a margin of safety (MOS).

**Traditional Land Use Control MS4 Operator** – a city, town, or village with land use control authority that is authorized to *discharge* under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

**Trained Contractor** – an employee from the contracting (construction) company, identified in Part III.A.7., that has received four (4) hours of NYSDEC endorsed training

in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.7., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity).

The *trained contractor* is responsible for the day-to-day implementation of the *SWPPP*.

**Tree Clearing** – *construction activities* limited to felling and removal of trees.

*Tree clearing* does not include hand felling and leaving the trees in place with no support from mechanized equipment, which is not considered *construction activity* requiring coverage under this permit.

**Water Quality Standard** – such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

## APPENDIX B – Required SWPPP Components by Project Type

### Table 1
### *CONSTRUCTION ACTIVITIES* THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

**The following *construction activities* that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:**

- Single-family home not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions with 25% or less *impervious cover* at total site build-out and not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that include construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.

**The following *construction activities* that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:**

- All construction activities located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

**Within the municipal boundaries of NYC:**

- Stand-alone road reconstruction, where the total soil disturbance from only that road construction, is less than one (1) acre of land.

**The following *construction activities*:**

- Installation of underground linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation, *stormwater* retrofits, stream restoration, and resiliency projects that reconstruct shoreline areas to address sea level rise
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an *impervious cover*
- Cross-country ski trails, walking/hiking trails, and mountain biking trails, including a de minimis parking lot (maximum 10 spaces total, sized for passenger cars) with 35 feet minimum preservation of undisturbed area downgradient from the parking lot
- Dam rehabilitation (the structure of the dam itself)
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are not part of residential, commercial, or institutional development;
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path, or walking path.

## Table 1 (Continued)
## *CONSTRUCTION ACTIVITIES* THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

**The following *construction activities*:**

- Slope stabilization
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Vegetated open space (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) that do not *alter hydrology from pre- to post-development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions
- Demolition where vegetation will be established, and no *redevelopment activity* is planned[1]
- Installation or replacement of either an overhead electric transmission line or a ski lift tower that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*.
- Solar array field areas that have tables elevated off the ground, spaced one table width apart, do not *alter hydrology from pre- to post-development conditions*, and address water quality volume and runoff reduction volume by maintaining sheet flow on slopes less than 8%.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that do not include construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions.
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary *impervious areas* that will be restored to pre-construction conditions once the *construction activity* is complete (in this context, "temporary" means the *impervious area* will be in place for two years or less)
- Other *construction activities* that do not include the construction or reconstruction of *impervious area*, and do not *alter hydrology from pre- to post-development* conditions, and are not listed in Table 2.

1. If the site is redeveloped in the future, a new eNOI must be submitted.

## Table 2
## *CONSTRUCTION ACTIVITIES* THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

**The following *construction activities*:**

- Single-family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family home that disturbs five (5) or more acres of land
- Single-family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of between 20,000 square feet and one (1) acre of land within the municipal boundaries of NYC with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single-family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a *common plan of development or sale* that will ultimately disturb five (5) or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Creation of 5,000 square feet or more of *impervious area* in the municipal boundaries of NYC
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) that involves soil disturbance greater than five acres.
- Structural agricultural conservation practices as identified in Table II in the “Agricultural Best Management Practice Systems Catalogue” (dated June 2023) that involves soil disturbance greater than five acres and include the construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.
- Facility buildings, including ski lodges, restroom buildings, pumphouses, ski lift terminals, and maintenance and groomer garages
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills; including creation of landfills or capping landfills.
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTWs, water treatment plants, and water storage tanks
- Golf courses
- Office complexes

## Table 2 (Continued)

### *CONSTRUCTION ACTIVITIES* THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

**The following *construction activities*:**

- Permanent laydown yards and equipment storage lots
- Playgrounds that include the construction or reconstruction of *impervious area*
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surfaces
- Road construction or reconstruction, outside the municipal boundaries of NYC
- Road construction within the municipal boundaries of NYC
- Stand-alone road reconstruction, within the municipal boundaries of NYC where the total soil disturbance from that road reconstruction involves soil disturbance of one (1) acre or more of land
- Parking lot construction or reconstruction (as with all Table 2 bullets, this includes parking lots constructed as part of the *construction activities* listed in Table 1, unless a Table 1 bullet specifies otherwise)
- Athletic fields (natural grass) that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations, and well drilling pads, surfaced with *impervious cover,* and constructed as part of an overhead electric transmission line, wind-power, cell tower, oil or gas well drilling, sewer or water main, ski lift, or other linear utility project
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of a residential, commercial or institutional development
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of highway construction or reconstruction
- Solar array field areas on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the BB or the DM
- Solar array field areas on slopes less than 8% that will *alter the hydrology from pre- to post-development* conditions
- Solar array field areas with tables that are not elevated high enough to achieve *final stabilization* beneath the tables
- Traditional *impervious areas* associated with solar development (e.g. roads, buildings, transformers)
- Utility pads surfaced with *impervious cover*, including electric vehicle charging stations
- All other *construction activities* that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre- to post-development* conditions, and are not listed in Table 1

## APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

**Watersheds where *owners or operators* of *construction activities* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs designed in conformance with the Enhanced Phosphorus Removal Standards included in the DM technical standard.**

- Entire New York City Watershed located east of the Hudson River – Figure 1
- Onondaga Lake Watershed – Figure 2
- Greenwood Lake Watershed – Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

**Figure 1 - New York City Watershed East of the Hudson**

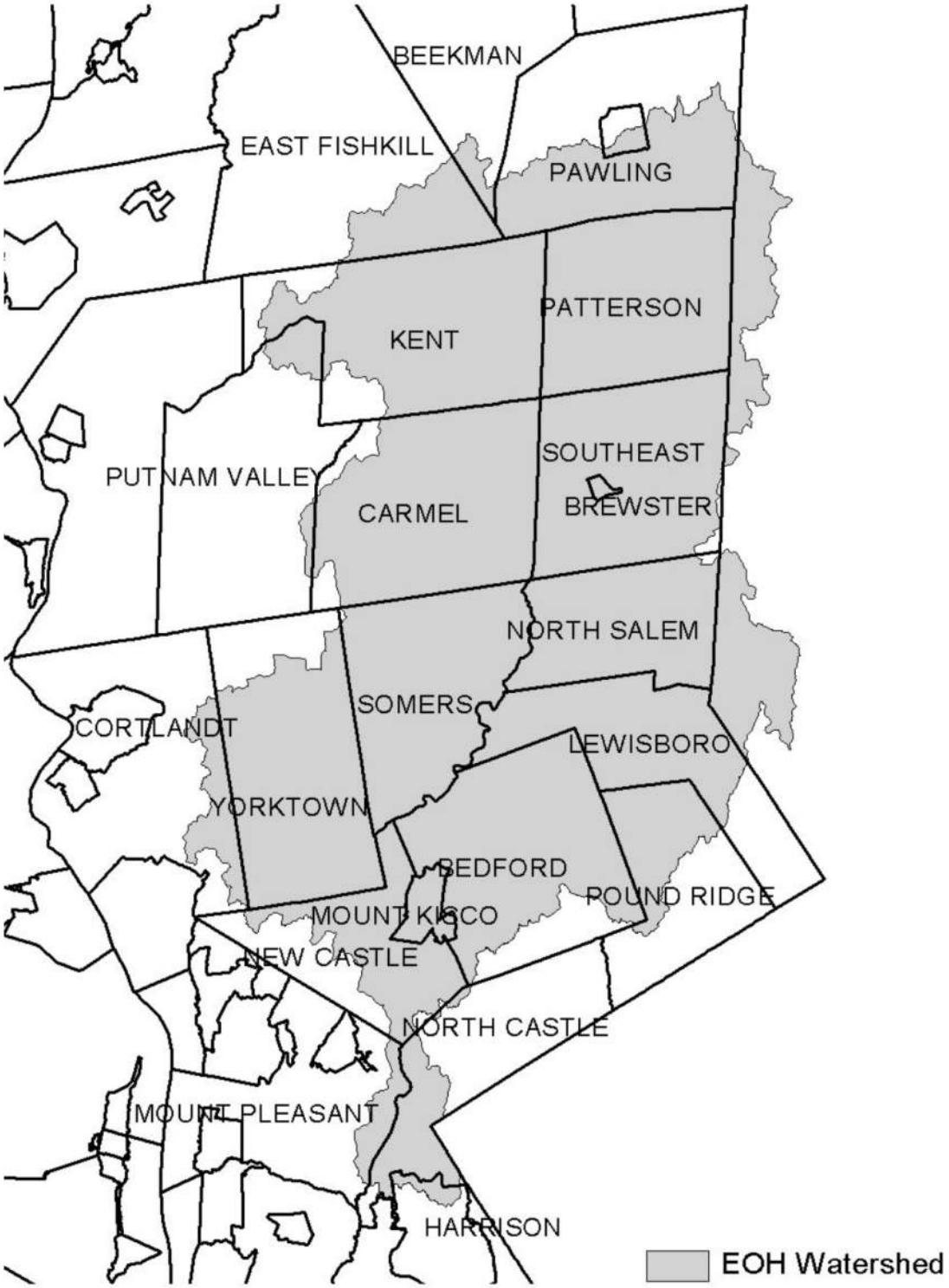


**Figure 2 - Onondaga Lake Watershed**

**Figure 3 - Greenwood Lake Watershed**

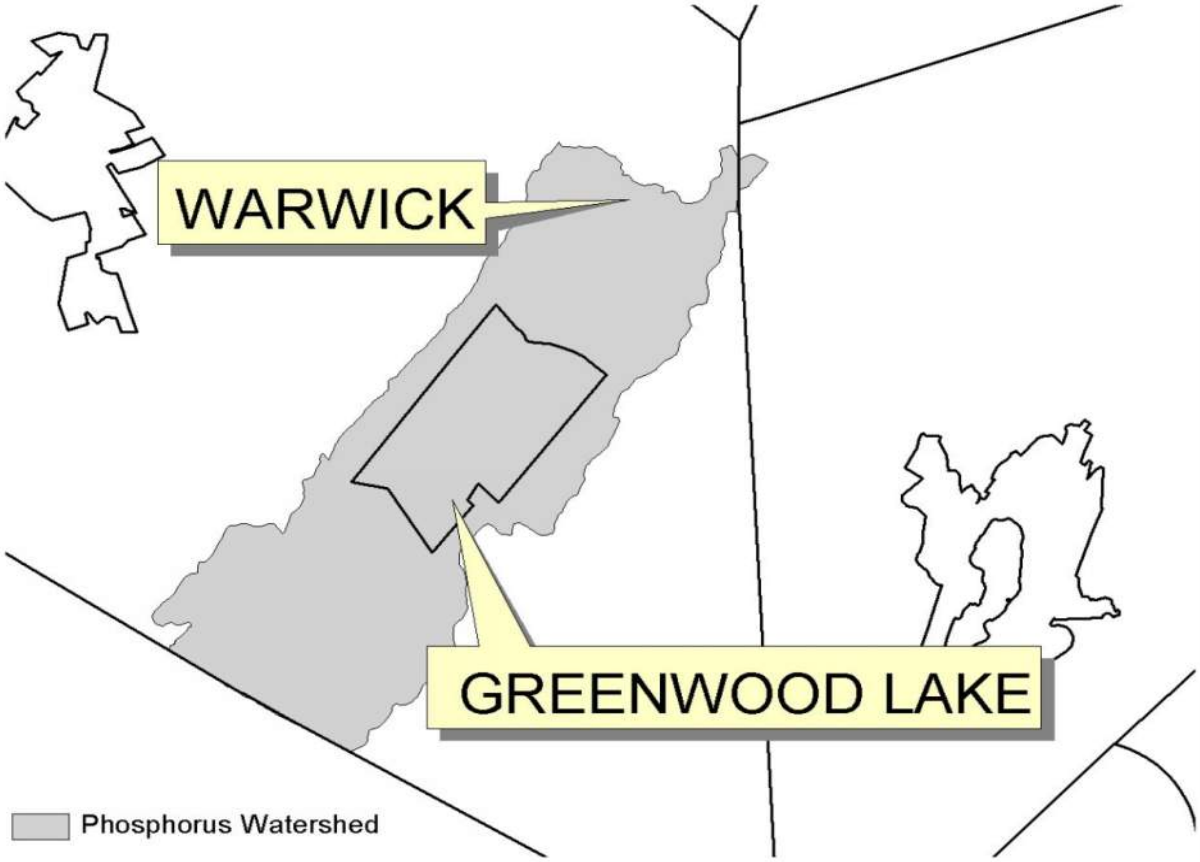


**Figure 4 - Oscawana Lake Watershed**

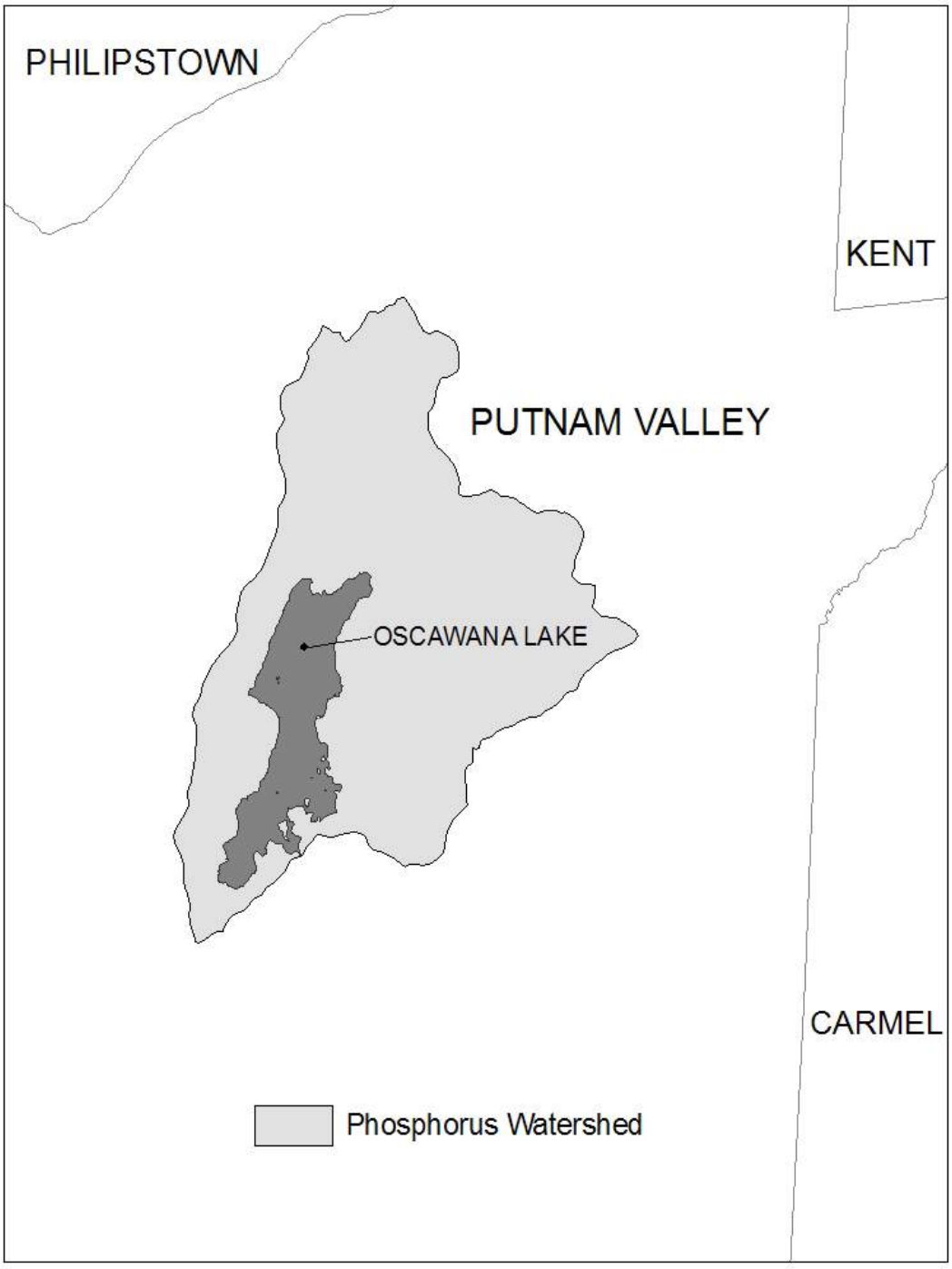
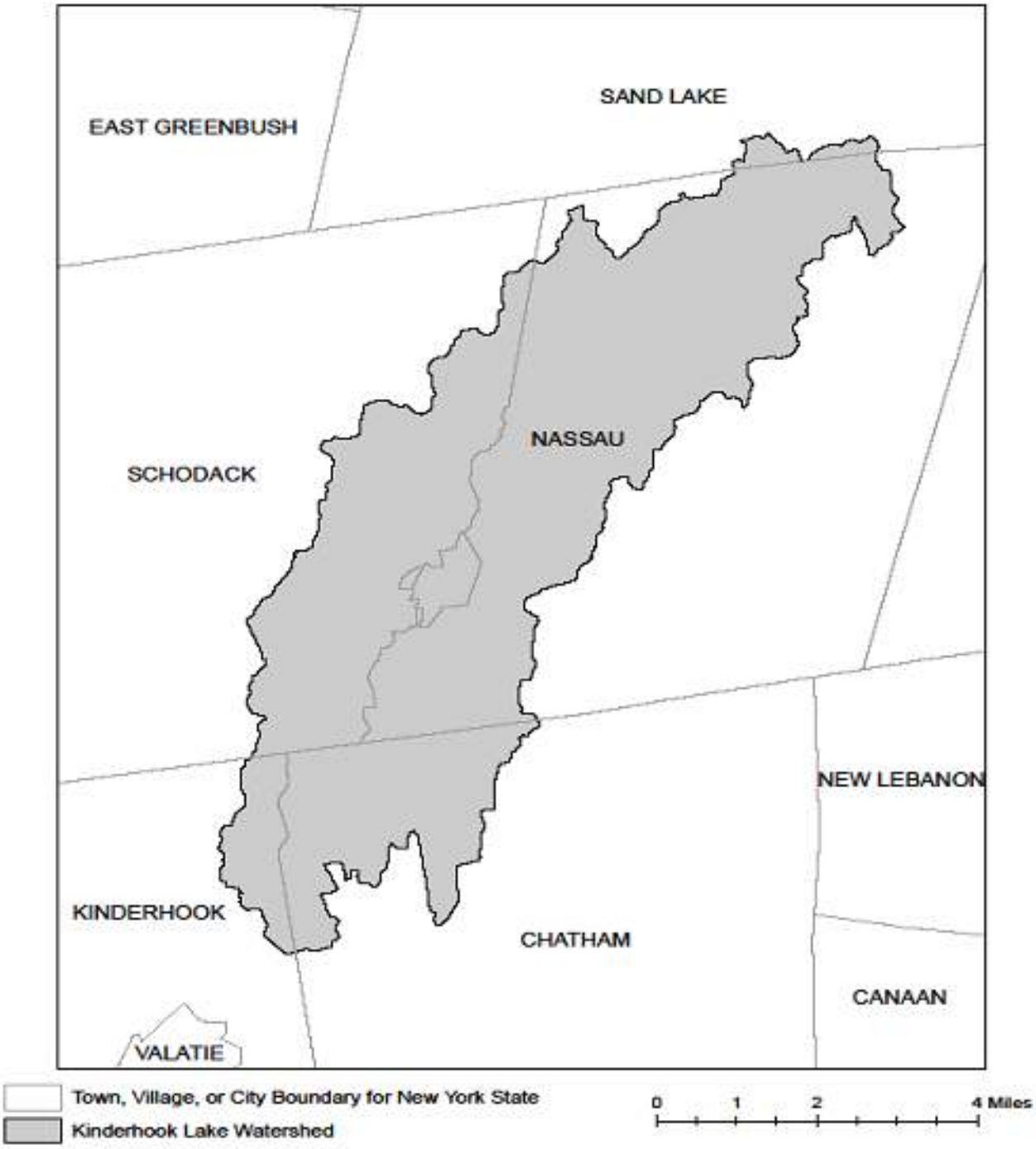


**Figure 5 - Kinderhook Lake Watershed**



## APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants)

List of waterbodies impaired by *pollutants* related to *construction activity*, including turbidity, silt/sediment, and nutrients (e.g. nitrogen, phosphorus). This list is a subset of "The Final New York State 2018 Section 303(d) List of Impaired Waters Requiring a TMDL" dated June 2020.

| County | Waterbody | Pollutant |
|---|---|---|
| Albany | Ann Lee (Shakers) Pond, Stump Pond (1201-0096) | Phosphorus |
| Albany | Lawsons Lake (1301-0235) | Phosphorus |
| Allegany | Amity Lake, Saunders Pond (0403-0054) | Phosphorus |
| Allegany | Andover Pond (0403-0056) | Phosphorus |
| Bronx | Reservoir No.1/Lake Isle (1702-0075) | Phosphorus |
| Bronx | Van Cortlandt Lake (1702-0008) | Phosphorus |
| Broome | Blueberry, Laurel Lakes (1404-0033) | Phosphorus |
| Broome | Fly Pond, Deer Lake (1404-0038) | Phosphorus |
| Broome | Minor Tribs to Lower Susquehanna (0603-0044) | Phosphorus |
| Broome | Whitney Point Lake/Reservoir (0602-0004) | Phosphorus |
| Cattaraugus | Allegheny River/Reservoir (0201-0023) | Phosphorus |
| Cattaraugus | Beaver Lake/Alma Pond (0201-0073) | Phosphorus |
| Cattaraugus | Case Lake (0201-0020) | Phosphorus |
| Cattaraugus | Linlyco/Club Pond (0201-0035) | Phosphorus |
| Cayuga | Duck Lake (0704-0025) | Phosphorus |
| Cayuga | Owasco Inlet, Upper, and tribs (0706-0014) | Nutrients |
| Chautauqua | Chadakoin River and tribs (0202-0018) | Phosphorus |
| Chautauqua | Hulburt/Clymer Pond (0202-0079) | Phosphorus |
| Chautauqua | Middle Cassadaga Lake (0202-0002) | Phosphorus |
| Clinton | Great Chazy River, Lower, Main Stem (1002-0001) | Silt/Sediment |
| Columbia | Robinson Pond (1308-0003) | Phosphorus |
| Cortland | Dean Pond (0602-0077) | Phosphorus |
| Dutchess | Fallkill Creek (1301-0087) | Phosphorus |
| Dutchess | Hillside Lake (1304-0001) | Phosphorus |
| Dutchess | Wappingers Lake (1305-0001) | Phosphorus |
| Dutchess | Wappingers Lake (1305-0001) | Silt/Sediment |
| Erie | Beeman Creek and tribs (0102-0030) | Phosphorus |
| Erie | Delaware Park Pond (0101-0026) | Phosphorus |
| Erie | Ellicott Creek, Lower, and tribs (0102-0018) | Phosphorus |
| Erie | Ellicott Creek, Lower, and tribs (0102-0018) | Silt/Sediment |
| Erie | Green Lake (0101-0038) | Phosphorus |
| Erie | Little Sister Creek, Lower, and tribs (0104-0045) | Phosphorus |
| Erie | Murder Creek, Lower, and tribs (0102-0031) | Phosphorus |

| | | |
|---|---|---|
| Erie | Rush Creek and tribs (0104-0018) | Phosphorus |
| Erie | Scajaquada Creek, Lower, and tribs (0101-0023) | Phosphorus |
| Erie | Scajaquada Creek, Middle, and tribs (0101-0033) | Phosphorus |
| Erie | Scajaquada Creek, Upper, and tribs (0101-0034) | Phosphorus |
| Erie | South Branch Smoke Cr, Lower, and tribs (0101-0036) | Phosphorus |
| Erie | South Branch Smoke Cr, Lower, and tribs (0101-0036) | Silt/Sediment |
| Genesee | Bigelow Creek and tribs (0402-0016) | Phosphorus |
| Genesee | Black Creek, Middle, and minor tribs (0402 0028) | Phosphorus |
| Genesee | Black Creek, Upper, and minor tribs (0402-0048) | Phosphorus |
| Genesee | Bowen Brook and tribs (0102-0036) | Phosphorus |
| Genesee | LeRoy Reservoir (0402-0003) | Phosphorus |
| Genesee | Mill Pond (0402-0050) | Phosphorus |
| Genesee | Oak Orchard Cr, Upper, and tribs (0301-0014) | Phosphorus |
| Genesee | Oatka Creek, Middle, and minor tribs (0402-0031) | Phosphorus |
| Genessee | Tonawanda Cr, Middle, Main Stem (0102-0002) | Phosphorus |
| Greene | Schoharie Reservoir (1202-0012) | Silt/Sediment |
| Greene | Sleepy Hollow Lake (1301-0059) | Silt/Sediment |
| Herkimer | Steele Creek tribs (1201-0197) | Phosphorus |
| Herkimer | Steele Creek tribs (1201-0197) | Silt/Sediment |
| Kings | Hendrix Creek (1701-0006) 18 | Nitrogen |
| Kings | Prospect Park Lake (1701-0196) | Phosphorus |
| Lewis | Mill Creek/South Branch, and tribs (0801-0200) | Nutrients |
| Livingston | Christie Creek and tribs (0402-0060) | Phosphorus |
| Livingston | Conesus Lake (0402-0004) | Phosphorus |
| Livingston | Mill Creek and minor tribs (0404-0011) | Silt/Sediment |
| Monroe | Black Creek, Lower, and minor tribs (0402-0033) | Phosphorus |
| Monroe | Buck Pond (0301-0017) | Phosphorus |
| Monroe | Cranberry Pond (0301-0016) | Phosphorus |
| Monroe | Durand, Eastman Lakes (0302-0037) | Phosphorus |
| Monroe | Lake Ontario Shoreline, Western (0301-0069) 9 | Phosphorus |
| Monroe | Long Pond (0301-0015) | Phosphorus |
| Monroe | Mill Creek and tribs (0302-0025) | Phosphorus 2 |
| Monroe | Mill Creek/Blue Pond Outlet and tribs (0402-0049) | Phosphorus |
| Monroe | Minor Tribs to Irondequoit Bay (0302-0038) | Phosphorus |
| Monroe | Rochester Embayment - East (0302-0002) [9] | Phosphorus |
| Monroe | Rochester Embayment - West (0301-0068) 9 | Phosphorus |
| Monroe | Shipbuilders Creek and tribs (0302-0026) | Phosphorus 2 |
| Monroe | Thomas Creek/White Brook and tribs (0302-0023) | Phosphorus |

| | | |
|---|---|---|
| Nassau | Bannister Creek/Bay (1701-0380) | Nitrogen |
| Nassau | Beaver Lake (1702-0152) | Phosphorus |
| Nassau | Browswere Bay (1701-0383) | Nitrogen |
| Nassau | Camaans Pond (1701-0052) | Phosphorus |
| Nassau | East Meadow Brook, Upper, and tribs (1701-0211) | Silt/Sediment |
| Nassau | East Rockaway Channel (1701-0381) | Nitrogen |
| Nassau | Glen Cove Creek, Lower, and tribs (1702-0146) | Silt/Sediment |
| Nassau | Grant Park Pond (1701-0054) | Phosphorus |
| Nassau | Hempstead Bay, Broad Channel (1701-0032) | Nitrogen |
| Nassau | Hempstead Lake (1701-0015) | Phosphorus |
| Nassau | Hewlett Bay (1701-0382) | Nitrogen |
| Nassau | Hog Island Channel (1701-0220) | Nitrogen |
| Nassau | Massapequa Creek, Upper, and tribs (1701-0174) | Phosphorus |
| Nassau | Milburn/Parsonage Creeks, Upp, and tribs (1701-0212) | Phosphorus |
| Nassau | Reynolds Channel, East (1701-0215) [12] | Nitrogen |
| Nassau | Reynolds Channel, West (1701-0216) 12 | Nitrogen |
| Nassau | Tidal Tribs to Hempstead Bay (1701-0218) | Nitrogen |
| Nassau | Tribs (fresh) to East Bay (1701-0204) | Silt/Sediment |
| Nassau | Tribs (fresh) to East Bay (1701-0204) | Phosphorus |
| Nassau | Tribs to Smith Pond/Halls Pond (1701-0221) | Phosphorus |
| Nassau | Woodmere Channel (1701-0219) | Nitrogen |
| New York | Harlem Meer (1702-0103) | Phosphorus |
| New York | The Lake in Central Park (1702-0105) | Phosphorus |
| Niagara | Bergholtz Creek and tribs (0101-0004) | Phosphorus |
| Niagara | Hyde Park Lake (0101-0030) | Phosphorus |
| Niagara | Lake Ontario Shoreline, Western (0301-0053) 9 | Phosphorus |
| Niagara | Lake Ontario Shoreline, Western (0301-0072) 9 | Phosphorus |
| Oneida | Ballou, Nail Creeks (1201-0203) | Phosphorus |
| Onondaga | Ley Creek and tribs (0702-0001) 10 | Nutrients (phosphorus) |
| Onondaga | Minor Tribs to Onondaga Lake (0702-0022) 10 | Nutrients (phosphorus) |
| Onondaga | Minor Tribs to Onondaga Lake (0702-0022) 10 | Nitrogen (NH3, NO2) |
| Onondaga | Onondaga Creek, Lower (0702-0023) 10 | Nutrients (phosphorus) |
| Onondaga | Onondaga Creek, Lower, and tribs (0702-0023) | Turbidity |
| Onondaga | Onondaga Creek, Middle, and tribs (0702-0004) | Turbidity |
| Onondaga | Onondaga Creek, Upper, and tribs (0702-0024) | Turbidity |
| Ontario | Great Brook and minor tribs (0704-0034) | Phosphorus 2 |
| Ontario | Great Brook and minor tribs (0704-0034) | Silt/Sediment |

| | | |
|---|---|---|
| Ontario | Hemlock Lake Outlet and minor tribs (0402-0013) | Phosphorus |
| Ontario | Honeoye Lake (0402-0032) | Phosphorus |
| Orange | Brown Pond Reservoir (1303-0013) | Phosphorus |
| Orange | Lake Washington (1303-0012) | Phosphorus |
| Orange | Minor Tribs to Middle Wallkill (1306-0061) | Phosphorus |
| Orange | Monhagen Brook and tribs (1306-0074) | Phosphorus |
| Orange | Orange Lake (1301-0008) [16] | Phosphorus |
| Orange | Quaker Creek and tribs (1306-0025) | Phosphorus |
| Orange | Wallkill River, Middle, Main Stem (1306-0038) | Phosphorus |
| Orange | Wallkill River, Upper, and Minor tribs (1306-0017) | Phosphorus |
| Orleans | Glenvwood Lake (0301-0041) | Phosphorus |
| Orleans | Lake Ontario Shoreline, Western (0301-0070) 9 | Phosphorus |
| Orleans | Lake Ontario Shoreline, Western (0301-0071) 9 | Phosphorus |
| Oswego | Lake Neatahwanta (0701-0018) | Nutrients (phosphorus) |
| Oswego | Pleasant Lake (0703-0047) | Phosphorus |
| Putnam | Lost Lake, Putnam Lake (1302-0053) | Phosphorus |
| Putnam | Minor Tribs to Croton Falls Reservoir (1302-0001) | Phosphorus |
| Queens | Bergen Basin (1701-0009) 18 | Nitrogen |
| Queens | Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18 | Nitrogen |
| Queens | Kissena Lake (1702-0258) | Phosphorus |
| Queens | Meadow Lake (1702-0030) | Phosphorus |
| Queens | Shellbank Basin (1701-0001) 18 | Nitrogen |
| Queens | Willow Lake (1702-0031) | Phosphorus |
| Rensselaer | Nassau Lake (1310-0001) | Phosphorus |
| Rensselaer | Snyders Lake (1301-0043) | Phosphorus |
| Richmond | Grassmere Lake/Bradys Pond (1701-0357) | Phosphorus |
| Rockland | Congers Lake, Swartout Lake (1501-0019) | Phosphorus |
| Rockland | Rockland Lake (1501-0021) | Phosphorus |
| Saratoga | Ballston Lake (1101-0036) | Phosphorus |
| Saratoga | Dwaas Kill and tribs (1101-0007) | Phosphorus |
| Saratoga | Dwaas Kill and tribs (1101-0007) | Silt/Sediment |
| Saratoga | Lake Lonely (1101-0034) | Phosphorus |
| Saratoga | Round Lake (1101-0060) | Phosphorus |
| Saratoga | Tribs to Lake Lonely (1101-0001) | Phosphorus |
| Schenectady | Collins Lake (1201-0077) | Phosphorus |
| Schenectady | Duane Lake (1311-0006) | Phosphorus |
| Schenectady Lake | Mariaville Lake (1201-0113) | Phosphorus |
| Schuyler | Cayuta Lake (0603-0005) | Phosphorus |

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|---|---|---|
| Seneca | Reeder Creek and tribs (0705-0074) | Phosphorus |
| St.Lawrence | Black Lake Outlet, Black Lake (0906-0001) | Phosphorus |
| St.Lawrence | Fish Creek and minor tribs (0906-0026) | Phosphorus |
| Steuben | Smith Pond (0502-0012) | Phosphorus |
| Suffolk | Agawam Lake (1701-0117) | Phosphorus |
| Suffolk | Big/Little Fresh Ponds (1701-0125) | Phosphorus |
| Suffolk | Canaan Lake (1701-0018) | Phosphorus |
| Suffolk | Canaan Lake (1701-0018) | Silt/Sediment |
| Suffolk | Fresh Pond (1701-0241) | Phosphorus |
| Suffolk | Great South Bay, East (1701-0039) | Nitrogen |
| Suffolk | Great South Bay, Middle (1701-0040) | Nitrogen |
| Suffolk | Great South Bay, West (1701-0173) | Nitrogen |
| Suffolk | Lake Ronkonkoma (1701-0020) | Phosphorus |
| Suffolk | Mattituck/Marratooka Pond (1701-0129) | Phosphorus |
| Suffolk | Mill and Seven Ponds (1701-0113) | Phosphorus |
| Suffolk | Millers Pond (1702-0013) | Phosphorus |
| Suffolk | Moriches Bay, East (1701-0305) | Nitrogen |
| Suffolk | Moriches Bay, West (1701-0038) | Nitrogen |
| Suffolk | Quantuck Bay (1701-0042) | Nitrogen |
| Suffolk | Shinnecock Bay and Inlet (1701-0033) | Nitrogen |
| Suffolk | Tidal Tribs to West Moriches Bay (1701-0312) | Nitrogen |
| Sullivan | Bodine, Mongomery Lakes (1401-0091) | Phosphorus |
| Sullivan | Davies Lake (1402-0047) | Phosphorus |
| Sullivan | Evens Lake (1402-0004) | Phosphorus |
| Sullivan | Pleasure Lake (1402-0055) | Phosphorus |
| Sullivan | Swan Lake (1401-0063) | Phosphorus |
| Tompkins | Cayuga Lake, Southern End (0705-0040) | Phosphorus |
| Tompkins | Cayuga Lake, Southern End (0705-0040) | Silt/Sediment |
| Ulster | Ashokan Reservoir (1307-0004) | Silt/Sediment |
| Ulster | Esopus Creek, Lower, Main Stem (1307-0010) [17] | Turbidity |
| Ulster | Esopus Creek, Middle, Main Stem (1307-0003) 17 | Turbidity |
| Ulster | Esopus Creek, Upper, and minor tribs (1307-0007)[3] | Silt/Sediment |
| Ulster | Wallkill River, Lower, Main Stem (1306-0027) | Phosphorus |
| Warren | Hague Brook and tribs (1006-0006) | Silt/Sediment |
| Warren | Huddle/Finkle Brooks and tribs (1006-0003) | Silt/Sediment |
| Warren | Indian Brook and tribs (1006-0002) | Silt/Sediment |
| Warren | Lake George (1006-0016) and tribs | Silt/Sediment |
| Warren | Tribs to Lake George, East Shore (1006-0020) | Silt/Sediment |
| Warren | Tribs to Lake George, Lk.George Village (1006-0008) | Silt/Sediment |

| | | |
|---|---|---|
| Washington | Wood Cr/Champlain Canal and tribs (1005-0036) | Phosphorus |
| Westchester | Lake Katonah (1302-0136) | Phosphorus |
| Westchester | Lake Lincolndale (1302-0089) | Phosphorus |
| Westchester | Lake Meahagh (1301-0053) | Phosphorus |
| Westchester | Lake Mohegan (1301-0149) | Phosphorus |
| Westchester | Lake Shenorock (1302-0083) | Phosphorus |
| Westchester | Mamaroneck River, Lower (1702-0071) | Silt/Sediment |
| Westchester | Mamaroneck River, Upp, & minor tribs (1702-0123) | Silt/Sediment |
| Westchester | Saw Mill River (1301-0007) | Phosphorus |
| Westchester | Saw Mill River, Middle, and tribs (1301-0100) | Phosphorus |
| Westchester | Sheldrake River (1702-0069) | Phosphorus |
| Westchester | Sheldrake River (1702-0069) | Silt/Sedimnt |
| Westchester | Silver Lake (1702-0040) | Phosphorus |
| Westchester | Teatown Lake (1302-0150) | Phosphorus |
| Westchester | Truesdale Lake (1302-0054) | Phosphorus |
| Westchester | Wallace Pond (1301-0140) | Phosphorus |

## APPENDIX E – List of NYSDEC Regional Offices

| Region | Covering the following counties: | DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators | DIVISION OF WATER (DOW) Water (SPDES) Program |
|---|---|---|---|
| 1 | Nassau and Suffolk | 50 Circle Road<br>Stony Brook, NY 11790<br>Tel. (631) 444-0365 | 50 Circle Road<br>Stony Brook, NY 11790-3409<br>Tel. (631) 444-0405 |
| 2 | Bronx, Kings, New York, Queens and Richmond | 1 Hunters Point Plaza,<br>47-40 21st St.<br>Long Island City, NY 11101-5407<br>Tel. (718) 482-4997 | 1 Hunters Point Plaza,<br>47-40 21st St.<br>Long Island City, NY 11101-5407<br>Tel. (718) 482-4933 |
| 3 | Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester | 21 South Putt Corners Road<br>New Paltz, NY 12561-1696<br>Tel. (845) 256-3059 | 220 White Plains Road, Suite 110<br>Tel. (914) 428 - 2505 |
| 4 | Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie | 1130 North Westcott Road<br>Schenectady, NY 12306-2014<br>Tel. (518) 357-2069 | 1130 North Westcott Road<br>Schenectady, NY 12306-2014<br>Tel. (518) 357-2045 |
| 5 | Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington | 1115 State Route 86, Po Box 296<br>Ray Brook, NY 12977-0296<br>Tel. (518) 897-1234 | 232 Golf Course Road<br>Warrensburg, NY 12885-1172<br>Tel. (518) 623-1200 |
| 6 | HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE | STATE OFFICE BUILDING<br>317 WASHINGTON STREET<br>WATERTOWN, NY 13601-3787<br>TEL. (315) 785-2245 | STATE OFFICE BUILDING<br>207 GENESEE STREET<br>UTICA, NY 13501-2885<br>TEL. (315) 793-2554 |
| 7 | BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS | 5786 WIDEWATERS PARKWAY<br>SYRACUSE, NY 13214-1867<br>TEL. (315) 426-7438 | 5786 WIDEWATERS PARKWAY<br>SYRACUSE, NY 13214-1867<br>TEL. (315) 426-7500 |
| 8 | CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES | 6274 EAST AVON-LIMA<br>ROADAVON, NY 14414-9519<br>TEL. (585) 226-2466 | 6274 EAST AVON-LIMA RD.<br>AVON, NY 14414-9519<br>TEL. (585) 226-2466 |
| 9 | ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING | 700 DELAWARE AVENUE<br>BUFFALO, NY 14209-2999<br>TEL. (716) 851-7165 | 700 DELAWARE AVENUE<br>BUFFALO, NY 14209-2999<br>TEL. (716) 851-7070 |

## APPENDIX F – SWPPP Preparer Certification Form

The SWPPP Preparer Certification Form required by this permit begins on the following page.

# SWPPP Preparer Certification Form

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

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

**Project/Site Name:**

**eNOI Submission ID:**

**Owner/Operator Name:**

## Certification Statement – SWPPP Preparer

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

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature | Date

Revised: January 2025

## APPENDIX G – MS4 SWPPP Acceptance Form

The MS4 SWPPP Acceptance Form required by this permit begins on the following page.

# MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

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

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

| |
|---|
| **I. Project Owner/Operator Information** |
| 1. Owner/Operator Name: |
| 2. Contact Person: |
| 3. Street Address: |
| 4. City/State/Zip: |
| **II. Project Site Information** |
| 5. Project/Site Name: |
| 6. Street Address: |
| 7. City/State/Zip: |
| **III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information** |
| 8. SWPPP Reviewed by: |
| 9. Title/Position: |
| 10. Date Final SWPPP Reviewed and Accepted: |
| **IV. Regulated MS4 Information** |
| 11. Name of MS4 Operator: |
| 12. MS4 SPDES Permit Identification Number: NYR20A |
| 13. Street Address: |
| 14. City/State/Zip: |
| 15. Telephone Number: |
| |

## MS4 SWPPP Acceptance Form - continued

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

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

**VI. Additional Information**

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

## APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form

The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval form required by this permit begins on the following page.

**THE CITY OF NEW YORK**
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**Bureau of Environmental Planning and Analysis**
***59-17 Junction Blvd., 9th Floor; Flushing, NY 11373***

## SWPPP Acceptance/Approval

Application Number:

| **I. Project Owner/Operator Information** |
|---|
| 1. Owner/Operator Name: |
| 2. Contact Person: |
| 3. Street Address: |
| 4. City/State/Zip: |
| **II. Project Site Information** |
| 5. Project/Site Name: |
| 6. Street Address: |
| 7. City/State/Zip: |
| **III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval** |
| 8. SWPPP Reviewed by: |
| 9. Title/Position: / |
| 10. Date Final SWPPP Reviewed and Accepted: |
| 11. Acceptance/Approval Expiration Date: |
| **IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity** |
| 12. Name of MS4: *CITY OF NEW YORK* |
| 13. MS4 SPDES Permit Identification Number: *NY-0287890* |
| 14. Contact Person: |
| 15. Street Address: *59-17 Junction Blvd. 9th Floor* |
| 16. City/State/Zip: *Flushing, NY 11373* |
| 17. Telephone Number: |

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

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

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).

Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

## VI. Conditions of Acceptance/Approval and Additional Information

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

## APPENDIX I – MS4 No Jurisdiction Form

The MS4 No Jurisdiction Form required by this permit begins on the following page.

# MS4 No Jurisdiction Form

for construction activities seeking authorization under the

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

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

**I. Project Owner/Operator Information**

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

**II. Project Site Information**

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID:

**III. Traditional Land Use Control MS4 Operator Information**

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

**IV. Certification Statement**

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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

b. Title/Position:

c. Signature:

d. Date:

## APPENDIX J – Owner/Operator Certification Form

The Owner/Operator Certification Form required by this permit begins on the following page.

# Owner/Operator Certification Form

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

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

**Project/Site Name:** _____

**eNOI Submission ID:** _____

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

## Certification Statement - Owner/Operator

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

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

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

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

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

**I. Owner or Operator Information**

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

**II. Project Site Information**

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

**III. Reason for Termination**

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

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

9c. □ Other (Explain on Page 2)

**IV. Final Site Information**:

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

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

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

_____

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

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

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

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

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

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

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

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

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

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

**V. Additional Information/Explanation:**

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

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

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

Printed Name:

Title/Position:

| Signature: | Date: |
|---|---|

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

**VII. Qualified Inspector Certification - Final Stabilization**:

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

| | |
|---|---|
| Printed Name: | |
| Title/Position: | |
| Signature: | Date: |

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

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

| | |
|---|---|
| Printed Name: | |
| Title/Position: | |
| Signature: | Date: |

**IX. Owner or Operator Certification**

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

| | |
|---|---|
| Printed Name: | |
| Title/Position: | |
| Signature: | Date: |

(NYS DEC Notice of Termination - January 2015)

# APPENDIX B

## EXTREME PRECIPITATION TABLES

# Extreme Precipitation Tables

## Northeast Regional Climate Center

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

**Metadata for Point**

| | |
|---|---|
| **Smoothing** | No |
| **State** | |
| **Location** | |
| **Latitude** | 42.305 degrees North |
| **Longitude** | 74.012 degrees West |
| **Elevation** | 120 feet |
| **Date/Time** | Tue Dec 09 2025 14:18:14 GMT-0500 (Eastern Standard Time) |

## Extreme Precipitation Estimates

| | 5min | 10min | 15min | 30min | 60min | 120min | | 1hr | 2hr | 3hr | 6hr | 12hr | 24hr | 48hr | | 1day | 2da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1yr** | 0.29 | 0.45 | 0.55 | 0.74 | 0.91 | 1.07 | **1yr** | 0.79 | 1.04 | 1.24 | 1.66 | 2.16 | 2.49 | 2.86 | **1yr** | 2.20 | 2.7 |
| **2yr** | 0.35 | 0.54 | 0.67 | 0.90 | 1.11 | 1.30 | **2yr** | 0.96 | 1.27 | 1.48 | 1.98 | 2.54 | 2.99 | 3.37 | **2yr** | 2.64 | 3.2 |
| **5yr** | 0.41 | 0.63 | 0.78 | 1.08 | 1.37 | 1.60 | **5yr** | 1.18 | 1.56 | 1.83 | 2.40 | 3.12 | 3.76 | 4.28 | **5yr** | 3.32 | 4.1 |
| **10yr** | 0.47 | 0.72 | 0.89 | 1.24 | 1.60 | 1.87 | **10yr** | 1.38 | 1.83 | 2.15 | 2.78 | 3.65 | 4.47 | 5.13 | **10yr** | 3.96 | 4.9 |
| **25yr** | 0.56 | 0.85 | 1.05 | 1.51 | 1.98 | 2.31 | **25yr** | 1.71 | 2.26 | 2.66 | 3.39 | 4.48 | 5.63 | 6.53 | **25yr** | 4.98 | 6.2 |
| **50yr** | 0.64 | 0.97 | 1.20 | 1.73 | 2.33 | 2.71 | **50yr** | 2.01 | 2.65 | 3.12 | 3.93 | 5.24 | 6.71 | 7.84 | **50yr** | 5.94 | 7.5 |
| **100yr** | 0.73 | 1.10 | 1.38 | 1.99 | 2.74 | 3.18 | **100yr** | 2.36 | 3.11 | 3.67 | 4.57 | 6.14 | 8.01 | 9.42 | **100yr** | 7.09 | 9.0 |
| **200yr** | 0.84 | 1.26 | 1.59 | 2.31 | 3.22 | 3.73 | **200yr** | 2.78 | 3.65 | 4.32 | 5.31 | 7.18 | 9.56 | 11.34 | **200yr** | 8.46 | 10.9 |
| **500yr** | 1.01 | 1.51 | 1.94 | 2.82 | 4.01 | 4.62 | **500yr** | 3.46 | 4.52 | 5.36 | 6.49 | 8.86 | 12.09 | 14.49 | **500yr** | 10.70 | 13.9 |

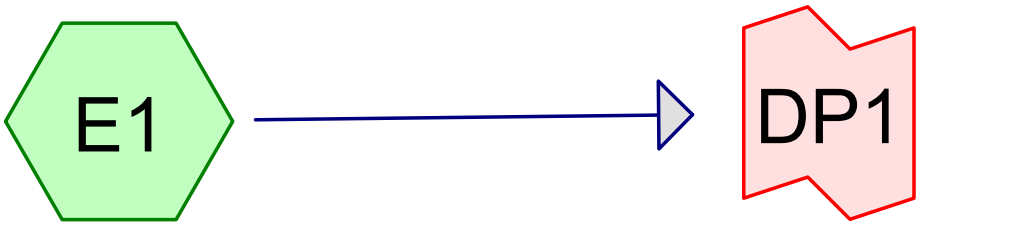
## Lower Confidence Limits

| | 5min | 10min | 15min | 30min | 60min | 120min | | 1hr | 2hr | 3hr | 6hr | 12hr | 24hr | 48hr | | 1day | 2da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1yr** | 0.24 | 0.37 | 0.45 | 0.61 | 0.75 | 0.95 | **1yr** | 0.65 | 0.93 | 1.12 | 1.46 | 1.85 | 2.19 | 2.54 | **1yr** | 1.94 | 2.4 |

# APPENDIX C

## EXISTING CONDITIONS HYDROLOGIC ANALYSIS AND CALCULATION DATA

# PRE-CON




DA-1

Design Point-1

Subcat Reach Pond Link

**Routing Diagram for Pre-Development Conditions**
Prepared by Clark Patterson Lee, Printed 1/13/2026

## Project Notes

Defined 9 rainfall events from NY-Cairo IDF
Copied 9 events from NY-Cairo 24-hr S1 storm

## Rainfall Events Listing (selected events)

| Event# | Event Name | Storm Type | Curve | Mode | Duration (hours) | B/B | Depth (inches) | AMC |
|---|---|---|---|---|---|---|---|---|
| 1 | 1-yr | NY-Cairo 24-hr S1 | 1-yr | Default | 24.00 | 1 | 2.49 | 2 |
| 2 | 10-yr | NY-Cairo 24-hr S1 | 10-yr | Default | 24.00 | 1 | 4.47 | 2 |
| 3 | 100-yr | NY-Cairo 24-hr S1 | 100-yr | Default | 24.00 | 1 | 8.01 | 2 |

## Area Listing (selected nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|---|---|---|
| 1.680 | 91 | Fallow, bare soil, HSG C (E1) |
| 0.045 | 98 | Roofs, HSG C (E1) |
| 0.379 | 98 | Unconnected pavement, HSG C (E1) |
| 0.410 | 98 | Water Surface, HSG C (E1) |
| 14.411 | 77 | Woods, Poor, HSG C (E1) |
| 1.273 | 83 | Woods, Poor, HSG D (E1) |
| **18.198** | **80** | **TOTAL AREA** |

## Soil Listing (selected nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|---|---|---|
| 0.000 | HSG A | |
| 0.000 | HSG B | |
| 16.925 | HSG C | E1 |
| 1.273 | HSG D | E1 |
| 0.000 | Other | |
| **18.198** | | **TOTAL AREA** |

## Ground Covers (selected 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 | 1.680 | 0.000 | 0.000 | 1.680 | Fallow, bare soil | E1 |
| 0.000 | 0.000 | 0.045 | 0.000 | 0.000 | 0.045 | Roofs | E1 |
| 0.000 | 0.000 | 0.379 | 0.000 | 0.000 | 0.379 | Unconnected pavement | E1 |
| 0.000 | 0.000 | 0.410 | 0.000 | 0.000 | 0.410 | Water Surface | E1 |
| 0.000 | 0.000 | 14.411 | 1.273 | 0.000 | 15.684 | Woods, Poor | E1 |
| **0.000** | **0.000** | **16.925** | **1.273** | **0.000** | **18.198** | **TOTAL AREA** | |

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 E1: DA-1** Runoff Area=18.198 ac 4.58% Impervious Runoff Depth=0.83"
Flow Length=1,814' Tc=40.6 min UI Adjusted CN=79 Runoff=7.4 cfs 1.260 af

**Link DP1: Design Point-1** Inflow=7.4 cfs 1.260 af
Primary=7.4 cfs 1.260 af

**Total Runoff Area = 18.198 ac Runoff Volume = 1.260 af Average Runoff Depth = 0.83"**
**95.42% Pervious = 17.364 ac 4.58% Impervious = 0.834 ac**

## Summary for Subcatchment E1: DA-1

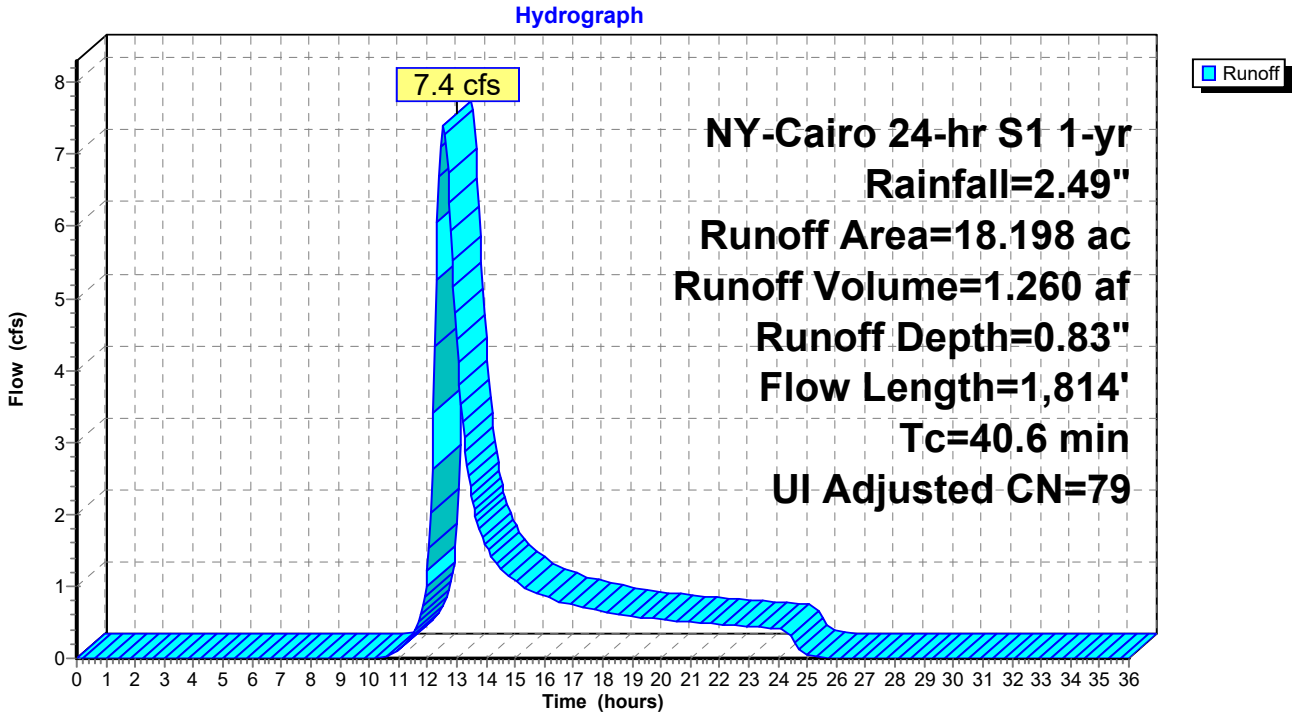
Runoff = 7.4 cfs @ 12.54 hrs, Volume= 1.260 af, Depth= 0.83"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 1-yr Rainfall=2.49"

| Area (ac) | CN | Adj | Description |
|---|---|---|---|
| 0.379 | 98 | | Unconnected pavement, HSG C |
| 14.411 | 77 | | Woods, Poor, HSG C |
| 1.273 | 83 | | Woods, Poor, HSG D |
| 0.045 | 98 | | Roofs, HSG C |
| 0.154 | 91 | | Fallow, bare soil, HSG C |
| 0.410 | 98 | | Water Surface, HSG C |
| 1.526 | 91 | | Fallow, bare soil, HSG C |
| 18.198 | 80 | 79 | Weighted Average, UI Adjusted |
| 17.364 | | | 95.42% Pervious Area |
| 0.834 | | | 4.58% Impervious Area |
| 0.379 | | | 45.44% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 4.3 | 37 | 0.1411 | 0.14 | | **Sheet Flow, A-B**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 13.3 | 63 | 0.0244 | 0.08 | | **Sheet Flow, B-C**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 0.4 | 42 | 0.1476 | 1.92 | | **Shallow Concentrated Flow, C-D**<br>Woodland Kv= 5.0 fps |
| 0.1 | 19 | 0.2284 | 4.78 | | **Shallow Concentrated Flow, D-E**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.5 | 73 | 0.0511 | 2.26 | | **Shallow Concentrated Flow, E-F**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.4 | 84 | 0.0973 | 3.12 | | **Shallow Concentrated Flow, F-G**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 1.0 | 111 | 0.0080 | 1.82 | | **Shallow Concentrated Flow, G-H**<br>Paved Kv= 20.3 fps |
| 16.1 | 524 | 0.0118 | 0.54 | | **Shallow Concentrated Flow, H-I**<br>Woodland Kv= 5.0 fps |
| 4.5 | 861 | 0.0104 | 3.21 | 35.35 | **Channel Flow, I-J**<br>Area= 11.0 sf Perim= 17.2' r= 0.64'<br>n= 0.035 Earth, dense weeds |
| 40.6 | 1,814 | Total | | | |

## Subcatchment E1: DA-1

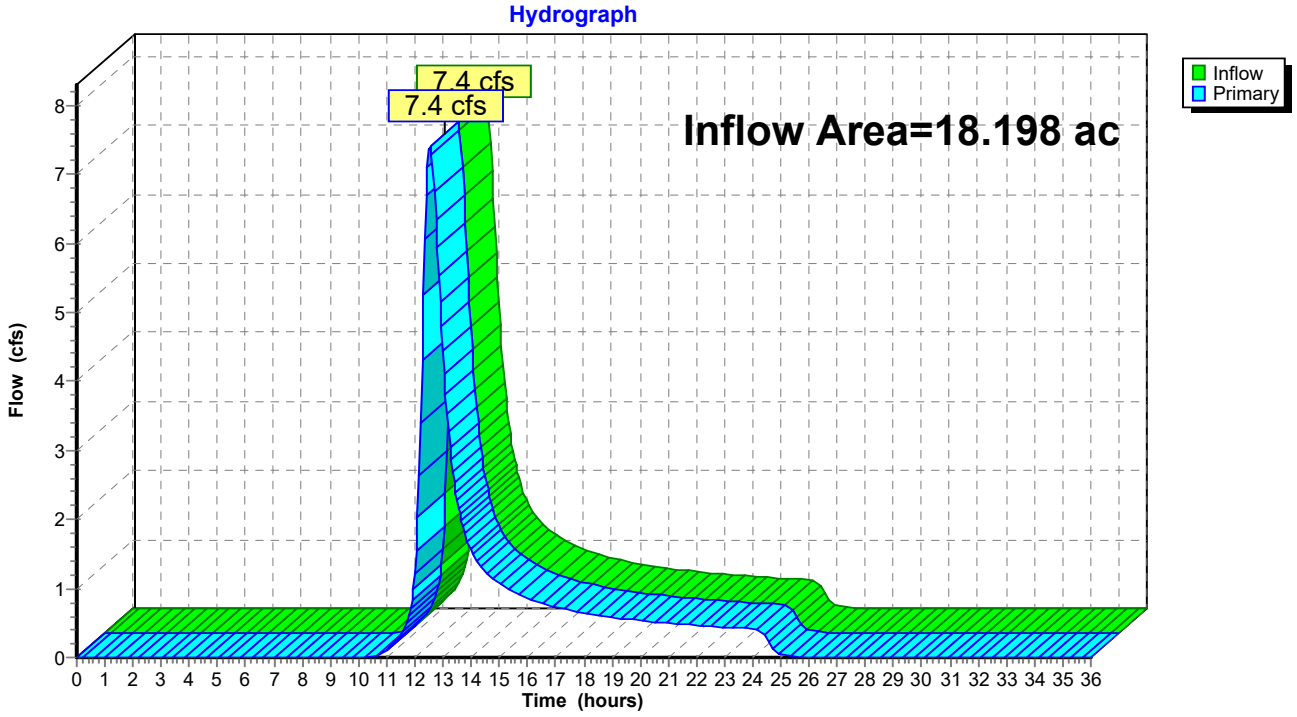


## Summary for Link DP1: Design Point-1

Inflow Area = 18.198 ac, 4.58% Impervious, Inflow Depth = 0.83" for 1-yr event
Inflow = 7.4 cfs @ 12.54 hrs, Volume= 1.260 af
Primary = 7.4 cfs @ 12.54 hrs, Volume= 1.260 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 5R

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

## Link DP1: Design Point-1



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentE1: DA-1** Runoff Area=18.198 ac 4.58% Impervious Runoff Depth=2.35"
Flow Length=1,814' Tc=40.6 min UI Adjusted CN=79 Runoff=21.5 cfs 3.566 af

**Link DP1: Design Point-1** Inflow=21.5 cfs 3.566 af
Primary=21.5 cfs 3.566 af

**Total Runoff Area = 18.198 ac Runoff Volume = 3.566 af Average Runoff Depth = 2.35"**
**95.42% Pervious = 17.364 ac 4.58% Impervious = 0.834 ac**

## Summary for Subcatchment E1: DA-1

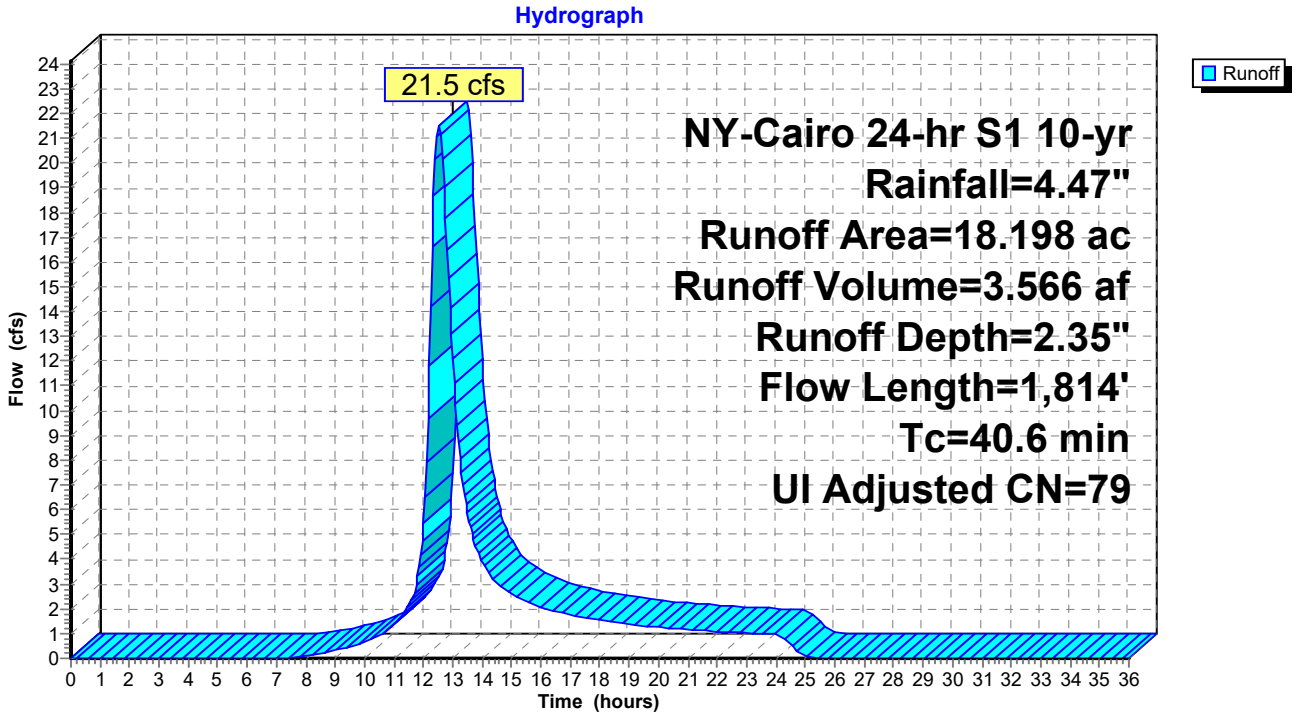
Runoff = 21.5 cfs @ 12.51 hrs, Volume= 3.566 af, Depth= 2.35"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 10-yr Rainfall=4.47"

| Area (ac) | CN | Adj | Description |
|---|---|---|---|
| 0.379 | 98 | | Unconnected pavement, HSG C |
| 14.411 | 77 | | Woods, Poor, HSG C |
| 1.273 | 83 | | Woods, Poor, HSG D |
| 0.045 | 98 | | Roofs, HSG C |
| 0.154 | 91 | | Fallow, bare soil, HSG C |
| 0.410 | 98 | | Water Surface, HSG C |
| 1.526 | 91 | | Fallow, bare soil, HSG C |
| 18.198 | 80 | 79 | Weighted Average, UI Adjusted |
| 17.364 | | | 95.42% Pervious Area |
| 0.834 | | | 4.58% Impervious Area |
| 0.379 | | | 45.44% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 4.3 | 37 | 0.1411 | 0.14 | | **Sheet Flow, A-B**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 13.3 | 63 | 0.0244 | 0.08 | | **Sheet Flow, B-C**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 0.4 | 42 | 0.1476 | 1.92 | | **Shallow Concentrated Flow, C-D**<br>Woodland Kv= 5.0 fps |
| 0.1 | 19 | 0.2284 | 4.78 | | **Shallow Concentrated Flow, D-E**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.5 | 73 | 0.0511 | 2.26 | | **Shallow Concentrated Flow, E-F**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.4 | 84 | 0.0973 | 3.12 | | **Shallow Concentrated Flow, F-G**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 1.0 | 111 | 0.0080 | 1.82 | | **Shallow Concentrated Flow, G-H**<br>Paved Kv= 20.3 fps |
| 16.1 | 524 | 0.0118 | 0.54 | | **Shallow Concentrated Flow, H-I**<br>Woodland Kv= 5.0 fps |
| 4.5 | 861 | 0.0104 | 3.21 | 35.35 | **Channel Flow, I-J**<br>Area= 11.0 sf Perim= 17.2' r= 0.64'<br>n= 0.035 Earth, dense weeds |
| 40.6 | 1,814 | Total | | | |

## Subcatchment E1: DA-1

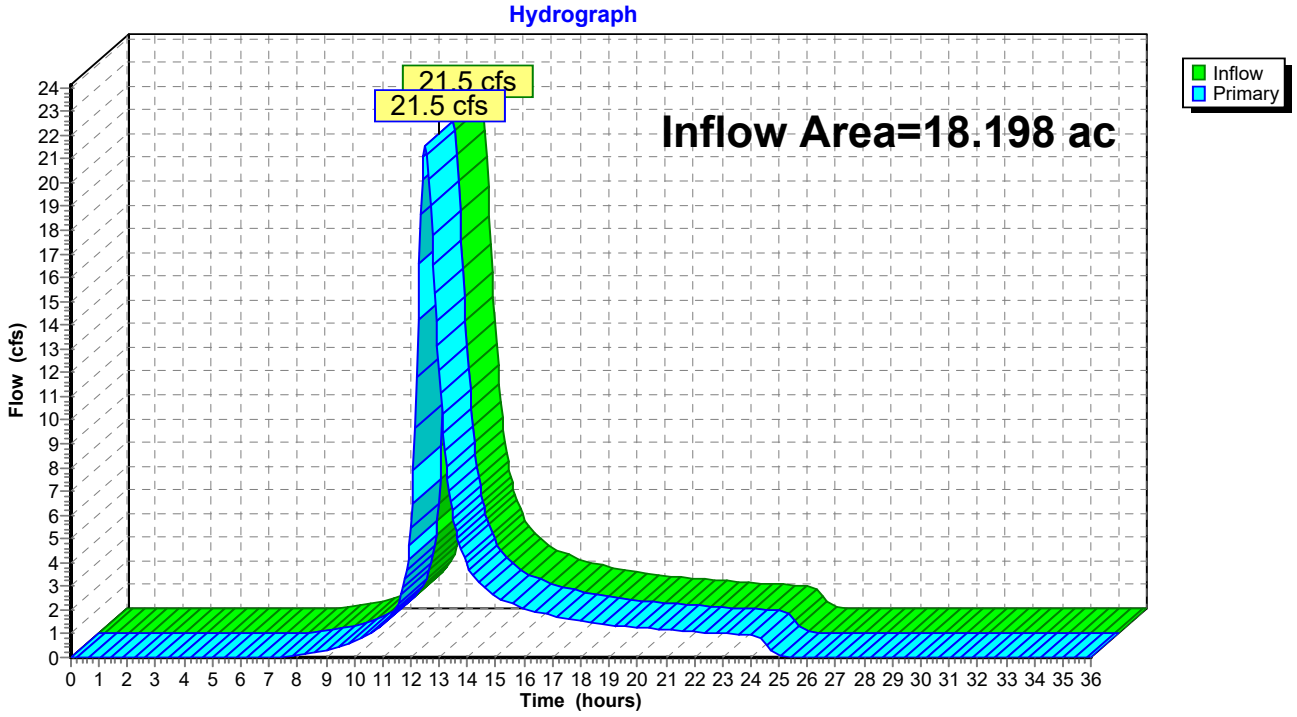


## Summary for Link DP1: Design Point-1

Inflow Area = 18.198 ac, 4.58% Impervious, Inflow Depth = 2.35" for 10-yr event
Inflow = 21.5 cfs @ 12.51 hrs, Volume= 3.566 af
Primary = 21.5 cfs @ 12.51 hrs, Volume= 3.566 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 5R

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

## Link DP1: Design Point-1



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 E1: DA-1** Runoff Area=18.198 ac 4.58% Impervious Runoff Depth=5.52"
Flow Length=1,814' Tc=40.6 min UI Adjusted CN=79 Runoff=47.2 cfs 8.367 af

**Link DP1: Design Point-1** Inflow=47.2 cfs 8.367 af
Primary=47.2 cfs 8.367 af

**Total Runoff Area = 18.198 ac Runoff Volume = 8.367 af Average Runoff Depth = 5.52"**
**95.42% Pervious = 17.364 ac 4.58% Impervious = 0.834 ac**

## Summary for Subcatchment E1: DA-1

[47] Hint: Peak is 133% of capacity of segment #9

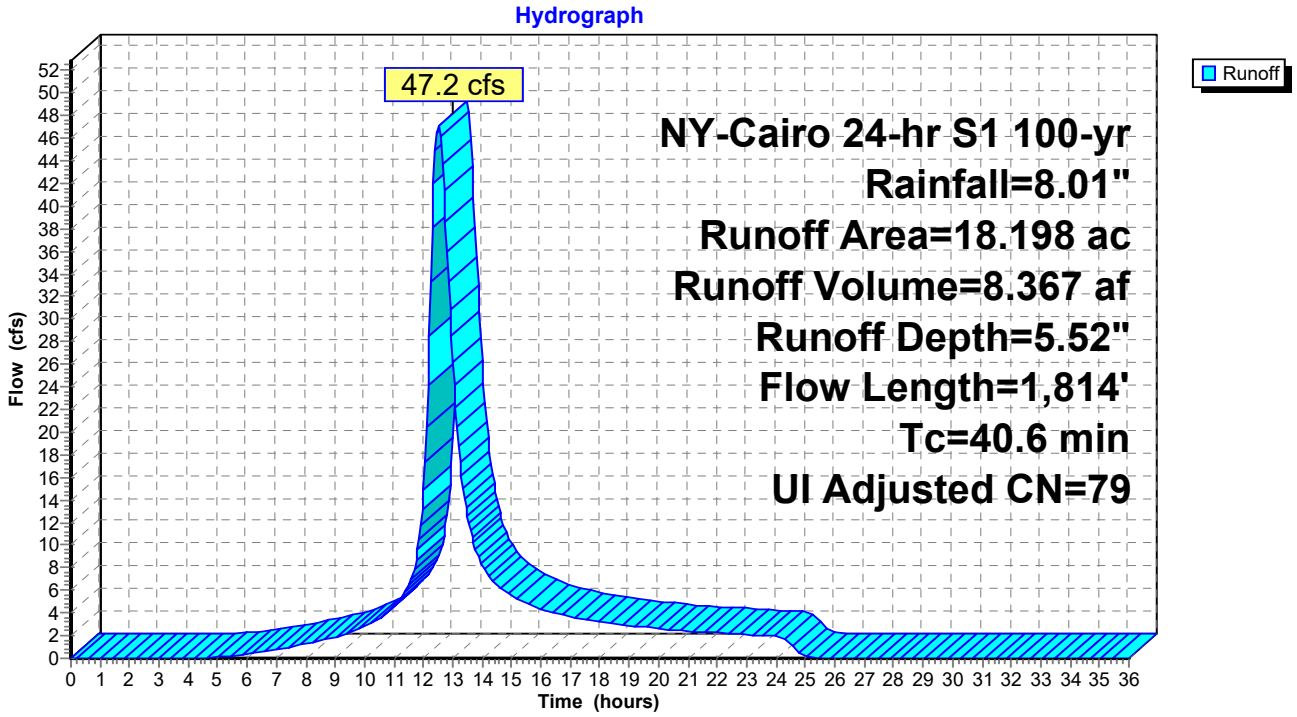
Runoff = 47.2 cfs @ 12.50 hrs, Volume= 8.367 af, Depth= 5.52"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 100-yr Rainfall=8.01"

| Area (ac) | CN | Adj | Description |
|---|---|---|---|
| 0.379 | 98 | | Unconnected pavement, HSG C |
| 14.411 | 77 | | Woods, Poor, HSG C |
| 1.273 | 83 | | Woods, Poor, HSG D |
| 0.045 | 98 | | Roofs, HSG C |
| 0.154 | 91 | | Fallow, bare soil, HSG C |
| 0.410 | 98 | | Water Surface, HSG C |
| 1.526 | 91 | | Fallow, bare soil, HSG C |
| 18.198 | 80 | 79 | Weighted Average, UI Adjusted |
| 17.364 | | | 95.42% Pervious Area |
| 0.834 | | | 4.58% Impervious Area |
| 0.379 | | | 45.44% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 4.3 | 37 | 0.1411 | 0.14 | | **Sheet Flow, A-B**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 13.3 | 63 | 0.0244 | 0.08 | | **Sheet Flow, B-C**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 0.4 | 42 | 0.1476 | 1.92 | | **Shallow Concentrated Flow, C-D**<br>Woodland Kv= 5.0 fps |
| 0.1 | 19 | 0.2284 | 4.78 | | **Shallow Concentrated Flow, D-E**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.5 | 73 | 0.0511 | 2.26 | | **Shallow Concentrated Flow, E-F**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.4 | 84 | 0.0973 | 3.12 | | **Shallow Concentrated Flow, F-G**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 1.0 | 111 | 0.0080 | 1.82 | | **Shallow Concentrated Flow, G-H**<br>Paved Kv= 20.3 fps |
| 16.1 | 524 | 0.0118 | 0.54 | | **Shallow Concentrated Flow, H-I**<br>Woodland Kv= 5.0 fps |
| 4.5 | 861 | 0.0104 | 3.21 | 35.35 | **Channel Flow, I-J**<br>Area= 11.0 sf Perim= 17.2' r= 0.64'<br>n= 0.035 Earth, dense weeds |
| 40.6 | 1,814 | Total | | | |

## Subcatchment E1: DA-1

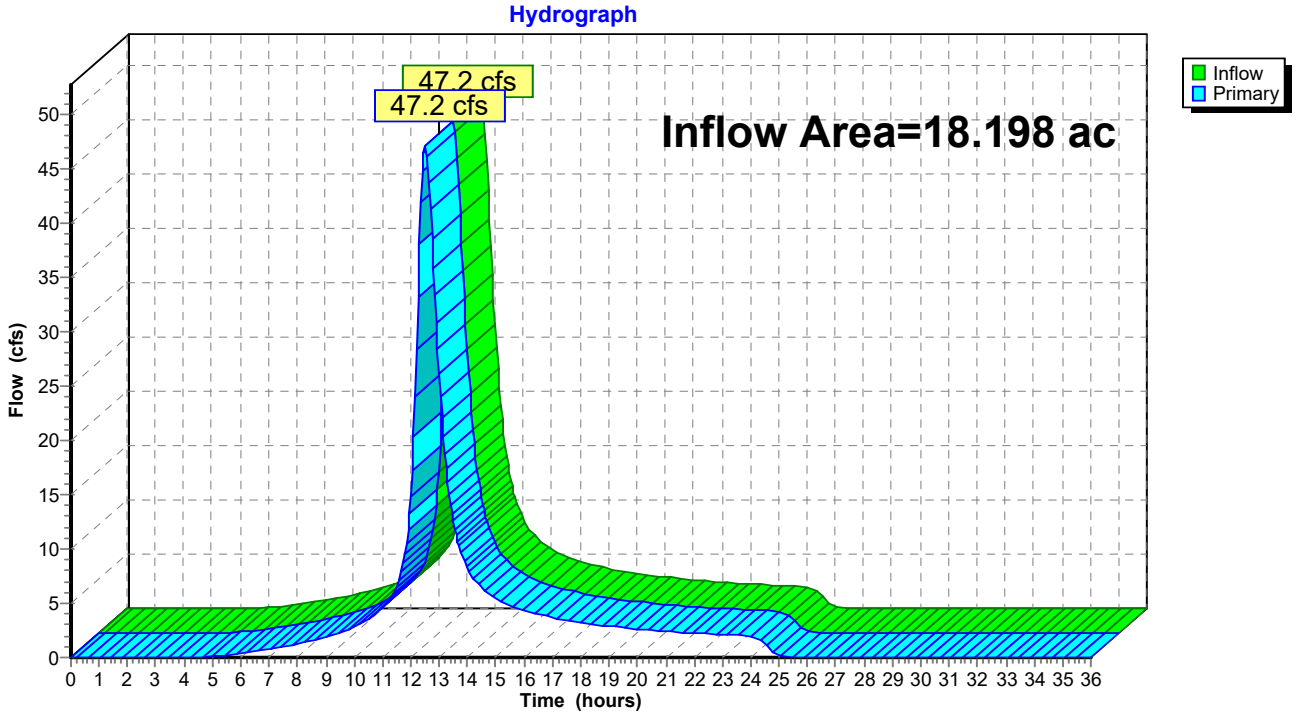


## Summary for Link DP1: Design Point-1

Inflow Area = 18.198 ac, 4.58% Impervious, Inflow Depth = 5.52" for 100-yr event
Inflow = 47.2 cfs @ 12.50 hrs, Volume= 8.367 af
Primary = 47.2 cfs @ 12.50 hrs, Volume= 8.367 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 5R

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

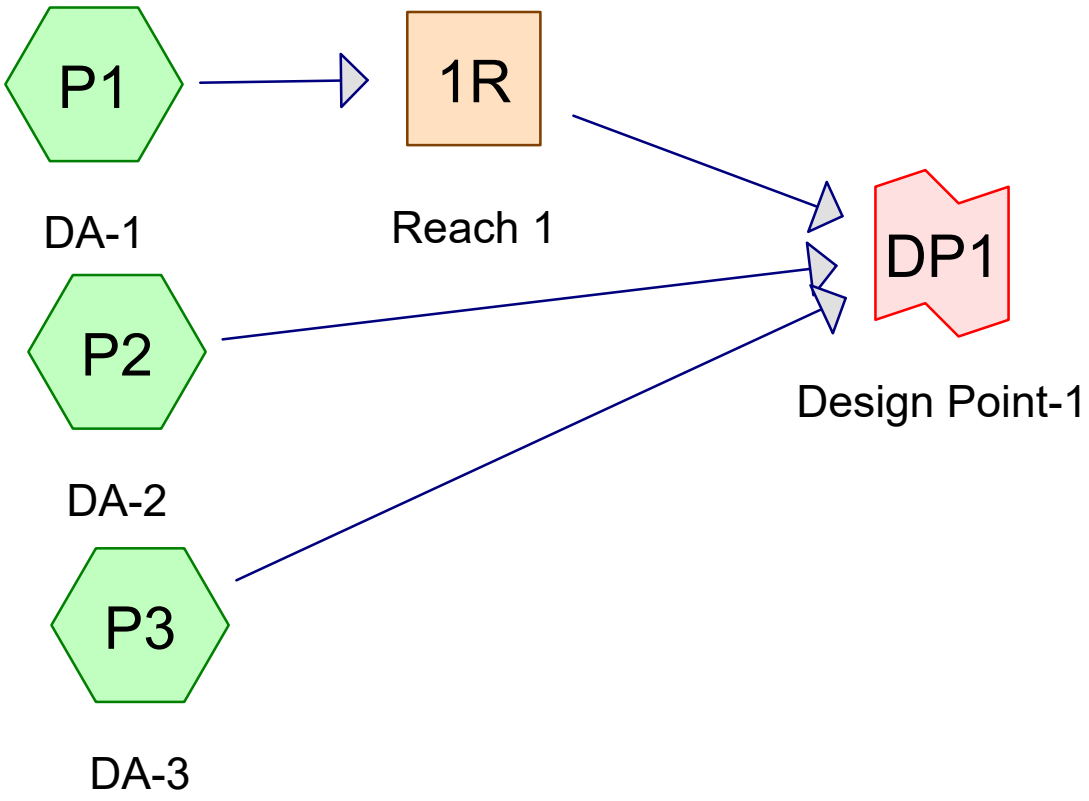
## Link DP1: Design Point-1



# APPENDIX D

## PROPOSED CONDITIONS – HYDROLOGIC ANALYSIS AND CALCULATION DATA

POST-CON




Subcat Reach Pond Link

**Routing Diagram for Post-Development Conditions**
Prepared by Clark Patterson Lee, Printed 1/13/2026

## Project Notes

Copied 9 events from NY-Cairo 24-hr S1 storm
Copied 9 events from NY-Cairo 24-hr S1 storm
Copied 9 events from NY-Cairo 24-hr S1 storm

## Rainfall Events Listing (selected events)

| Event# | Event Name | Storm Type | Curve | Mode | Duration (hours) | B/B | Depth (inches) | AMC |
|---|---|---|---|---|---|---|---|---|
| 1 | 1-yr | NY-Cairo 24-hr S1 | 1-yr | Default | 24.00 | 1 | 2.49 | 2 |
| 2 | 10-yr | NY-Cairo 24-hr S1 | 10-yr | Default | 24.00 | 1 | 4.47 | 2 |
| 3 | 100-yr | NY-Cairo 24-hr S1 | 100-yr | Default | 24.00 | 1 | 8.01 | 2 |

## Area Listing (selected nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|---|---|---|
| 0.052 | 74 | >75% Grass cover, Good, HSG C (P3) |
| 1.680 | 91 | Fallow, bare soil, HSG C (P1, P2) |
| 2.994 | 74 | Pasture/grassland/range, Good, HSG C (P1, P2, P3) |
| 1.636 | 98 | Paved parking, HSG C (P2, P3) |
| 0.496 | 98 | Roofs, HSG C (P3) |
| 0.327 | 98 | Unconnected pavement, HSG C (P1, P3) |
| 0.045 | 98 | Unconnected roofs, HSG D (P2) |
| 0.410 | 98 | Water Surface, HSG C (P1) |
| 9.284 | 77 | Woods, Poor, HSG C (P1, P2) |
| 1.273 | 83 | Woods, Poor, HSG D (P1) |
| **18.197** | **82** | **TOTAL AREA** |

## Soil Listing (selected nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|---|---|---|
| 0.000 | HSG A | |
| 0.000 | HSG B | |
| 16.879 | HSG C | P1, P2, P3 |
| 1.318 | HSG D | P1, P2 |
| 0.000 | Other | |
| **18.197** | | **TOTAL AREA** |

## Ground Covers (selected 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 | 0.052 | 0.000 | 0.000 | 0.052 | >75% Grass cover, Good | P3 |
| 0.000 | 0.000 | 1.680 | 0.000 | 0.000 | 1.680 | Fallow, bare soil | P1, P2 |
| 0.000 | 0.000 | 2.994 | 0.000 | 0.000 | 2.994 | Pasture/grassland/range, Good | P1, P2, P3 |
| 0.000 | 0.000 | 1.636 | 0.000 | 0.000 | 1.636 | Paved parking | P2, P3 |
| 0.000 | 0.000 | 0.496 | 0.000 | 0.000 | 0.496 | Roofs | P3 |
| 0.000 | 0.000 | 0.327 | 0.000 | 0.000 | 0.327 | Unconnected pavement | P1, P3 |
| 0.000 | 0.000 | 0.000 | 0.045 | 0.000 | 0.045 | Unconnected roofs | P2 |
| 0.000 | 0.000 | 0.410 | 0.000 | 0.000 | 0.410 | Water Surface | P1 |
| 0.000 | 0.000 | 9.284 | 1.273 | 0.000 | 10.557 | Woods, Poor | P1, P2 |
| **0.000** | **0.000** | **16.879** | **1.318** | **0.000** | **18.197** | **TOTAL AREA** | |

## Pipe Listing (selected 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 | P3 | 0.00 | 0.00 | 22.0 | 0.0600 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 2 | P3 | 0.00 | 0.00 | 103.0 | 0.0050 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 3 | P3 | 0.00 | 0.00 | 131.0 | 0.0050 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 4 | P3 | 0.00 | 0.00 | 131.0 | 0.0050 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 5 | P3 | 0.00 | 0.00 | 63.0 | 0.0050 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 6 | P3 | 0.00 | 0.00 | 28.0 | 0.0100 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 7 | P3 | 0.00 | 0.00 | 25.0 | 0.0500 | 0.013 | 0.0 | 15.0 | 0.0 | |
| 8 | P3 | 0.00 | 0.00 | 112.0 | 0.0050 | 0.013 | 0.0 | 15.0 | 0.0 | |
| 9 | P3 | 0.00 | 0.00 | 146.0 | 0.0056 | 0.013 | 0.0 | 15.0 | 0.0 | |

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentP1: DA-1** Runoff Area=9.896 ac 6.12% Impervious Runoff Depth=0.94"
Flow Length=1,255' Tc=37.6 min CN=81 Runoff=4.86 cfs 0.771 af

**SubcatchmentP2: DA-2** Runoff Area=4.718 ac 4.85% Impervious Runoff Depth=0.78"
Flow Length=466' Tc=27.9 min CN=78 Runoff=2.19 cfs 0.307 af

**SubcatchmentP3: DA-3** Runoff Area=3.583 ac 58.02% Impervious Runoff Depth=1.37"
Flow Length=917' Tc=6.0 min CN=88 Runoff=6.17 cfs 0.410 af

**Reach 1R: Reach 1** Avg. Flow Depth=0.57' Max Vel=2.25 fps Inflow=4.86 cfs 0.771 af
n=0.035 L=549.0' S=0.0103 '/' Capacity=72.96 cfs Outflow=4.78 cfs 0.771 af

**Link DP1: Design Point-1** Inflow=7.57 cfs 1.488 af
Primary=7.57 cfs 1.488 af

**Total Runoff Area = 18.197 ac Runoff Volume = 1.488 af Average Runoff Depth = 0.98"**
**83.99% Pervious = 15.283 ac 16.01% Impervious = 2.914 ac**

## Summary for Subcatchment P1: DA-1

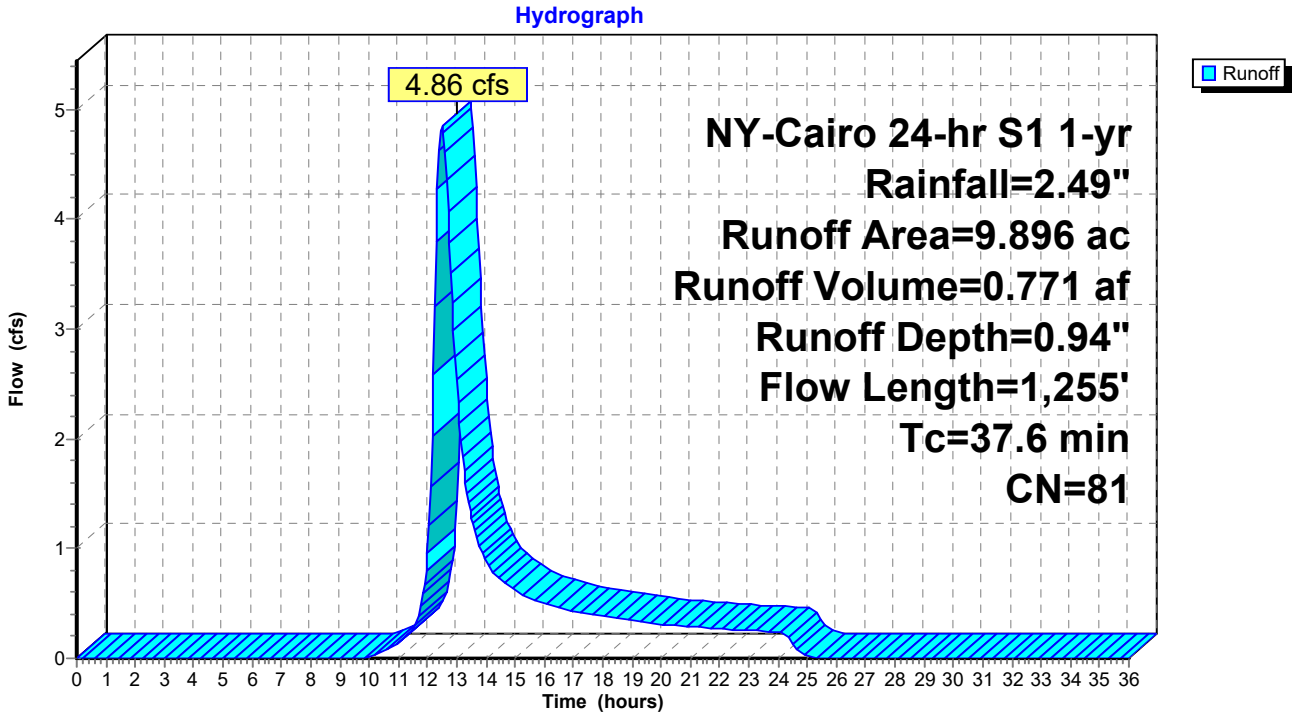
Runoff = 4.86 cfs @ 12.50 hrs, Volume= 0.771 af, Depth= 0.94"
Routed to Reach 1R : Reach 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 1-yr Rainfall=2.49"

| Area (ac) | CN | Description |
|---|---|---|
| 6.056 | 77 | Woods, Poor, HSG C |
| 0.196 | 98 | Unconnected pavement, HSG C |
| 0.410 | 98 | Water Surface, HSG C |
| 0.435 | 74 | Pasture/grassland/range, Good, HSG C |
| 1.526 | 91 | Fallow, bare soil, HSG C |
| 1.273 | 83 | Woods, Poor, HSG D |
| 9.896 | 81 | Weighted Average |
| 9.290 | | 93.88% Pervious Area |
| 0.606 | | 6.12% Impervious Area |
| 0.196 | | 32.34% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 4.3 | 37 | 0.1411 | 0.14 | | **Sheet Flow, A-B**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 13.3 | 63 | 0.0244 | 0.08 | | **Sheet Flow, B-C**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 0.4 | 42 | 0.1476 | 1.92 | | **Shallow Concentrated Flow, C-D**<br>Woodland Kv= 5.0 fps |
| 0.1 | 19 | 0.2284 | 4.78 | | **Shallow Concentrated Flow, D-E**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.5 | 73 | 0.0511 | 2.26 | | **Shallow Concentrated Flow, E-F**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.4 | 84 | 0.0973 | 3.12 | | **Shallow Concentrated Flow, F-G**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 1.0 | 111 | 0.0080 | 1.82 | | **Shallow Concentrated Flow, G-H**<br>Paved Kv= 20.3 fps |
| 16.1 | 524 | 0.0118 | 0.54 | | **Shallow Concentrated Flow, H-I**<br>Woodland Kv= 5.0 fps |
| 1.5 | 302 | 0.0109 | 3.29 | 36.19 | **Channel Flow, I-J**<br>Area= 11.0 sf Perim= 17.2' r= 0.64'<br>n= 0.035 Earth, dense weeds |
| 37.6 | 1,255 | Total | | | |

## Subcatchment P1: DA-1



## Summary for Subcatchment P2: DA-2

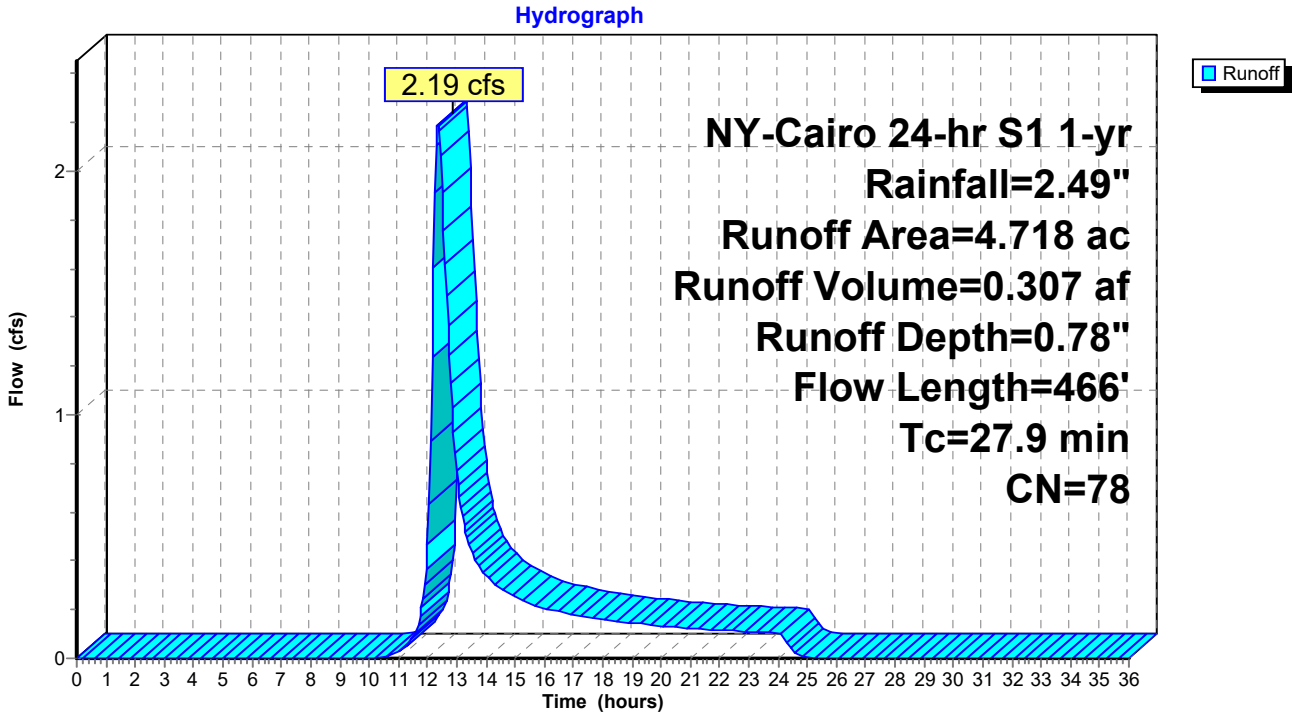
Runoff = 2.19 cfs @ 12.36 hrs, Volume= 0.307 af, Depth= 0.78"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 1-yr Rainfall=2.49"

| Area (ac) | CN | Description |
|---|---|---|
| 3.228 | 77 | Woods, Poor, HSG C |
| 0.184 | 98 | Paved parking, HSG C |
| 0.154 | 91 | Fallow, bare soil, HSG C |
| 0.045 | 98 | Unconnected roofs, HSG D |
| 1.107 | 74 | Pasture/grassland/range, Good, HSG C |
| 4.718 | 78 | Weighted Average |
| 4.489 | | 95.15% Pervious Area |
| 0.229 | | 4.85% Impervious Area |
| 0.045 | | 19.65% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.2 | 9 | 0.0200 | 0.88 | | **Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.42" |
| 21.8 | 91 | 0.0147 | 0.07 | | **Sheet Flow, B-C** Woods: Light underbrush n= 0.400 P2= 3.42" |
| 1.1 | 44 | 0.0167 | 0.65 | | **Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps |
| 0.5 | 43 | 0.0934 | 1.53 | | **Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps |
| 2.5 | 102 | 0.0191 | 0.69 | | **Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps |
| 1.6 | 116 | 0.0065 | 1.21 | | **Shallow Concentrated Flow, F-G** Grassed Waterway Kv= 15.0 fps |
| 0.2 | 61 | 0.0865 | 4.41 | | **Shallow Concentrated Flow, G-H** Grassed Waterway Kv= 15.0 fps |
| 27.9 | 466 | Total | | | |

## Subcatchment P2: DA-2



## Summary for Subcatchment P3: DA-3

[47] Hint: Peak is 245% of capacity of segment #4
[47] Hint: Peak is 245% of capacity of segment #5
[47] Hint: Peak is 245% of capacity of segment #6
[47] Hint: Peak is 245% of capacity of segment #7
[47] Hint: Peak is 173% of capacity of segment #8
[47] Hint: Peak is 135% of capacity of segment #10
[47] Hint: Peak is 128% of capacity of segment #11

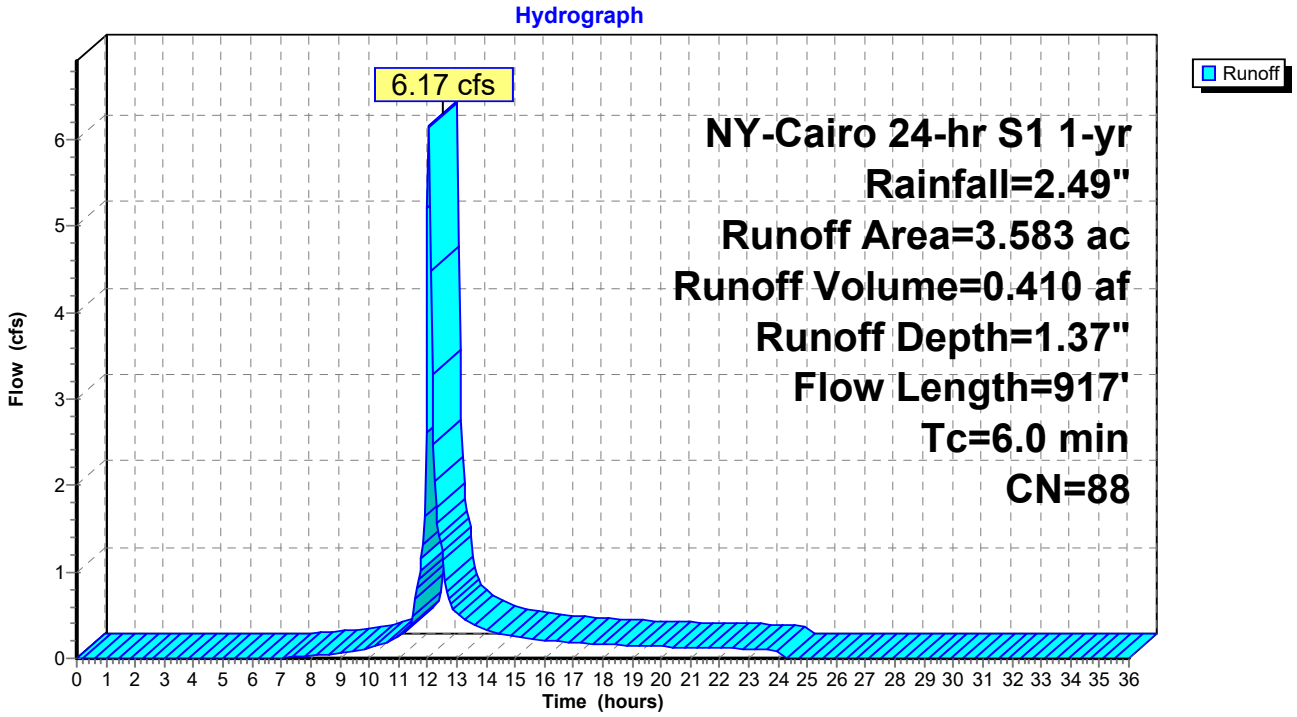
Runoff = 6.17 cfs @ 12.04 hrs, Volume= 0.410 af, Depth= 1.37"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 1-yr Rainfall=2.49"

| Area (ac) | CN | Description |
|---|---|---|
| 0.468 | 98 | Roofs, HSG C |
| 0.112 | 98 | Unconnected pavement, HSG C |
| 0.007 | 98 | Unconnected pavement, HSG C |
| 0.028 | 98 | Roofs, HSG C |
| 0.012 | 98 | Unconnected pavement, HSG C |
| 0.052 | 74 | >75% Grass cover, Good, HSG C |
| 1.452 | 98 | Paved parking, HSG C |
| 1.452 | 74 | Pasture/grassland/range, Good, HSG C |
| 3.583 | 88 | Weighted Average |
| 1.504 | | 41.98% Pervious Area |
| 2.079 | | 58.02% Impervious Area |
| 0.131 | | 6.30% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.4 | 100 | 0.0121 | 1.16 | | **Sheet Flow, A-B**<br>Smooth surfaces n= 0.011 P2= 3.42" |
| 0.4 | 56 | 0.0127 | 2.29 | | **Shallow Concentrated Flow, B-C**<br>Paved Kv= 20.3 fps |
| 0.0 | 22 | 0.0600 | 11.11 | 8.73 | **Pipe Channel, C-D**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.5 | 103 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, D-E**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.7 | 131 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, E-F**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.7 | 131 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, F-G**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.3 | 63 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, G-H**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.1 | 28 | 0.0100 | 4.54 | 3.56 | **Pipe Channel, H-I**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.0 | 25 | 0.0500 | 11.77 | 14.44 | **Pipe Channel, I-J**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.5 | 112 | 0.0050 | 3.72 | 4.57 | **Pipe Channel, J-K**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.6 | 146 | 0.0056 | 3.94 | 4.83 | **Pipe Channel, K-L**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 5.2 | 917 | Total, Increased to minimum Tc = 6.0 min | | | |

## Subcatchment P3: DA-3



## Summary for Reach 1R: Reach 1

Inflow Area = 9.896 ac, 6.12% Impervious, Inflow Depth = 0.94" for 1-yr event
Inflow = 4.86 cfs @ 12.50 hrs, Volume= 0.771 af
Outflow = 4.78 cfs @ 12.62 hrs, Volume= 0.771 af, Atten= 2%, Lag= 7.2 min
Routed to Link DP1 : Design Point-1

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.25 fps, Min. Travel Time= 4.1 min
Avg. Velocity = 0.93 fps, Avg. Travel Time= 9.8 min

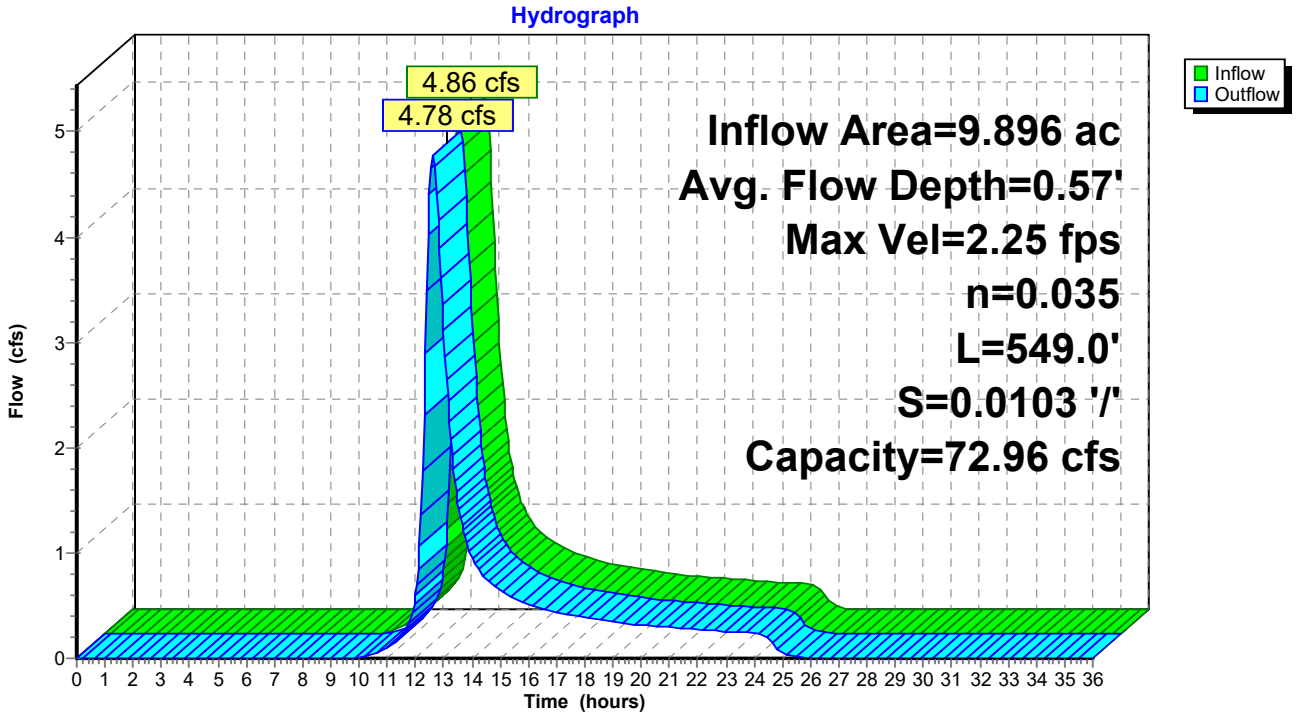
Peak Storage= 1,168 cf @ 12.55 hrs
Average Depth at Peak Storage= 0.57' , Surface Width= 5.43'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 72.96 cfs

Custom cross-section, Length= 549.0' Slope= 0.0103 '/'
Constant n= 0.035 Earth, dense weeds
Inlet Invert= 391.63', Outlet Invert= 386.00'

| Offset (feet) | Elevation (feet) | Chan.Depth (feet) |
|---|---|---|
| 0.00 | 2.00 | 0.00 |
| 6.00 | 0.00 | 2.00 |
| 8.00 | 0.00 | 2.00 |
| 14.00 | 2.00 | 0.00 |

| Depth (feet) | End Area (sq-ft) | Perim. (feet) | Width (feet) | Storage (cubic-feet) | Discharge (cfs) |
|---|---|---|---|---|---|
| 0.00 | 0.0 | 2.0 | 0.0 | 0 | 0.00 |
| 2.00 | 16.0 | 14.6 | 14.0 | 8,784 | 72.96 |

## Reach 1R: Reach 1

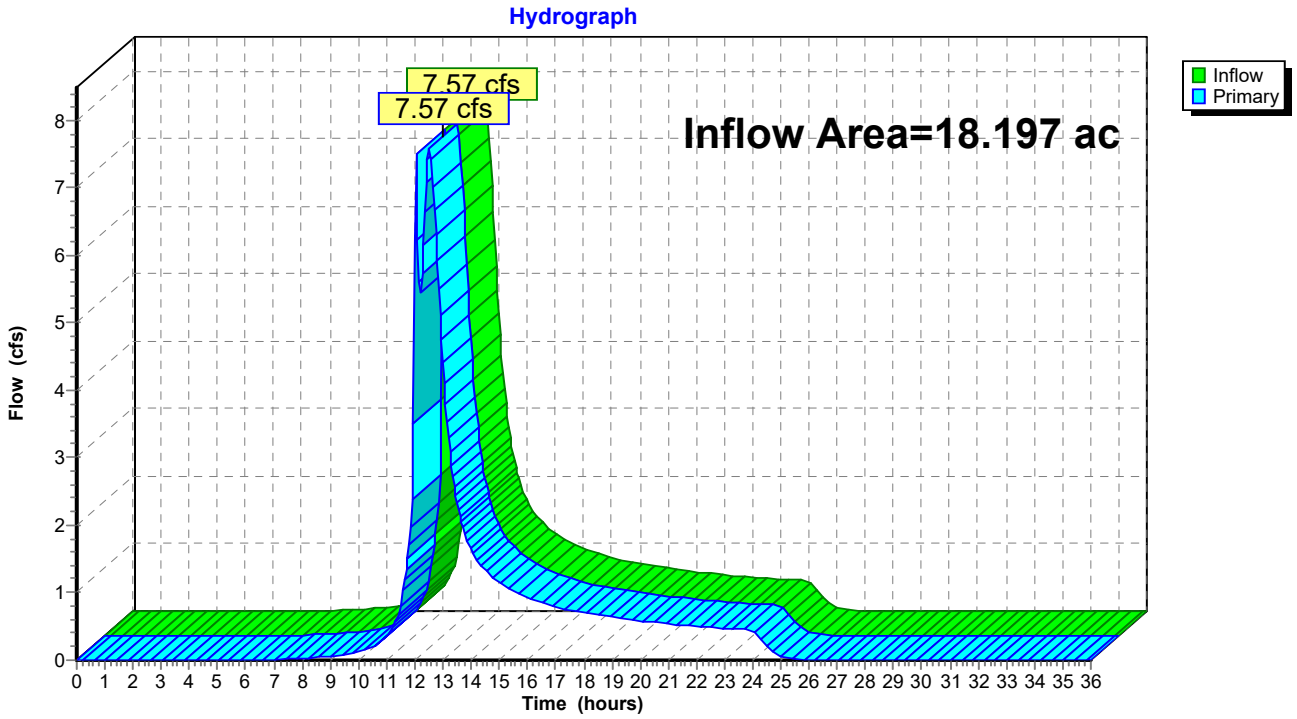


## Summary for Link DP1: Design Point-1

Inflow Area = 18.197 ac, 16.01% Impervious, Inflow Depth = 0.98" for 1-yr event
Inflow = 7.57 cfs @ 12.52 hrs, Volume= 1.488 af
Primary = 7.57 cfs @ 12.52 hrs, Volume= 1.488 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

## Link DP1: Design Point-1



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentP1: DA-1** Runoff Area=9.896 ac 6.12% Impervious Runoff Depth=2.52"
Flow Length=1,255' Tc=37.6 min CN=81 Runoff=13.10 cfs 2.080 af

**SubcatchmentP2: DA-2** Runoff Area=4.718 ac 4.85% Impervious Runoff Depth=2.27"
Flow Length=466' Tc=27.9 min CN=78 Runoff=6.52 cfs 0.892 af

**SubcatchmentP3: DA-3** Runoff Area=3.583 ac 58.02% Impervious Runoff Depth=3.17"
Flow Length=917' Tc=6.0 min CN=88 Runoff=12.88 cfs 0.946 af

**Reach 1R: Reach 1** Avg. Flow Depth=0.93' Max Vel=2.93 fps Inflow=13.10 cfs 2.080 af
n=0.035 L=549.0' S=0.0103 '/' Capacity=72.96 cfs Outflow=12.99 cfs 2.080 af

**Link DP1: Design Point-1** Inflow=20.99 cfs 3.918 af
Primary=20.99 cfs 3.918 af

**Total Runoff Area = 18.197 ac Runoff Volume = 3.918 af Average Runoff Depth = 2.58"**
**83.99% Pervious = 15.283 ac 16.01% Impervious = 2.914 ac**

## Summary for Subcatchment P1: DA-1

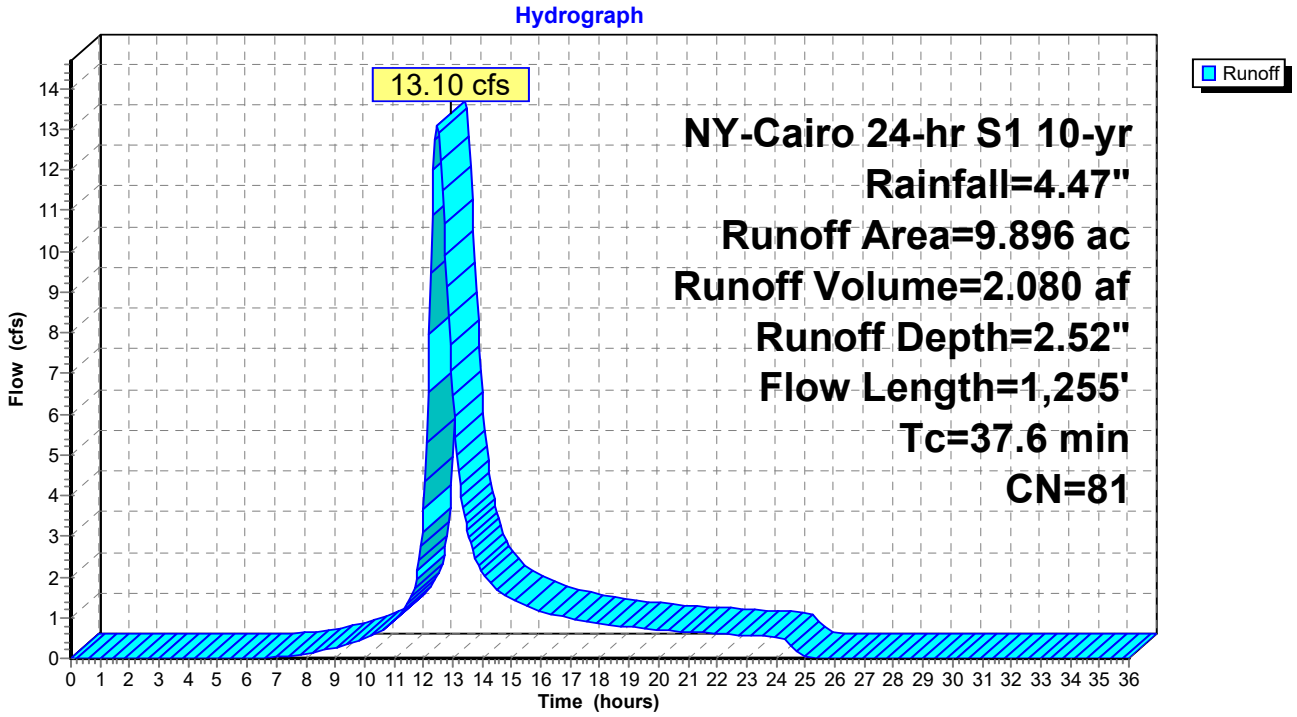
Runoff = 13.10 cfs @ 12.48 hrs, Volume= 2.080 af, Depth= 2.52"
Routed to Reach 1R : Reach 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 10-yr Rainfall=4.47"

| Area (ac) | CN | Description |
|---|---|---|
| 6.056 | 77 | Woods, Poor, HSG C |
| 0.196 | 98 | Unconnected pavement, HSG C |
| 0.410 | 98 | Water Surface, HSG C |
| 0.435 | 74 | Pasture/grassland/range, Good, HSG C |
| 1.526 | 91 | Fallow, bare soil, HSG C |
| 1.273 | 83 | Woods, Poor, HSG D |
| 9.896 | 81 | Weighted Average |
| 9.290 | | 93.88% Pervious Area |
| 0.606 | | 6.12% Impervious Area |
| 0.196 | | 32.34% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 4.3 | 37 | 0.1411 | 0.14 | | **Sheet Flow, A-B**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 13.3 | 63 | 0.0244 | 0.08 | | **Sheet Flow, B-C**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 0.4 | 42 | 0.1476 | 1.92 | | **Shallow Concentrated Flow, C-D**<br>Woodland Kv= 5.0 fps |
| 0.1 | 19 | 0.2284 | 4.78 | | **Shallow Concentrated Flow, D-E**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.5 | 73 | 0.0511 | 2.26 | | **Shallow Concentrated Flow, E-F**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.4 | 84 | 0.0973 | 3.12 | | **Shallow Concentrated Flow, F-G**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 1.0 | 111 | 0.0080 | 1.82 | | **Shallow Concentrated Flow, G-H**<br>Paved Kv= 20.3 fps |
| 16.1 | 524 | 0.0118 | 0.54 | | **Shallow Concentrated Flow, H-I**<br>Woodland Kv= 5.0 fps |
| 1.5 | 302 | 0.0109 | 3.29 | 36.19 | **Channel Flow, I-J**<br>Area= 11.0 sf Perim= 17.2' r= 0.64'<br>n= 0.035 Earth, dense weeds |
| 37.6 | 1,255 | Total | | | |

## Subcatchment P1: DA-1



## Summary for Subcatchment P2: DA-2

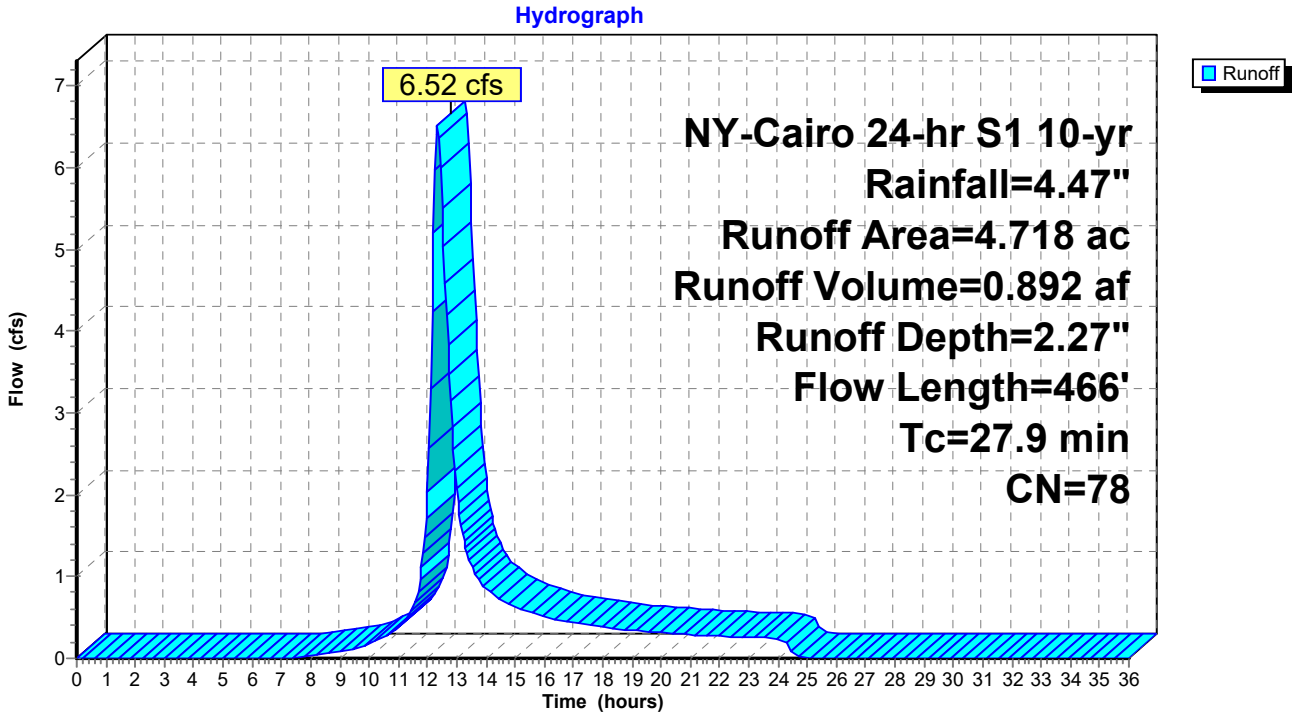
Runoff = 6.52 cfs @ 12.34 hrs, Volume= 0.892 af, Depth= 2.27"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 10-yr Rainfall=4.47"

| Area (ac) | CN | Description |
|---|---|---|
| 3.228 | 77 | Woods, Poor, HSG C |
| 0.184 | 98 | Paved parking, HSG C |
| 0.154 | 91 | Fallow, bare soil, HSG C |
| 0.045 | 98 | Unconnected roofs, HSG D |
| 1.107 | 74 | Pasture/grassland/range, Good, HSG C |
| 4.718 | 78 | Weighted Average |
| 4.489 | | 95.15% Pervious Area |
| 0.229 | | 4.85% Impervious Area |
| 0.045 | | 19.65% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.2 | 9 | 0.0200 | 0.88 | | **Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.42" |
| 21.8 | 91 | 0.0147 | 0.07 | | **Sheet Flow, B-C** Woods: Light underbrush n= 0.400 P2= 3.42" |
| 1.1 | 44 | 0.0167 | 0.65 | | **Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps |
| 0.5 | 43 | 0.0934 | 1.53 | | **Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps |
| 2.5 | 102 | 0.0191 | 0.69 | | **Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps |
| 1.6 | 116 | 0.0065 | 1.21 | | **Shallow Concentrated Flow, F-G** Grassed Waterway Kv= 15.0 fps |
| 0.2 | 61 | 0.0865 | 4.41 | | **Shallow Concentrated Flow, G-H** Grassed Waterway Kv= 15.0 fps |
| 27.9 | 466 | Total | | | |

## Subcatchment P2: DA-2



## Summary for Subcatchment P3: DA-3

[47] Hint: Peak is 148% of capacity of segment #3
[47] Hint: Peak is 511% of capacity of segment #4
[47] Hint: Peak is 511% of capacity of segment #5
[47] Hint: Peak is 511% of capacity of segment #6
[47] Hint: Peak is 511% of capacity of segment #7
[47] Hint: Peak is 362% of capacity of segment #8
[47] Hint: Peak is 282% of capacity of segment #10
[47] Hint: Peak is 266% of capacity of segment #11

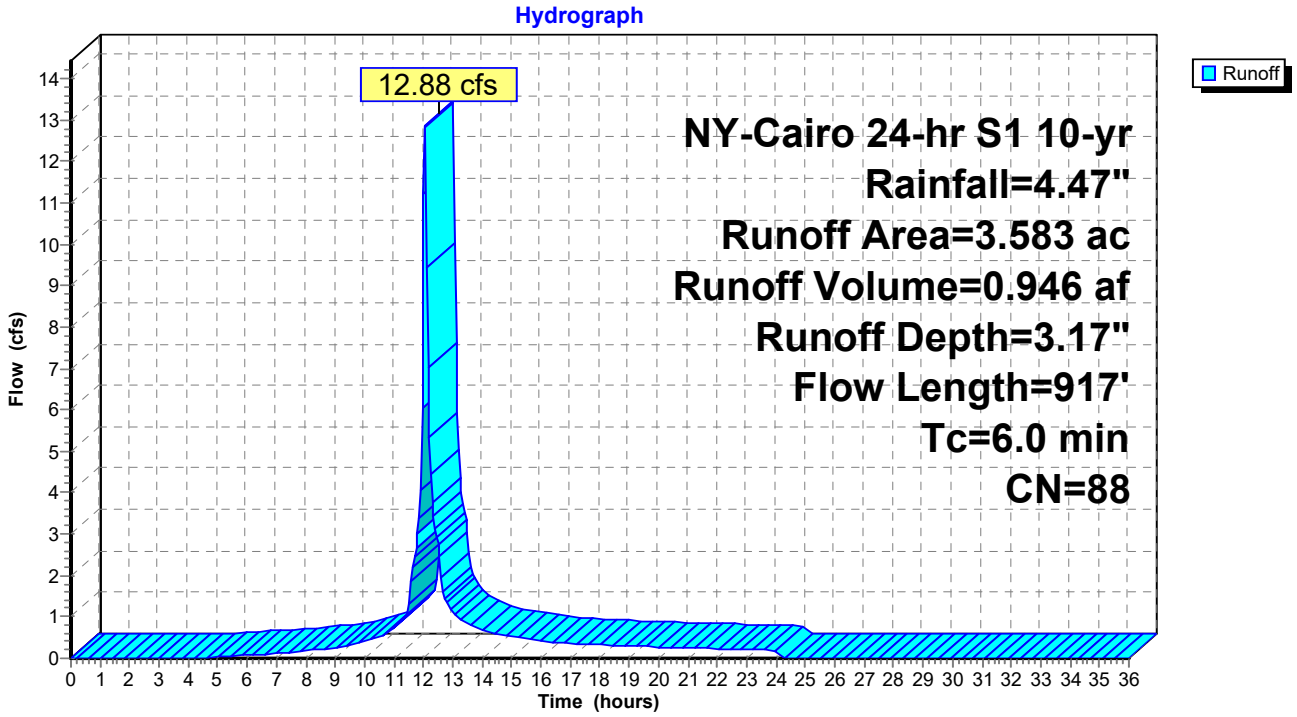
Runoff = 12.88 cfs @ 12.04 hrs, Volume= 0.946 af, Depth= 3.17"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 10-yr Rainfall=4.47"

| Area (ac) | CN | Description |
|---|---|---|
| 0.468 | 98 | Roofs, HSG C |
| 0.112 | 98 | Unconnected pavement, HSG C |
| 0.007 | 98 | Unconnected pavement, HSG C |
| 0.028 | 98 | Roofs, HSG C |
| 0.012 | 98 | Unconnected pavement, HSG C |
| 0.052 | 74 | >75% Grass cover, Good, HSG C |
| 1.452 | 98 | Paved parking, HSG C |
| 1.452 | 74 | Pasture/grassland/range, Good, HSG C |
| 3.583 | 88 | Weighted Average |
| 1.504 | | 41.98% Pervious Area |
| 2.079 | | 58.02% Impervious Area |
| 0.131 | | 6.30% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.4 | 100 | 0.0121 | 1.16 | | **Sheet Flow, A-B**<br>Smooth surfaces n= 0.011 P2= 3.42" |
| 0.4 | 56 | 0.0127 | 2.29 | | **Shallow Concentrated Flow, B-C**<br>Paved Kv= 20.3 fps |
| 0.0 | 22 | 0.0600 | 11.11 | 8.73 | **Pipe Channel, C-D**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.5 | 103 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, D-E**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.7 | 131 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, E-F**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.7 | 131 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, F-G**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.3 | 63 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, G-H**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.1 | 28 | 0.0100 | 4.54 | 3.56 | **Pipe Channel, H-I**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.0 | 25 | 0.0500 | 11.77 | 14.44 | **Pipe Channel, I-J**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.5 | 112 | 0.0050 | 3.72 | 4.57 | **Pipe Channel, J-K**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.6 | 146 | 0.0056 | 3.94 | 4.83 | **Pipe Channel, K-L**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 5.2 | 917 | Total, Increased to minimum Tc = 6.0 min | | | |

## Subcatchment P3: DA-3



## Summary for Reach 1R: Reach 1

Inflow Area = 9.896 ac, 6.12% Impervious, Inflow Depth = 2.52" for 10-yr event
Inflow = 13.10 cfs @ 12.48 hrs, Volume= 2.080 af
Outflow = 12.99 cfs @ 12.57 hrs, Volume= 2.080 af, Atten= 1%, Lag= 5.5 min
Routed to Link DP1 : Design Point-1

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.93 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 1.17 fps, Avg. Travel Time= 7.8 min

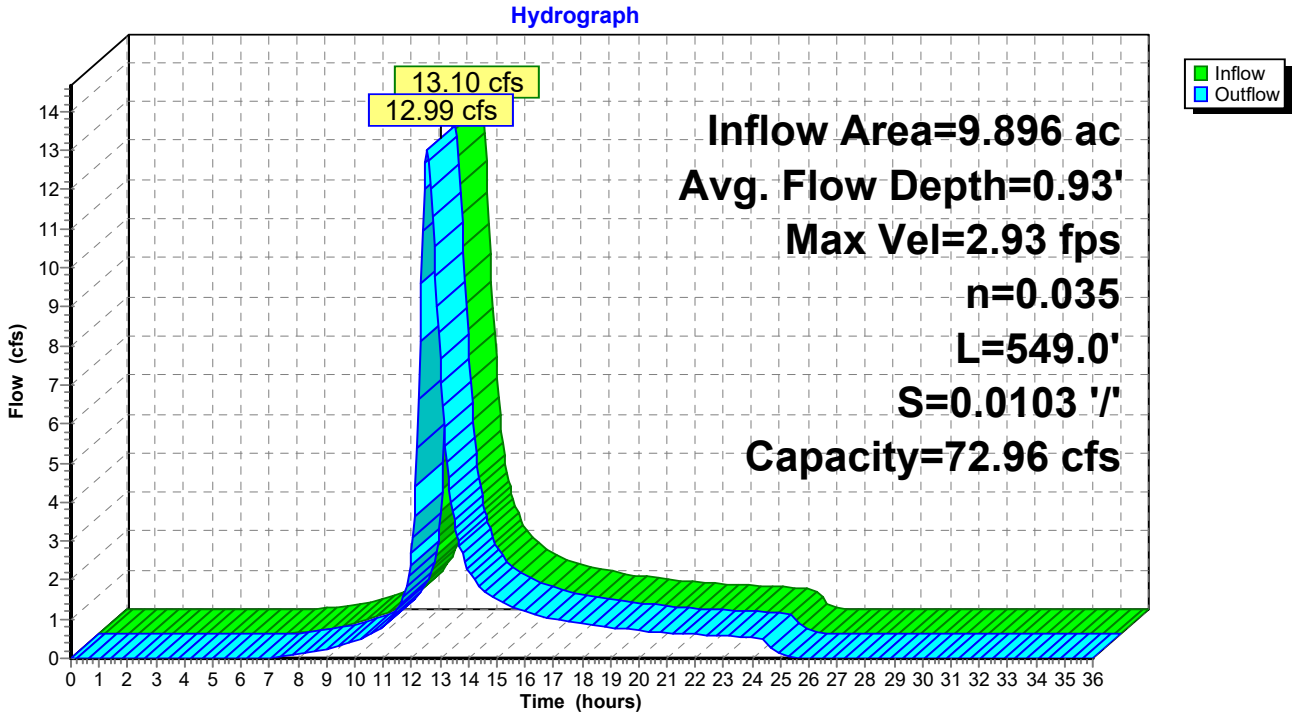
Peak Storage= 2,433 cf @ 12.52 hrs
Average Depth at Peak Storage= 0.93' , Surface Width= 7.56'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 72.96 cfs

Custom cross-section, Length= 549.0' Slope= 0.0103 '/'
Constant n= 0.035 Earth, dense weeds
Inlet Invert= 391.63', Outlet Invert= 386.00'

| Offset (feet) | Elevation (feet) | Chan.Depth (feet) |
|---|---|---|
| 0.00 | 2.00 | 0.00 |
| 6.00 | 0.00 | 2.00 |
| 8.00 | 0.00 | 2.00 |
| 14.00 | 2.00 | 0.00 |

| Depth (feet) | End Area (sq-ft) | Perim. (feet) | Width (feet) | Storage (cubic-feet) | Discharge (cfs) |
|---|---|---|---|---|---|
| 0.00 | 0.0 | 2.0 | 0.0 | 0 | 0.00 |
| 2.00 | 16.0 | 14.6 | 14.0 | 8,784 | 72.96 |

## Reach 1R: Reach 1

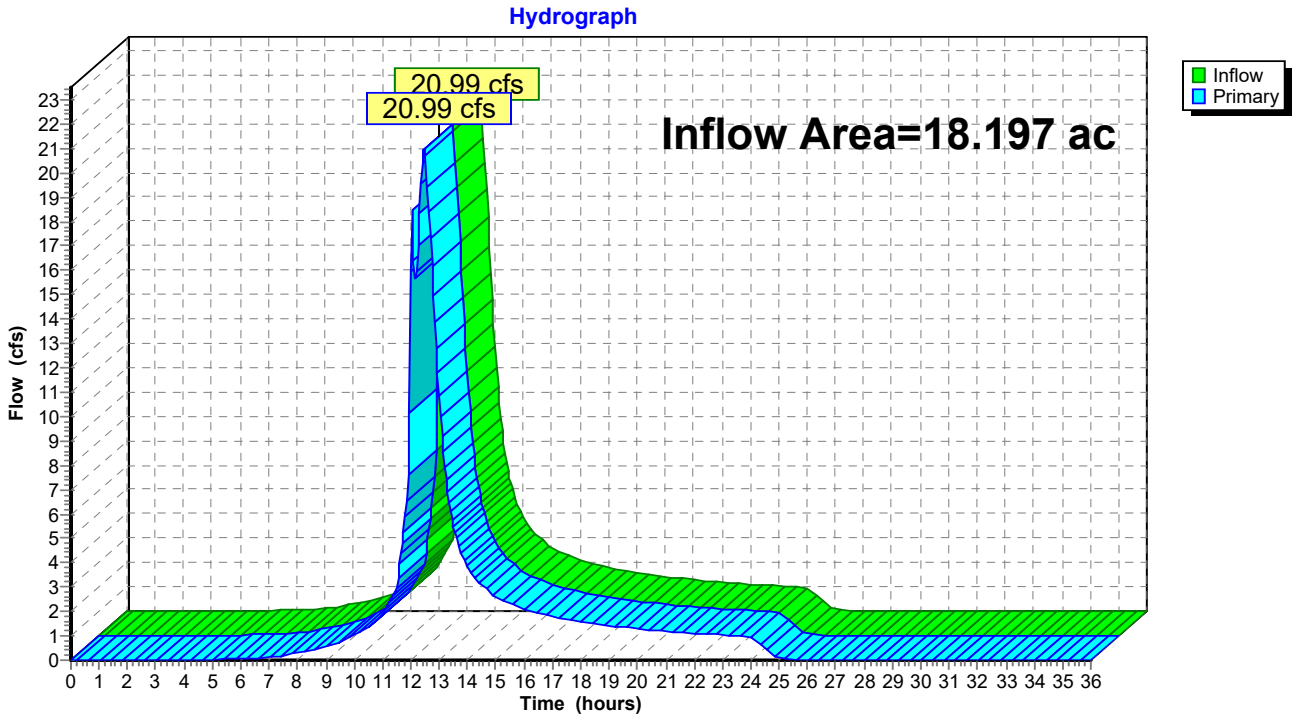


## Summary for Link DP1: Design Point-1

Inflow Area = 18.197 ac, 16.01% Impervious, Inflow Depth = 2.58" for 10-yr event
Inflow = 20.99 cfs @ 12.47 hrs, Volume= 3.918 af
Primary = 20.99 cfs @ 12.47 hrs, Volume= 3.918 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

## Link DP1: Design Point-1



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentP1: DA-1** Runoff Area=9.896 ac 6.12% Impervious Runoff Depth=5.75"
Flow Length=1,255' Tc=37.6 min CN=81 Runoff=27.58 cfs 4.743 af

**SubcatchmentP2: DA-2** Runoff Area=4.718 ac 4.85% Impervious Runoff Depth=5.40"
Flow Length=466' Tc=27.9 min CN=78 Runoff=14.35 cfs 2.123 af

**SubcatchmentP3: DA-3** Runoff Area=3.583 ac 58.02% Impervious Runoff Depth=6.58"
Flow Length=917' Tc=6.0 min CN=88 Runoff=22.82 cfs 1.964 af

**Reach 1R: Reach 1** Avg. Flow Depth=1.30' Max Vel=3.56 fps Inflow=27.58 cfs 4.743 af
n=0.035 L=549.0' S=0.0103 '/' Capacity=72.96 cfs Outflow=27.41 cfs 4.743 af

**Link DP1: Design Point-1** Inflow=45.11 cfs 8.831 af
Primary=45.11 cfs 8.831 af

**Total Runoff Area = 18.197 ac Runoff Volume = 8.831 af Average Runoff Depth = 5.82"**
**83.99% Pervious = 15.283 ac 16.01% Impervious = 2.914 ac**

## Summary for Subcatchment P1: DA-1

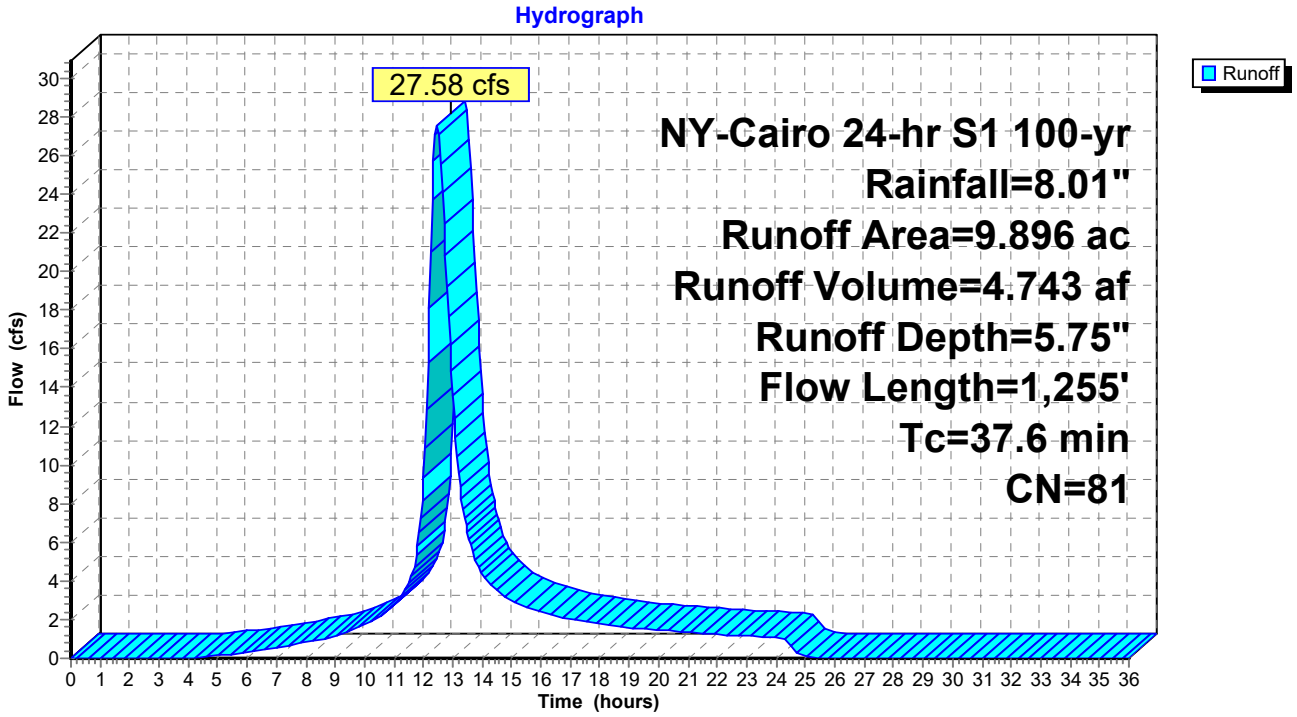
Runoff = 27.58 cfs @ 12.47 hrs, Volume= 4.743 af, Depth= 5.75"
Routed to Reach 1R : Reach 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 100-yr Rainfall=8.01"

| Area (ac) | CN | Description |
|---|---|---|
| 6.056 | 77 | Woods, Poor, HSG C |
| 0.196 | 98 | Unconnected pavement, HSG C |
| 0.410 | 98 | Water Surface, HSG C |
| 0.435 | 74 | Pasture/grassland/range, Good, HSG C |
| 1.526 | 91 | Fallow, bare soil, HSG C |
| 1.273 | 83 | Woods, Poor, HSG D |
| 9.896 | 81 | Weighted Average |
| 9.290 | | 93.88% Pervious Area |
| 0.606 | | 6.12% Impervious Area |
| 0.196 | | 32.34% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 4.3 | 37 | 0.1411 | 0.14 | | **Sheet Flow, A-B**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 13.3 | 63 | 0.0244 | 0.08 | | **Sheet Flow, B-C**<br>Woods: Light underbrush n= 0.400 P2= 3.42" |
| 0.4 | 42 | 0.1476 | 1.92 | | **Shallow Concentrated Flow, C-D**<br>Woodland Kv= 5.0 fps |
| 0.1 | 19 | 0.2284 | 4.78 | | **Shallow Concentrated Flow, D-E**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.5 | 73 | 0.0511 | 2.26 | | **Shallow Concentrated Flow, E-F**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 0.4 | 84 | 0.0973 | 3.12 | | **Shallow Concentrated Flow, F-G**<br>Nearly Bare & Untilled Kv= 10.0 fps |
| 1.0 | 111 | 0.0080 | 1.82 | | **Shallow Concentrated Flow, G-H**<br>Paved Kv= 20.3 fps |
| 16.1 | 524 | 0.0118 | 0.54 | | **Shallow Concentrated Flow, H-I**<br>Woodland Kv= 5.0 fps |
| 1.5 | 302 | 0.0109 | 3.29 | 36.19 | **Channel Flow, I-J**<br>Area= 11.0 sf Perim= 17.2' r= 0.64'<br>n= 0.035 Earth, dense weeds |
| 37.6 | 1,255 | Total | | | |

## Subcatchment P1: DA-1



## Summary for Subcatchment P2: DA-2

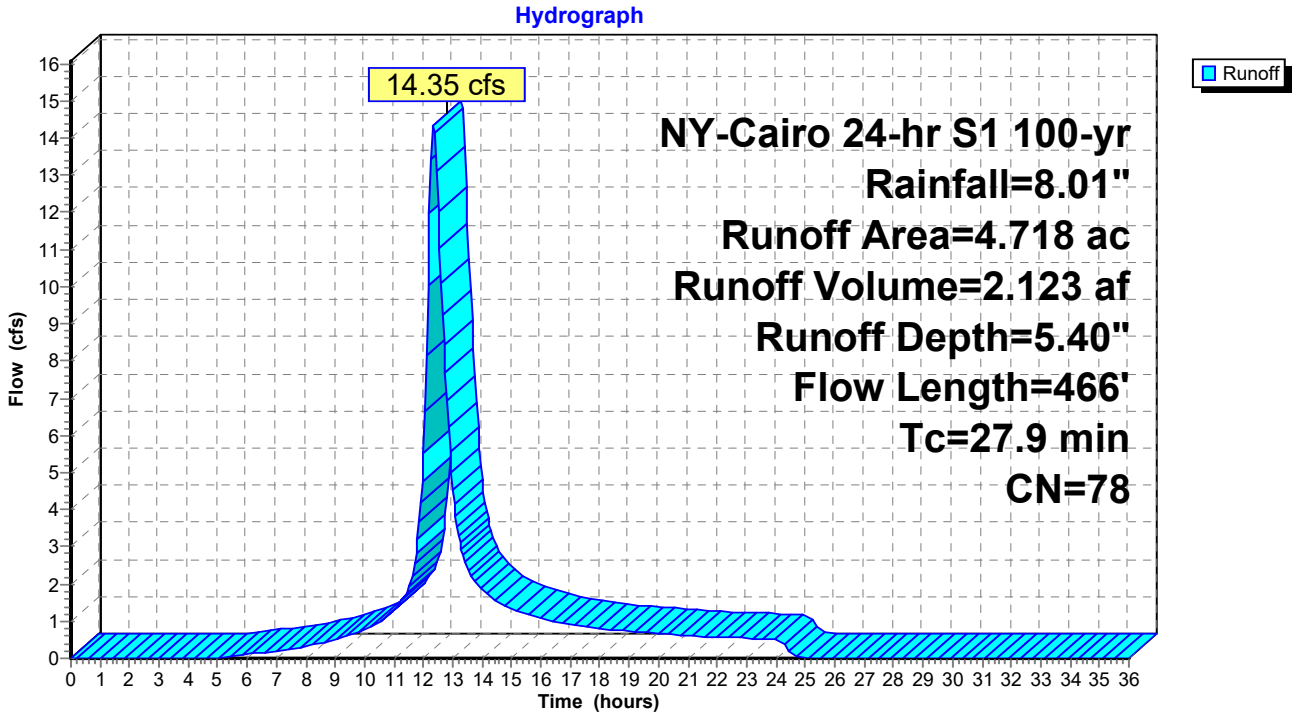
Runoff = 14.35 cfs @ 12.34 hrs, Volume= 2.123 af, Depth= 5.40"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 100-yr Rainfall=8.01"

| Area (ac) | CN | Description |
|---|---|---|
| 3.228 | 77 | Woods, Poor, HSG C |
| 0.184 | 98 | Paved parking, HSG C |
| 0.154 | 91 | Fallow, bare soil, HSG C |
| 0.045 | 98 | Unconnected roofs, HSG D |
| 1.107 | 74 | Pasture/grassland/range, Good, HSG C |
| 4.718 | 78 | Weighted Average |
| 4.489 | | 95.15% Pervious Area |
| 0.229 | | 4.85% Impervious Area |
| 0.045 | | 19.65% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.2 | 9 | 0.0200 | 0.88 | | **Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.42" |
| 21.8 | 91 | 0.0147 | 0.07 | | **Sheet Flow, B-C** Woods: Light underbrush n= 0.400 P2= 3.42" |
| 1.1 | 44 | 0.0167 | 0.65 | | **Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps |
| 0.5 | 43 | 0.0934 | 1.53 | | **Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps |
| 2.5 | 102 | 0.0191 | 0.69 | | **Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps |
| 1.6 | 116 | 0.0065 | 1.21 | | **Shallow Concentrated Flow, F-G** Grassed Waterway Kv= 15.0 fps |
| 0.2 | 61 | 0.0865 | 4.41 | | **Shallow Concentrated Flow, G-H** Grassed Waterway Kv= 15.0 fps |
| 27.9 | 466 | Total | | | |

## Subcatchment P2: DA-2



## Summary for Subcatchment P3: DA-3

[47] Hint: Peak is 261% of capacity of segment #3
[47] Hint: Peak is 906% of capacity of segment #4
[47] Hint: Peak is 906% of capacity of segment #5
[47] Hint: Peak is 906% of capacity of segment #6
[47] Hint: Peak is 906% of capacity of segment #7
[47] Hint: Peak is 641% of capacity of segment #8
[47] Hint: Peak is 158% of capacity of segment #9
[47] Hint: Peak is 500% of capacity of segment #10
[47] Hint: Peak is 472% of capacity of segment #11

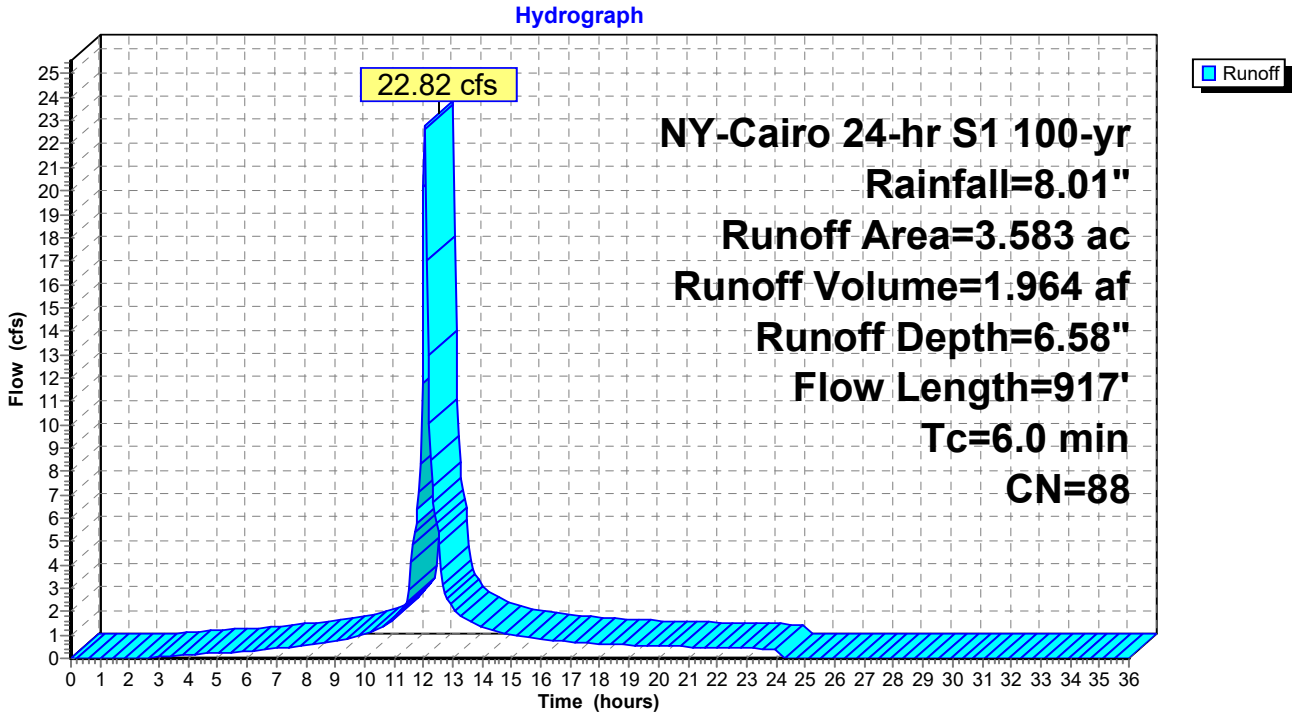
Runoff = 22.82 cfs @ 12.04 hrs, Volume= 1.964 af, Depth= 6.58"
Routed to Link DP1 : Design Point-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NY-Cairo 24-hr S1 100-yr Rainfall=8.01"

| Area (ac) | CN | Description |
|---|---|---|
| 0.468 | 98 | Roofs, HSG C |
| 0.112 | 98 | Unconnected pavement, HSG C |
| 0.007 | 98 | Unconnected pavement, HSG C |
| 0.028 | 98 | Roofs, HSG C |
| 0.012 | 98 | Unconnected pavement, HSG C |
| 0.052 | 74 | >75% Grass cover, Good, HSG C |
| 1.452 | 98 | Paved parking, HSG C |
| 1.452 | 74 | Pasture/grassland/range, Good, HSG C |
| 3.583 | 88 | Weighted Average |
| 1.504 | | 41.98% Pervious Area |
| 2.079 | | 58.02% Impervious Area |
| 0.131 | | 6.30% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.4 | 100 | 0.0121 | 1.16 | | **Sheet Flow, A-B**<br>Smooth surfaces n= 0.011 P2= 3.42" |
| 0.4 | 56 | 0.0127 | 2.29 | | **Shallow Concentrated Flow, B-C**<br>Paved Kv= 20.3 fps |
| 0.0 | 22 | 0.0600 | 11.11 | 8.73 | **Pipe Channel, C-D**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.5 | 103 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, D-E**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.7 | 131 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, E-F**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.7 | 131 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, F-G**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.3 | 63 | 0.0050 | 3.21 | 2.52 | **Pipe Channel, G-H**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.1 | 28 | 0.0100 | 4.54 | 3.56 | **Pipe Channel, H-I**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.0 | 25 | 0.0500 | 11.77 | 14.44 | **Pipe Channel, I-J**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.5 | 112 | 0.0050 | 3.72 | 4.57 | **Pipe Channel, J-K**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 0.6 | 146 | 0.0056 | 3.94 | 4.83 | **Pipe Channel, K-L**<br>15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'<br>n= 0.013 Corrugated PE, smooth interior |
| 5.2 | 917 | Total, Increased to minimum Tc = 6.0 min | | | |

## Subcatchment P3: DA-3



## Summary for Reach 1R: Reach 1

Inflow Area = 9.896 ac, 6.12% Impervious, Inflow Depth = 5.75" for 100-yr event
Inflow = 27.58 cfs @ 12.47 hrs, Volume= 4.743 af
Outflow = 27.41 cfs @ 12.54 hrs, Volume= 4.743 af, Atten= 1%, Lag= 4.5 min
Routed to Link DP1 : Design Point-1

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.56 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 1.45 fps, Avg. Travel Time= 6.3 min

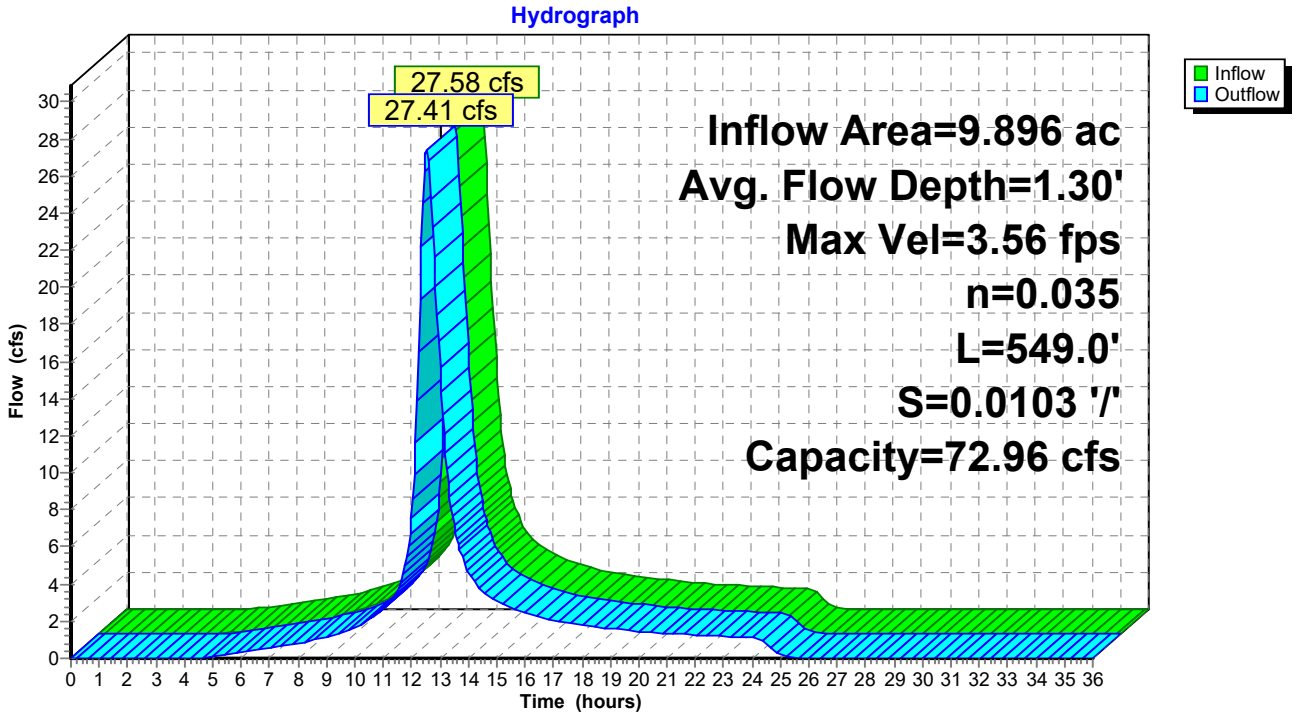
Peak Storage= 4,236 cf @ 12.50 hrs
Average Depth at Peak Storage= 1.30' , Surface Width= 9.83'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 72.96 cfs

Custom cross-section, Length= 549.0' Slope= 0.0103 '/'
Constant n= 0.035 Earth, dense weeds
Inlet Invert= 391.63', Outlet Invert= 386.00'

| Offset (feet) | Elevation (feet) | Chan.Depth (feet) |
|---|---|---|
| 0.00 | 2.00 | 0.00 |
| 6.00 | 0.00 | 2.00 |
| 8.00 | 0.00 | 2.00 |
| 14.00 | 2.00 | 0.00 |

| Depth (feet) | End Area (sq-ft) | Perim. (feet) | Width (feet) | Storage (cubic-feet) | Discharge (cfs) |
|---|---|---|---|---|---|
| 0.00 | 0.0 | 2.0 | 0.0 | 0 | 0.00 |
| 2.00 | 16.0 | 14.6 | 14.0 | 8,784 | 72.96 |

## Reach 1R: Reach 1

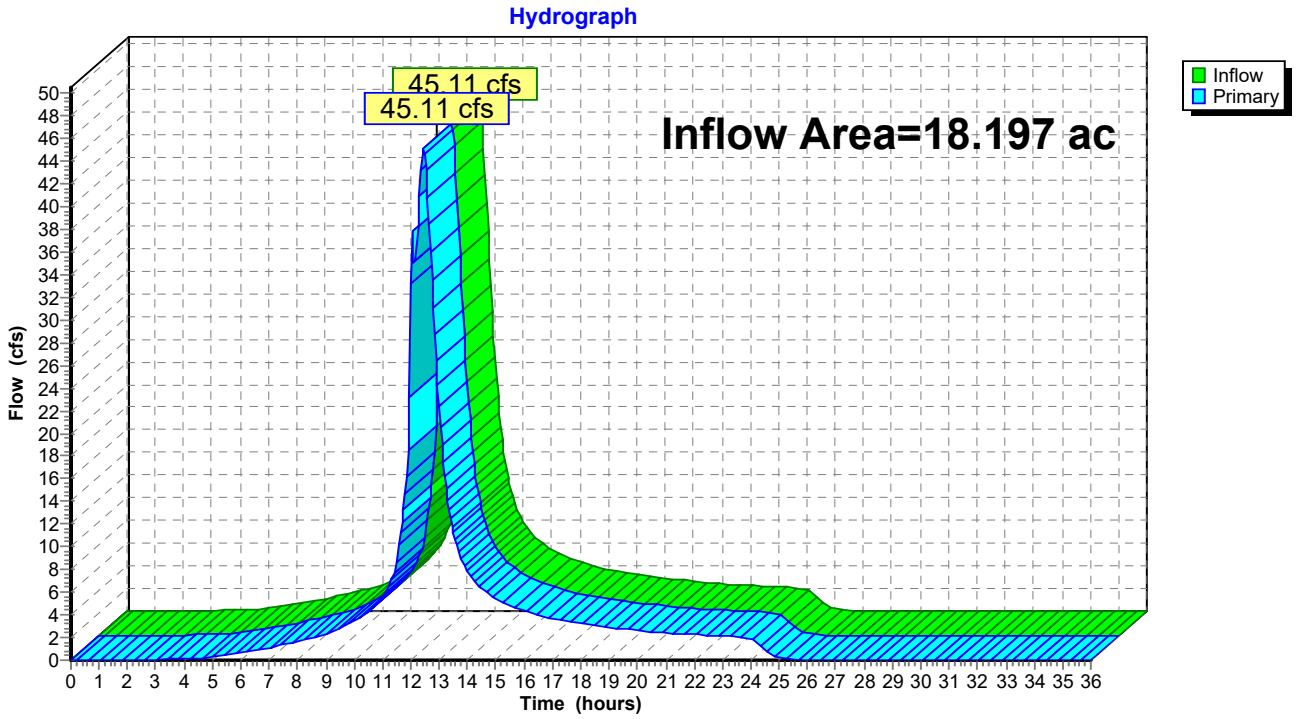


## Summary for Link DP1: Design Point-1

Inflow Area = 18.197 ac, 16.01% Impervious, Inflow Depth = 5.82" for 100-yr event
Inflow = 45.11 cfs @ 12.45 hrs, Volume= 8.831 af
Primary = 45.11 cfs @ 12.45 hrs, Volume= 8.831 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

## Link DP1: Design Point-1



# APPENDIX E

WATER QUALITY VOLUME CALCULATIONS, RUNOFF REDUCTION VOLUME CALCULATIONS & CHANNEL PROTECTION CALCULATIONS

| # | NOI Question | Reported Value | |
|---|---|---|---|
| | | cf | af |
| 28 | Total Water Quality Volume (WQv) Required | 11149 | 0.256 |
| 30 | Total RRV Provided | 4480 | 0.103 |
| 31 | Is RRv Provided ≥WQv Required? | No | |
| 32 | Minimum RRv | 1917 | 0.044 |
| 32a | Is RRv Provided ≥ Minimum RRv Required? | Yes | |
| | | | |
| 33a | Total WQv Treated | 6669 | 0.153 |
| 34 | Sum of Volume Reduced & Treated | 11149 | 0.256 |
| 35 | Is Sum RRv Provided and WQv Provided ≥WQv Required? | Yes | |

# Step 1 - Site Planning

| Practice | | Description | Applicable | Project Specific Evaluation |
|---|---|---|---|---|
| Preservation of Natural Features and Conservation Design | **Preservation of Undisturbed Areas** | Delineate and protect undisturbed forests, native vegetated areas, riparian corridors, water bodies, wetlands, and natural terrain. | No | The project does not propose permanent conservation of this area at this time. |
| | **Preservation of Buffers** | Delineate and protect naturally vegetated buffers along perennial streams, rivers, shorelines, and wetlands. | No | |
| | **Reduction of Clearing and Grading** | Limit clearing and grading to the minimum amount needed for roads, driveways, foundations, utilities and stormwater management facilities. | Yes | Clearing and grading will be limited to the area of disturbance and will be minimized to the greatest extent practical. The limits of all proposed clearing will be demarcated in the field with orange construction fencing, prior to construction, to prevent unnecessary removal of trees. |
| | **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. | N/A | There are no floodplains, steep slopes, erodible soils, wetlands, mature forests or critical habitats located on the project site. |
| | **Open Space Design** | Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources. | N/A | Open Space Design is not appropriate for this application. |
| | **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. | Yes | All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual. |

# Step 1 - Site Planning

| | | | | |
|---|---|---|---|---|
| Reduction of Impervious Cover | **Roadway Reduction** | Minimize roadway widths and lengths, below local requirements, to reduce site impervious area | No | Reducing the roadway width is not feasible for the project's intended use.. |
| | **Sidewalk Reduction** | Minimize sidewalk lengths and widths, below local requirements, to reduce site impervious area | No | |
| | **Driveway Reduction** | Minimize driveway lengths and widths, below local requirements, to reduce site impervious area | No | Reducing the driveway width is not feasible for the intended use. |
| | **Cul-de-sac Reduction** | Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. | N/A | No cul-de-sacs are proposed as part of this project. |
| | **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. | No | Reducing the building footprint is not feasible for the intended use. |
| | **Parking Reduction** | Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, reducing stall dimensions below local requirements, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate. | No | Reducing the parking stall dimensions or number of stalls is not feasible for the intended use. |

# Step 2 - Calculate Water Quality Volume

| | |
|---|---|
| Is this project subject to Section 4.3 of the NYS Design Manual for Enhanced Phosphorus Removal? | No |
| What is the nature of this construction project? | Redevelopment with increase in impervious area |

| | | | |
|---|---|---|---|
| Design Point: | 1 | | *Enter 90% Rainfall Event as P* |
| P= | 1.50 | inches | |

| Calculate Required WQv | | | | | | |
|---|---|---|---|---|---|---|
| **Drainage Area Number** | **Contributing Area** (Acres) | **Impervious Area** (Acres) | **Percent Impervious** % | **Rv** | **WQv** (cf) | **SMP Description** |
| 1 | 3.58 | 2.08 | 58 | 0.57 | 11,149 | Filtration Bioretention |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| **Total** | 3.58 | 2.08 | 58 | 0.57 | **11149** | **Required WQv** |

# Steps 3 and 5 - Apply RR Techniques and Standard SMPs

| Runoff Reduction Volume and Treated Volumes | | | | | | |
|---|---|---|---|---|---|---|
| **Runoff Reduction Techiques/Standard SMPs** | | | **Total Contributing Area (acres)** | **Total Contributing Impervious Area (acres)** | **WQv Reduced (RRv) (cf)** | **WQv Treated (cf)** |
| **RR Techniques** | Conservation of Natural Areas | RR-1 | 0.00 | | 0 | |
| | Sheet Flow to Riparian Buffer/Filter Strip | RR-2 | 0.00 | 0.00 | 0 | |
| | Tree Planting/Tree Pit/Tree Trench | RR-3 | 0.00 | 0.00 | 0 | |
| | Disconnection of Rooftop Runoff | RR-4 | | 0.00 | 0 | |
| | 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 | |
| | Rainwater Harvesting Systems | RR-8 | 0.00 | 0.00 | 0 | |
| | Porous Pavement | RR-9 | 0.00 | 0.00 | 0 | |
| | Green Roof (Extensive & Intensive) | RR-10 | 0.00 | 0.00 | 0 | |
| | Stream Daylighting | RR-11 | | | | |
| **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 | 0.00 | 0.00 | 0 | 0 |
| | Infiltration Bioretention | F-4 | 0.00 | 0.00 | 0 | 0 |
| | Filtration Bioretention | F-5 | 3.58 | 2.08 | 4,480 | 6,669 |
| | Bioslope | F-6 | 0.00 | 0.00 | 0 | 0 |
| | Dry swale | O-1 | 0.00 | 0.00 | 0 | 0 |
| **Standard SMPs** | Micropool Extended Detention | P-1 | 0.00 | 0.00 | | 0 |
| | Wet Pond | P-2 | 0.00 | 0.00 | | 0 |
| | Wet Extended Detention | P-3 | 0.00 | 0.00 | | 0 |
| | Multiple Pond System | P-4 | 0.00 | 0.00 | | 0 |
| | Shallow Wetland | W-1 | 0.00 | 0.00 | | 0 |
| | Extended Detention Shallow Wetland | W-2 | 0.00 | 0.00 | | 0 |
| | Pond/Wetland System | W-3 | 0.00 | 0.00 | | 0 |
| | Pocket Wetland | W-4 | 0.00 | 0.00 | | 0 |
| | Gravel Wetland | W-5 | 0.00 | 0.00 | | 0 |
| | Surface Sand Filter | F-1 | 0.00 | 0.00 | | 0 |
| | Underground Sand Filter | F-2 | 0.00 | 0.00 | | 0 |
| | Perimeter Sand Filter | F-3 | 0.00 | 0.00 | | 0 |
| | Wet Swale | O-2 | 0.00 | 0.00 | | 0 |
| **Alt. SMPs** | Flow Based Alternative Practice | - | 0.00 | 0.00 | | 0 |
| | Volume Based Alternative Practice | - | | | | |
| Totals by RR Technique → | | | 0.00 | 0.00 | 0 | |
| Totals by Standard SMP w/RRV → | | | 3.58 | 2.08 | 4,480 | 6,669 |
| Totals by Standard SMP → | | | 0.00 | 0.00 | | 0 |
| Totals by Alternative SMP → | | | 0.00 | 0.00 | | 0 |
| Totals ( RR Techniques + all SMPs) → | | | 3.58 | 2.08 | 4,480 | 6,669 |

# Step 4 - Calcuate Minimum RRv Required

| **Enter the Soils Data for the site** | | |
|---|---|---|
| Hydrologic Soil Group | Acres | S |
| A | | 55% |
| B | | 40% |
| C | 3.58 | 30% |
| D | | 20% |
| Total Area | 3.59 | |

| **Calculate the Minimum RRv** | | |
|---|---|---|
| S = | **0.30** | |
| Impervious = | 2.08 | *acres* |
| Precipitation | 1.50 | *inches* |
| Rv | 0.57 | |
| **Minimum RRv** | **0.044** | ***af*** |
| | 1917 | cf |

# Filtration Bioretention (F-5)

| Design Point: | 1 |
|---|---|

| Enter Site Data For Drainage Area to be Treated by Practice | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Drainage Area Number** | **Contributing Area** (Acres) | **Impervious Area** (Acres) | **Percent Impervious** % | **Rv** | **WQv** (cf) | **Precipitation** (in) | **Description** |
| 1 | 3.58 | 2.08 | 58 | 0.57 | 11,149 | 1.50 | Filtration Bioretention |

| Design Criteria | | |
|---|---|---|
| Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D) | 0.125 | Underdrains required |
| Is the contributing area to the practice a stormwater hotspot? | No | |
| Is the practice the first in series for treatment of a Level 1 (Infiltration Restricted) hotspot? | No | |
| Is contributing area greater than max. contributing area? | No | |
| Enter depth to seasonal high water table (ft) | 10 | |
| Enter depth to bedrock (ft) | 6 | |
| Is pretreatment provided, in conformance with Section 6.4.3.1 | Yes | |
| Enter average height of ponding (ft) | 1 | |
| Enter depth of surface layer (inches) | 3 | |
| Enter depth of filter media (ft) | 2.5 | |
| Enter depth of drainage layer (inches) | 10 | |
| Enter slope of maintenance access (%) | 2 | |
| Enter width of maintenance access (ft) | 12 | |

| Sizing Criteria | | | | |
|---|---|---|---|---|
| | | Value | Units | Notes |
| Permeability Flow Rate | k | 1 | ft/day | |
| Filter Time | tf | 2 | days | |
| Required Filter Area | Af | 3982 | sf | |
| Enter Provided Filter Area | Af | 4000 | sf | |
| Recalculated Water Quality Volume (based on provided filter area) | WQv calc | 11200 | cf | |

| Calculate Runoff Reduction | | | |
|---|---|---|---|
| **RRv Provided** | **4,480** | ***cf*** | |
| WQv Treated | 6,669 | cf | This is the portion of the WQv that is not reduced in the practice. |

# APPENDIX F

SOIL REPORT & GEOTECHNICAL REPORT

# Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Hydrologic soil group* is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

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

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

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

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

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Percentage of rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Liquid limit* and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

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

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

# Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

| Engineering Properties–Greene County, New York | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Map unit symbol and soil name | Pct. of map unit | Hydrologic group | Depth | USDA texture | Classification | | Pct Fragments | | Percentage passing sieve number— | | | | Liquid limit | Plasticity index |
| | | | | | Unified | AASHTO | >10 inches | 3-10 inches | 4 | 10 | 40 | 200 | | |
| | | | *In* | | | | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* |
| OrB—Oquaga very channery silt loam, 3 to 8 percent slopes | | | | | | | | | | | | | | |
| Oquaga | 90 | C | 0-7 | Channery sandy loam, channery loam, very channery loam, channery silt loam, very channery silt loam | GM, OH | A-1-b, A-4, A-7-5 | 2- 6- 16 | 11-24-37 | 35-58-84 | 33-57-83 | 27-51-82 | 22-42-69 | 22-35-53 | 3-8 -14 |
| | | | 7-15 | Channery sandy loam, very channery silt loam, channery loam, extremely channery loam, channery silt loam, very channery loam, extremely channery silt loam, channery fine sandy loam | GC-GM, GM, ML | A-1-b, A-4, A-7-5 | 4- 5- 23 | 16-23-46 | 29-61-75 | 27-60-75 | 23-53-74 | 18-43-61 | 19-29-44 | 3-7 -14 |
| | | | 15-24 | Channery loam, extremely channery loam, channery fine sandy loam, extremely channery silt loam, very channery loam, channery silt loam, very channery silt loam, channery sandy loam | CL, GC, GM | A-1-b, A-4, A-6 | 3- 7- 26 | 15-22-48 | 31-59-77 | 29-58-77 | 24-52-75 | 19-42-61 | 19-27-40 | 3-8 -15 |

| Engineering Properties–Greene County, New York | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Map unit symbol and soil name | Pct. of map unit | Hydrologic group | Depth | USDA texture | Classification | | Pct Fragments | | Percentage passing sieve number— | | | | Liquid limit | Plasticity index |
| | | | | | Unified | AASHTO | >10 inches | 3-10 inches | 4 | 10 | 40 | 200 | | |
| | | | *In* | | | | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* |
| | | | 24-30 | Very channery silt loam, very channery fine sandy loam, very channery loam, very flaggy loam, channery loam, extremely channery loam, very channery sandy loam, extremely channery silt loam, extremely flaggy loam, channery silt loam | GP-GM, CL, GC | A-1-a, A-2-4, A-6 | 3- 7- 32 | 15-28-53 | 17-38-77 | 14-36-77 | 11-31-71 | 8-25- 57 | 16-25 -32 | 2-8 -13 |
| | | | 30-40 | Bedrock | — | — | — | — | — | — | — | — | — | — |
| Ur—Udorthents, loamy | | | | | | | | | | | | | | |
| Udorthents | 80 | A | 0-4 | Gravelly silt loam, very gravelly sandy loam, silty clay loam | CL, GM, ML, SM | A-2, A-4, A-6 | 0- 0- 0 | 0- 8- 30 | 46-76-100 | 12-68-100 | 9-63-100 | 7-51- 95 | 15-30 -45 | NP-8 -15 |
| | | | 4-70 | Very gravelly sandy loam, gravelly silt loam, silty clay loam | CL, GM, ML, SC | A-1, A-2, A-4, A-6 | 0- 0- 0 | 0- 8- 29 | 46-77-100 | 12-69-100 | 10-64-100 | 7-52- 95 | 15-30 -45 | NP-8 -15 |

| Engineering Properties–Greene County, New York | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Map unit symbol and soil name | Pct. of map unit | Hydrologic group | Depth | USDA texture | Classification | | Pct Fragments | | Percentage passing sieve number— | | | | Liquid limit | Plasticity index |
| | | | | | Unified | AASHTO | >10 inches | 3-10 inches | 4 | 10 | 40 | 200 | | |
| | | | *In* | | | | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* | *L-R-H* |
| VaB—Valois gravelly loam, 3 to 8 percent slopes | | | | | | | | | | | | | | |
| Valois | 80 | B | 0-8 | Gravelly loam | GC-GM, GM, ML, SM | A-1, A-2, A-4 | 0- 0- 0 | 0- 2- 6 | 63-82-94 | 40-74-94 | 33-65-87 | 23-46-63 | 20-30 -40 | 1-7 -12 |
| | | | 8-34 | Gravelly loam, silt loam, gravelly sandy loam | GC-GM, GM, ML, SM | A-1, A-2, A-4 | 0- 0- 0 | 0- 5- 9 | 63-75-94 | 41-63-94 | 31-55-87 | 21-39-63 | 15-20 -25 | NP-3 -5 |
| | | | 34-60 | Gravelly silt loam, very gravelly sandy loam, very gravelly loam | GC-GM, GW-GM, GM | A-1, A-2, A-4 | 0- 1- 3 | 0- 5- 16 | 39-70-76 | 9-60- 75 | 7-55- 72 | 5-44- 59 | 15-20 -25 | NP-4 -7 |

# Data Source Information

Soil Survey Area: Greene County, New York
Survey Area Data: Version 23, Aug 26, 2024

# REPORT OF GEOTECHNICAL INVESTIGATION

**For**

Proposed County Behavioral Health Services – Town of Cairo, New York

At
774 Main Street,
Town of Cairo, Greene County, New York 12413

CPL Project No. R23.14877.01

Prepared For:
GEORGE SCHMITT
CPL
ARCHITECTURE, ENGINEERING, AND PLANNING

**Prepared By:**

AKSHAR ENGINEERING

AKSHAR ENGINEERING LLC
January 6, 2026

PREPARED BY:
**MOULIK PANDYA**

REVIEWED BY:
**ARVIND V. NASIT, P.E.**
**AKSHAR ENGINEERING LLC**

**January 6, 2026**
File No. 2025-144

Attention**:** George Schmitt,
CPL ARCHITECTURE, ENGINEERING, AND PLANNING

**REGARDING: REPORT OF GEOTECHNICAL ENGINEERING SERVICES**
**Proposed County Behavioral Health Services**
**774 Main Street,**
**Town of Cairo, Greene County, New York 12413**

Dear George,

The enclosed report summarizes the results of our geotechnical investigation and recommendations conducted in support of the proposed development, which consists of constructing two new structures, a Behavioral Health Main Building and a detached Maintenance Garage, on a currently vacant parcel located at 774 Main Street, Town of Cairo, Greene County, New York. The site consists primarily of open fields, vegetated areas with trees, and previously disturbed areas, with moderate surface relief. Planned improvements include building foundations with frost walls and concrete floor slabs, paved drive areas, utility infrastructure, and stormwater management facilities to support the overall site development. The subsurface exploration was performed on December 17, 2025, through December 18, 2025, in general accordance with the assumptions and scope of services presented in our proposal dated October 24, 2025, and authorized on November 21, 2025.

We appreciate the opportunity to work with you on this project. Please contact us if you wish to discuss this report or any aspect of the project.

Sincerely,

**AKSHAR ENGINEERING LLC**
ARVIND V. NASIT, P.E

Detailed recommendations are presented in the following report.

Table of Contents

## 6.0 LIMITATIONS

## 7.0 APPENDICES

APPENDIX A: SITE LOCATION

APPENDIX B: BORING LOCATION PLAN

APPENDIX C: SOIL BORING LOGS

APPENDIX D: GEOTECHNICAL TERMS, SYMBOLS, AND CLASSIFICATION

# 1.0 PROJECT BACKGROUND

## 1.1 General

The completion of seven (7) soil borings and two (2) soil infiltration tests was performed for the proposed County Behavioral Health Services development, which consists of two new buildings (a Behavioral Health Main Building and a standalone detached Maintenance Garage) on a currently vacant parcel located at 774 Main Street, Town of Cairo, Greene County, New York (Tax Parcel 83.0-4-1). The proposed buildings are anticipated to be supported on foundations with frost walls and slabs on grade, and the overall site development includes extensive earthwork and paved drive and parking areas to accommodate various sized vehicles, along with associated utilities and stormwater management improvements. The results of our geotechnical investigation and corresponding recommendations are presented in this report. The foundation recommendations and this investigation report were prepared in accordance with our proposal dated October 24, 2025, and in accordance with Section 1803 (including Section 1803.6) of the 2020 Building Code of New York State (BCNYS); infiltration testing was performed in general accordance with the NYSDEC Stormwater Design Manual (July 2024) requirements.

The following documents were provided to us by your office, which subsequently were utilized in preparation for our geotechnical report:

- An RFP for Geotechnical Services prepared by CPL dated October 20, 2025.
- A Site Plan prepared by CPL dated September 18, 2025.

## 1.2 Services Performed

This analysis, based on our field reconnaissance, subsurface investigation program, infiltration test results, and geotechnical engineering study, determined the properties of the subsurface materials present at the site and serves as the basis for detailed recommendations concerning:

- The depth, type, and minimum size of foundations;
- Allowable bearing pressures to be used in foundation design;
- Groundwater control measures;
- Guideline construction procedures;
- Additional Geotechnical Engineering aspects of the project.

The purpose of the investigation was to identify the subsurface soil and foundation conditions in order to determine the relevant parameters for the design and construction of new foundations.

## 1.3 Proposed Construction & Existing Site Conditions

The proposed development site is located at 774 Main Street, Town of Cairo, Greene County, New York. The project site is presently a vacant, undeveloped parcel comprised of open field areas and vegetated/wooded areas with trees and low brush, with moderate surface relief. Based on site observations during our field work, the ground surface within the exploration areas was generally snow-covered and the site was accessible for track-mounted drilling equipment.

The proposed development will consist of constructing two (2) new structures, including a Behavioral Health Main Building and a detached garage / maintenance garage, with associated site improvements. The buildings are proposed to be supported on foundations with frost walls and slabs-on-grade. Planned improvements also include extensive site work and earthmoving, including construction of a driveway and a large paved area to accommodate various sized vehicles entering and circulating within the site, along with associated parking and site infrastructure as indicated on the schematic/site plan drawings (building footprint shown as ±20,231 SF). A detailed site location plan and boring layout, including the locations of borings B-1 through B-7, are provided in Appendix A and B of this report.

# 2.0 FIELD INVESTIGATION

## 2.1 Regional Geology Review

The regional surficial geology in the vicinity of the site is strongly influenced by Pleistocene glaciation, with upland areas commonly mantled by glacial till and related ice-marginal deposits, and low-lying drainageways locally underlain by alluvial materials. USDA-NRCS soil mapping for the area indicates upland soils associated with lateral moraines, valley sides, and end moraines, with parent material described as loamy till derived mainly from sandstone, siltstone, and shale, which may include localized gravel/cobble and stony conditions.

Beneath the glacial overburden, the regional bedrock is reflected by the mapped parent materials and restrictive features noted in the soil survey. In general, the area is underlain by sedimentary rocks, including sandstone, siltstone, and shale; in places, lithic bedrock may occur at relatively shallow depth (e.g., mapped restrictive feature depths on the order of 20 to 40 inches in certain units).

The hydrogeologic setting varies with topographic position and parent material. Upland till-derived soils are mapped as well drained, with reported seasonal depth to water table commonly greater than 80 inches. In contrast, floodplain soils are mapped on flood plains and are described as forming in loamy over sandy and gravelly alluvium derived mainly from areas of acid, reddish sandstone, siltstone, and shale; these deposits include coarse sand and gravel layers and may exhibit shallower groundwater conditions (e.g., depth to water table on the order of about 36 to 72 inches) depending on seasonal and site-specific conditions.

The information presented above is based on a review of published USDA-NRCS Soil Survey / Web Soil Survey mapping and associated soil unit descriptions for Greene County, New York.

## 2.2 Subsurface Conditions

The field exploration program consisted of drilling seven (7) soil borings, identified as B-1 through B-7, and performing two (2) soil infiltration tests across the project site through the implementation of excavated pits. The borings and infiltration tests were completed at locations selected to evaluate subsurface conditions within the proposed development area, including the planned building footprints and associated access drive/paved areas. Each boring was sampled and logged in accordance with standard geotechnical practice to document soil stratigraphy, collect representative samples, and observe groundwater conditions.

The exploration boreholes were completed using a Geoprobe-7822DT-mounted on track rig and mud rotary drilling technique to advance the boreholes, in general accordance with ASTM D5783 and standard geotechnical practice. Soil samples were obtained using the Standard Penetration Test (SPT) method, in general accordance with ASTM D1586, employing a 1-3/8-inch inside diameter (I.D.) split spoon sampler driven by a 140-pound auto hammer free-falling 30 inches. The number of blows for each six inches of penetration was recorded on the soil exploration boring logs. Depth

to groundwater was estimated based on visual observations of the moisture content in split spoon soil samples and directly measured after the completion of each boring. Unconfined compressive strength was measured for cohesive soil using a pocket penetrometer (ASTM WK27337). The soil matrix was classified in accordance with the Unified Soil Classification System (USCS).

The field exploration program was monitored and logged by a field engineer from Akshar Engineering. The soil boring locations were provided by the design team and are shown on the site plan. The locations are presumed to be accurate within a few feet. A total of seven (7) exploration boreholes, identified as B-1 through B-7, were drilled by Geo Drilling LLC of East Hanover, New Jersey, under the supervision of a representative from Akshar Engineering during the period of December 17, 2025, through December 18, 2025. Records of the borehole logs are provided in Appendix C of this report.

The subsurface materials encountered are detailed in the Soil Exploration Records in Appendix C. Stratification lines on the boring logs indicate approximate boundaries between soil types, though transitions may be gradual, and some strata may be absent in certain locations. Subsurface conditions at other locations across the property may differ from those observed at the soil exploration locations. Overall, the subsurface conditions are generally consistent with the regional geology. The borings revealed the following generalized strata in increasing depth below the surface.

**Surface Cover:** The exploration borings were drilled through surface covers consisting of approximately six (6) inches of snow at the time of drilling, underlain by a thin layer of topsoil (approximately 0.5 foot).

**Stratum I – Sandy Soils with Gravel (USCS: SM-SC, GM-SM):** Beneath the surface cover, a surficial stratum mainly formed by reddish-brown coarse- to fine-grained sand with some gravel and little silt and clay was encountered. This material was generally found at the upper (shallower depths) of the borings and was typically described as medium dense to very dense and moist.

**Stratum II – Very Dense Gravelly / Very Hard Rocky Materials (USCS: GM, GM-SM):** Underlying Stratum I, very dense granular soils consisting primarily of reddish-brown gravelly and very hard rocky materials with some coarse- to fine-grained sand and trace silt (and locally little clay) were encountered across the site. These deposits produced frequent high blow counts and split-spoon refusal at several locations, and they generally extended to the termination depths of borings completed in soil. The exploratory boreholes were mainly terminated within these materials due to split-spoon refusal and/or very hard drilling conditions at depths ranging from approximately 6.75 feet to 10.75 feet, including B-4 (~6.75 ft), B-6 (~7.25 ft), B-1 (~8.25 ft), and B-5 (~10.75 ft).

**Stratum III – Bedrock (Sandstone):** At select locations, bedrock was encountered beneath the granular overburden. The bedrock was described as reddish-brown to gray sandstone, medium soft to hard, highly weathered, and very fine- to fine-grained. In these locations, borings advanced into bedrock included B-2

(rock core from approximately 11 to 16 feet), B-3 (rock core from approximately 8 to 13 feet), and B-7 (rock core from approximately 8 to 10 feet; boring terminated at 10 feet)

**Note:** Due to drilling rig access limitations and the presence of trees and uneven surfaces within the project area, several of the planned borings (B-1 through B-7) were slightly offset in the field from the formerly proposed locations. In addition, exposed rock outcrops were noted in the vicinity of the exploration areas. The final boring locations are shown on the Boring Location Plan.

## 2.3 Groundwater

The presence of water was not observed within any of the boreholes. However, trapped groundwater conditions should be expected, especially perched on top of the dense to very dense materials. Exposed rock outcrops were noted across the site and may contribute to localized perched water conditions in isolated areas throughout the property. In addition, variability in site grading and subsurface conditions suggests that trapped groundwater may be encountered at other locations within the project area.

Moisture was observed in recovered samples; however, groundwater was not observed in the boreholes during drilling. Based on the site topography and the presence of dense granular soils and rock outcrops, perched groundwater conditions may develop locally, particularly following prolonged or heavy precipitation events.

# 3.0 FIELD INFILTRATION TEST RESULTS

## 3.1 Field Infiltration Test Results

A total of two (2) test pits, identified as TP-1 and TP-2, were drilled to the desired testing depths using a drilling rig, and field infiltration testing was performed at select locations. Infiltration testing was successfully completed at TP-1. Infiltration testing at TP-2 could not be completed due to refusal conditions encountered during advancement. In addition, one (1) infiltration test was performed at boring location B-4, as shown on the Boring Location Plan. All testing was conducted in accordance with the procedures outlined in the New York State Stormwater Management Design Manual (Appendix D – Infiltration Testing Requirements) to satisfy the requirements of the NYSDEC Stormwater Management Regulations.

The results of these tests are included in Table 1 below.

Table 1: Test Pits and Infiltration Summary

| Soil Profile Pit # | Approx. Ground Surface Elevation (ft.) | Test Depth(ft) | Field Infiltration Rate | |
|---|---|---|---|---|
| | | | Stratum | Infiltration Rate (in/hr) |
| TP-1 | 392 | 6.5 | GM-SM | 0.125 |
| TP-2 | 392 | 4.5 | GM-SM | N/A |
| B-4 | 392 | 6.75 | GM-SM | 0.100 |

# 4. PROPOSED STRUCTURE SUPPORT RECOMMENDATIONS

## 4.1 General

Our geotechnical survey, consisting of the completion of seven (7) borings, included four (4) borings (B-2, B-3, B-5, and B-6) advanced within the proposed Behavioral Health Main Building footprint, two (2) borings (B-1 and B-4) advanced within the proposed paved access/parking areas, and one (1) boring (B-7) advanced within the proposed Maintenance Garage area, as shown on the Boring Location Plan.

The borings completed within the proposed building footprint revealed the presence of very dense granular soils, including gravelly and very hard rocky materials, with shallow rock encountered at select locations during our exploration. Accordingly, it is our opinion that the proposed building should be supported on shallow foundations bearing directly on the undisturbed native materials and/or competent rock, following the removal of all surface covers and any additional loose, disturbed, or otherwise unsuitable materials. Foundation bearing surfaces shall be thoroughly inspected and prepared to the satisfaction of the geotechnical inspecting engineer retained by the Owner prior to placement of foundation concrete.

The borings completed in the proposed pavement areas (B-1 and B-4) indicate similar dense granular subsurface conditions that are generally suitable for support of the proposed pavement sections. Pavement subgrades in these areas will be suitable for support of the proposed pavement sections provided all topsoil/surface covers (where present) and any loose, disturbed, or otherwise unsuitable materials are removed, and the exposed subgrade is properly proof-rolled, repaired as necessary, and compacted as directed by the geotechnical inspecting engineer. For detailed pavement design and thickness recommendations, refer to Section 4.6 of this report.

## 4.2 Foundations

Based on our understanding, the proposed development will include construction of the proposed Behavioral Health Main Building (building footprint shown as ±20,231 SF) with associated exterior slabs and new paved parking/drive areas. We recommend that the proposed structures and any ancillary at-grade elements be supported using conventional shallow foundations bearing on the properly prepared native soils of Stratum I or Stratum II, following the removal of all surface covers and any additional loose, disturbed, or otherwise unsuitable materials.

Exposed rock outcrops were observed on the site, and practical refusal encountered in several borings indicates the presence of boulders and/or rock outcrops within the granular matrix. As such, localized boulders or rock outcrops may be encountered within the proposed subgrade materials for foundation elements. Where sound rock is exposed at or near the design bearing elevation, shallow foundations bearing directly on rock may be utilized, provided the bearing surface is cleaned, roughly leveled, and free of loose or deleterious materials prior to placement of foundation concrete. Individual footings shall not bear partially on soil and partially on rock. Mixed bearing conditions can result in significant differential settlements, stress concentrations, and strain incompatibility due to the substantially different

compressibility characteristics of soil and rock. Total settlement of footings bearing on rock is expected to be negligible, whereas footings bearing on soil may experience settlements on the order of up to approximately one inch. Accordingly, footings shall be designed and constructed to bear entirely on either competent rock or approved soil subgrade.

### 4.2.1 Shallow Foundation & Slab On Grade

The relative densities of the native granular soils within the proposed structure areas generally consisted of medium dense to very dense materials, suitable for direct shallow foundation bearing under the proposed structures' superimposed loads. Thus, based on the anticipated loads of the proposed Behavioral Health Main Building and the proposed Maintenance Garage, individual spread footings and wall footings may be sized utilizing an allowable bearing pressure of 6,000 pounds per square foot (psf) bearing on undisturbed native soils of Stratum I and/or Stratum II, as encountered at the time of our exploration. If loose, disturbed, or otherwise unsuitable soils are present during inspection by the geotechnical engineer, they should be removed entirely from the building footprint and its zone of influence and replaced as necessary to reach competent subgrade bearing materials.

Exposed rock outcrops were observed on the site and shallow rock/refusal conditions were encountered in several borings; therefore, additional variability in subgrade conditions may be encountered during construction, including localized very hard gravelly/rocky materials and/or shallow rock. Where such conditions are encountered at or near the planned bearing elevation, footing subgrades may consist of intact Sandstone bedrock. The subgrade of footings bearing entirely on bedrock should be properly trimmed and cleaned to provide a firm, roughly level bearing surface free of loose or deleterious material prior to placement of foundation concrete. Foundation bearing conditions should be uniform beneath individual spread footings and continuous wall footings, and bearing on dissimilar materials within the same foundation element (e.g., partially on rock and partially on soil) should be avoided.

Where variable bearing conditions are encountered, the subgrade should be overexcavated and regraded and/or replaced with properly compacted structural fill, or the footing elevation adjusted, so that each foundation element bears entirely on one consistent competent bearing material (i.e., competent native soil or competent rock), as approved by the geotechnical engineer. If isolated soft, or unstable soils are encountered in localized areas, we recommend that these materials be completely removed and replaced with properly placed structural fill, in accordance with the guidelines provided in this report. The replacement fill should meet the specifications for controlled structural fill, including appropriate material type, placement procedures, and compaction requirements, to ensure long-term stability and performance of the proposed development.

Prior to the placement of reinforcing steel, the footing subgrades should be thoroughly cleaned of loose soil and mud, debris, and all other deleterious material. An engineer licensed in the State of New York should inspect the prepared subgrade. At the recommended bearing pressure of 6,000 psf, total and differential settlements of shallow foundations are expected to be within tolerable limits (generally less than about one inch), provided that the subgrade is prepared

and inspected in accordance with the recommendations of this report and verified by a licensed Geotechnical Engineer. Subgrade preparation guidelines in Section 5.1 should be closely followed. Failure to implement these measures may result in excessive settlements under the proposed structures.

All excavation work should be executed with caution to prevent disturbance to the surrounding ground conditions and to maintain a stable working environment throughout construction.

## 4.3 Suggested Soil Parameters for Analysis and Design

Preliminary soil properties for preliminary engineering evaluation have been developed based on visual soil classification, penetration test data, published data, and our experience with similar formations in the area of the project. The suggested soil properties are provided in the following table. These preliminary properties have been used to develop the evaluation and recommendations contained in this report.

| Soil Stratum | Unit Weight (pcf[1]) | | Strength Parameters | | | |
|---|---|---|---|---|---|---|
| | Total | Submerged | Drained Strength | | Undrained Strength | |
| | | | c (psf)[2] | φ° | $S_u$ (psf) | φ° |
| Stratum I (SM-SC, GM-SM) | 123 | 61 | 0 | 33 | 0 | 33 |
| Stratum II (GM, GM-SM) | 126 | 64 | 0 | 34 | 0 | 34 |
| Stratum III – Bedrock (Sandstone) | 145 | 145 | 200,000 | 45 | 200,000 | 45 |

Notes: Pounds per cubic feet (pcf) & Pounds per square foot (psf).

## 4.4 Seismic Site Evaluation

| Seismic Site Evaluation | | |
|---|---|---|
| Description | Parameter | Value |
| Mapped Spectral acceleration for short periods: | Ss | 0.18 |
| Mapped Spectral acceleration for 1-sec period: | S1 | 0.056 |
| Site Class | C | |
| Site Coefficient: | Fa | 1.3 |
| Site Coefficient: | Fv | 1.5 |
| Numeric seismic design for value at 0.2 second SA | SDS | 0.156 |
| Numeric seismic design for value at 1 second SA | SD1 | 0.056 |

Based on the soil properties found in our boreholes and the previously mentioned seismic site evaluations, groundwater levels, and relative densities of soils, we anticipate the risk of liquefaction is negligible.

## 4.5 Lateral Earth Pressures

Foundation elements, including spread footings, strip footings, wall footings, and retaining walls, should be designed to resist lateral earth pressures exerted by the surrounding soils. The following lateral earth pressure parameters are recommended for use in the design of retaining structures and foundations, as applicable. These values assume that

retaining walls are adequately drained or that a drainage system is installed in accordance with BCNYS 2020, Section 1610.

| Lateral Earth Pressure Parameters | | | | | | |
|---|---|---|---|---|---|---|
| Stratum | Unit Weight (pcf) | Friction Angle (Φ) | Cohesive Strength $C_u$ (psf) | Active Earth Pressure Coefficient ($k_a$) | Passive Earth Pressure Coefficient ($k_p$) | At Rest Earth Pressure Coefficient ($k_o$) |
| Stratum I (SM-SC, GM-SM) | 123 | 33 | 0 | 0.295 | 3.392 | 0.46 |
| Stratum II (GM, GM-SM) | 126 | 34 | 0 | 0.283 | 3.537 | 0.44 |
| Stratum III – Bedrock (Sandstone) | 145 | 45 | 200,000 | 0.172 | 5.828 | -- |

## 4.6 Pavement Recommendation

New pavements associated with the proposed improvements at the proposed Behavioral Health Main Building and the detached Maintenance Garage may be constructed on stabilized in-place native soils or newly placed and properly compacted load-bearing structural fill. Prior to pavement placement, all surface cover materials including topsoil, vegetation, root mat, and any existing fill or unsuitable surficial materials (where present) should be completely removed within the proposed pavement areas. The exposed subgrades should then be compacted using a minimum 10-ton smooth-drum roller and proof-rolled with a loaded tri-axle dump truck under the observation of the on-site representative of the Geotechnical Engineer to evaluate stability. Any zones exhibiting pumping, rutting, heaving, or general instability should be selectively undercut to competent granular material and replaced with well-graded granular subbase or approved load-bearing fill.

The proposed paved access drives and parking areas will be underlain primarily by native granular soils of Stratum I, which are generally suitable for pavement support when properly prepared. In addition, exposed rock outcrops were observed on the site, and localized zones of gravelly/very hard rocky material and/or boulders may be encountered within pavement subgrade areas. Where rock is encountered at or near the proposed subgrade elevation, the subgrade should be graded to a relatively smooth and uniform surface, and any abrupt irregularities should be removed or bridged with approved granular subbase to provide a stable and uniform paving platform.

Depending on the time interval between subgrade preparation and paving operations, the contractor should anticipate localized remedial work to re-establish a stable platform prior to asphalt placement, as fluctuations in moisture and

construction traffic may reduce stability. Proper scheduling of paving operations and control of construction equipment traffic will reduce the need for such remedial measures.

Provided the subgrade is prepared as recommended, we suggest that flexible pavement design be based on a California Bearing Ratio (CBR) value of 8, consistent with a conservative design approach for variable granular subgrade conditions. Adequate drainage must be provided to protect the pavement structure, including maintaining positive surface drainage and installing subdrains/underdrains where needed to relieve seepage or localized trapped water conditions.

We recommend pavement sections be designed and constructed in general accordance with NYSDOT Standard Specifications, including Section 304 (Subbase Course) and Section 402 (Hot Mix Asphalt Pavements), and finalized based on site-specific traffic loading once available. At this stage, pavement within the project area is expected to consist primarily of light-duty pavement suitable for passenger vehicles and parking areas, with heavier-duty sections provided along primary access drives, fire/emergency access routes, service areas, and other locations subject to regular delivery, maintenance, or emergency vehicle traffic.

| **Recommended Pavement Sections (NYSDOT)** | | | | |
|---|---|---|---|---|
| **Pavement Type** | **Surface Course (HMA)** | **Binder/Base (HMA)** | **Granular Subbase** | **Notes** |
| Light-Duty (parking stalls, local aisles) | 1.5 in. NYSDOT HMA Top Course (9.5 mm) per Sec. 402 | 2.0 in. NYSDOT HMA Binder (19.0 mm) per Sec. 402 | 6 in. NYSDOT Subbase Course, Type 2 per Sec. 304 | Passenger vehicle traffic only |
| Heavy-Duty (main access drives, fire/emergency access, service routes) | 1.5 in. NYSDOT HMA Top Course (9.5 mm) per Sec. 402 | 3.0 in. NYSDOT HMA Binder (19.0 mm) per Sec. 402 | 8–12 in. NYSDOT Subbase Course, Type 2 per Sec. 304 | Regular delivery/service and emergency vehicle traffic |
| Rigid Pavement (aprons, dumpster/service pads, high-load zones) | 6 in. 4,000 psi air-entrained reinforced concrete | -- | 6 in. NYSDOT Subbase Course, Type 2 per Sec. 304 | Provide joints and load transfer per design; WWF or macrofiber reinforcement acceptable |

# 5. CONSTRUCTION, EARTHWORK, & ADDITIONAL CONSIDERATIONS

## 5.1 Subgrade Preparation and Foundation Considerations

Prior to raising or restoring grades, all unsuitable materials (topsoil, pavements, buried structures, and additionally disturbed loose soils) should be removed to expose competent sandy subgrade. The exposed soils should be compacted to a firm, unyielding condition using a vibratory drum roller (minimum 10 tons) or, in confined areas, hand-guided equipment such as a trench compactor (dynamic force ≥5,000 lbs.) in lifts not exceeding six (6) inches. Where fines are present, compaction equipment should operate in static mode. Proof rolling in the presence of the Geotechnical Engineer should be performed to identify and remove soft or loose pockets.

If disturbed or unsuitable soils are encountered, they should be over-excavated (typically 1 ft or more as required) and replaced with compacted granular fill (CGF). Over-excavated surfaces should be re-compacted prior to placement of fill or foundations.

Surface water should be prevented from collecting on exposed bearing soils, and construction traffic over prepared subgrades should be minimized. Subgrades must be protected against freezing conditions. During cold weather, footings should be backfilled promptly to a depth of about four (4) feet or insulated/heated as necessary to prevent frost penetration.

## 5.2 Ground Floor Slab

A soil- or rock-supported slab-on-grade is recommended for the proposed building. Slab subgrade preparation shall consist of either intact, competent sandstone bedrock or approved native soils following removal of all unsuitable materials, including loose, disturbed, or deleterious soils, topsoil, organics, and roots. Where bedrock is encountered at slab subgrade elevation, the rock surface shall be cleaned of loose fragments and irregularities and fairly flat and leveled condition prior to placement of slab concrete. Where native soils form the slab subgrade, they shall be proofrolled and compacted as required to provide uniform support and minimize the potential for differential settlement. Mixed subgrade conditions beneath individual slab panels should be avoided to the extent practicable to reduce the potential for differential movement associated with the differing compressibility characteristics of soil and rock.

The unsuitable materials should be removed and replaced by structural fill in a controlled manner in lifts of loose thicknesses of less than 12-inches. Subsequently, if excessive moisture is present, a six-inch layer of ¾-inch crushed stone should be spread on the prepared subgrade and a continuous vapor retarder should be placed between the crushed stone and the concrete slab. The crushed stone layer should drain into a sump pit(s) located at least three feet below the top of slab. These measures will help reduce humidity and slab dampness. A modulus of subgrade reaction of 240

kip/ft$^2$/ft for a one square foot plate may be used if preparations of subgrade and guidelines contained in this report are strictly enforced and inspected.

## 5.3 Backfilling

### 5.3.1 General:

Backfilling should consist of well-graded, clean granular fill. Existing fill materials may be reused following the removal of excessive debris and with the approval of the Geotechnical Engineer. Fill materials containing deleterious matter should not be reused as structural fill and must be removed from the site. All fill particles larger than three (3) inches should be excluded.

Fill should be placed in controlled lifts not exceeding twelve (12) inches in loose thickness and compacted thoroughly to achieve at least 95 percent of the maximum dry density as determined by the Modified Proctor test (ASTM D1557). Moisture contents should be maintained within ±2 percent of the optimum moisture content determined by the Modified Proctor.

### 5.3.2 Compacted Granular Fill (CGF):

CGF should consist of clean, well-graded sand and gravel, free of organic matter, clay clumps, snow, ice, or other deleterious materials. CGF should conform to the following gradation requirements:

| Sieve Size | Percent Finer by weight |
|---|---|
| 3 in. | 100 |
| No. 4 | 30- 90 |
| No. 40 | 10- 50 |
| No. 200 | 0- 5 |

CGF should be placed in controlled lifts and compacted under the observation of the Geotechnical Engineer.

### 5.3.3 Common Fill:

Common Fill may be used in non-structural areas such as sidewalks, landscaped zones, and general site grading. Common Fill should consist of granular soil free from organics, debris, or frozen material, with no stones larger than three (3) inches. Gradation should not exceed 80 percent passing the No. 40 sieve and no more than 5 percent passing the No. 200 sieve.

Inorganic soils with higher fines content may be acceptable during favorable weather conditions if moisture and compaction requirements can be achieved, subject to the Geotechnical Engineer's approval.

### 5.3.4 Onsite Soil:

The native sandy deposits encountered at the site may be suitable for reuse as CGF or Common Fill, provided oversized particles and deleterious materials are removed and moisture conditioning is performed during wet periods. Final approval of onsite soils must be made by the Geotechnical Engineer during construction, based on visual observation and, if necessary, laboratory testing.

Sand deposits with fines contents exceeding 5 percent are not suitable for reuse as CGF/Common Fill and, if excavated, should be stockpiled and removed from the site. Where reused, the placement and compaction of onsite soils should be observed and documented by the Geotechnical Engineer.

The onsite soils are sensitive to disturbance and construction traffic, especially when wet. Care should be taken to protect exposed subgrades from water and precipitation. If disturbed, stabilization or replacement with CGF will be required prior to backfilling or foundation construction.

## 5.4 Excavations

At this time, it is our understanding that no below-grade spaces such as basements or underground utility rooms are proposed as part of the current development plan. In general, the planned excavations are anticipated to be on the order of five (5) feet or less. However, localized deeper excavations may be required to accommodate utility installations and/or to remove any unsuitable or disturbed soils, should such materials be encountered during construction. Where excavations approach or exceed five (5) feet in depth, the Contractor shall implement appropriate measures to maintain excavation stability and ensure worker safety in accordance with applicable requirements.

Once final design grades and layout plans are available, all proposed excavations should be carefully evaluated by a Competent Person as defined by the Occupational Safety and Health Administration (OSHA), who is qualified to assess and manage excavation safety. All excavation work must be performed in strict compliance with OSHA standards as well as any applicable local building codes and municipal ordinances.

If excavation depths exceed OSHA's allowable limits for unshored (unbraced) trench walls, or if excavations are located in close proximity to adjacent improvements and could potentially impact nearby foundation elements, the use of a properly designed temporary Support of Excavation (SOE) system may be required. The purpose of such systems is to prevent ground loss, soil movement, or undermining that could compromise site safety or the integrity of adjacent improvements.

The design of any required support of excavation system must be prepared by a licensed professional engineer registered in the State of New York, with experience in geotechnical and structural design. Depending on site constraints, common SOE systems may include trench boxes, engineered shoring systems, sheet piling, or soldier piles and lagging.

Should an SOE system be implemented, we recommend that a comprehensive inspection and monitoring program be established throughout the duration of excavation activities. This should include verification of system installation and periodic monitoring, as appropriate, to confirm that the excavation remains stable and safe.

## 5.5 Control of Groundwater

Construction operations are expected to take place above groundwater levels; therefore, dewatering is anticipated to be limited to directing rainwater and any trapped water away from finished subgrade elevations. The presence of excessive moisture may deteriorate the exposed subgrade materials and reduce bearing support. Accordingly, exposed subgrades should be protected against moisture. All foundation construction activities should be performed in dry conditions. Dewatering systems, if ultimately required, shall be designed by a licensed professional engineer in the State of New York.

## 5.6 Additional Considerations

We recommend that all foundation-related construction activities be overseen by a licensed geotechnical engineer in the state of New York. Activities pertaining to, but not limited to, foundation bearing surface preparation, removal of unsuitable bearing materials, backfilling with the utilization of clean granular fill, excavation activities, etc. We should be notified when final design documents will become available and be provided with such to review and if required, adjust recommendations accordingly.

## 6.LIMITATIONS

The recommendations provided in this report reflect our professional assessment, derived from the soil conditions identified during the boring tests conducted and the structural and grading design criteria outlined in the report. It is important to note that deviations in structure types and design grading might differ from the assumed criteria used in preparing this report. AKSHAR should be notified of any changes in design criteria to enable an assessment for potential revisions in the design recommendations.

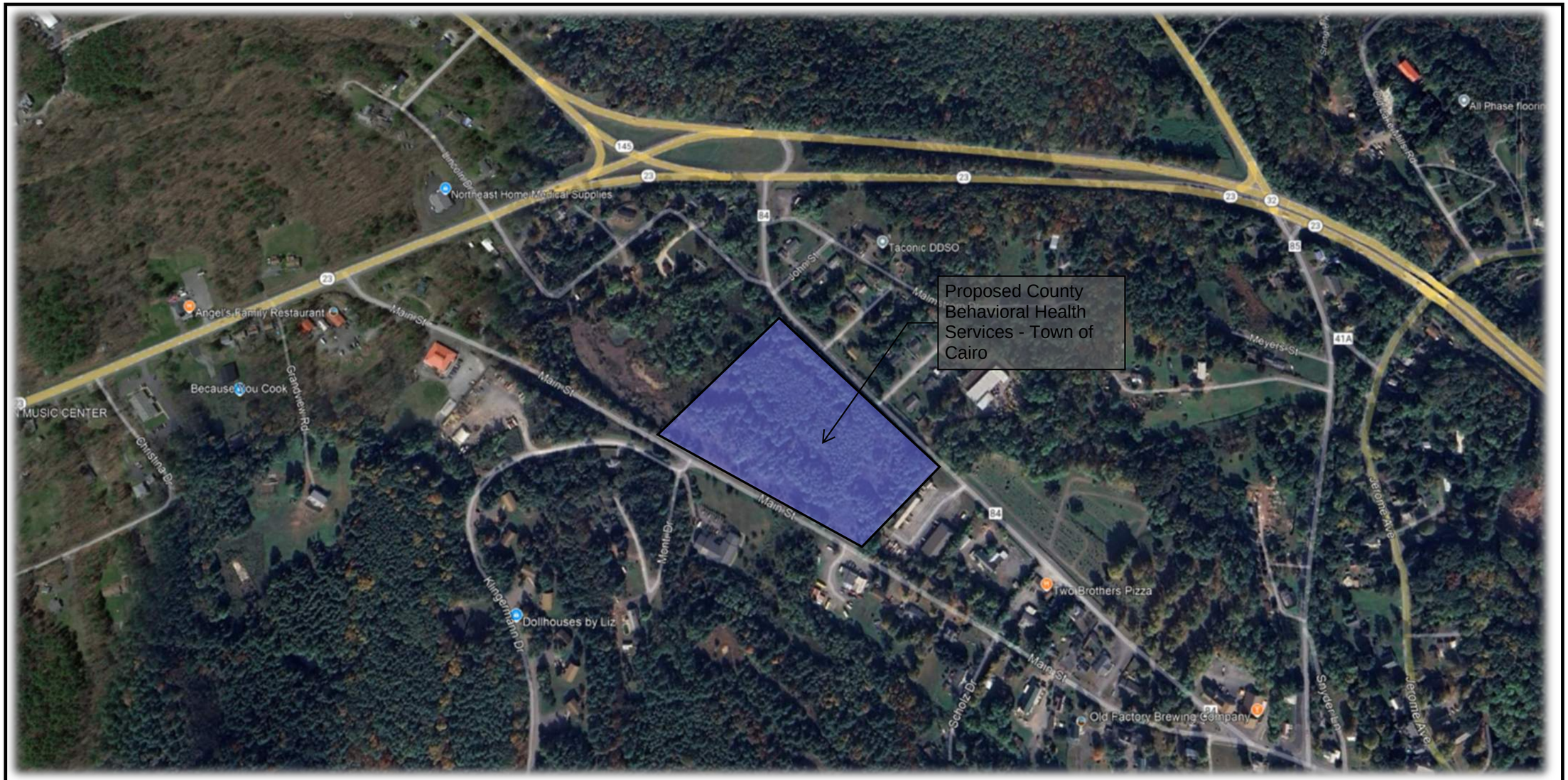
The nature and extent of variations in subsurface conditions between explorations may only become apparent during construction. Should such variations arise, it may be necessary to reassess the information presented in this report. Additionally, conditions encountered during construction may differ from those reported herein, necessitating further evaluation.

We advise that foundation construction, earthwork, and subgrade preparation be overseen by a qualified Geotechnical Engineer familiar with the anticipated conditions and the foundation design recommendations. Any variations encountered should be promptly communicated to us for reevaluation and potential modification of the recommendations provided in this report.

Our work adheres to current standards of practice for geotechnical engineering for buildings based on the exploration conditions encountered. However, no other warranties, either expressed or implied, are provided.

# APPENDIX A

SITE LOCATION PLAN




| | | | |
|---|---|---|---|
| AKSHAR ENGINEERING | **APPENDIX B:**<br>**Site Location Plan** | **Proposed:**<br>**County Behavioral Health Services - Town of Cairo** | **Project Location:**<br>**774 Main Street,<br>Town of Cairo, Greene County, New York, 12413** |

# APPENDIX B

BORINGS AND TEST PITS

LOCATION PLAN

LEGEND

APPROXIMATE BORING LOCATION

APPROXIMATE TEST PIT LOCATION

Notes:
BASE PLAN WAS OBTAINED FROM THE RFP PROVIDED BY CPL (DATED SEPTEMBER 18, 2025) AND TITLED "SITE PLAN," AND THE PROPOSED SOIL BORING LOCATION PLAN WAS PREPARED BY CPL ARCHITECTURE, ENGINEERING, AND PLANNING.

SOIL EXPLORATIONAS WERE LOCATED IN THE FIELD BY REPRESENTATIVE OF AKSHAR ENGINEERING. USING NORMAL TAPING PROCEDURES AND ESTIMATED RIGHT ANGLES FROM EXISTING SITE FEATURES AND ARE PRESIMED ACCURATE WITHIN FEW FEET.

THE SOIL EXPLORATION BORINGS (B-1 THROUGH B-7) AND TEST PITS (TP-1 AND TP-2) WERE PERFORMED BY GEO DRILLING, LLC OF EAST HANOVER, NEW JERSEY, IN THE PRESENCE OF AKSHAR ENGINEERING, LLC, BETWEEN DECEMBER 17, 2025 AND DECEMBER 18, 2025

N

AKSHAR ENGINEERING

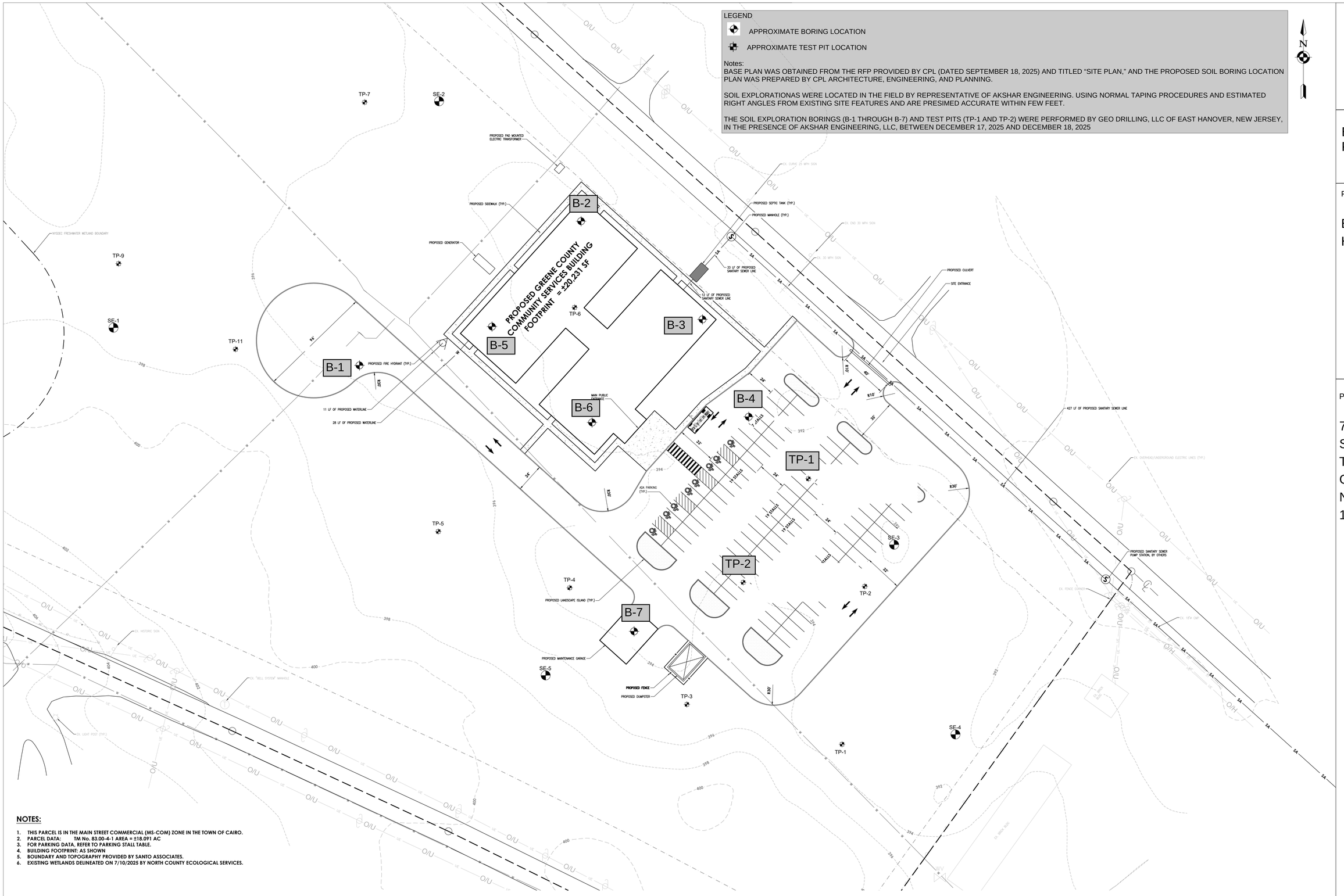
# Boring Location Plan

Proposed County

## Behavioral Health Services

Project Location:

774 Main Street,
Town Of Cairo,
Greene County,
New York
12413




## SITE PLAN

SCALE: 1" = 30'

SCALE: 1" = 30'

**NOTES:**

1. THIS PARCEL IS IN THE MAIN STREET COMMERCIAL (MS-COM) ZONE IN THE TOWN OF CAIRO.
2. PARCEL DATA: TM No. 83.00-4-1 AREA = ±18.091 AC
3. FOR PARKING DATA, REFER TO PARKING STALL TABLE.
4. BUILDING FOOTPRINT: AS SHOWN
5. BOUNDARY AND TOPOGRAPHY PROVIDED BY SANTO ASSOCIATES.
6. EXISTING WETLANDS DELINEATED ON 7/10/2025 BY NORTH COUNTY ECOLOGICAL SERVICES.

## DEEP TEST RESULTS

DATE: JULY 21, 2025

| HOLE NUMBER | LOT NUMBER | TOTAL DEPTH | ROCK DEPTH | WATER DEPTH | MOTTLING DEPTH | PROFILE DESCRIPTION |
|---|---|---|---|---|---|---|
| TP 1 | N/A | ±96" | NOT SEEN | NOT SEEN | NOT SEEN | 0"-96" BONY SANDY CLAY LOAM (MOIST) |
| TP 2 | N/A | ±72" | NOT SEEN | NOT SEEN | NOT SEEN | 0"- 4" TOPSOIL<br>4" - 52" LIGHTER SAND CLAY LOAM<br>52"+ DARKER BROWN SAND CLAY LOAM<br>POSSIBLE SHALE |
| TP 3 | N/A | ±84" | SEEN @ ±7' | NOT SEEN | NOT SEEN | 0"-24" LIGHT BROWN SANDY CLAY LOAM<br>24"-48" DARK BROWN SANDY CLAY LOAM<br>48"+ TIGHTENS UP CLAY<br>DRY ROCK AT BOTTOM |
| TP 4 | N/A | ±72" | NOT SEEN | SEEN @ ±6' | NOT SEEN | 0"- 4" TOPSOIL<br>4"-10" TIGHT CLAY LOAM<br>10"+ DARKER CLAY LOAM<br>WATER AT BOTTOM |
| TP 5 | N/A | ±90" | NOT SEEN | NOT SEEN | NOT SEEN | 0"- 4" TOPSOIL<br>4"-40" LOAM/CLAY (DRY)<br>40"+ TIGHT LOAM/CLAY |
| TP 6 | N/A | ±60" | NOT SEEN | NOT SEEN | NOT SEEN | 0"- 36" SANDY LOAM (DRY)<br>36"+ SHALE RIPPING |
| TP 7 | N/A | ±72" | SEEN @±6' | NOT SEEN | NOT SEEN | 0"- 72" LOTS OF ROCK, LITTLE SOIL<br>72"+ ROCK<br>POTENTIAL FILL |
| TP 8 | N/A | ±24" | SEEN @±2' | NOT SEEN | NOT SEEN | 0"- 24" BONY LOAM<br>24" ROCK |
| TP 9 | N/A | ±84" | NOT SEEN | NOT SEEN | NOT SEEN | 0"-36" SANDY DRY LOAM<br>36"+ SILTY CLAY LOAM (TIGHT) |
| TP 10 | N/A | ±24" | SEEN @±2' | NOT SEEN | NOT SEEN | 0"- 24" RIPPABLE SHALE, LITTLE SOIL<br>24"+ ROCK |
| TP 11 | N/A | ±78" | NOT SEEN | NOT SEEN | NOT SEEN | 0"- 60" DRY<br>60"+ GLEYED CLAY, SAND LOAM, BONY |

## TEST PIT SUMMARY

STERLING ENVIRONMENTAL
DATE: MAY 14, 2024

| ID | DEPTH | LOCATION |
|---|---|---|
| SE 1 | 5.5-FT BGS | NORTHWEST BUILDING DEBRIS |
| SE 2 | 5.5-FT BGS | FILL WINDOWS |
| SE 3 | 4.0-FT BGS | DISCARDED FUEL OIL TANK |
| SE 4 | 6.0-FT BGS | WASTE DUMPING AREA |
| SE 5 | 5.5-FT BGS | SOUTH-CENTRAL BUILDING DEBRIS |

## PARKING STALL TABLE

| | REQUIRED | | PROVIDED | |
|---|---|---|---|---|
| STALL TYPE: | DIMENSIONS | COUNT | DIMENSIONS | COUNT |
| STANDARD 90° | N/A | 85% OF PEAK USAGE = 0.85 X 60 PERSONS = 51 | 9 FT X 18 FT | 102 |
| STANDARD 90° ADA | N/A | 3 | 9 FT X 18 FT | 8 |
| TOTAL: | | 54 | | 110 |

*NOTE: THE PARKING REQUIREMENTS PRESENTED IN THE TABLE ABOVE ARE IN ACCORDANCE WITH THE TOWN OF CAIRO ZONING LAW.

## BULK REGULATIONS TABLE

| ZONE: MS-COM (MAIN STREET COMMERCIAL) | REQUIRED | PROVIDED |
|---|---|---|
| MINIMUM LOT SIZE | ¼ AC* | ±18.091 AC |
| MAXIMUM LOT COVERAGE | 80%** | 2.05 AC = 12.7% |
| SETBACKS: | | |
| FRONT | CONSISTENT WITH SURROUNDING STRUCTURES | 65 FT |
| SIDE | 15 FT | 15 FT |
| REAR | 15 FT | 15 FT |
| MINIMUM LOT FRONTAGE | 50 FT | 1080 FT |
| MAXIMUM BUILDING HEIGHT | 35 FT | < 30 |
| *WHEN SERVICED BY BOTH WATER AND SEWER SERVICES | | |
| **WHEN SERVICED BY MUNICIPAL WATER OR SEWER SERVICES | | |

# APPENDIX C

SOIL BORING LOGS AND

TEST PITS LOGS

# AKSHAR ENGINEERING

**B-1**

**Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING.

**Project Name:** Proposed County Behavior Health Services

**Project Number:** 2025-144

**Project Location:** 774 Main Street, Town of Cairo, Green County, NY

**Date Started:** 12/17/2025 **Completed:** 12/17/2025

**Ground Elevation:** +/- 396' **Hole Size:** 4 in

**Drilling Contractor:** Geo Drilling LLC

**Driller:** Eric Jerez

**Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT

**Representative:** M. Pandya

**Water Level Data**

| Date | Time | Bottom of Boring (ft) | Water (ft) |
|---|---|---|---|
| | | | |

**NOTES:**

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 14 in. | 0- 2 ft | 5<br>10<br>10<br>14 | TP | Top Soil | |
| | | | | SM-SC | Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 12 in. | 2- 4 ft | 25<br>22<br>27<br>41 | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | |
| 5 | S-3 6 in. | 4- 5.25 ft | 42<br>33<br>50/3.. | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | - SPT refusal at ~5.25 ft; drilled/advanced to 7.0 ft. |
| | | | | | | |
| | S-4 6 in. | 7- 8.25 ft | 42<br>50<br>50/3" | GM | Reddish GRAVEL (decomposed rock) with tarce SAND, trace SILT, very dense, moist. -/+ 8.25 ft | |
| 10 | | | | | B-1 was ternimated at ~ 8.25 feet below the existing ground surface due to SPT split-spoon refusal, likely bedrock. | |
| 15 | | | | | | |
| 20 | | | | | | |
| 25 | | | | | | |

| Summary | Overburden (Linear ft) | 8.25 | Rock Cored (Linear ft) | -- | No. of Samples: 4 |
|---|---|---|---|---|---|

# AKSHAR ENGINEERING

**B-2**

**Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING.

**Project Name:** Proposed County Behavior Health Services

**Project Number:** 2025-144

**Project Location:** 774 Main Street, Town of Cairo, Green County, NY

**Date Started:** 12/18/2025 **Completed:** 12/18/2025

**Ground Elevation:** +/- 392' **Hole Size:** 4 in

**Drilling Contractor:** Geo Drilling LLC

**Driller:** Eric Jerez

**Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT

**Representative:** M. Pandya

**Water Level Data**

| Date | Time | Bottom of Boring (ft) | Water (ft) |
|---|---|---|---|
| | | | |

**NOTES:**

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 12 in. | 0- 2 ft | 7<br>9<br>19<br>25 | TP | Top Soil | |
| | | | | SM-SC | Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 4 in. | 2- 2.75 ft | 50<br>50/3" | GM-SM | Gray brown coarse to fine GRAVEL and coarse to fine SAND, little SILT & Little CLAY, very dense, moist. | - SPT refusal at ~2.75 ft; drilled/advanced to 4.0 ft. |
| | | | | | | |
| | S-3 4 in. | 4- 4.75 ft | 40<br>50/3" | GM-SM | Reddish brown coarse to fine GRAVEL and coarse to fine SAND, little SILT Trace Clay, very dense, moist. | |
| 5 | | | | | | - SPT refusal at ~4.75 ft; drilled/advanced to 6.0 ft. |
| | S-4 4 in. | 6- 6.75 ft | 42<br>50/3" | GM-SM | Reddish brown coarse to fine GRAVEL and coarse to fine SAND, trace SILT, very dense, moist. | |
| | | | | | | - SPT refusal at ~6.75 ft; drilled/advanced to 8.0 ft. |
| | S-5 4 in. | 8- 8.75 ft | 37<br>50/3" | GM | Reddish GRAVEL(decomposed rock) with litle coarse to fine SAND, trace SILT, very dense, moist. | |
| | | | | | | - SPT refusal at ~8.75 ft; drilled/advanced to 10.0 ft. |
| 10 | S-6 3 in. | 10- 10.75 ft | 50<br>50/3" | GM | Reddish GRAVEL (decomposed rock) with tarce SAND, trace SILT, very dense, moist. | |
| | R-1 REC: 46 inch 77% | 11- 16 ft | 5 min/ft<br>7 min/ft<br>5.37 min/ft<br>6.42 min/ft<br>7.10 min/ft | RQD 12 inch 20% | Reddish brown to gray SANDSTONE; medium soft to hard; highly weathred; very fine to fine grained; flat to gently dipping; very close; very narrow; filled. | |
| 15 | | | | | -/+ 16 ft | |
| | | | | | B-1 terminated at 16 feet below the existing ground surface. | |
| 20 | | | | | | |
| 25 | | | | | | |

| Summary | Overburden (Linear ft) | 10.75 | Rock Cored (Linear ft) | 5 | No. of Samples: 6 |
|---|---|---|---|---|---|

# AKSHAR ENGINEERING

**B-3**

**Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING.

**Project Name:** Proposed County Behavior Health Services

**Project Number:** 2025-144

**Project Location:** 774 Main Street, Town of Cairo, Green County, NY

**Date Started:** 12/18/2025 **Completed:** 12/18/2025

**Ground Elevation:** +/- 392' **Hole Size:** 4 in

**Drilling Contractor:** Geo Drilling LLC

**Driller:** Eric Jerez

**Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT

**Representative:** M. Pandya

**Water Level Data**

| Date | Time | Bottom of Boring (ft) | Water (ft) |
|---|---|---|---|
| | | | |

**NOTES:**

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 14 in. | 0- 2 ft | 5<br>8<br>22<br>28 | TP<br>SM-SC | Top Soil<br>Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 12 in. | 2- 4 ft | 17<br>37<br>44<br>40 | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | |
| 5 | S-3 8 in. | 4- 5.25 ft | 36<br>30<br>50/3" | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | - SPT refusal at ~5.25 ft; drilled/advanced to 7.0 ft. |
| | | | | | | |
| | S-4 3 in. | 7- 7.75 ft | 40<br>50/3" | GM | Reddish GRAVEL (decomposed rock) with tarce SAND, trace SILT, very dense, moist. | |
| 10 | R-1 REC: 40 inch 67% | 8- 13 ft | 6 min/ft<br>4.5 min/ft<br>4 min/ft<br>5 min/ft<br>6 min/ft | RQD 14 inch 23% | Reddish brown to gray SANDSTONE; medium soft to hard; highly weathred; very fine to fine grained; flat to gently dipping; very close; very narrow; filled. -/+ 13 ft | |
| 15 | | | | | B-2 terminated at 13 feet below the existing ground surface. | |
| 20 | | | | | | |
| 25 | | | | | | |

| Summary | Overburden (Linear ft) | 7.25 | Rock Cored (Linear ft) | 5 | No. of Samples: 4 |
|---|---|---|---|---|---|

# AKSHAR ENGINEERING

**B-4**

**Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING.

**Project Name:** Proposed County Behavior Health Services

**Project Number:** 2025-144

**Project Location:** 774 Main Street, Town of Cairo, Green County, NY

**Date Started:** 12/18/2025 **Completed:** 12/18/2025

**Ground Elevation:** +/- 392' **Hole Size:** 4 in

**Drilling Contractor:** Geo Drilling LLC

**Driller:** Eric Jerez

**Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT

**Representative:** M. Pandya

**Water Level Data**

| Date | Time | Bottom of Boring (ft) | Water (ft) |
|---|---|---|---|
| | | | |

**NOTES:**

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 12 in. | 0- 2 ft | 4<br>7<br>13<br>16 | TP<br>SM-SC | Top Soil<br>Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 10 in. | 2- 4 ft | 17<br>22<br>37<br>44 | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | |
| 5 | S-3 7 in. | 4- 6 ft | 42<br>50<br>42<br>37 | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | |
| | S-4 4 in. | 6- 6.75 ft | 50<br>50/3" | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. -/+ 6.75 ft | |
| | | | | | B-4 was ternimated at ~ 6.75 feet below the existing ground surface due to SPT split-spoon refusal, likely bedrock. | |
| 10 | | | | | | |
| 15 | | | | | | |
| 20 | | | | | | |
| 25 | | | | | | |

| Interval | Drop (in) | Rate (in/hr) | Rate (in/hr) | Stabilized Field Rate |
|---|---|---|---|---|
| 1 | 1/10 | 0.0167 | 0.1 | |
| 2 | 1/10 | 0.0167 | 0.1 | |
| 3 | 1/10 | 0.0167 | 0.1 | 0.1 |
| 4 | 1/10 | 0.0167 | 0.1 | 0.1 |
| 5 | 1/10 | 0.0167 | 0.1 | 0.1 |

**Stabilized field rate (avg last 3): (0.1+0.1+0.1) / 3 = 0.1 in/hr**

**B-4 deisgn ~0.1/2 = 0.05 in/hr, using FS=2**

| Summary | Overburden (Linear ft) | 6.75 | Rock Cored (Linear ft) | -- | No. of Samples: 4 |
|---|---|---|---|---|---|

# AKSHAR ENGINEERING

**B-5**

**Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING.

**Project Name:** Proposed County Behavior Health Services

**Project Number:** 2025-144

**Project Location:** 774 Main Street, Town of Cairo, Green County, NY

**Date Started:** 12/18/2025 **Completed:** 12/18/2025

**Ground Elevation:** +/- 394'

**Hole Size:** 4 in

**Drilling Contractor:** Geo Drilling LLC

**Driller:** Eric Jerez

**Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT

**Representative:** M. Pandya

**Water Level Data**

| Date | Time | Bottom of Boring (ft) | Water (ft) |
|---|---|---|---|
| | | | |

**NOTES:**

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 12 in. | 0- 2 ft | 7 9 19 25 | TP | Top Soil | |
| | | | | SM-SC | Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 6 in. | 2- 3.25 ft | 33 29 50/3" | GM-SM | Gray brown coarse to fine GRAVEL and coarse to fine SAND, little SILT & Little CLAY, very dense, moist. | - SPT refusal at ~3.25 ft; drilled/advanced to 4.0 ft. |
| | | | | | | |
| | S-3 6 in. | 4- 5.25 ft | 36 31 50/3" | GM-SM | Reddish brown coarse to fine GRAVEL and coarse to fine SAND, little SILT Trace Clay, very dense, moist. | - SPT refusal at ~5.25 ft; drilled/advanced to 6.0 ft. |
| 5 | | | | | | |
| | S-4 4 in. | 6- 6.75 ft | 22 50/3" | GM | Reddish GRAVEL(decomposed rock) with litle coarse to fine SAND, trace SILT, very dense, moist. | - SPT refusal at ~6.75 ft; drilled/advanced to 8.0 ft. |
| | | | | | | |
| | S-5 4 in. | 8- 8.75 ft | 39 50/3" | GM | Reddish GRAVEL(decomposed rock) with litle coarse to fine SAND, trace SILT, very dense, moist. | - SPT refusal at ~8.75 ft; drilled/advanced to 10.0 ft. |
| | | | | | | |
| 10 | S-6 3 in. | 10- 10.75 ft | 50 50/3" | GM | Reddish GRAVEL (decomposed rock) with tarce SAND, trace SILT, very dense, moist. -/+ 10.75 ft | |
| | | | | | B-5 was ternimated at ~ 10.75 feet below the existing ground surface due to SPT split-spoon refusal, Likley bedrock. | |
| 15 | | | | | | |
| 20 | | | | | | |
| 25 | | | | | | |

| Summary | Overburden (Linear ft) | 10.75 | Rock Cored (Linear ft) | -- | No. of Samples: 6 |
|---|---|---|---|---|---|

# AKSHAR ENGINEERING

**B-6**

**Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING.

**Project Name:** Proposed County Behavior Health Services

**Project Number:** 2025-144

**Project Location:** 774 Main Street, Town of Cairo, Green County, NY

**Date Started:** 12/18/2025 **Completed:** 12/18/2025

**Ground Elevation:** +/- 394' **Hole Size:** 4 in

**Drilling Contractor:** Geo Drilling LLC

**Driller:** Eric Jerez

**Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT

**Representative:** M. Pandya

**Water Level Data**

| Date | Time | Bottom of Boring (ft) | Water (ft) |
|---|---|---|---|
| | | | |

**NOTES:**

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 12 in. | 0- 2 ft | 3<br>6<br>10<br>13 | TP<br>SM-SC | Top Soil<br>Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 10 in. | 2- 4 ft | 17<br>23<br>31<br>39 | GM-SM | Reddish brown coarse to fine GRAVEL and coarse to fine SAND, trace SILT, very dense, moist. | |
| 5 | S-3 7 in. | 4- 6 ft | 41<br>44<br>38<br>37 | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | |
| | S-4 4 in. | 6- 7.25 ft | 41<br>40<br>50/3" | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. -/+ 7.25 ft | |
| 10 | | | | | B-6 was ternimated at ~ 7.25 feet below the existing ground surface due to SPT split-spoon refusal, likely bedrock. | |
| 15 | | | | | | |
| 20 | | | | | | |
| 25 | | | | | | |

| Summary | Overburden (Linear ft) | 7.25 | Rock Cored (Linear ft) | -- | No. of Samples: 4 |
|---|---|---|---|---|---|

# AKSHAR ENGINEERING

**B-7**

| | |
|---|---|
| **Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING. | **Project Name:** Proposed County Behavior Health Services |
| **Project Number:** 2025-144 | **Project Location:** 774 Main Street, Town of Cairo, Green County, NY |
| **Date Started:** 12/18/2025 **Completed:** 12/18/2025 | **Ground Elevation:** +/- 395' **Hole Size:** 4 in |
| **Drilling Contractor:** Geo Drilling LLC | |
| **Driller:** Eric Jerez | **Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT |
| **Representative:** M. Pandya | **Water Level Data** |
| **NOTES:** | **Date** / **Time** / **Bottom of Boring (ft)** / **Water (ft)** |

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 12 in. | 0- 2 ft | 5<br>7<br>11<br>11 | TP | Top Soil | |
| | | | | SM-SC | Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 10 in. | 2- 4 ft | 15<br>21<br>29<br>31 | GM-SM | Reddish brown coarse to fine GRAVEL and coarse to fine SAND, trace SILT, very dense, moist. | |
| 5 | S-3 7 in. | 4- 6 ft | 42<br>28<br>28<br>41 | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | |
| | S-4 4 in. | 6- 7.25 ft | 41<br>40<br>50/3" | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. -/+ 7.25 ft | |
| | R-1 REC: 16 inch. 67% | 8- 10 ft | 7 min/ft<br>6 min/ft | RQD: 4 inch 17% | Reddish brown to gray SANDSTONE; medium soft to hard; highly weathred; very fine to fine grained; flat to gently dipping; very close; very narrow; filled. -/+ 10 ft | |
| 10 | | | | | B-7 terminated at 10 feet below the existing ground surface. | |
| 15 | | | | | | |
| 20 | | | | | | |
| 25 | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Summary** | Overburden (Linear ft) | 7.25 | Rock Cored (Linear ft) | 2 | No. of Samples: 4 |

# AKSHAR ENGINEERING

**TP-1**
Page 1 of 1

**Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING.
**Project Name:** Proposed County Behavior Health Services

**Project Number:** 2025-144
**Project Location:** 774 Main Street, Town of Cairo, Green County, NY

**Date Started:** 12/18/2025 **Completed:** 12/18/2025
**Ground Elevation:** +/- 392' **Hole Size:** 4 in

**Drilling Contractor:** Geo Drilling LLC
**Driller:** Eric Jerez
**Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT

**Representative:** M. Pandya

**Water Level Data**

| Date | Time | Bottom of Boring (ft) | Water (ft) |
|---|---|---|---|
| | | | |

**NOTES:**

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 12 in. | 0- 2 ft | 4<br>7<br>13<br>16 | TP<br>SM-SC | Top Soil<br>Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 10 in. | 2- 4 ft | 17<br>22<br>37<br>44 | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | |
| 5 | S-3 7 in. | 4- 6 ft | 42<br>50<br>42<br>37 | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. | |
| | S-4 4 in. | 6- 6.75 ft | 50<br>50/3" | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. -/+ 6.75 ft | |
| | | | | | B-4 was ternimated at ~ 6.75 feet below the existing ground surface due to SPT split-spoon refusal, likely bedrock. | - Cassing dropped to ~ 6.75 feet |

| Interval | Drop (in) | Rate (in/hr) | Rate (in/hr) | Stabilized Field Rate |
|---|---|---|---|---|
| 1 | 1/10 | 0.0167 | 0.1 | |
| 2 | 1/10 | 0.0167 | 0.1 | |
| 3 | 1/8 | 0.0208 | 0.125 | |
| 4 | 1/8 | 0.0208 | 0.125 | 0.125 |
| 5 | 1/8 | 0.0208 | 0.125 | 0.125 |
| 6 | 1/8 | 0.0208 | 0.125 | 0.125 |

**Stabilized field rate (avg last 3): (0.125+0.125+0.125) / 3 = 0.125 in/hr**

**TP-1 deisgn ~0.125/2 = 0.0625 in/hr, using FS=2**

| Summary | Overburden (Linear ft) | 6.75 | Rock Cored (Linear ft) | -- | No. of Samples: 4 |
|---|---|---|---|---|---|

# AKSHAR ENGINEERING

**TP-2**
Page 1 of 1

| | | | |
|---|---|---|---|
| **Client:** CPL ARCHITECTURE. ENGINEERING, PLANNING. | | **Project Name:** Proposed County Behavior Health Services | |
| **Project Number:** 2025-144 | | **Project Location:** 774 Main Street, Town of Cairo, Green County, NY | |
| **Date Started:** 12/18/2025 | **Completed:** 12/18/2025 | **Ground Elevation:** +/- 394' | **Hole Size:** 4 in |
| **Drilling Contractor:** Geo Drilling LLC | | | |
| **Driller:** Eric Jerez | | **Drilling Method & Rig Type:** Mud-Rotary, Geoprob-7822DT | |
| **Representative:** M. Pandya | | **Water Level Data** | |
| | | **Date** / **Time** / **Bottom of Boring (ft)** / **Water (ft)** | |
| **NOTES:** | | | |

| Depth (ft) | Sample No. & Rec. (in) | Sample Depth (ft) | Sampler Blows per 6 inches | USCS Symbol | Visual Classification | Remarks |
|---|---|---|---|---|---|---|
| 0 | | | | | 6 inch Snow -/+ 0.5 ft | |
| | S-1 12 in. | 0- 2 ft | 4<br>7<br>13<br>16 | TP | Top Soil | |
| | | | | SM-SC | Reddish brown coarse to fine SAND, some GRAVEL, little SILT & CLAY, medium dense, moist. | |
| | S-2 10 in. | 2- 3.92 ft | 17<br>22<br>37<br>50/5" | GM | Reddish brown GRAVEL (decomposed rock) with some coarse to fine SAND little SILT & CLAY, very dense, moist. -/+ 3.92 ft | |
| 5 | | | | | TP-2 was terminated at approximately 3.92 feet below the existing ground surface due to SPT split-spoon refusal and subsequent roller-bit advancement; therefore, infiltration testing was not performed. | |

| | | | | | |
|---|---|---|---|---|---|
| **Summary** | Overburden (Linear ft) | 3.92 | Rock Cored (Linear ft) | -- | No. of Samples: 2 |

# APPENDIX D

## GEOTECHNICAL TERMS, SYMBOLS, AND CLASSIFICATION

# Geotechnical Terms and Symbols

# GEOTECHNICAL TERMS AND SYMBOLS

## SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

## SOIL PROPERTY SYMBOLS

N: Standard Penetration Value: Blows per ft. or a 140 lb. hammer falling 30" on a 2" O.D. split-spoon.
Qu: Unconfined compressive strength, TSF.
PP: Penetrometer value, unconfined compressive strength, TSF.
Mc: Moisture content, %
LL: Liquid limit, %
PI: Plasiticity index, %
δd: Natural dry density, PCF.
▼: Apparent groundwater level at time noted after completion of boring.
=

## DRILLING AND SAMPLING SYMBOLS

NE: Not Encountered (Groundwater was not encountered)
SS: Split-Spoon – 1⅜" I.D., 2" O.D., except where noted
ST: Shelby Tube – 3" O.D., except where noted
AU: Auger Sample
OB: Diamond Bit
CB: Carbide Bit
WS: Washed Sample

## RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

| Term (Non-Cohesive Soils) | Standard Penetration Resistance |
|---|---|
| Very Loose | 0-4 |
| Loose | 4-10 |
| Medium Dense | 10-30 |
| Dense | 30-50 |
| Very Dense | Over 50 |

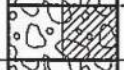
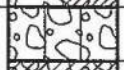
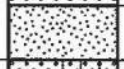
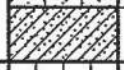
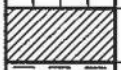
| Term (Cohesive Soils) | Qu (TSF) |
|---|---|
| Very Soft | 0-0.25 |
| Soft | 0.25-0.50 |
| Firm (Medium) | 0.50-1.00 |
| Stiff | 1.00-2.00 |
| Very Stiff | 2.00-4.00 |
| Hard | 4.00 + |

## PARTICLE SIZE

| | | | | | |
|---|---|---|---|---|---|
| Boulders | 8 in. + | Coarse Sand | 5mm-0.6mm | Silt | 0.074mm-0.005mm |
| Cobbles | 8 in. – 3 in. | Medium Sand | 0.6mm-0.2mm | Clay | - 0.005mm |
| Gravel | 3 in. – 5mm | Fine Sand | 0.2mm – 0.074mm | | |

# USCS Standard Classification System

# UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488

| MAJOR DIVISION | | | GROUP SYMBOL | LETTER SYMBOL | GROUP NAME |
|---|---|---|---|---|---|
| **COARSE GRAINED SOILS** CONTAINS MORE THAN 50% FINES | **GRAVEL AND GRAVELLY SOILS** MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE | GRAVEL WITH * 5% FINES |  | GW | Well-graded GRAVEL |
| | | |  | GP | Poorly graded GRAVEL |
| | | GRAVEL WITH BETWEEN 5% AND 15% FINES |  | GW-GM | Well-graded GRAVEL with silt |
| | | |  | GW-GC | Well-graded GRAVEL with clay |
| | | |  | GP-GM | Poorly graded GRAVEL with silt |
| | | |  | GP-GC | Poorly graded GRAVEL with clay |
| | | GRAVEL WITH ≥ 15% FINES |  | GM | Silty GRAVEL |
| | | |  | GC | Clayey GRAVEL |
| | **SAND AND SANDY SOILS** MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE | SAND WITH * 5% FINES |  | SW | Well-graded SAND |
| | | |  | SP | Poorly graded SAND |
| | | SAND WITH BETWEEN 5% AND 15% FINES |  | SW-SM | Well-graded SAND with silt |
| | | |  | SW-SC | Well-graded SAND with clay |
| | | |  | SP-SM | Poorly graded SAND with silt |
| | | |  | SP-SC | Poorly graded SAND with clay |
| | | SAND WITH ≥ 15% FINES |  | SM | Silty SAND |
| | | |  | SC | Clayey SAND |
| **FINE GRAINED SOILS** CONTAINS MORE THAN 50% FINES | SILT AND CLAY | LIQUID LIMIT LESS THAN 50 |  | ML | Inorganic SILT with low plasticity |
| | | |  | CL | Lean inorganic CLAY with low plasticity |
| | | |  | OL | Organic SILT with low plasticity |
| | | LIQUID LIMIT GREATER THAN 50 |  | MH | Elastic inorganic SILT with moderate to high plasticity |
| | | |  | CH | Fat inorganic CLAY with moderate to high plasticity |
| | | |  | OH | Organic SILT or CLAY with moderate to high plasticity |
| HIGHLY ORGANIC SOILS | | |  | PT | PEAT soils with high organic contents |

NOTES:

1) Sample descriptions are based on visual field and laboratory observations using classification methods of ASTM D2488. Where laboratory data are available, classifications are in accordance with ASTM D2487.

2) Solid lines between soil descriptions indicate change in interpreted geologic unit. Dashed lines indicate stratigraphic change within the unit.

3) Fines are material passing the U.S. Std. #200 Sieve.

# APPENDIX G

## SEQR & SHPO DOCUMENTATION

6HSWHPEHU

PL

NP

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1RW D OHJDO GRF


*UHHQH &RXQW\ %HDYHUUDP +DOOWK %XLC

# 1DWLRQDO )ORRG +D]DUG / FEMA | ) F S H W W H

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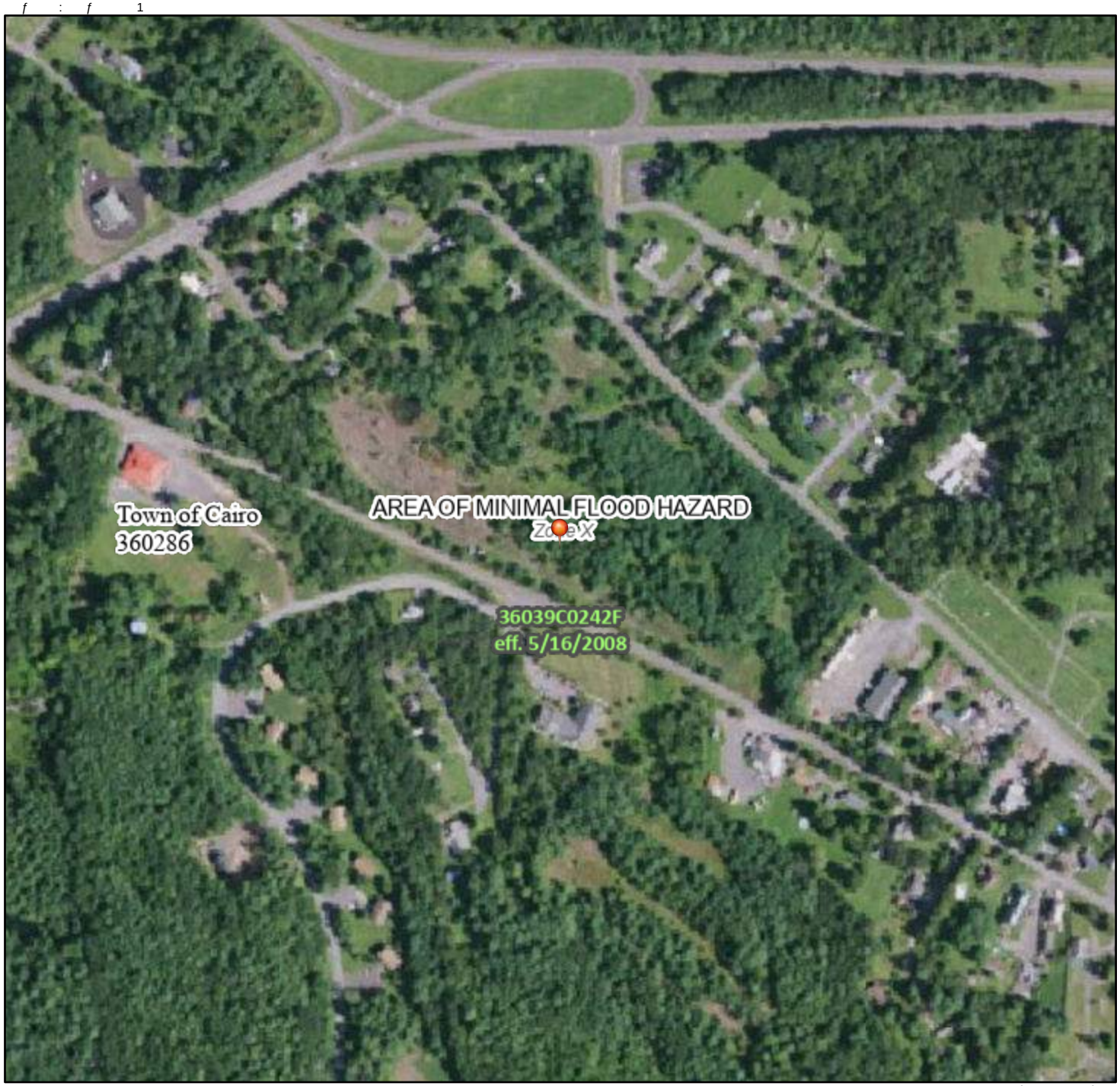


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DUHDV RI OHVV WKDQ RQ
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*(1(5$/
6758&785(6
&KDQQHO &XOYHUW RU
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:DWHU 6XUIDFH (OHYDWL
&RDVWDO 7UDQVHFW
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-XULVGLFWLRQ %RXQGDU
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3URILOH %DVHOLQH
+\GURJUDSKLF )HDWXUH

'LJLWDO 'DWD $YDLODEO
1R 'LJLWDO 'DWD $YDLOD
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8QPDSSHG

7KH SLQ GLVSOD\HG RQ WKH
SRLQW VHOHFWHG E\ WKH XV
DQ DXWKRULWDWLYH SURSHU

7KLV PDS FRPSOLHV ZLWK )(0$ V VWDQ
GLJLWDO IORRG PDSV LI LW LV QRW YR
7KH EDVHPDS VKRZQ FRPSOLHV ZLWK )(
DFFXUDF\ VWDQGDUGV

7KH IORRG KD]DUG LQIRUPDWLRQ LV GH
DXWKRULWDWLYH 1)+/ ZHE VHUYLFHV S
ZDV H[SRUWHG RQ DW DQG GHOV QRW
UHIOHFW FKDQJHV RU DPHQGPHQWV VX
WLPH 7KH 1)+/ DQG HIIHFWLYH LQIRUP
EHFRPH VXSHUVHGHG E\ QHZ GDWD RYH

7KLV PDS LPDJH LV YRLG LI WKH RQH R
HOHPHQWV GR QRW DSSHDU EDVHPDS
OHJHQG VFDOH EDU PDS FUHDWLRQ G
),50 SDQHO QXPEHU DQG ),50 HIIHFWLY
XQPDSSHG DQG XQPRGHUQL]HG DUHDV
UHJXODWRU\ SXUSRVHV

%DVHPDS ,PDJHU\ 6RXUFH 86*6 1DWLRQDO 0DS

# Resolution No. 341-25

## Resolution Declaring That The Construction Of The Proposed Greene County Community Services Building Will Not Have A Significant Adverse Environmental Impact

WHEREAS, the County of Greene ("County") is proposing to construct the Greene County Community Services Building located in the Town of Cairo, Greene County, New York; and

WHEREAS, pursuant to Article 8 of the Environmental Conservation Law, as amended, the New York State Environmental Quality Review Act ("SEQRA") and the implementing regulations at 6 NYCRR Part 617 (the "Regulations"), the County desires to comply with SEQRA and the Regulations; and

WHEREAS, by Resolution No. 212-25 the County declared its intent to act as Lead Agency, and

WHEREAS, the Greene County Administrator sent a letter and Part 1 of a Full Environmental Assessment Form (FEAF) to all potentially "Interested Agencies" and "Involved Agencies" (as these terms are defined in the SEQRA Regulations found at 6 NYCRR Part 617.2), indicating the County's desire to serve as the "Lead Agency" (as this quoted term is defined in the SEQRA Regulations) and to complete a coordinated review of the Project (in accordance with 6 NYCRR Part 617.6); and

WHEREAS, the Town of Cairo, the New York State Department of Environmental Conservation* and the New York State Parks, Recreation and Historic Preservation, Greene County Planning Board and the Greene County Highway Department responded, in writing, voicing no objection to the County's declaration of intent referenced above, and

WHEREAS, no objection was received from any other involved and/or interested agency related to the County's declaration of intent to act as Lead Agency, and

WHEREAS, the Project has been classified as an "Unlisted Action" as defined by the State Environmental Quality Review Act (SEQRA) in 6 NYCRR Part 617.2; and

WHEREAS, pursuant to the SEQRA Regulations, the Greene County Legislature has considered the significance of the potential environmental impacts of the Project by (a) using the criteria specified in Section 617.7 of the SEQRA Regulations, (b) examining the FEAF for the Project, including the facts and conclusions in Parts 1, 2 and 3 of the FEAF, (c) review of other available supporting information, which include and without limitation, the Town of Cairo's Balancing of Interests Resolution dated July 16, 2025, the No-Action letter from New York State Parks, Preservation and Historic Preservation, dated August 14, 2025," A Delineation of Waters of the United States; Freshwater Wetlands, Town of Cairo", prepared by NCES Wetlands, correspondence from Greene County Highway Department Superintendent indicating approval of proposed ingress and egress, together with review of sewer and water data prepared by Delaware Engineering and meeting(s) with the Town of Cairo relative to availability of municipal sewer and water; all in efforts to identify the

relevant areas of environmental concern;

NOW, THEREFORE, BE IT RESOLVED, that based upon an examination of the FEAF and other available supporting information, and considering both the magnitude and importance of each relevant area of environmental concern, and based further upon the County's knowledge of the area surrounding the Project, the Greene County Legislature makes the determination that the Project will not have a significant adverse environmental impact and that the Project will not require the preparation of a Draft Environmental Impact Statement; and

BE IT FURTHER RESOLVED, that as a consequence of such findings and declaration, and in compliance with the requirements of SEQRA, the Greene County Legislature, as Lead Agency, hereby directs the Greene County Administrator to sign the FEAF Part 3 - Determination of Significance indicating that the project will not result in one or more potentially large or significant adverse impacts (negative declaration); this Resolution shall take effect immediately; and

BE IT FURTHER RESOLVED, that all the filing and publication requirements set forth in SEQRA shall be followed with respect to this negative declaration.

**Meeting History**

**11/05/25 Health Services MOVED FOR ADOPTION**

| | |
|---|---|
| **RESULT:** | **MOVED FOR ADOPTION [UNANIMOUS]** |
| **MOVER:** | Gregory Davis, Legislator |
| **SECONDER:** | Sherry B. True, Legislator |
| **AYES:** | Handel, Davis, True, Hobart, O'Connell, Lanuto Jr., Linger, Luvera, Lennon |

**Current Meeting**

11/19/25 Greene County Legislature ADOPTED

| | |
|---|---|
| **RESULT:** | **ADOPTED [UNANIMOUS]** |
| **MOVER:** | Gregory Davis, Legislator |
| **SECONDER:** | Sherry B. True, Legislator |
| **AYES:** | Bulich, Davis, Handel, Hobart, Lanuto Jr., Legg, Lennon, Lucas, Luvera, Martinez, O'Connell, Thorington, True, Linger |

(10,000)

Ayes 14 Noes 0 Absent 0

APPROVED AS TO FORM
EDWARD I. KAPLAN, ESQ.
GREENE COUNTY ATTORNEY

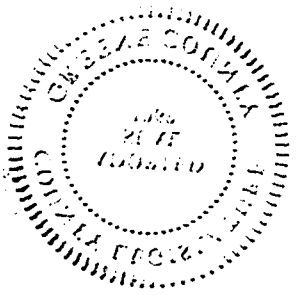
STATE OF NEW YORK}
} ss.:
COUNTY OF GREENE }

I, the undersigned,

DO HEREBY CERTIFY that I have compared the above copy of a Resolution adopted November 19th, 2025, with the original record in this office and that the same is a correct transcript thereof and of the whole of said original record.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of said Greene County Legislature this 20th day of November, 2025.

Tanya L. Ernst
Acting Clerk, Greene County Legislature



New York State
Parks, Recreation and
Historic Preservation

**KATHY HOCHUL**
Governor

**RANDY SIMONS**
Commissioner Pro Tempore

August 14, 2025

Tracey Ledder
Delaware Engineering, DPC
28 Madison Avenue Extension
Albany, NY 12203

Re: DEC
Parcel research
NY
24PR03416

Dear Tracey Ledder:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

We note that the project area is adjacent to the Susquehannah Turnpike, which is listed in the State and National Registers of Historic Places. We have reviewed the project description and supplemental documentation submitted to our office on July 31, 2025. Based on that review, it is the OPRHP's opinion that the proposed office building and parking, as described, will have No Adverse Impact on historic and archaeological resources.

If you have any questions, you can call or e-mail me at the contact information below.

Sincerely,

Mariana Staines
Historic Site Restoration Coordinator
518-268-2142 | mariana.montesstaines@parks.ny.gov

# APPENDIX H

PRE-CONSTRUCTION MEETING AGENDA & ATTENDANCE RECORD
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOGBOOK

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**STORM WATER POLLUTION PREVENTION PLAN**
**OPTIONAL PRE-CONSTRUCTION MEETING AGENDA AND ATTENDANCE RECORD**

**GREENE COUNTY – COMMUNITY SERVICES BUILDING**
**TOWN OF CAIRO**

| Topic | Discussed | Further action or Information Required (Yes or No) |
|---|---|---|
| Overview of SPDES Permit Program | | |
| General Discussion of SWPPP and Records Retention Requirements | | |
| Phasing of Project | | |
| Review of Erosion and Sediment Control Plans (to include all temporary and permanent structural and stabilization measures) | | |
| Locating solid waste containers, portable toilets, concrete washout areas, fueling areas and tank storage area on Progress Drawing | | |
| Posting the Progress Drawing (marked on the Erosion and Sediment Control Plans) at job trailer | | |
| Posting requirements for the Notice of Intent (NOI), Must be posted at Project entrance and inside job trailer wall. | | |
| Allowable non-storm water discharges and handling procedures | | |
| Materials management to include proper material storage, etc. | | |
| Signatory Authorization Delegation | | |
| Contractor's Certification | | |
| Subcontractor's Certification | | |
| Inspection form and required inspection timeframe | | |
| Stabilization schedule | | |
| Implementation schedule | | |
| Modification report and modifying plans | | |
| Final stabilization | | |
| Reportable quantity release procedures | | |
| Rain gage requirement and rainfall logs | | |
| State specific requirements | | |
| Import/Export – Fill and Spoil Materials | | |
| SWPPP accessibility to regulatory officials | | |
| Inspections – assisting and cooperating with regulatory officials – inspection reports and notices of violation (any response must be coordinated through Project Manager) | | |

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**STORM WATER POLLUTION PREVENTION PLAN**
**OPTIONAL PRE-CONSTRUCTION MEETING AGENDA AND ATTENDANCE RECORD**

**GREENE COUNTY – COMMUNITY SERVICES BUILDING**
**TOWN OF CAIRO**

**Attendance Roster** **Date:** _____

| Name | Company | Email | Telephone Number | Signature |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
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**Attendance Roster (continued)**

| Name | Company | Email | Telephone Number | Signature |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**Items which require further action or additional information:** _____
_____
_____

**Additional items discussed (not addressed above):** _____
_____
_____
_____
_____
_____
_____

***This completed form must be included in both the Project Manager's and Construction Site SWPPP Ledger.**

# APPENDIX F
# CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

**STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES**

## SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

**Project Name** _____

**Permit No.** _____ **Date of Authorization** _____

**Name of Operator** _____

**Prime Contractor** _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

**b. Pre-construction Site Assessment Checklist**
**(NOTE: Provide comments below as necessary)**

1. Notice of Intent, SWPPP, and Contractors Certification:

**Yes No NA**

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

**Yes No NA**

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

**Yes No NA**

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

**Yes No NA**

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

**Yes No NA**

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

**Yes No NA**

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

## II. CONSTRUCTION DURATION INSPECTIONS

### a. Directions:

**Inspection Forms will be filled out during the entire construction phase of the project.**

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

**SITE PLAN/SKETCH**

| | |
|---|---|
| **Inspector (print name)** | **Date of Inspection** |
| **Qualified Inspector (print name)** | **Qualified Inspector Signature** |

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

**Maintaining Water Quality**

**Yes No NA**
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

**Housekeeping**

1. General Site Conditions

**Yes No NA**
[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

**Yes No NA**
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

**Yes No NA**
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

**Runoff Control Practices**

1. Excavation Dewatering

**Yes No NA**
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

**Runoff Control Practices (continued)**

2. Flow Spreader

**Yes No NA**

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

**Yes No NA**

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

**Yes No NA**

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

**Yes No NA**

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

**Soil Stabilization**

1. Topsoil and Spoil Stockpiles

**Yes No NA**

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

**Yes No NA**

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

**Sediment Control Practices**

1. Silt Fence and Linear Barriers

**Yes No NA**

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

**Sediment Control Practices (continued)**

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

**Yes No NA**

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

**Yes No NA**

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

**Yes No NA**

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

## CONSTRUCTION DURATION INSPECTIONS

### b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

**Modification & Reason:**

**CPL**
64 Green Street
Hudson, NY 12534

# STORMWATER MANAGEMENT CONSTRUCTION DURATION INSPECTION REPORT

**SITE:** **PERMIT #** **DATE:**

**CPL PROJECT #** **WEEKLY/RAINFALL/MISC:**

**STABILIZATION CONTROL (See Attached Site Plan/Sketch ☑ )**

1a. Indicate the location and size of all disturbed site areas and drainage pathways;

1b. Indicate the location and size of areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

1c. Indicate the location and size of areas of the site that have undergone temporary or permanent stabilization;

1.d Indicate the location and size of disturbed site areas that have not undergone active site work during the previous 14-day period;

1.e Indicate the location and size of rill or gully erosion or loss of stabilizing vegetation or seeding/mulching or any erosion near outlet structures.

**SEDIMENT AND RUNOFF CONTROL - SUMMARY**

2.a Indicate the type, location, degree of sediment accumulation and required maintenance of each sediment and runoff control practice.

2.b Document any excessive deposition of sediment or ponding water along barrier or diversion systems.

2.c Indicate the ability of rock filters around perforated riser pipes to pass water

**SWPPP COMPLIANCE - SUMMARY**

3a. Indicate any deficiencies that are identified with the implementation of the SWPPP

3b. Indicate any modifications or actions required to implement the SWPPP.

**INSPECTOR NAME:** _____ **CERTIFIED PROFESSIONAL SIGNATURE:** _____

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

**CPL**
9 ELKS LANE
POUGHKEEPSIE, NY 12601

# STORMWATER MANAGEMENT CONSTRUCTION DURATION INSPECTION REPORT

## 4. MAINTAINING WATER QUALITY

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Is there an increase in turbidity causing a substantial visible contrast to natural conditions? |
| ☐ | ☐ | ☐ | Is there residue from oil and floating substances, visible oil film, or globules or grease? |
| ☐ | ☐ | ☐ | All disturbance is within the limits of the approved plans. |
| ☐ | ☐ | ☐ | Have receiving lake/bay, stream and/or wetland been impacted by silt from the project? |

## 5. HOUSEKEEPING

A. General Site Conditions

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Is construction site litter and debris appropriately managed? |
| ☐ | ☐ | ☐ | Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained? |
| ☐ | ☐ | ☐ | Is construction impacting the adjacent property? |
| ☐ | ☐ | ☐ | Is dust adequately controlled? |

B. Temporary Stream Crossing

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Maximum diameter pipes necessary to span creek without dredging are installed. |
| ☐ | ☐ | ☐ | Installed non-woven geotextile fabric beneath approaches. |
| ☐ | ☐ | ☐ | Is fill composed of aggregate (no earth or soil)? |
| ☐ | ☐ | ☐ | Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering watercourse during high flow. |

## 6. RUNOFF CONTROL PRACTICES

A. Excavation Dewatering

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan. |
| ☐ | ☐ | ☐ | Clean water from upstream pool is being pumped to the downstream pool. |
| ☐ | ☐ | ☐ | Sediment laden water from work area is being discharged to a silt-trapping device. |
| ☐ | ☐ | ☐ | Constructed upstream berm with one-foot minimum freeboard. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

B. Level spreader

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Installed per plan. |
| ☐ | ☐ | ☐ | Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow. |
| ☐ | ☐ | ☐ | Flow sheets out of level spreader without erosion on downstream edge. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

C. Interceptor Dikes and Swales

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Installed per plan with minimum side slopes 2H;1V or flatter. |
| ☐ | ☐ | ☐ | Stabilized by geotextile fabric, seed, or mulch with no erosion occurring. |
| ☐ | ☐ | ☐ | Sediment-laden runoff directed to sediment trapping structure. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

# STORMWATER MANAGEMENT CONSTRUCTION DURATION INSPECTION REPORT

D. Stone Check Dam

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Is channel stable? (flow not eroding soil underneath or around the structure). |
| ☐ | ☐ | ☐ | Check is in good condition (rocks in place and no permanent pools behind the structure). |
| ☐ | ☐ | ☐ | Has accumulated sediment been removed? |
| ☐ | ☐ | ☐ | **Maintenance required:** |

E. Rock Outlet Protection

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Installed per plan. |
| ☐ | ☐ | ☐ | Installed concurrently with pipe installation. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

**7. SOIL STABILIZATION**

A. Topsoil and Spoil Stockpiles

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Stockpiles are stabilized with vegetation and/or mulch. |
| ☐ | ☐ | ☐ | Sediment control is installed at the toe of the slope. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

B. Revegetation

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Temporary seed and mulch has been applied to idle areas. |
| ☐ | ☐ | ☐ | 4 inches minimum of topsoil has been applied under permanent seedings. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

**8. SEDIMENT CONTROL PRACTICES**

A. Stabilized Construction Entrance

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Stone is clean enough to effectively remove mud from vehicles. |
| ☐ | ☐ | ☐ | Installed per standards and specifications? |
| ☐ | ☐ | ☐ | Does all traffic use the stabilized entrance to enter and leave the site? |
| ☐ | ☐ | ☐ | Is adequate drainage provided to prevent ponding at the entrance? |
| ☐ | ☐ | ☐ | **Maintenance required:** |

B. Silt Fence

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Installed on contour, 10 feet from toe of slope (not across conveyance channels). |
| ☐ | ☐ | ☐ | Joints constructed by wrapping the two ends together for continuous support. |
| ☐ | ☐ | ☐ | Fabric buried 6 inches minimum. |
| ☐ | ☐ | ☐ | Posts are stable, fabric is tight and without rips or frayed areas. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

Sediment accumulation is _____% of design capacity.

# STORMWATER MANAGEMENT CONSTRUCTION DURATION INSPECTION REPORT

C. Temporary Sediment Trap

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Outlet structure is constructed per the approved plan or drawing. |
| ☐ | ☐ | ☐ | Geotextile fabric has been placed beneath rock fill. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

Sediment accumulation is_____% of design capacity.

**8. SEDIMENT CONTROL PRACTICES - Continued**

D. Storm Drain Inlet Protection (Use for stone & block, filter fabric, curb, or excavated practices).

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Installed concrete blocks lengthwise so open ends face outward, not upward. |
| ☐ | ☐ | ☐ | Placed wire screen between No. 3 crushed stone and concrete blocks. |
| ☐ | ☐ | ☐ | Drainage area being 1 acre or less. |
| ☐ | ☐ | ☐ | Excavated area is 900 cubic feet. |
| ☐ | ☐ | ☐ | Excavated side slopes should be 2:1. |
| ☐ | ☐ | ☐ | 2" x 4" frame is constructed and structurally sound. |
| ☐ | ☐ | ☐ | Maximum post spacing is 3 feet. |
| ☐ | ☐ | ☐ | Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing. |
| ☐ | ☐ | ☐ | Posts are stable, fabric is tight and without rips or frayed areas. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

Sediment accumulation is_____% of design capacity.

E. Temporary Sediment Basin

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Basin and outlet structure constructed per the approved plan. |
| ☐ | ☐ | ☐ | Basin side slopes are stabilized with seed/mulch. |
| ☐ | ☐ | ☐ | Drainage structure flushed, and basin surface restored upon removal of sediment basin facility. |
| ☐ | ☐ | ☐ | **Maintenance required:** |

Sediment accumulation is_____% of design capacity.

**General Notes/Instructions**

**CPL**
9 ELKS LANE
POUGHKEEPSIE, NY 12601

# STORMWATER MANAGEMENT CONSTRUCTION DURATION INSPECTION REPORT

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

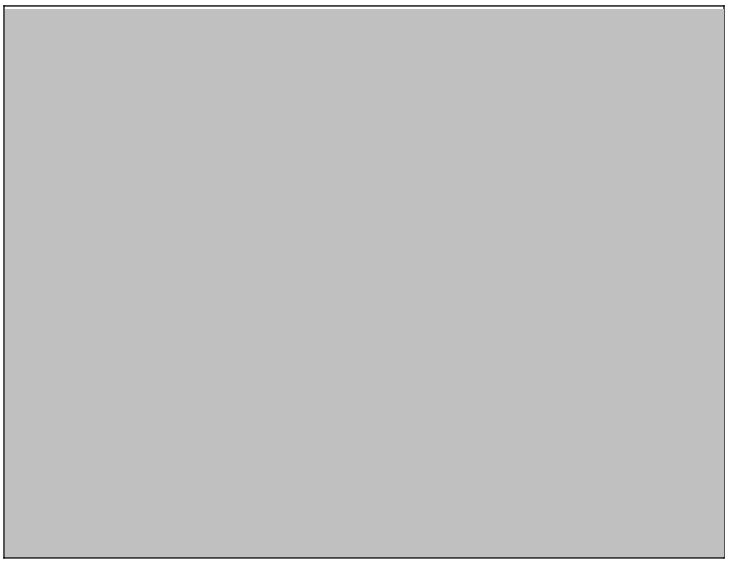

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**CPL**
9 ELKS LANE
POUGHKEEPSIE, NY 12601

# STORMWATER MANAGEMENT CONSTRUCTION DURATION INSPECTION REPORT

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

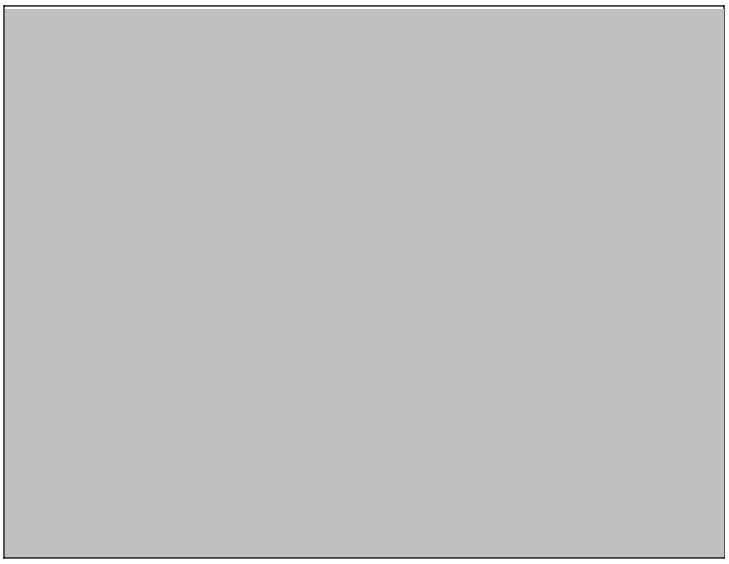

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**CPL**
9 ELKS LANE
POUGHKEEPSIE, NY 12601

# STORMWATER MANAGEMENT CONSTRUCTION DURATION INSPECTION REPORT

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**IMAGE #**

**LOCATION:**

**DESCRIPTION:**

**ACTION REQUIRED:**

**CPL**
9 ELKS LANE
POUGHKEEPSIE, NY 12601

# STORMWATER MANAGEMENT CONSTRUCTION DURATION INSPECTION REPORT

**10. MODIFICATIONS TO THE SWPPP** ☐ Yes ☐ No

The Operator shall amend the SWPPP whenever:

1. There is significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to waters of the United States and which has not otherwise been addressed in the SWPPP; or

2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
   c. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

**Modification & Reason**

# APPENDIX I

GENERAL CONTRACTOR CERTIFICATION FORM
SUBCONTRACTOR CERTIFICATION FORM

## GENERAL PROJECT INFORMATION

Project Name:_____

GP-0-25-001 Permit No.: _____ Date of Authorization:_____

Name of Operator:_____

General Site Contractor:_____

## CONTRACTORS CERTIFICATION

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the New York State Pollutant Discharge 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 the State of New York and could subject me to criminal, civil and/ or administrative proceedings."

Name: (please print)

Title:

Company Name:

Address:

Phone:

Email:

Signature: Date:

## TRAINED INDIVIDUAL RESPONSIBLE FOR SWPPP IMPLEMENTATION

Name: (please print)

Title:

Signature: Date:

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**STORM WATER POLLUTION PREVENTION PLAN**
**SUBCONTRACTOR'S CERTIFICATION**

**GREENE COUNTY COMMUNITY SERVICES BUILDING**
**TOWN OF CAIRO**
**GREENE COUNTY, NEW YORK**

**SUBCONTRACTOR'S CERTIFICATION:**

***"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner 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 discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"***

**Name:** _____
**(Print)**

**Signature:** _____

**Title:** _____

**Company Name:** _____

**Address:** _____

**Telephone Number:** _____

**Date:** _____

**Scope of Services:** _____

**Date:** _____

**Received by:** _____
**[Name]**

# APPENDIX J

## CLIMATE CHANGE CONSIDERATIONS

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# STORM WATER POLLUTION PREVENTION PLAN
# CLIMATE CHANGE CONSIDERATIONS

## CONSTRUCTION SITE – COMMUNITY SERVICES BUILDING – GREENE COUNTY –
## 774 MAIN STREET
## CAIRO NY 12413

| Physical Risk | Project Site Considerations | | | |
|---|---|---|---|---|
| | **Overall Site Planning** | **Location, Elevation and Sizing of Control Measures and Practices** | **Location, Elevation and Sizing of Conveyance System(s)** | **Location, Elevation and Sizing of Detention System(s)** |
| **Increasing Temperature** | The project proposes use of bioretention system which will promote plant growth and evapotranspiration and lessening warmer waters discharging into streams. | SMP(s) have been sized for the 90% WQv storm event. The elevation of ponding controls in the practice is limited by the requirements in the design manual. | Conveyance systems have been sized to safely convey the 10-year 24-hour storm event. | System(s) have been designed to keep all runoff on-site with no off-site discharge. |
| **Increasing Precipitation** | The project proposes runoff reduction techniques to reduce the volume discharging from the project site and promoting evapotranspiration. | SMP(s) have been sized for the 90% storm event. The elevation of ponding controls in the practice is limited by the requirements in the design manual. | Conveyance systems have been sized to safely convey the 10-year 24-hour storm event. | System(s) have been designed to keep all runoff on-site with no off-site discharge. |
| **Increasing Precipitation Variability** | | | | |
| **Increasing Frequency and Severity of Flooding** | | | | |
| **Rising Sea Level** | Due to the site location, the property is not expected to be directly impacted by sea levels rising. | Not applicable | Not applicable | Not applicable |
| **Increasing Storm Surge** | Due to the site location, the property is not expected to be directly impacted by storm surge. | Due to the site location, the property is not expected to be directly impacted by storm surge. | Due to the site location, the property is not expected to be directly impacted by storm surge. | Due to the site location, the property is not expected to be directly impacted by storm surge. |
| **Shifting Ecology** | The plantings selected for the project consider adaptability. | The SMPs selected will utilize hardy species tolerant to both drought and inundation. | The conveyance systems proposed include vegetated swales which include species tolerant to both drought and inundation. | The detention system proposed is the bioretention area which include species tolerant to both drought and inundation. |

# APPENDIX K

STABILIZATION FORM

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**STORM WATER POLLUTION PREVENTION PLAN**
**Stabilization Schedule for Major Grading Activities**
**GREENE COUTY – COMMUNITY SERVICES BUILDING**

| | | | Note: When these activities cease and if activities cease for more than 14 days, these columns need to be completed. | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Major Site Construction Activity Areas** | **Begin Date** | **Completion Date** | **Temporary Cease Date** | **Resume Date** | **Begin Date for Stabilization Temporary** | **Begin Date for Stabilization Permanent** | **Type of Stabilization (List measures used such as stone, seeding, mulch, landscaping, etc...)** | **Contractor Responsible for Work** |
| **Temp. Gravel Const. Entrance** | | | | | | | | |
| **Existing Pavements and Structures Removed, Utilities Removed/Relocated** | | | | | | | | |
| **Mass Grading** | | | | | | | | |
| **Access Drives Constructed** | | | | | | | | |
| **Walkways Constructed** | | | | | | | | |
| **Building Foundation** | | | | | | | | |
| **Storm Sewers and Utility Installations** | | | | | | | | |
| **Pervious Areas Stabilized** | | | | | | | | |

# APPENDIX L

## IMPLEMENTATION SCHEDULE

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**STORMWATER POLLUTION PREVENTION PLAN**
**IMPLEMENTATION SCHEDULE**

**GREENE COUNTY – COMMUNITY SERVICES BUILDING**
**TOWN OF CAIRO**
**GREENE COUNTY, NEW YORK**
**STORMWATER POLLUTION PREVENTION PLAN**

*To be completed prior to initiation of construction by the contractor.

The Contractor will be responsible for implementing all Erosion and Sediment Control and Storm Water Management control structures. The Contractor may designate these tasks to certain subcontractors as they see fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor.

| Construction Activity | *Proposed Initiation Date | *Proposed Completion Date | Actual Initiation Date | Actual Completion Date | Contractor Responsible for Implementation |
|---|---|---|---|---|---|
| Preconstruction Meeting | | | | | |
| Temporary Construction Access | | | | | |
| Material laydown/staging area prep | | | | | |
| Install inlet protection | | | | | |
| Install perimeter protection | | | | | |
| Stabilize all areas | | | | | |
| Remove inlet protection | | | | | |
| Clean storm Sewers | | | | | |
| Final inspection | | | | | |
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# APPENDIX M

## FINAL STABILIZATION / NOTICE OF TERMINATION CHECKLIST

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**STORM WATER POLLUTION PREVENTION PLAN**

**FINAL STABILIZATION CERTIFICATION /NOTICE OF TERMINATION CHECKLIST**

**GREENE COUNTY – COMMUNITY SERVICES BUILDING**
**TOWN OF CAIRO**
**GREENE COUNTY, NEW YORK**
**STORMWATER POLLUTION PREVENTION PLAN**

1. ☐ **All soil disturbing activities are complete and the facility no longer discharges storm water associated with Construction Activities.**

2. ☐ **Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.**

3. ☐ **All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 80% or equivalent measures have been employed.**

**CONTRACTOR'S CERTIFICATION:**

*"I certify under penalty of law that all storm water discharges associated with Construction Activity from the identified project that are authorized by the NPDES Construction General Permit have been eliminated and that all disturbed areas and soils at the construction site have achieved Final Stabilization and all temporary erosion and sediment control measures have been remove in addition all permanent stormwater structures have been constructed as described in the SWPPP"*

**Company Name: _____**

**Name (Print):_____**

**Signature: _____**

**Title: _____**

**Date: _____**

**Date: _____**

**Received by: _____**
**[Name]**

# APPENDIX N

## REPORTABLE QUANTITY RELEASE FORM

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**STORM WATER POLLUTION PREVENTION PLAN**
**REPORTABLE QUANTITY RELEASE FORM**

**GREENE COUNTY – COMMUNITY SERVICES BUILDING**
**TOWN OF CAIRO**
**GREENE COUNTY, NEW YORK**
**STORMWATER POLLUTION PREVENTION PLAN**

The discharges of Hazardous Substances or Oil in storm water discharges from construction sites must be prevented or minimized in accordance with the SWPPP. Where a release containing a Hazardous Substance or Oil in an amount equal to or in excess of a reportable quantity established under 40CFR Part 110, 40CFR Part 117 and 40CFR Part 302 occurs, the following steps must be taken:

1. All measures must be taken to contain and abate the spill and to prevent the discharge of Hazardous Substances or Oil to storm water or off-site.

2. Contact the Project Manager or Operator's Engineer immediately upon knowledge of release.

3. If a release is equal to or in excess of a reportable quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The plans must identify measures to prevent the recurrence of such releases and to respond to such releases

| Date of Spill | Material Spilled | Approximate Quantity of Spill (in gallons) | Agency(s) Notified | Date of Notification | SWPPP Revision Date |
|---|---|---|---|---|---|
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# APPENDIX O

PROJECT RAINFALL LOG

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**YEAR 2026**

**GREENE COUNTY – COMMUNITY SERVICES BUILDING**
**CAIRO, NEW YORK**
**STORM WATER POLLUTION PREVENTION PLAN**
**PROJECT RAINFALL LOG**

| Month | Jan | Feb | Mar | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day | | | | | | | | | | | | |
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| PM Initials | | | | | | | | | | | | |

Note: Rainfall amounts are to be based on a 24-hour rainfall event, instead of a cumulative total of rainfall over several days.

# APPENDIX P

## POST CONSTRUCTION STORMWATER BMP OPERATIONS & MAINTENANCE PLAN

# APPENDIX Q

PROJECT SPECIFICATIONS (UNDER SEPARATE COVER)

# APPENDIX R

PROJECT CONSTRUCTION DRAWINGS (UNDER SEPARATE COVER)


Georgia | New York | North Carolina | Pennsylvania | South Carolina
800 274 9000 CPLteam.com