STORMWATER POLLUTION PREVENTION PLAN

Essex BOCES Facility

March 16th, 2026
Revised:

PREPARED FOR:
CIDC Essex, LLC
302 Washington Avenue Ext.
Albany, NY 12203

LANSING ENGINEERING
CIVIL - TRANSPORTATION
ENVIRONMENTAL - LAND SURVEYING

Essex BOCES Facility

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1.0 Executive Summary

This Water Quality and Quantity Plan and Stormwater Pollution Prevention Plan (SWPPP) has been prepared pursuant to the Environmental Protection Agency's (EPA) and the New York State Department of Environmental Conservation's (NYSDEC) Phase II Storm Water Regulations. All responsible parties as defined below are responsible for executing the SWPPP and for complying with the requirements set forth in the EPA's National Pollution Discharge Elimination System (NPDES) General Permit, the NYSDEC's State Pollution Discharge Elimination System (SPDES) General Permit GP-0-25-001, and any local governing agencies having jurisdiction regarding erosion and sediment control.

This SWPPP has been prepared in accordance with Stormwater Management Planning techniques and Green Infrastructure Practices required by the most current version of the New York State Stormwater Management Design Manual (Design Manual). These planning techniques and practices emphasize a holistic approach to resource protection, water quality treatment, flow volume control, maintenance cost reduction, and the dynamics of stormwater science. According to the Design Manual, the green infrastructure approach for stormwater management reduces a site's impact on the aquatic ecosystem using site planning techniques, runoff reduction techniques, and certain standard stormwater management practices.

The purpose of the Water Quality and Quantity Plan and the SWPPP described herein is to provide for the detention of high intensity storms (up to the 100-year storm) and the passive water quality treatment of low intensity storms. These controls and treatments will be achieved using appropriate temporary and permanent features such as drainage ditches, conveyance channels, conveyance piping, green infrastructure, and earth formed stormwater management basins. The goal is to limit the post-development storm water discharge rate to that of the pre-development flows and prevent discharge of pollutants into receiving waters.

This SWPPP has been prepared in accordance with the most current effluent limitations applicable to discharges from construction activities. The stormwater discharges outlined in this report will achieve, at a minimum, the effluent limitations outlined in Part II.B.1 (a)-(e) of NYSDEC's SPDES GP-0-25-001.

Additionally, this Plan outlines methods that Owners and Contractors can use to adjust construction practices in a way that will retain surface water quality and prevent sediment laden runoff from entering wetlands, streams, rivers, lakes and then ultimately to estuaries or other sensitive environments. This plan describes methods for stormwater management and runoff management during the construction phase and summarizes responsible stormwater pollution prevention practices that can be phased into everyday activities post construction.

1.1 Responsibilities of the Participants

All responsible parties shall comply with the measures set forth in this SWPPP and in accordance with the NYSDEC General Permit. The following outlines the responsibilities of all participants:

Owner/Operator/Permittee

The following is a summary of the Owner's responsibilities:

1. Satisfy the requirements of the State Environmental Quality Review Act when SEQR is applicable and where required, all necessary Department permits subject to the Uniform Procedures Act (UPA).

2. An owner or operator of a construction activity that is not subject to the requirements of a regulated, traditional land use control MS4 must first develop a SWPPP in accordance with all applicable requirements of this permit and then submit a completed eNOI form electronically to the NYSDEC in order to be authorized to discharge under this permit. The eNOI form shall be one which is associated with this permit, signed in accordance with Part I.D of GP-0-25-001.

3. An owner or operator of a construction activity that is subject to the requirements of a regulated, traditional land use control MS4 must first develop a SWPPP in accordance with all applicable requirements of this permit and then have its SWPPP reviewed and accepted by the MS4 prior to submitting the eNOI to the Department. The owner or operator shall have the "MS4 SWPPP Acceptance" form signed by the principal executive officer or ranking elected official from the regulated, traditional land use control MS4, or by a duly authorized representative of that person, and then upload that form to the eNOI prior to submittal of the eNOI to the NYSDEC.

4. Read and understand the Electronic Notice of Intent (eNOI) and the SWPPP to make sure they are in accordance with the requirements of the General Permit. Certify the eNOI and the SWPPP by signing the Owner/Operator Certification statement contained in the NOI.

5. The owner shall have the SWPPP preparer sign the "SWPPP Preparer Certification" form contained in the eNOI. The form shall then be uploaded to the eNOI prior to submittal of the eNOI to the NYSDEC.

6. The owner/Operator shall sign the "Owner/Operator Certification" form contained in the eNOI. The form shall then be uploaded to the eNOI prior to submitting the eNOI to the NYSDEC. The eNOI should then be submitted electronically to the NYSDEC using the NYSDEC approved form.

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

8. Ensure the provisions of the SWPPP are implemented from the commencement of construction activity until final stabilization and the Notice of Termination (NOT) has been submitted to the NYSDEC.

9. Identify the contractor(s) and/or subcontractors(s) involved with construction activity that disturbs site soils prior to commencement of construction. Require all contractor(s) and/or subcontractor(s) fully implement the SWPPP and adhere to requirements set forth in the General Permit by having them sign the "contractor certification" in Appendix A. Each of these contractors and subcontractors shall have at least one trained individual from their company that will be responsible for implementation of the SWPPP and be on site when soil disturbing activities are occurring.

10. Maintain a copy of the General Permit (GP-0-25-001), NOI, NOI Acknowledgement Letter, SWPPP, MS4 SWPPP Acceptance form, Contractor Certification(s), and inspection reports for the duration of construction activity until a NOT is filed with the NYSDEC. These documents should be kept in a secure location on site accessible during normal working hours.

11. Obtain the services of a qualified inspector to conduct regular on-site inspections for general compliance with the SWPPP and the SPDES General permit at least twice every seven (7) calendar days.

12. Obtain prior written authorization from the NYSDEC or MS4 if construction activity will disturb greater than five (5) acres of soil at any one time. A copy of this authorization should be kept on site. For as long as there is greater than five acres of soil disturbance, inspections shall be conducted twice every seven days with a minimum of two days separation. When soil disturbance has been temporarily or permanently suspended in these areas, stabilization measures shall be applied within seven days. A phasing plan defining maximum disturbance and required cuts and fills shall be developed as well as any additional site-specific practices needed to protect water quality.

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

14. Upon project completion and when the site has reached final stabilization, the Owner shall request termination of coverage under GP 0-25-001 by submitting and completing an Electronic Notice of Termination (eNOT) form electronically to the NYSDEC using the NYSDEC approved form.

15. Retain all site records and documentation including project plans and reports, the SWPPP, SWPPP inspection reports and all records of data used to complete the NOI for a minimum of five (5) years from the date the site reached final stabilization.

16. It is the responsibility of the owner or operator to provide documentation supporting the determination of permit eligibility with regard to Park I.D.10 (Historic Places). At a minimum, the supporting documentation shall include: information on whether the stormwater discharge or construction activities would have an effect on a property that is listed or eligible for listing on the State or National Register of Historic Places, results of historic places screening determinations conducted, a description of measures necessary to avoid or minimize adverse impacts on places listed or eligible for listing, or where effects may occur, any written agreements that the owner or operator has made with the OPRHP or other governmental agency to mitigate those effects, or local land use approvals evidencing the same.

17. It is the responsibility of the owner or operator to provide documentation supporting the determination of permit eligibility with regard to construction activities that may adversely affect an endangered or threatened species unless the owner or (Part I.F.4) 10 operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

Notice to Purchaser and Developers

This SWPPP provides guidance to comply with the New York State Pollutant Discharge Elimination System (SPDES) for stormwater discharges associated with construction activities (GP-0-25-001). The Notice of Intent (eNOI) submitted to New York State to obtain permit coverage identifies the owner/operator of the land who is responsible for compliance with the General Permit and the project SWPPP.

If a separate party (herein referred to as the Purchaser) purchases land from the permitted owner/operator, and disturbs soil as part of the residential subdivision, the owner/operator has the obligation to ensure that the Purchaser's construction complies with the General Permit and the project SWPPP. Any amendments made to this SWPPP due to alteration of the scope of the project, or needed amendments due to compliance with a New York State revision to the General Permit are also the responsibility of the owner/operator.

When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original owner or operator must follow the guidelines outlined in Part 1. G of GP-0-25-001.

Once the new owner or operator obtains permit coverage, the original owner or operator shall then submit a completed eNOT with the name and permit identification number of the new owner or operator to the Department. If the original owner or operator maintains ownership of a portion of the construction activity and will disturb soil, they must maintain their coverage under the permit.

Permit coverage for the new owner or operator will be effective as of the date the new owner receives the letter of acknowledgement (LOA) from the NYSDEC.

Owner's Engineer

The following is a summary of the Engineer's responsibilities:

1. Prepare this SWPPP using good Engineering practices, best management practices, and in compliance with NYSDEC Stormwater Regulations under General Permit (GP-0-25-001) and the "New York Standards and Specifications for Erosion and Sediment Control".
2. Prepare the NOI for the Owner to submit to the NYSDEC. The SWPPP preparer shall sign the "SWPPP Preparer Certification" contained in the NOI.
3. Update the SWPPP each time there is a significant modification to the design or construction which may have a significant effect on the potential for discharge of pollutants into receiving waters.

Contractors and Sub Contractors

The following is a summary of responsibilities for Contractors and/or subcontractors involved with construction activities that disturb soils on site:

1. Certify that the SWPPP has been read and understood by signing the Contractor Certification statement contained in Appendix A of this report.

2. In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the trained contractor responsible for SWPPP implementation; the name, address and telephone

number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The owner or operator shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the construction site. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

3. Fully implement the SWPPP and the requirements set forth in the SPDES General Permit.

4. Conduct inspections on a regular basis of the erosion and sedimentation controls installed at the site. Responsible for installing, constructing, repairing, inspecting, and maintaining the erosion and sediment control practices. Each of these contractors and subcontractors shall have at least one trained individual from their company that will be responsible for implementation of the SWPPP and be on site when soil disturbing activities are occurring. This person shall be known as the trained contractor. The owner or operator shall ensure that at least one trained contractor is on site on a daily basis when soil disturbances are being performed.

Site Inspector

The owner or operator shall have a qualified inspector conduct site inspections in conformance with the general permit.

The following is a summary of the Site Inspector's responsibilities:

1. Inspections should be completed only by a "qualified inspector". Definition of qualified inspector is:

   A qualified inspector means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s). It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years. It can also mean a person that meets the Qualified Professional qualifications in addition to the Qualified Inspector qualifications.

2. Conduct on-site inspections at least once every seven (7) calendar days for general compliance with the SWPPP and the NYSDEC SPDES General Permit. Inspection reports will be provided to the Owner and all contractors and subcontractors involved with earth disturbing activities within one business day of the field inspection. The inspector shall sign the certifying statements contained at the end of the inspection reports. See section 9.2 of this SWPPP for further detail concerning inspections as well as winter shutdown inspection requirements. The inspection reports shall include and/or address the following:

   - Permit identification number

- The date and time of the inspection
- Name and title of person(s) performing inspection;
- Description of the weather and soil conditions at the time of the inspection;
- 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.
- 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;
- 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 require reinstallation or replacement.
- Description and sketch of disturbed 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;
- Total area of soil disturbance (acres) at the time of inspection of the following:
    - Total area with active soil disturbance (not requiring either temporary stabilization or final stabilization)
    - Total area with inactive soil disturbance (requiring either temporary stabilization or final stabilization)
    - Total area that has achieved temporary stabilization; and
    - Total area that has achieved final stabilization
- Must identify the current stage of construction of all post-construction stormwater management practices and identification of all construction activity on site that is not in conformance with the SWPPP and technical standards.
- Corrective actions 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 practices;
- Identification and status of all corrective actions that were required by previous inspection;
- Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The

qualified inspector shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

3. 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, all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.

4. Review the SWPPP logbook on a periodic basis to ensure compliance and update as necessary.

5. When construction is complete, provide the Owner with a final site assessment verifying that the site has undergone final stabilization and met all requirements of the SWPPP and the General Permit. When the site has undergone final stabilization, prepare the eNOT and sign the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statement. The eNOT must then be submitted electronically to the NYSDEC.

   For construction activities that are subject to the requirements of a regulated, traditional land use control MS4, the owner or operator shall also have the MS4 sign the "MS4 Acceptance" statement on the eNOT. The owner or operator shall have the principal executive officer, ranking elected official, or duly authorized representative from the regulated, traditional land use control MS4, sign the "MS4 Acceptance" statement. The MS4 official, by signing this statement, has determined that it is acceptable for the owner or operator to submit the eNOT in accordance with the requirements of the general permit. The MS4 can make this determination by performing a final site inspection themselves or by accepting the qualified inspector's final site inspection certification(s).

1.2 Participant Contact Information

Owner/Operator	Engineering Firm	Contractor's & Sub Contractors
CIDC Essex, LLC 302 Washington Avenue. Ext. Albany, NY 12203	Lansing Engineering, P.C. 2452 State Route 9, Suite 301 Malta, New York 12020 (518) 899-5243	TBD

2.0 Site Description

This section briefly describes existing and proposed hydrologic and hydraulic conditions at and around the project site as they relate to surface water management planning considerations. Subsequent sections contain a description of the manner in which site runoff will be managed to minimize effects on areas adjacent to the site.

2.1 Location

The proposed Essex BOCES development project is located along Plank Rouad in the Town of Moriah, New York. The Essex BOCES development project area consists of approximately 42.74± acres. More specifically, the project area consists of the parcels identified by the tax parcel numbers 96.2-1-23.1 and 96.2-1-25.0.

2.1 Topography

Existing site topography slopes from the north towards the south and southeast. The site includes gentle to moderate slopes with some steeply sloped areas.

2.3 Soils and Groundwater

According to maps from the Natural Resources Conservation Service (NRCS) of Saratoga County, the onsite soils are classified as follows.

Pyrites Fine Sandy Loam, PtB, PtC,– (3-15% slopes): This is a very deep, well-drained soil formed in loamy, calcareous till. Depth to the water table is generally more than 6 feet and the depth to bedrock is greater than 5 feet. (Hydrologic Soil Type A).

Kularah Silt Loam, KaB– (3-8% slopes): This is a very deep, moderately well-drained soils on uplands formed in loamy, calcareous till. Depth to the water table is generally more than 6 feet and the depth to bedrock is greater than 5 feet. (Hydrologic Soil Type A/D).

Onsite soil tests were conducted on 3/03/26 by Trerracon Consultants, Inc. The tests included deep hole soil observations and falling head permeability testing. The on-site soil tests confirmed the NRCS findings. A summary of the deep hole tests and locations is provided on the Existing Conditions Map included in Appendix B of this report.

2.4 Land Cover

The existing land cover is predominantly woods.

2.5 Wetlands

The project contains NYSDEC regulated wetlands and associated deed restricted buffers. The wetlands have been delineated by a wetland scientist at Gilbert VanGuilder Land Surveyor, PLLC

2.6 Surface Waters

The site does not contain any surface waters.

2.7 Rainfall Data

Rainfall data utilized in the modeling and the analysis was obtained from a joint venture between the Northeast Regional Climate Center (NRCC) and the Natural Resources Conservation Service (NRCS) and can be found at the website: precip@cornell.edu. The data used is specific to this project and various 24-

hour storm events are presented below. This data has also been used to create site specific Intensity-Duration-Frequency (IDF) curves that have been utilized for this analysis.

24-Hour Storm Event	24-hour rainfall
1 year	2.01
10 year	3.21
25 year	3.91
100 year	5.26

Data for the 90% average annual stormwater runoff volume (P) was obtained from Figure 4.1 of the "New York State Stormwater Management Design Manual" and is equal to one inch (1.15").

2.8 Existing Land Use

Existing land use consists of undeveloped woods.

3.0 Permit Eligibility

This section briefly describes the project's GP-0-25-001 permit eligibility in regard to State Historic Preservation Office (OPRHP) and threatened and endangered species.

3.1 State Historic Preservation Office

The project has retained an archeologist to review the project and coordinate with OPRHP. received a letter from the OPRHP stating that archaeological and/or historic resources will not be impacted by this project pursuant to Part I.A.4 of GP-0-25-001 is expected. This letter will be included in Appendix L of this report.

3.2 Threatened and Endangered Species

The NYSDEC Environmental Assessment Form mapper has indicated that there is the potential for the Indiana Bat and Northern Long-eared Bat. This project will adhere to the recommended clearing timeframes as outlined by the NYSDEC to ensure no impacts to the above listed species. Therefore, this project complies with Part I.A.3 of GP-0-25-001. A copy of the EAF summary has been included in Appendix L of this report.

4.0 Project Description

The proposed project includes the clearing and grading associated with the construction of one (1) building having a total footprint of 107,600 square feet as well as a sugar house, green house, and maintenance sheds. The primary building will be utilized as a school and will connect to Plank Road via an access drive.

The anticipated impermeable surfaces include paved road areas and the structure roof tops. Stormwater from the impermeable surfaces will be directed towards green infrastructure practices as well as a closed drainage stormwater conveyance system and further to stormwater basin to the greatest extent possible.

The stormwater from the basin will then be stored, treated and released and discharged towards existing drainage pathways on the project site. Storm events greater than the 100-year storm will be directed to discharge to and existing drainage corridor. The project design will ensure that the soils, wetlands and groundwater table will be protected.

Stormwater management areas will be constructed to treat and control stormwater runoff. The systems have been sized to ensure that adequate storage capacity exists to properly treat and store runoff associated with the 1, 10, 25, and 100 year design storm events.

5.0 Methodology

This SWPPP utilizes several Stormwater Management Planning techniques and Green Infrastructure Practices. This approach to stormwater management emphasizes a holistic approach to resource protection, water quality treatment, flow volume control, maintenance cost reduction, and the dynamics of stormwater science. The primary goal is to reduce a site's impact on the aquatic ecosystem using site planning techniques, runoff reduction techniques, and certain standard stormwater management practices.

According to the most recent version of the New York State Stormwater Design Manual (NYSSDM), the term green infrastructure includes a wide array of practices at multiple scales to manage and treat stormwater, maintain and restore natural hydrology and ecological function by infiltration, evapotranspiration, capture and reuse of stormwater, and establishment of natural vegetative features. On the local scale, green infrastructure consists of site and neighborhood specific practices and runoff reduction techniques. When implemented throughout a development and watershed, green infrastructure can: reduce runoff volume, peak flow, and flow duration, slow down the flow to increase the time of concentration, improve groundwater recharge, protect downstream water resources, including wetlands, reduce downstream flooding and property damage, reduce incidence of combined sewer overflow, provide water quality improvements/reduced treatment costs, reduce thermal pollution, and improve wildlife habitat.

The methodology for implementing green infrastructure techniques as well as designing the stormwater management and erosion and sedimentation control structures for this project is summarized as follows:

<u>The Six Step Process for Stormwater Site Planning and Practice Selection</u>

1.0 Planning the site in accordance with local laws and ordinances to preserve natural resources, utilize site hydrology and reduce impervious cover.

2.0 Initial calculation of the water quality volume for the site.

3.0 Incorporation of green infrastructure techniques and standard stormwater management practices (SMPs) with Runoff Reduction Volume (RRv) capacity to reduce 100% of the WQv calculated in step 2. If this is not possible, an explanation as to why the green infrastructure techniques were not feasible and specific site limitations will be provided.

4.0 Determine the minimum Runoff Reduction Volume (RRv) required.

5.0 Use of standard SMPs, where applicable, to treat the portion of water quality volume not addressed by green infrastructure techniques and standard SMPs with RRv capacity,

6.0 Design of volume and peak rate control practices where required.

6.1 Evaluate the hydrologic condition of the tributary area using the USDA-SCS Technical Release No. 20 (June 1986) Methods.

6.2 Determine peak flows from each watershed, for various storm events, using the Autodesk Storm and Sanitary Analysis computer program.

6.3 Determine the water quality volume, channel protection volume, overbank flood protection volume and extreme storm flood protection volume for each drainage area that requires mitigation. Design the stormwater systems for each drainage area with structures that store and discharge the previously mentioned volumes at the required rates.

6.4 Perform stormwater system routings for the stormwater management using the Autodesk Storm and Sanitary Analysis computer program if necessary. Examine and compare the output for peak elevations and peak outflows for both pre and post-development conditions.

6.5 Design the stormwater system, in accordance with the "New York State Stormwater Management Design Manual", July 2024, prepared by the Maryland's Center for Watershed Protection for the New York State Department of Environmental Conservation.

6.6 Design the erosion and sedimentation control structures and prepare engineering calculations for the design of channels and conveyance piping in accordance with the "New York Standards and Specifications for Erosion and Sediment Control.

6.0 Process for Stormwater Site Planning and Practice Selection

6.1 Site Planning

The first step in developing a comprehensive stormwater management plan using green infrastructure is to avoid or minimize land disturbance by preserving natural resources and utilizing the hydrology of the site. An existing conditions map was prepared identifying the natural resource areas and drainage patterns prior to designing the site layout. The map includes but is not limited to wetlands (state and federally regulated), waterways (major, perennial, intermittent, or springs), buffer areas (stream, wetland and forest), floodplains, forest, critical areas, topography, soils (hydrologic soil group, highly erodible soils, etc.), and significant geologic features including bedrock. This map is shown in Appendix B and addressed in the Erosion and Sediment Control Plan.

Preservation of Natural Features

Utilizing the Natural Resource Areas and Drainage Pattern Map, a strategy for protecting and enhancing natural resources was created. This strategy involves preserving natural features prior to site layout, utilizing natural features to preserve natural hydrology, maintaining natural drainage design points, maximizing retention of forest cover and undisturbed soils, avoiding erodible soils on steep slopes and limiting mass grading of sites. Preservation of natural features includes techniques to foster the

identification and preservation of natural areas that can be used in the protection of water, habitat and vegetative resources. The following planning practices to protect natural features have been considered and where possible, applied to the proposed development.

Preservation of Undisturbed Areas: Preservation of undisturbed areas has been included with this project and includes approximately 2.0 acres of conserved land within the property boundary.

Preservation of Buffers: Preservation of buffers have not been included and are incorporated into the project as the slope requirements for buffers cannot be met.

Reduction of Clearing and Grading: Clearing shall be limited to only what is necessary for the construction of the buildings, parking lots and required stormwater management features. A limit of disturbance will be established based on the maximum disturbance zone for all development activities that considers equipment needs and construction techniques.

Locating Development in Less Sensitive Areas: The project has been designed with the conscious effort to not impact any wetlands or buffers.

Open Space Design: Clustering, conservation design or open space design is not applicable to this project due to the type of project. However, by implementing other planning techniques to preserve natural features, several of the benefits of this approach have already been achieved. These include reducing overall limits of disturbance to preserve forested land. Additionally, open space areas for passive, active and buffering purposes have implemented into the parcel to the greatest extent possible.

Soil Restoration: Soil restoration will be completed in areas that require extensive grading and will be performed during the construction phase of the project. According to the New York State Stormwater Design Manual, soil restoration is a required practice applied across areas of a development site where soils have been disturbed and will be vegetated in order to recover the original properties and porosity of the soil. Soil restoration is applied in the cleanup, restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate, deep-rooted groundcover to help maintain the restored soil structure. A simple maintenance agreement will be included identifying where this technique has been applied and will be conserved and who is responsible.

Soil restoration includes mechanical decompaction, compost amendment or both. The following table (from the New York State Stormwater Design Manual) describes various soil disturbance activities related to land development, soil types and the requirements for soil restoration for each activity.

<table>
<tr><th colspan="4">Soil Restoration Requirements</th></tr>
<tr><th>Type of Soil Disturbance</th><th colspan="2">Soil Restoration Requirement</th><th>Comments / Examples</th></tr>
<tr><td>No Soil Disturbance</td><td colspan="2">Restoration not permitted</td><td>Preservation of natural features</td></tr>
<tr><td>Minimal soil disturbance</td><td colspan="2">Restoration not required</td><td>Clearing and Grubbing</td></tr>
<tr><td rowspan="2">Areas where topsoil is stripped only – no change in grade</td><td>HSG A&B</td><td>HSG C&D***</td><td rowspan="2">Protect area from any ongoing construction activities</td></tr>
<tr><td>Apply 6 inches of topsoil</td><td>Aerate*and apply 6” of topsoil</td></tr>
<tr><td rowspan="2">Areas of cut or fill</td><td>HSG A&B</td><td>HSG C&D</td><td rowspan="2"></td></tr>
<tr><td>Aerate*and apply 6” of topsoil</td><td>Apply full soil restoration**</td></tr>
<tr><td>Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not</td><td colspan="2">Apply Full Soil Restoration (decompaction and compost enhancement)</td><td></td></tr>
</table>

within a 5 foot perimeter around foundation walls.		
Areas where Runoff Reduction and/or infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices	Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment projects	Soil restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.	

*Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
** "Please see Deep Ripping and De-compaction, DEC 2008" which is found in Appendix K.
*** This project is situated on D type soils
(HSG = hydrologic soil group)

Soil restoration will help return the soil to its original state prior to development. This planning technique will increase rainwater absorption therefore increasing temporary water storage in the soil, filtering out water pollutants, reducing stormwater runoff through infiltration and evapotranspiration and promoting healthy plant growth with a reduced need for irrigation, pesticides and fertilizers.

Reduction of Impervious Cover

The next step is to reduce the impacts of the development by reducing the impervious cover. This strategy involves reducing roadways, sidewalks, driveways, cul-de-sacs, building footprints and parking areas. Impervious surfaces can significantly disrupt the natural rhythm of the hydrologic cycle. Since they do not allow stormwater to percolate into the soil, infiltration, evapotranspiration and groundwater recharge is decreased. These surfaces also increase the rate at which runoff and associated pollutants are conveyed to the nearest water body, which can compromise water quality and may result in a higher frequency of flooding and accelerated stream erosion. The following planning practices to reduce impervious cover have been considered and where possible, applied to the proposed development.

Roadway Reduction: Access roadways for this project have been reduced to the minimum extent possible while still allowing for pedestrian circulation and meeting the International Fire Code.

Sidewalk Reduction: Sidewalks have been reduced with this project to the minimum extent allowable by the Americans with Disabilities act while still providing pedestrian access.

Driveway Reduction: This practice is not applicable as no individual driveways have been proposed.

Building Reduction: This practice of reducing the building footprint was utilized to reduce the area of the buildings to the maximum extent possible while still making the project feasible. The warehouse buildings have been designed to be as efficient with space as possible while still achieving the required use needs.

Parking Reduction: This planning practice has been incorporated into the design of the development by providing parking that is consistent with similar uses and historical data from similar facilities.

By protecting natural resources and utilizing the hydrology of the site, every attempt has been made to preserve the natural conditions of the site, minimize runoff and maintain the preconstruction hydrology. Careful consideration has been made to preserve undisturbed areas and buffers, reduce clearing and grading, locate development in less sensitive areas, and restore soils.

The proposed project has minimal impervious area for a project of this size and use. Impervious areas are limited to building, driveway and access roads. All reasonable opportunities for preserving natural conditions of the site have been employed by the project to preserve the natural conditions of the site to minimize the runoff and maintain the pre-construction hydrology.

6.2 Determine the Water Quality Volume and Minimum Reduction Volume

The total project area (developed area) is approximately 16.04 acres of the total 42.74 acre site. Approximately 8.02-acres will be impervious development. Following a review of existing topography and site conditions, two (2) drainage areas and two (2) distinct design points have been defined for the subject site and the stormwater management analysis. A detailed description of these design points can be found in section 7.1 & 7.2 of this report. The water quality volume (WQv) and Minimum Reduction Volume for the project has been calculated as follows:

Water Quality Volume:

$$WQv = \frac{P \times Rv \times A}{12}$$

Where:
Rv = 0.05 +0.009(I); I = percent impervious
P (inch) = 90% Rainfall Event
A = Site Area

$$WQv = \frac{1.05 \times 0.500 \times 16.04}{12} = 0.702\text{-ft}$$

The Water Quality Volume for the project is 0.702 ac-ft or 30,568 cf of stormwater.

Minimum RRv required:

$$RRv = \frac{P \times Rv \times S \times A}{12}$$

Where:
P = 90% rainfall event (inches)
Rv = 0.05+0.009(I) where I is 100% impervious
S = Soil Factor (weighted average of all soils)
A = Total New Impervious Area

$$\text{Minimum RRv required} = \frac{(1.15 \times 0.95 \times 0.40 \times 7.44)}{12} = 0.247 \text{ ac-ft}$$

Minimum RRv required = 0.267 acre-feet

6.3 Runoff Reduction by Applying Green Infrastructure Techniques and Standard SMPs with RRv Capacity

The Runoff Reduction Volume (RRv) results in a reduction of the total WQv through implementation of green infrastructure techniques. Runoff reduction shall be achieved by infiltration, groundwater recharge, reuse, recycle, evaporation/transpiration of 100 percent of the post development water quality volumes to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow by using runoff control techniques to provide treatment in a distributed manner before runoff reaches the collection system. Green infrastructure techniques shall be employed to reduce the required WQv. Green infrastructure techniques are grouped into two categories. They include:

- Practices resulting in a reduction of contributing area, and
- Practices resulting in a reduction of contributing volume

All of the green infrastructure planning and design options have been evaluated to determine the feasibility of the runoff reduction option for use on the project site. If the option is not feasible for the project site, a description has been provided indicating why the green infrastructure option was not feasible. Implementation of green infrastructure cannot be considered infeasible unless physical constraints, hydraulic conditions, soil testing, existing and proposed slopes (detailed contour), or other existing technical limitations are objectively documented.

The following chart (from the NYSSSDM) outlines the green infrastructure techniques that are acceptable for runoff reduction that must be evaluated for feasibility for the project.

Green Infrastructure Techniques Acceptable for Runoff Reduction		
Group	**Practice**	**Description**
Runoff Reduction Techniques	Conservation of natural areas	Retain the pre-development hydrologic and water quality characteristics of undisturbed natural areas, stream and wetland buffers by restoring and/or permanently conserving these areas on a site.
	Sheetflow to riparian buffers or filter strips	Undisturbed natural areas such as forested conservation areas and stream buffers or vegetated filter strips and riparian buffers can be used to treat and control stormwater runoff from some areas of a development project.
	Vegetated open swale	The natural drainage paths, or properly designed vegetated channels, can be used instead of constructing underground storm sewers or concrete open channels to increase time of concentration, reduce the peak discharge, and provide infiltration
	Tree planting/tree box	Plant or conserve trees to reduce stormwater runoff, increase nutrient uptake, and provide bank stabilization. Trees can be used for applications such as landscaping, stormwater management practice areas, conservation areas and erosion and sediment control.
	Disconnection of rooftop runoff	Direct runoff from residential rooftop areas and upland overland runoff flow to designated pervious areas to reduce runoff volumes and rates.
	Stream daylighting for redevelopment projects	Stream daylight previously culverted / piped streams to restore natural habitats, better attenuate runoff by increasing the storage size, promoting infiltration, and help reduce pollutant loads.
	Rain Garden	Manage and treat small volumes of stormwater runoff using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression.

	Green roof	Capture runoff by a layer of vegetation and soil installed atop a conventional flat or sloped roof. The rooftop vegetation allows evaporation and evapotransporation processes to reduce volume and discharge rate of runoff entering conveyance system.
	Stormwater planter	Small landscaped stormwater treatment devices that can be designed as infiltration or filtering practices. Stormwater planters use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality
	Rain tank / Cistern	Capture and store stormwater runoff to be used for irrigation systems or filtered and reused for non-contact activities
	Porous Pavement	Pervious types of pavements that provide an alternative to conventional paved surfaces, designed to infiltrate rainfall through the surface, thereby reducing stormwater runoff from a site and providing some pollutant uptake in the underlying soils.

6.4 Runoff Reduction Technique Evaluation

The runoff reduction techniques offered in the NYSDEC Stormwater Design Manual have been reviewed to determine the suitability of the site for use. The feasible runoff reduction practices are shown in the project plans. Additionally, a summary of the individual runoff reduction and total runoff reduction volume and the impact it will have on the total WQv is included after the description and evaluation of each practice.

Conservation of Natural Areas: Conservation of Natural Areas has been proposed for this project and includes approximately 2.0 acres of conserved land within the parcel area.

Sheet Flow to Riparian Buffers or Filter Strips: This green infrastructure practice helps treat and control stormwater runoff from developed areas. Providing sheet flow to filter strips will promote groundwater recharge, reduce pollutant loading, increase infiltration and help to maintain pre- and post-hydrologic conditions. Filter strips have not been proposed as the proposed project does not allow for the required minimum filter strip width.

Vegetated Swale: According to the New York State Stormwater Design Manual, a vegetative swale is a maintained, turf lined swale specifically designed to convey stormwater at a low velocity, promoting natural treatment and infiltration. Where drainage area, topography, soils, slope and safety issues permit, vegetated swales can be used in the street right-of-way and on developed sites to convey and treat stormwater from roadways and other impervious surfaces. Vegetated swales have been proposed for this project to convey stormwater. However, no green infrastructure credit has been accounted for by this practice as other green infrastructure practices have been utilized.

Tree Planting / Tree Pit: A combination of new tree planting and conservation of existing trees shall be utilized by the project. This practice helps to reduce stormwater runoff through rainfall interception and evapotranspiration. Other benefits include providing wildlife habitat, promoting shade, creating natural buffers, increasing nutrient uptake, and aiding infiltration. Tree Plantings have not been included in the green infrastructure calculations as other green practices have been utilized.

Disconnection of Rooftop Runoff: Disconnection of Rooftop Runoff will not be proposed for this project due to the feasibility and size of the commercial buildings being proposed.

Stream Daylighting: The stream daylighting technique is typically used for retrofit or redevelopment projects and therefore is not applicable to this project.

Rain Gardens: According to the New York State Stormwater Design Manual, the rain garden is a stormwater management practice intended to manage and treat small volumes of stormwater runoff from impervious surfaces using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression. This practice is most commonly used in residential land use settings and is appropriate for townhomes and single-family homes. Rain gardens have not been proposed for this project due to the commercial nature of the project.

Green Roofs: Green roofs are not considered to be feasible for the project based upon structural requirements that would be imposed upon the proposed building and due to safety concerns for the future owners / tenants. Also, extreme weather and potential heavy snow loads during winter months make this practice undesirable.

Stormwater Planters: According to the New York State Stormwater Design Manual, stormwater planters, much like rain gardens, use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve stormwater quality. Stormwater planters have not been proposed for this project as other green infrastructure techniques have been utilized.

Rain Barrels and Cisterns: Rain barrels and cisterns have not been proposed for this project as other green infrastructure techniques have been utilized.

Porous Pavement: According to the New York State Stormwater Design Manual, porous pavement provides an alternative to conventional paved surfaces. It is designed to infiltrate rainfall directly through the surface, thereby reducing stormwater runoff. In addition, porous pavement provides some pollutant uptake in the underlying soils thus improving the water quality. Porous pavement has not been proposed for this project as other infiltration practices have been utilized.

Bio-retention filtration: According to the New York State Stormwater Design Manual, bio-retention is a stormwater management practice intended to manage and treat stormwater runoff from impervious surfaces using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression. This practice is most commonly used in residential and commercial land use settings and is appropriate for townhomes, parking lots and commercial buildings. Bio-retention has not been proposed for this project as other infiltration practices have been proposed.

The required WQv that shall be treated for the project is calculated in Section 6.2 and is approximately 0.702 ac-ft or 30,568 cf of stormwater for the project. The required minimum runoff reduction requirements have been calculated in Section 6.2 and is approximately 0.267 ac-ft. The proposed runoff reduction volumes utilizing green infrastructure techniques have been calculated and are shown in Appendix D at the end of this report. A summary of the calculation results are as follows:

The original WQv=	**0.702 ac-ft**
The minimum required RRv =	**0.267 ac-ft**
<u>Area Reduction Practices</u>	
Conservation of natural areas=	1.91 ac
Riparian buffers / filter strips =	0.00 ac
Tree Planting/tree preservation=	0.00 ac
Total Area Reduction=	0.00 ac
Runoff Reduction volume=	0.084 ac-ft

Practices with RRv Capacity	
Rooftop Disconnection	N/A
Infiltration Basin	0.645
Porous Pavement	N/A
Vegetated Swales	N/A
Green Roof	N/A
Rain Garden	N/A
Stormwater Planters	N/A
Cisterns/Rain Barrels	N/A
Bioretention filtration	N/A
Infiltration Trenches	0.050
Runoff Reduction volume=	0.695 ac-ft
Total Runoff Reduction Volume	**0.778 ac-ft**
Total WQv Reduced	0.778 ac-ft
Total WQv Treated	0.000 ac-ft

Total WQv to be Treated by Standard Practices 0.0.00 ac-ft

The total runoff reduction volume of 0.778 ac-ft for the project site is greater than the water quality volume 0.702 ac-ft. Approximately 110.83% of the water quality volume has been reduced using green infrastructure practices. Therefore, no additional treatment is required.

6.5 Standard Stormwater Management Practices to Treat Water quality Volume not Addressed by Green Infrastructure Techniques

All the green infrastructure practices have been evaluated and included in the design where possible. The RRv requirement has been satisfied and the SWPPP complies with the required sizing criteria. A description of the stormwater management basin is included in Section 7.3.

7.0 Hydrologic and Hydraulic Analysis

The amount of stormwater runoff generated from the subject parcels after development is completed should not be greater than the stormwater runoff generated prior to development. To ensure the pre-development stormwater discharge is less than or equal to post-development stormwater discharge, the 1- year, 10-year, 25-year and 100-year storm events were considered for the design of the stormwater management plan.

The first step in completing the watershed model is to determine the contributing drainage areas for both the pre-development and post-development conditions. The times of concentration and runoff curve numbers (CN) were then calculated for each watershed area. This data was then entered into the HydroCAD computer program. HydroCAD, developed by Applied Microcomputer Systems of Chocorua, New Hampshire, is a Computer-Aided-Design (CAD) program for analyzing the hydrologic and hydraulic characteristics of a given watershed and associated stormwater management facilities. HydroCAD is used to calculate peak runoff flows and to create hydrographs for the four storms evaluated for both pre-development and post development conditions.

7.1 Existing Pre-Development Conditions

Following a review of existing topography and site conditions, two (2) subcatchment and two (2) design point has been identified for the subject site and the stormwater management analysis. The analysis area includes the developed portions of the parcel (15.69 acres) as well as an additional 20.57 acres of contributing area for a total of 36.26 acres.

Design Point 1 is located at an existing drainage swale located in the western portion of the site along Plank Road. The drainage area to Design Point 1 (Subcatchment 1) has a contributing area of approximately 15.19 acres. The existing cover within the subcatchment includes wooded areas and a small amount of impervious area originating from an existing single family home. Stormwater originating from Subcatchment 1 predominantly flows overland from the northwest portions of the site toward the south and southwest and ultimately the existing swale at Design Point 1.

Design Point 2 is located at an existing NYSDEC wetland located in the southeastern portion of the site. The drainage area to Design Point 2 (Subcatchment 2) has a contributing area of approximately 21.07 acres. The existing cover within the subcatchment includes woods. Stormwater originating from Subcatchment 2 predominantly flows overland from the northeast portions of the site toward the south and southwest and ultimately the existing wetlands Design Point 2.

7.2 Proposed Post-Development Watershed Conditions

Under proposed conditions, the Design Points remain in the same general locations. Due to the proposed development the site has been divided into multiple subcatchments to most accurately depict the developed conditions. The post-development stormwater analysis includes the identified subcatchments.

Subcatchment (1A) encompasses approximately 0.49 acres located in the southwest portion of the project area. This subcatchment includes gras surfaces from the development not treated by a stormwater management practice. Stormwater originating from Subcatchment 1A will flow overland to the west and southwest ultimately to the existing swale (Design Point 1).

Subcatchment (1B) encompasses approximately 1.02 acres located along the southwestern portions of the project area. This subcatchment includes impervious access road and grass areas. Stormwater originating from Subcatchment 1A will flow overland to the northwest where it will enter a gravel pretreatment diaphragm before entering the proposed infiltration trench. Stormwater will be infiltrated within the infiltration trench with the exception of a portion of the 25 and 100-year storm events which will be released to the existing swale at (Design Point 1).

Subcatchment (1C) encompasses approximately 4.59 acres located along the western portions of the project area. This subcatchment includes grass woods and existing impervious areas not treated by a stormwater practice. Stormwater originating from Subcatchment 1C will flow overland to the west and southwest ultimately to the existing swale at (Design Point 1).

Subcatchment (2A) encompasses approximately 13.45 acres located along the central portions of the project area. This subcatchment includes impervious and grass from the developed areas of the site. Stormwater originating from Subcatchment 2A will flow overland to the closed drainage system where it is conveyed to a hydrodynamic separator unit where it will be pre-treated and discharged to Infiltration

Basin #1 where it will be infiltrated. An emergency overflow structure and pipe will discharge events larger than the 100-year storm event to the existing wetlands (Design Point 2).

Subcatchment (2B) encompasses approximately 17.89 acres located along the eastern portions of the project area. This subcatchment includes grass and wooded areas not treated by a stormwater practice. Stormwater originating from Subcatchment 2B will flow overland to the west ultimately to the existing Wetlands (Design Point 2).

The pre-development and post-development peak discharge rates at the identified Design Points for the 1, 10, 25, and 100-year storms **prior** to mitigation are as follows:

	1-YR	10-YR	25-YR	100-YR
PRE-DEVELOPMENT	**cfs**	**cfs**	**cfs**	**cfs**
DESIGN POINT 1	0.11	2.46	5.26	12.76
DESIGN POINT 2	0.31	5.00	10.08	23.10
POST-DEVELOPMENT	**cfs**	**cfs**	**cfs**	**cfs**
DESIGN POINT 1	0.90	2.26	3.49	7.56
DESIGN POINT 2	8.09	20.90	30.99	53.11

These post development volume and discharge values represent the post development condition without any designed stormwater management areas in relation to existing conditions. The post-development stormwater discharge must be mitigated.

7.3 Proposed Water Quantity and Quality Controls

The post development runoff rates for the developed site are higher than the pre-development rates; therefore, mitigation is required to properly regulate post development runoff. The area that the post-development hydrograph exceeds the pre-development hydrograph equals the volume of water that needs to be mitigated by implementing stormwater management basins.

The proposed stormwater management system for this site has been designed with provisions to store and treat the water quality volume, channel protection volume, overbank flood protection volume and extreme storm flood protection volume for the developed portions of the project parcel. The proposed stormwater management systems have been included with the proposed development considering various site constraints and the Town of Halfmoon regulations.

Infiltration Basin #1

Infiltration Basin #1 is located in the southern portion of the developed site. This system collects and infiltrates the stormwater from approximately 13.45-acres of the developed portions of the site. The infiltration system has been designed with a bottom elevation 990.00 which will provide in excess of 2' of separation between the bottom of the infiltration practice and groundwater as found from onsite deep-hole observations. Infiltration rates in the vicinity of this practice have been observed to be between 1.8 and 2.3 inches/hour. However, infiltration basin #1 has been conservatively modeled at 0.5 inches/hour.

The water quality volume (WQv) is designed to improve water quality sizing to capture and treat 90% of the average annual stormwater runoff volume. The water quality volume is directly related to the amount of impervious cover created at a site. The water quality volume is 0.645 ac-ft for Infiltration Basin #1. Stormwater will be pretreated by the incorporation of two Hydrodynamic separators. Storm events up to

and including the 90% storm will be treated by the Hydrodynamic separators. Storm events in excess of the 90% storm event will flow into the rest of the infiltration basin via a bypass in the hydrodynamic separator. Sizing calculations for the hydrodynamic separator can be found in appendix D of this report.

The stream channel protection volume requirements are designed to protect stream channels from erosion. In New York State this goal is accomplished by providing 24-hour extended detention of the one-year, 24-hour storm event. The basin is designed to infiltrate the stream channel protection volume.

The primary purpose of the overbank flood control sizing is to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by urban development. Overbank control requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate to pre-development rates. The basin is designed to store in excess of the overbank flood control volume.

The intent of the extreme flood criterion is to prevent the increased risk of flood damage from large storm events, maintain the boundaries of the pre-development 100-year floodplain and protect the physical integrity of stormwater management practices. Extreme flood protection requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate to pre-development rates. The basin is designed to store in excess of the required extreme flood criteria.

A rating table (stage/storage/discharge) was then developed for the proposed basin based on the geometry of the system, outlet structure, and the characteristics of the water quality volume, channel protection volume, overbank flood protection volume and extreme storm flood protection volume for each drainage area. The proposed outlet structure for the basin has been design to include a 10.00" orifice. Also incorporated into the basin design is an emergency overflow inlet that includes a 30" x 30" horizontal weir. This overflow inlet will protect the basin during extreme storm events. A detail of the outlet structure has been included with the site plans.

Infiltration Basin #1:

Peak Inflows	Structure Peak Discharge	High Water Elevation	Freeboard*
Q_1 = 8.11 cfs	Q_1 = 0.00cfs	990.67'	3.33'
Q_{10} = 21.10 cfs	Q_{10} = 0.49 cfs	991.62'	2.38'
Q_{25} = 30.30 cfs	Q_{10} = 1.55 cfs	992.01	1.99'
Q_{100} = 48.99 cfs	Q_{100} = 3.01 cfs	992.98'	1.02'

-Bottom of Basin = 990.00'; Top of Basin = 994.00'; 10" Orifice = 991.25'; Emergency Overflow Inlet = 993.00'; *Freeboard Measured from Top of Basin (994.00')

Infiltration Trench #1

In order to reduce post-development discharge rates below pre-development discharge rates and to provide water quality treatment, an infiltration trench has been included in the design of the project. The infiltration trench is located in the western portion of the developed site adjacent to the access road. This practice has been chosen to provide runoff reduction. The New York State Stormwater Management Design Manual requires the Infiltration Trench variation I-1 to receive a maximum of 5 acres on contributing area. This system will collect and treat the stormwater from approximately 1.02 acres of the developed portions of the site. A stone pretreatment diaphragm has been included to provide pretreatment of the stormwater before entering the bioretention facility. The storage within the stone

exceeds the pretreatment volume required. Storm events greater than the 10-year storm event will discharge to the existing swale located along Plank Road.

The water quality volume (WQv) is designed to improve water quality sizing to capture and treat 90% of the average annual stormwater runoff volume. The water quality volume is directly related to the amount of impervious cover created at a site. The water quality volume is 0.594 ac-ft for Infiltration Trench #1. Stormwater will be pretreated by the incorporation of a gravel pretreatment diaphragm.

A rating table (stage/storage/discharge) was then developed for the proposed basin system based on the geometry of the system, characteristics of the water quality volume, channel protection volume, overbank flood protection volume and extreme storm flood protection volume for the drainage area.

Infiltration Trench #1:

Peak Inflows	Structure Peak Discharge	High Water Elevation	Freeboard*
Q_1 = 0.90 cfs	Q_1 = 0.00 cfs	965.05	2.87’
Q_{10} = 2.18 cfs	Q_{10} = 0.17 cfs	967.53’	0.87’
Q_{25} = 3.09 cfs	Q_{10} = 1.19 cfs	967.61’	0.39’
Q_{100} = 4.83 cfs	Q_{100} = 4.56 cfs	967.77’	0.23’

-Bottom of Trench = 965.50’; Top of Tench = 968.00’ Min.; Emergency Overflow Inlet = 967.50’; *Freeboard Measured from lowest top elevation of the trench (968.00’)

The proposed stormwater flows will not adversely affect the downstream receiving waters. A comparison of pre-and post-development discharge after installation of mitigation is shown below:

	1-YR	**10-YR**	**25-YR**	**100-YR**
PRE-DEVELOPMENT	**cfs**	**cfs**	**cfs**	**cfs**
DESIGN POINT 1	0.11	2.46	5.26	12.76
DESIGN POINT 2	0.31	5.00	10.08	23.10
POST-DEVELOPMENT	**cfs**	**cfs**	**cfs**	**cfs**
DESIGN POINT 1	0.05	1.24	3.32	7.43
DESIGN POINT 2	0.24	3.96	8.77	20.86

Post development peak stormwater discharge is less than or equal to pre-development peak stormwater discharge for all storm events analyzed. The stormwater management systems have been sized to provide sufficient capacity to treat up to and including the 100-year storm event. Emergency overflows have been included in the design to release storms greater than the 100-year storm. The excess stormwater from these extremely rare events will flow through the overflow and overland to the existing drainage course.

8.0 Climate Change Considerations

This section describes the design considerations associated with this project in respect to climate change.

8.1 Physical Risks Due to Climate Change

This project has taken steps to limit the physical risks due to climate change into account through site planning, location, elevation, and sizing of the stormwater systems. The following provides greater details on how each of the preceding items has been considered with respect to climate change:

Overall Site Planning:

- *Increasing Temperature:* The overall site plan has been designed to limit the potential impacts of increasing temperature by limiting the impervious surfaces to only what is necessary for the project to remain functional. This will reduce the heat-island effect for the overall site.

- *Increasing Precipitation:* The overall site plan has been designed to limit the effects of possible future increasing precipitation by providing positive drainage away from all proposed buildings and structures. Additionally, impervious surfaces have been limited to only what is necessary for the project to remain functional.

- *Increasing Variability in Precipitation, including chance of draught:* The overall site plan has been designed to limit the possible effects of variability in precipitation, including the chance of draught by ensuring proper drainage and incorporating drought resistant plantings where appropriate.

- *Increasing frequency and severity of flooding: The overall site plan has been designed to limit the possible effects of increasing frequency and severity of flooding by ensuring key features of the project such as buildings and access points are out of the flood plain. Stormwater management systems have also been designed with excess capacity.*

- *Rising Sea Level: The overall site plan will not be affected by the potential rise in sea levels as the project is situated well above projected sea level increases.*

- *Increase in Storm Surge: The overall site plan will not be affected by the possible increase in storm surge as the project is not located near a large enough body of water that could produce a storm surge.*

- *Shifting Ecology:* The overall project site plan has been evaluated and protects against the potential for shifting ecology by locating the development in less sensitive areas and preserving natural features to the greatest extent possible.

Location, Elevation, and Sizing of Control Measures and Practices, Conveyance Systems, and Detention Systems:

- *Increasing Temperature:* Location, elevation, and sizing of control measures and practices, conveyance systems, and detention systems have been designed to limit the potential impacts of increasing temperature by designing these systems and components in a manner that promotes infiltration to the greatest extent possible. This process will then reduce the evaporation on site due to potential increases in temperature.

- *Increasing Precipitation:* Location, elevation, and sizing of control measures and practices, conveyance systems, and detention systems have been designed limit the effects of possible future increasing precipitation by providing additional capacity on the systems

and components as well as overflow contingencies should any of the systems become overwhelmed.

- *Increasing Variability in Precipitation, including chance of draught:* Location, elevation, and sizing of control measures and practices, conveyance systems, and detention systems have been designed designed to limit the possible effects of variability in precipitation, including the chance of draught by promoting infiltration conveyance systems and drought resistant plantings with deep roots to the greatest extent possible.

- *Increasing frequency and severity of flooding:* Location, elevation, and sizing of control measures and practices, conveyance systems, and detention systems have been *designed to limit the possible effects of increasing frequency and severity of flooding by ensuring the site includes overflow contingencies for extreme storm events as well as locating the storm system components above any flood plain.*

- *Rising Sea Level:* Location, elevation, and sizing of control measures and practices, conveyance systems, and detention systems *will not be affected by the potential rise in sea levels as the project is situated well above projected sea level increases.*

- *Increase in Storm Surge:* Location, elevation, and sizing of control measures and practices, conveyance systems, and detention systems *will not be affected by the possible increase in storm surge as the project is not located near a large enough body of water that could produce a storm surge.*

- *Shifting Ecology:* Location, elevation, and sizing of control measures and practices, conveyance systems, and detention systems has been designed to protect against the potential for shifting ecology by locating the storm system components in less sensitive areas while incorporating natural features to the greatest extent possible.

9.0 Permanent Stormwater Management System Features

This section describes the permanent features of the Stormwater Management System for proposed development, including storm sewer piping and stormwater basins. In all instances, the structures associated with the stormwater management system have been sized to accommodate peak flows from the 10-year design storm event.

See the Construction Plans for the location, size, quantity and details of the permanent stormwater management features.

9.1 Conveyance Piping

Storm runoff from developed areas will be conveyed to the stormwater basin by means of storm sewers. In general, piping is designed such that:

- All conveyance piping is sized to accommodate the peak flow from the 10-year 24-hour design storm.

- Flow capacity is sufficient to convey runoff to the receiving basin or ditch without overflowing the ditch or drop inlet at the entrance of the culvert.

- All storm drainage pipes are designed such that the projected velocities from the design storm are greater than three feet per second, and

- Strength is sufficient to withstand the soil cover and vehicle loads.

9.2 Stormwater Management System

The following design criteria shall apply to the design of storm drainage facilities:

- All storm drainage facilities shall be designed based on a twenty five-year (25) storm frequency.

- Peak runoff rates from the project site after development shall not exceed pre-development peak runoff rates.

- Adequate storage facilities shall be provided for the site to store the additional runoff volume due to development of the project site for a ten-year, twenty-five-year and one-hundred-year storm frequency.

- Provisions, such as overflow studies shall be made for protection against property damage and loss of life for more severe storms (100-year storm).

10.0 Stormwater Erosion and Sediment Controls

Several types of permanent and temporary storm water pollutant controls are required to be installed and implemented pre-construction, during construction and post-construction as shown on the Construction Plans and per the NYSDEC SPDES General Permit. Guidelines and recommendations can be found in the "New York Standards and Specifications for Urban Erosion and Sediment Control."

The permanent storm water management system has been designed to accommodate peak storm flows utilizing drainage ditches, conveyance channels, piping and a stormwater management basin. These permanent features should be installed and constructed as shown on the Construction Plans.

Selection of temporary storm water controls will be on an "as needed basis" and will depend on the specific conditions of the site. Since site characteristics can change significantly during construction, it is important to monitor the site regularly to ensure the proper selection and implementation of the necessary controls. These controls include, but are not limited to silt fence, drainage swales, check dams, hay bales, stone construction entrances, sediment traps and seed and mulch.

10.1 Erosion and Sediment Controls

Temporary Stabilization

Silt fences, drainage swales, check dams, stabilized stone construction entrances, sediment traps and seed and mulch and other controls will be utilized as temporary surface water management features. Silt fence will be used as necessary to reduce the sediment load in the receiving drainage ditches. In addition, silt fencing will be placed on the downslope sides of all disturbed areas (5 ft.) from the toe of the slope until more permanent drainage and erosion control structures are established. Check dams will be placed along

the permanent drainage ditches in which vegetation is being established. Stone check dams will be placed in ditches to control flow velocity and reduce sedimentation. See the Construction Plans for the location, size, quantity, and details of the temporary stormwater management features. Steep slopes and exposed soils should be stabilized with silt fences, mulching blankets, geotextiles, geosynthetic drainage netting, seed and mulch, or any other stabilization measure shall be used that will significantly reduce the risk of erosion. Stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date of the current soil disturbance activity ceased.

Permanent Stabilization

Permanent stormwater management features as described above include drainage ditches, conveyance channels, piping and stormwater management basin. In all instances, the structures associated with the stormwater management system have been sized to accommodate peak flows from the appropriate storm events as required by the Town of Clifton Park. All lawns, basins and swales will be permanently seeded and mulched and maintained as necessary to prevent overgrowth.

10.2 Other Pollutant Controls

Paints and Solvents

During construction, temporary structures such as construction trailers may be moved on site to store items such as paints, solvents and gasoline pertinent to the continuation of construction activities. The intention of these structures is to shelter potential contaminants from stormwater and reduce the potential of toxic chemicals from entering the stormwater runoff due to construction activities.

Solvents and detergents may be stored on-site that will be used for regular cleaning and maintenance of construction vehicles or temporary structures. Solvents shall be used in cleaning machinery pursuant to 6 NYCRR Part 750. After use, solvents shall be disposed of in approved containers and removed from site at scheduled intervals. Vehicle wash water that contains detergents must be disposed of into the sanitary sewer.

Fuels

Fuel for construction equipment shall either be obtained from a licensed distributor of petroleum products or from an approved above ground storage tank on site. A distributor may be contracted to arrive on site periodically and fill all equipment as necessary. All distributors of petroleum products must have adequate liability insurance to mitigate and clean up any spills that occur on site as well as obtain appropriate permits and licenses from the NYSDEC. All above ground storage tanks with a combined capacity of 1,100 gallons shall be installed pursuant to 6 NYCRR Part 614 Standards for New and Substantially Modified Petroleum Storage Facilities.

Fuel from construction vehicles may come into contact with stormwater when vehicles are stored outside. Good housekeeping and preventative maintenance procedures shall be implemented to ensure fuel spills and leaks are minimized during refueling and storage. Any small-scale fuel or oil spills must be remedied immediately, and contaminated soils shall be disposed of appropriately. The designated spill prevention and response team shall handle large-scale gasoline spills.

Oil and other petroleum products may be stored on site in limited quantities to ensure the continued operation of construction equipment in the event a scheduled delivery is unavailable. Items shall be stored in their original containers within temporary structures and shall not be exposed to stormwater. Used oil

and petroleum products shall be stored in approved containers until recycled or disposed of at an approved disposal facility.

Temporary Facilities

Temporary sanitary facilities may be located on site for construction workers. This facility shall be in an accessible and visible location. Such a facility shall be leak and tip proof. A waste management company may be contracted to arrive on site and provide the routine pumping and sanitization of the facility. Such a company shall have adequate liability insurance to mitigate and clean up any spills that occur on site as well as appropriate permits and licenses from the NYSDEC.

Dust Control

Construction traffic must enter and exit the site at the stabilized construction entrance. The purpose is to trap dust and mud that would otherwise be carried off-site by construction traffic. Water trucks will be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the General Contractor to a degree that is acceptable to the Owner, and in compliance with applicable local and state dust control regulations.

Solid Waste

No solid materials, including building materials and concrete washout wastewater, are allowed to be discharged from the site with storm water. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied periodically by a contract trash disposal service and hauled away from the site.

Thermal Pollution

Stormwater that meets roadways, driveways, parking lots or other impermeable surfaces may increase in temperature during warm weather. If stormwater is discharged into surface water bodies, the temperature of the water body may also increase, potentially threatening plant and animal species sensitive to temperature changes as well as providing an environment that may cause nuisance species to flourish.

After development is complete, impervious areas shall be graded to channel water to catch basins and culverts, which in turn convey stormwater to the stormwater management basins. All stormwaters shall be stored and treated within the basin before it is released to downstream water bodies. Prior to release the stormwater will be retained in the stormwater management area and during the retention time the stormwater will be cooled by the ambient temperature of the earth. Treatment of the stormwater in the basin will reduce any threat of raising the temperature of any downstream waterbodies.

10.3 Best Management Practices

Throughout construction, care shall be taken to ensure sediment does not enter surface water bodies and chemicals do not enter stormwater, potentially contaminating surface and groundwater supplies. The following Best Management Practices (BMP) shall be observed to maintain responsible environmental practices on the construction site.

Good Housekeeping

Good housekeeping is essential to reducing the risk of contaminating runoff waters during every stage of construction. The General Contractor shall ensure supervisors train each employee in good housekeeping practices as they pertain to the implementation of this SWPPP.

Immediately following mobilization, the General Contractor shall take an inventory of all equipment and containers containing hazardous or toxic materials and submit this inventory to the Owner to keep on-site with this Stormwater Pollution Prevention Plan. This inventory shall be updated regularly to reflect changes in the quantity or type of hazardous and toxic materials stored on site. In the event of a spill, the Spill Response Team can refer to the inventory if the contents of the spill are unknown.

All equipment shall be operational while it is stored on site. Inspections shall be conducted regularly to ensure all equipment is free of leaks and that oil and grease are not in contact with soils or stormwater. Portable equipment such as chain saws, drills as well as hand tools must be placed within a trailer or under cover at the end of each workday.

A storage area shall be designated on-site where all hazardous or toxic materials are stored. Each employee shall return the materials to the designated storage area following use. Chemicals, including oil, grease, solvents and detergents shall be stored on-site in approved containers only. Used chemicals shall be disposed of in refuse containers and removed periodically. Containers shall be regularly inspected to ensure the integrity of the container and seals to prevent leaks.

A scheduled clean-up shall occur at the end of each workweek. During this clean up, empty containers of solvents, oils, grease, paints and detergents shall be disposed of, containers of gasoline shall be placed in trailers where they are not in contact with stormwater and the inventory shall be updated. Empty containers shall not be permitted on the ground.

Preventative Maintenance

All on-site vehicles must be inspected regularly for oil and grease leaks. All leaks shall be repaired immediately upon obtaining the appropriate equipment. If the leak cannot be fixed immediately, it shall be temporarily mitigated to prevent the flow of contaminants onto the soil and potentially into the stormwater. If necessary, the reservoir will be drained to stop the flow of contaminants, or the vehicle will be moved under cover. Drip pans shall be used when performing any maintenance or cleaning on construction vehicles.

Spill Prevention and Response

The safety of employees and neighbors shall be of utmost concern when hazardous or toxic chemicals are stored or utilized on-site. Materials Safety Data Sheets (MSDS) shall be obtained for all toxic or hazardous substances that are stored on-site to provide employees with a valuable database in assessing risk in the event of a spill.

Any above ground storage tanks on site shall be installed pursuant to 6 NYCRR Part 614. According to the New York State “Minimum Standards for New and Substantially Modified Above Ground Storage Facilities”, all tanks installed must meet or exceed the design criteria in one or more of the following design or manufacturing standards: UL No. 142, UL No. 58, API Standard No. 650, API Standard No. 620, CAN4-S601-M84 or CAN4-S630-M84. Tanks constructed of wood, concrete, aluminum, fiberglass

reinforced plastic as well as riveted or bolted steel tanks are not permitted. All tanks must have installed leak detection systems, secondary containment, corrosion protection, and undergo periodic monitoring pursuant to all Part 614 requirements.

Should a spill occur, trained individuals shall be always on-call to mitigate the potential negative effects of a spill. The General Contractor shall have trained employees knowledgeable in the location of sorbent, brooms, rags and mops in the event of a small-scale spill. An inventory of equipment and its location shall be posted in a visible location as well as kept in proximity to this Pollution Prevention Plan. If the General Contractor does not have Hazardous Materials trained employees on site, a firm that specializes in handling spills, soil and water contamination shall be called.

After a spill occurs, all personnel not trained in hazardous materials spill response shall be asked to evacuate the immediate area. The New York State NYSDEC of Environmental Conservation (NYSDEC) Spill Response Team shall be called at 1-(800)-457-7362 to investigate the spill and determine if additional actions should be taken to ensure the safety of personnel and nearby residents. Should any employee have a suspected injury, a local emergency squad must be contacted immediately.

11.0 Construction Sequence Scheduling

A phased construction sequence schedule of the project will limit the acreage of exposed soils at any given time to less than five (5) acres. Limiting the exposed soils will reduce the amount of sediment in runoff water and ultimately preserve the quality of surface waters. The construction phasing method selected is designed to combine development with responsible land management as well as protection of sensitive environments both within the proposed development and the surrounding area. Temporary and permanent stabilization methods will be implemented before construction begins and will be continuously modified throughout the project to provide the best methods for stormwater management and pollution prevention.

Phasing of activities is as follows:

Pre-Construction Activities

- Identify all natural resources and mark and protect them as necessary i.e trees, vegetation, wetlands.
- Identify on-site and downstream surface water bodies and install controls to protect them from sedimentation.
- Establish temporary stone construction entrance pads to capture mud and debris from the tires of construction vehicles.
- Install perimeter sediment controls such as silt fence as shown on the project plans.
- All earth disturbance during this phase should be limited to work necessary to install erosion and sedimentation controls.

During Construction Activities

- Install principal sediment basin as shown on the project plans.
- Install runoff and drainage controls as shown on the project plans and as necessary. These controls should reduce run-off flow rates and velocities as well as divert off site and clean run-off.
- Stabilize the conveyance system i.e., ditches, swales, berms etc. by seeding, mulching, and installing rock check dams.
- Utilize practices to infiltrate the run-off as much as possible when applicable.
- Stabilize all run-off outlets as shown on the project plans and as necessary.

- Limit soil disturbance to small areas and preserve as much of the existing vegetation as practical.
- Earth disturbance should be limited to 5 acres without prior approval from the NYSDEC.
- All topsoil stockpiles should be staged in an area away from surface waters and storm drains and should be protected and stabilized.
- Earth disturbance is not allowed in established buffers, within any regulated distance from wetlands, within the high-water line of a body of water affected by tidal action or other such protected zones.
- At any location where surface run-off from disturbed or graded areas may flow off-site, sedimentation control measures must be installed to prevent sedimentation from being transported.
- Regular inspections and maintenance should be performed as described in the following section.
- The infiltration trenches shall not be utilized as sediment control devices during site construction and shall not be constructed until all the contributing drainage area has been completely stabilized.

Post-Construction Activities

- Identify the permanent structural or non-structural practices that will remain on the site.
- Provide an Operation & Maintenance (O&M) manual to the new Owner who is expected to conduct the necessary O&M over the life of the structures as described in Section 10.0 of this report.

12.0 Implementing the SWPPP

12.1 Employee Training

All employees on-site shall be aware of the stipulations outlined in this SWPPP as it pertains to their everyday activities. All employees must be able to recognize potential problems and could provide either temporary or permanent stabilization measures, as appropriate, to mitigate stormwater runoff before problems occur. The NYSDEC periodically holds workshops on erosion and sediment control. It is recommended that on-site personnel attend these workshops for training current and up to date. Contact the NYSDEC for more information.

12.2 Site Inspections

The Owner must have a qualified professional assess the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in this SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction. A qualified professional is defined as a Professional Engineer or Landscape Architect licensed to practice in New York State or is a Certified Professional in Erosion and Sediment Control (CPESC). For sites where disturbances are limited to less than five acres, regular inspection of construction activities by qualified professionals are required at least once every 7 days to ensure deficiencies regarding erosion and sedimentation are reported and corrected. Since this site drains to tributaries that ultimately drains to a 303d stream regular inspection of construction activities by the qualified professional are required at least twice every 7 days to ensure deficiencies regarding erosion and sedimentation are reported and corrected. Inspection reports will be provided to the Owner and all contractors and subcontractors involved with earth disturbing activities within one business day of the field inspection. The inspector shall sign the certifying statements contained at the end of the inspection reports. The inspection reports must be in accordance with Part IV. C.4 and 6 of GP-0-25-001.

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,* all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.

For sites where disturbances are greater than five acres, regular inspection of construction activities by the qualified professional are required every 3 days to ensure deficiencies regarding erosion and sedimentation are reported and corrected. It is the responsibility of the Contractor to continuously monitor construction activities to ensure the measures outlined in this report are being implemented.

Areas which have not been fully stabilized, areas used for materials storage and all structural control measures must be inspected once every seven calendar days to monitor erosion and assess the risk of sedimentation. The Owner or Contractor shall be responsible for monitoring precipitation amounts. Precipitation must be obtained from a reliable meteorological data source, or a rain gauge can be installed on site. If a rain gauge is installed, it should be monitored after each storm event.

Each year, a thorough site evaluation shall be performed to determine the continued applicability of the permit, and assess the need to make any changes that have not already been reflected in this SWPPP. The SWPPP shall be reviewed to evaluate its overall effectiveness in preventing sediment laden stormwater runoff. Temporary and permanent stabilization methods shall be assessed, and new methods shall be established, should any method be determined to be inadequate.

A copy of the SWPPP must be maintained on site at all times in the field log book. The Owner must maintain a record of all inspection reports with the on-site SWPPP. The SWPPP and inspection reports must be maintained on-site and be made available to the permitting authority upon request.

12.3 Maintenance

It shall be necessary to maintain all temporary controls installed as well as vegetative measures across the site. Maintenance shall also be necessary to ensure the permanent structural features, such as the stormwater management basins and conveyance piping remain optimally functional and continue to reduce the risk of sediment loading of surface water bodies. All controls shall be repaired or replaced as necessary and as noted on the inspection reports as prepared by the Owner's Engineer.

During construction, maintenance of these stabilization measures shall be the responsibility of the General Contractor or appropriate Sub Contractors. Vegetative plantings must not be allowed to become overgrown. Vegetation shall be removed should it be ineffective and be replaced with a variety of grasses, trees and shrubs more suitable for preventing stormwater runoff. Silt fences must be inspected regularly to ensure that they are still effective and their capability to reduce stormwater runoff has not been reduced due to prolonged sun exposure.

Piping and catch basin sumps shall be cleaned out periodically to prevent the collection of sediment that will reduce the maximum flow. Sediment must be removed from sediment basins, infiltration basins or traps whenever their capacity has been reduced by 50 percent of their design capacity. Within the stormwater management basin, as maintenance occurs the elevation of the basin will be pumped down via a portable pump until the elevation permits maintenance to occur.

Guidelines and recommendations for installation and maintenance practices can be found in the "New York Standards and Specifications Erosion and Sediment Control" handbook.

12.4 Progress Reports and Summaries

Progress reports shall be completed by the General Contractor and all Sub Contractors weekly to document any conditions, which may affect adherence to the construction schedule and may ultimately result in changes to the stormwater pollution prevention plan.

Each progress report must contain the project, date, weather conditions and a brief description of progress made throughout the week, including the use of temporary and permanent stabilization measures on all exposed soils. The progress reports shall be filed with this SWPPP in the on-site logbook.

Additionally, as described in Section 1.1 of this report, the Owner's Engineer will prepare weekly inspection reports. These reports should be maintained on-site with the SWPPP in accordance with GP-0-25-001.

12.5 Certification

Prior to starting construction, the Owner must certify that to the best of their knowledge this SWPPP was prepared in accordance with the requirements in the NYSDEC SPDES General Permit and that it meets all federal, state and local erosion and sediment control requirements. The certifying statement is presented in Appendix A of this report.

The General Contractor and all appropriate Sub Contractors are responsible for reading and understanding the SWPPP and are also required to certify the SWPPP by signing the certifying statement presented in Appendix A of this report.

All inspection reports are to be certified by an authorized person who has responsibility for the overall operation of the site such as a project manager or site superintendent. Certification of these documents is executed by signing the certifying statements presented at the end of the inspection reports.

12.6 NYSDEC Winter Site Stabilization/Site Inspections for Construction Sites

A temporary site specific, enhanced erosion and sediment control plan must be developed and implemented should construction occur during winter/frozen ground conditions with soil exposure between November 15th and April 1st. The following requirements do not supersede any other requirements of this SWPPP as they apply to non-frozen ground conditions.

- Prepare a snow management plan with adequate storage for snow and control of melt water, requiring cleared snow to be stored in a manner not affecting ongoing construction activities.

- Enlarge and stabilize access points to provide for snow management and stockpiling. Snow management activities must not destroy or degrade installed erosion and sediment control practices.

- A minimum 25 foot buffer shall be maintained from all perimeter controls such as silt fence. Mark silt fence with tall stakes that are visible above the snow pack.

- Edges of disturbed areas that drain to a waterbody within 100 feet will have 2 rows of silt fence, 5

feet apart, installed on the contour.

- Drainage structures must be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations, that restrict the flow of runoff and meltwater, shall be removed.
- Sediment barriers must be installed at all appropriate perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.
- Soil stockpiles must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. A barrier must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil.
- In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days. Rolled erosion control blankets must be used on all slopes 3 horizontal to 1 vertical or steeper.
- If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre, making the application rate 4 tons per acre. Other manufactured mulches should be applied at double the manufacturer's recommended rate.
- To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless:
  - work will resume within 24 hours in the same area and no precipitation is forecast or;
  - the work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.
- Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum 10 feet in width but wider as necessary to accommodate equipment.

During the winter season, if a site has been stabilized and soil disturbing activities have been suspended for the winter, weekly inspections can be reduced to once a month. If the soil disturbance is completely suspended and the site is properly stabilized an owner/operator may reduce the self-inspection frequency, but shall maintain a minimum of monthly inspections in all situations (even when there is total winter shutdown).

To be allowed to reduce inspection frequencies, the operator must complete stabilization activities (perimeter controls, traps, barriers etc.) before proper installation is precluded by snow cover or frozen ground. If vegetation is desired, seeding, planting, and/or sodding must be scheduled to avoid die-off from fall frosts and allow for proper germination/establishment.

Frozen ground, winter conditions and equipment can affect erosion and sediment control practices. Check for damage during monthly inspections and repair as necessary. This is especially important during thaws and prior to spring rain events. Weekly inspections must resume no later than March 15 or as directed by the Department.

13.0 Post Construction Operation and Maintenance

13.1 Operation and Maintenance Plan/Report

A site-specific long-term operation and maintenance manual shall be prepared in accordance with the latest NYSSDM. The plan/report shall be conveyed to the owner prior to the start of construction. Please see the Operation and Maintenance Plan/Report for site specific and the long-term operation and maintenance requirements for each practice.

14.0 Conclusion

Lansing Engineering has designed a Stormwater Management Plan for the Essex BOCES Facility that reduces and/or eliminates the impacts of the proposed development by controlling and treating stormwater through the use of drainage ditches and channels, storm sewer piping, and stormwater management systems. The stormwater management systems will function adequately and will not adversely affect adjacent or downstream properties provided it is constructed and maintained as outlined in this plan and as shown on the site plans.

Appendix A

Contractor Certification Forms

STORMWATER POLLUTION PREVENTION PLAN
CONTRACTOR CERTIFICATION

Signatory requirements as per NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities Permit No. GP-0-25-001 Part III.A.6

"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"

_____
Project Name and/or Address

_____
Contractor Company Name

_____
Address

_____ _____
Phone Number email

_____ _____
Trained Contractor * Title

_____ _____
Authorized Representative Title

_____ _____
Authorized Representative Signature Date

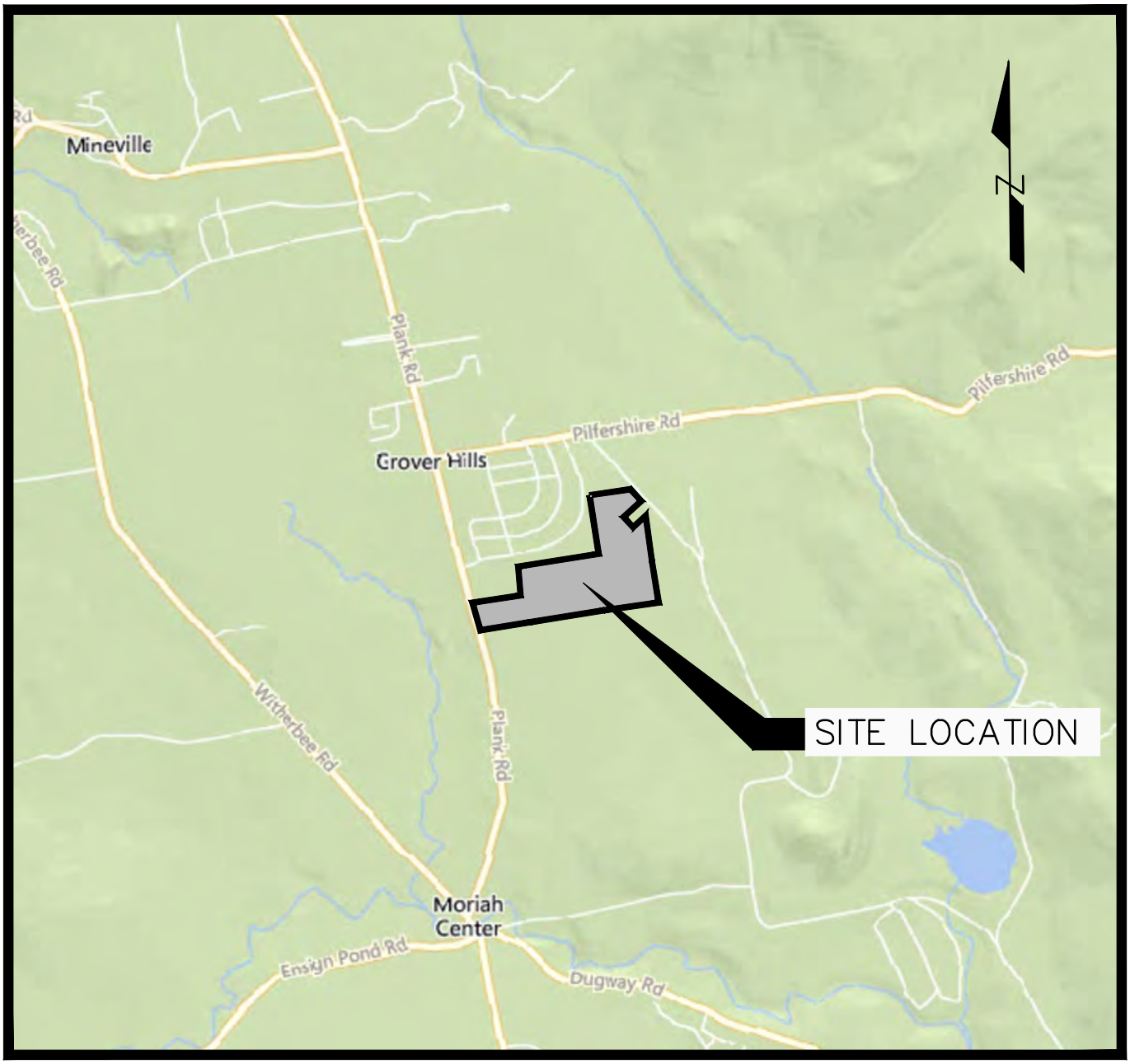
Please identify the specific elements of the SWPPP you will be responsible for: (Use additional sheets if required)

_____
_____
_____
_____
_____
_____
_____
_____

*A **Trained Contractor** as defined in Appendix A of the General Permit- means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the trained contractor shall receive four (4) hours of training every three (3) years.

Appendix B

Site Location/Drainage Area/Drainage Pattern Maps



SITE LOCATION MAP

0 1000 2000 4000 8000

PRELIMINARY / NOT FOR CONSTRUCTION

ESSEX BOCES FACILITY

PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK

LANSING ENGINEERING
2452 STATE ROUTE 9 SUITE 301
MALTA, NY 12020
(518) 899-5243
CIVIL - TRANSPORTATION - ENVIRONMENTAL - LAND SURVEYING

PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 03/16/2026

LEGEND

- SUBCATCHMENT BOUNDARY
- FLOW PATH
- PROPERTY LINE
- SOIL TYPE BOUNDARY
- PROJECT BOUNDARY
- EXISTING TREELINE
- SUBCATCHMENT BOUNDARY (2 / 2.8 ACRES / 36 CURVE NUMBER)

PROJECT AREA BOUNDARY (TYP.)

DESIGN POINT 1

DESIGN POINT 1

FALLING HEAD PERMIABLITY TEST PERFORMED ON 03/03/2026 BY TERRACON CONSULTANTS, INC.	
PERCOLATION TEST LOCATIONS	STABILIZED PERCOLATION RATE
I-1 @ 5' DEPTH	2.30 IN./HR
I-2 @ 6' DEPTH	1.80 IN./HR
I-3 @ 6' DEPTH	2.0 IN./HR
I-4 @ 9' DEPTH	4.80 IN./HR
I-5 @ 12' DEPTH	7.0 IN./HR

EXISTING CONDITIONS PLAN

0 50 100 200 400

SCALE: 1"=100'

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ESSEX BOCES FACILITY
PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK

DATE	REVISIONS RECORD/DESCRIPTION

PRELIMINARY / NOT FOR CONSTRUCTION

CIVIL - TRANSPORTATION - ENVIRONMENTAL - LAND SURVEYING

LANSING ENGINEERING
24568 STATE ROUTE 8 SUITE 301
WATERTOWN, NY 13601
(315) 858-5243

EXISTING CONDITIONS PLAN

PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 02/25/2026

EC-1
SHEET 1 OF 2

LEGEND

- SUBCATCHMENT BOUNDARY
- FLOW PATH
- PROPERTY LINE
- SOIL TYPE BOUNDARY
- PROJECT BOUNDARY
- EXISTING TREELINE
- SUBCATCHMENT BOUNDARY (2 | SIZE (ACRES) 2.8 | CURVE NUMBER 36)

PROJECT AREA BOUNDARY (TYP.)

CONSERVATION AREA (TYP.)

INFILTRATION BASIN #1 (TYP.)

INFILTRATION TRENCH #1 (TYP.)

DESIGN POINT 1

DESIGN POINT 1

PROPOSED CONDITIONS PLAN

0 50 100 200 400

SCALE: 1"=100'

ESSEX BOCES FACILITY

PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK

DATE REVISIONS RECORD DESCRIPTION

PRELIMINARY / NOT FOR CONSTRUCTION

CIVIL - TRANSPORTATION - ENVIRONMENTAL - LAND SURVEYING

LANSING ENGINEERING
24568 STATE ROUTE 9 SUITE 301
KEENE, NY 12942
(518) 9398243

PROPOSED CONDITIONS PLAN

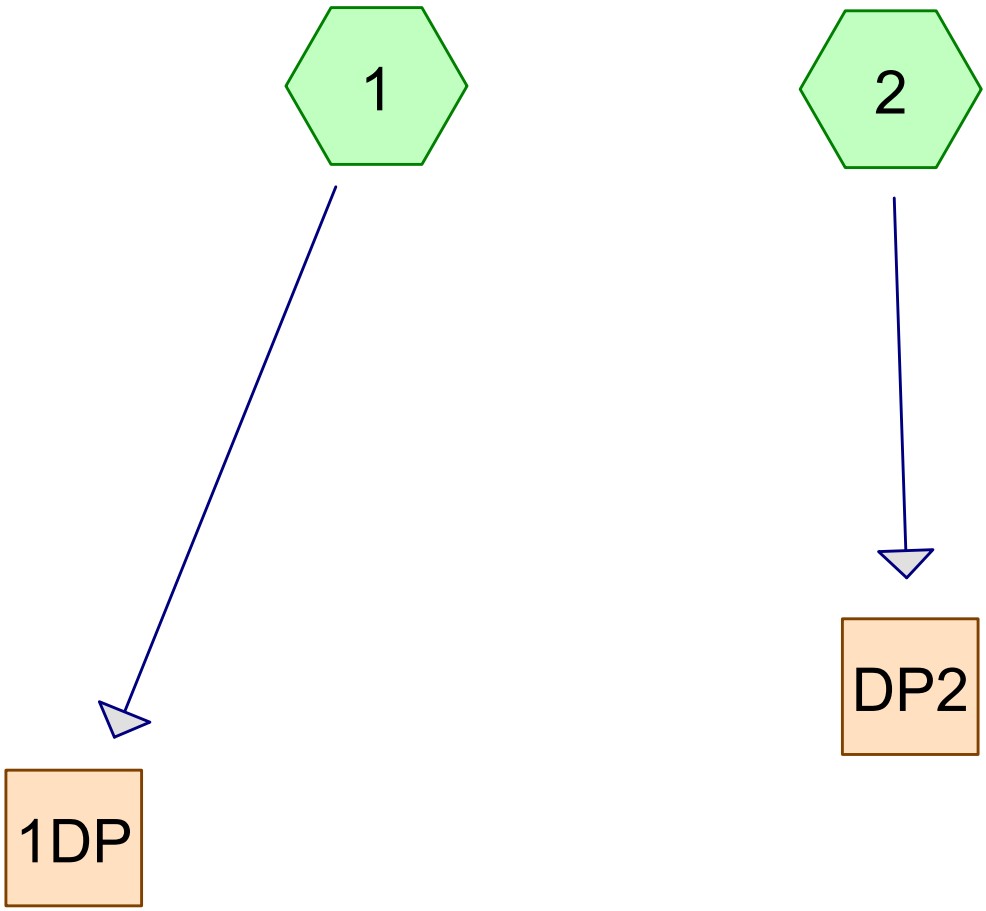
PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 02/25/2026

PC–1

SHEET 2 OF 2

Appendix C

Pre-Development and Post-Development Run-off Calculations



Subcat Reach Pond Link

Routing Diagram for Existing Conditions
Prepared by Lansing Engineering PC, Printed 3/16/2026

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	NY-Essex 24-hr S1	1-yr	Default	24.00	1	2.01	2
2	10-yr	NY-Essex 24-hr S1	10-yr	Default	24.00	1	3.21	2
3	25-yr	NY-Essex 24-hr S1	25-yr	Default	24.00	1	3.91	2
4	100-yr	NY-Essex 24-hr S1	100-yr	Default	24.00	1	5.26	2

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

Subcatchment1: Runoff Area=15.190 ac 0.72% Impervious Runoff Depth>0.04"
Flow Length=1,600' Tc=43.9 min CN=60 Runoff=0.11 cfs 0.053 af

Subcatchment2: Runoff Area=21.070 ac 0.00% Impervious Runoff Depth>0.06"
Flow Length=1,293' Tc=31.6 min CN=62 Runoff=0.31 cfs 0.113 af

Reach 1DP: Inflow=0.11 cfs 0.053 af
Outflow=0.11 cfs 0.053 af

Reach DP2: Inflow=0.31 cfs 0.113 af
Outflow=0.31 cfs 0.113 af

Total Runoff Area = 36.260 ac Runoff Volume = 0.166 af Average Runoff Depth = 0.06"
99.70% Pervious = 36.150 ac 0.30% Impervious = 0.110 ac

Summary for Subcatchment 1:

Runoff = 0.11 cfs @ 14.10 hrs, Volume= 0.053 af, Depth> 0.04"
Routed to Reach 1DP :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 1-yr Rainfall=2.01"

Area (ac)	CN	Description
15.080	60	Woods, Fair, HSG B
0.110	98	Paved parking, HSG B
15.190	60	Weighted Average
15.080		99.28% Pervious Area
0.110		0.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	100	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
27.5	1,500	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.9	1,600	Total			

Summary for Subcatchment 2:

Runoff = 0.31 cfs @ 12.90 hrs, Volume= 0.113 af, Depth> 0.06"
Routed to Reach DP2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 1-yr Rainfall=2.01"

Area (ac)	CN	Description
19.050	60	Woods, Fair, HSG B
2.020	79	Woods, Fair, HSG D
21.070	62	Weighted Average
21.070		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0800	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
17.0	1,193	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.6	1,293	Total			

Summary for Reach 1DP:

Inflow Area = 15.190 ac, 0.72% Impervious, Inflow Depth > 0.04" for 1-yr event
Inflow = 0.11 cfs @ 14.10 hrs, Volume= 0.053 af
Outflow = 0.11 cfs @ 14.10 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DP2:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth > 0.06" for 1-yr event
Inflow = 0.31 cfs @ 12.90 hrs, Volume= 0.113 af
Outflow = 0.31 cfs @ 12.90 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment1: Runoff Area=15.190 ac 0.72% Impervious Runoff Depth>0.34"
Flow Length=1,600' Tc=43.9 min CN=60 Runoff=2.46 cfs 0.432 af

Subcatchment2: Runoff Area=21.070 ac 0.00% Impervious Runoff Depth>0.41"
Flow Length=1,293' Tc=31.6 min CN=62 Runoff=5.00 cfs 0.721 af

Reach 1DP: Inflow=2.46 cfs 0.432 af
Outflow=2.46 cfs 0.432 af

Reach DP2: Inflow=5.00 cfs 0.721 af
Outflow=5.00 cfs 0.721 af

Total Runoff Area = 36.260 ac Runoff Volume = 1.153 af Average Runoff Depth = 0.38"
99.70% Pervious = 36.150 ac 0.30% Impervious = 0.110 ac

Summary for Subcatchment 1:

Runoff = 2.46 cfs @ 12.78 hrs, Volume= 0.432 af, Depth> 0.34"
Routed to Reach 1DP :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 10-yr Rainfall=3.21"

Area (ac)	CN	Description
15.080	60	Woods, Fair, HSG B
0.110	98	Paved parking, HSG B
15.190	60	Weighted Average
15.080		99.28% Pervious Area
0.110		0.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	100	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
27.5	1,500	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.9	1,600	Total			

Summary for Subcatchment 2:

Runoff = 5.00 cfs @ 12.55 hrs, Volume= 0.721 af, Depth> 0.41"
Routed to Reach DP2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 10-yr Rainfall=3.21"

Area (ac)	CN	Description
19.050	60	Woods, Fair, HSG B
2.020	79	Woods, Fair, HSG D
21.070	62	Weighted Average
21.070		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0800	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
17.0	1,193	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.6	1,293	Total			

Summary for Reach 1DP:

Inflow Area = 15.190 ac, 0.72% Impervious, Inflow Depth > 0.34" for 10-yr event
Inflow = 2.46 cfs @ 12.78 hrs, Volume= 0.432 af
Outflow = 2.46 cfs @ 12.78 hrs, Volume= 0.432 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DP2:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth > 0.41" for 10-yr event
Inflow = 5.00 cfs @ 12.55 hrs, Volume= 0.721 af
Outflow = 5.00 cfs @ 12.55 hrs, Volume= 0.721 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment1: Runoff Area=15.190 ac 0.72% Impervious Runoff Depth>0.62"
Flow Length=1,600' Tc=43.9 min CN=60 Runoff=5.26 cfs 0.779 af

Subcatchment2: Runoff Area=21.070 ac 0.00% Impervious Runoff Depth>0.71"
Flow Length=1,293' Tc=31.6 min CN=62 Runoff=10.08 cfs 1.250 af

Reach 1DP: Inflow=5.26 cfs 0.779 af
Outflow=5.26 cfs 0.779 af

Reach DP2: Inflow=10.08 cfs 1.250 af
Outflow=10.08 cfs 1.250 af

Total Runoff Area = 36.260 ac Runoff Volume = 2.029 af Average Runoff Depth = 0.67"
99.70% Pervious = 36.150 ac 0.30% Impervious = 0.110 ac

Summary for Subcatchment 1:

Runoff = 5.26 cfs @ 12.71 hrs, Volume= 0.779 af, Depth> 0.62"
Routed to Reach 1DP :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 25-yr Rainfall=3.91"

Area (ac)	CN	Description
15.080	60	Woods, Fair, HSG B
0.110	98	Paved parking, HSG B
15.190	60	Weighted Average
15.080		99.28% Pervious Area
0.110		0.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	100	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
27.5	1,500	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.9	1,600	Total			

Summary for Subcatchment 2:

Runoff = 10.08 cfs @ 12.49 hrs, Volume= 1.250 af, Depth> 0.71"
Routed to Reach DP2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 25-yr Rainfall=3.91"

Area (ac)	CN	Description
19.050	60	Woods, Fair, HSG B
2.020	79	Woods, Fair, HSG D
21.070	62	Weighted Average
21.070		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0800	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
17.0	1,193	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.6	1,293	Total			

Summary for Reach 1DP:

Inflow Area = 15.190 ac, 0.72% Impervious, Inflow Depth > 0.62" for 25-yr event
Inflow = 5.26 cfs @ 12.71 hrs, Volume= 0.779 af
Outflow = 5.26 cfs @ 12.71 hrs, Volume= 0.779 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DP2:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth > 0.71" for 25-yr event
Inflow = 10.08 cfs @ 12.49 hrs, Volume= 1.250 af
Outflow = 10.08 cfs @ 12.49 hrs, Volume= 1.250 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment1: Runoff Area=15.190 ac 0.72% Impervious Runoff Depth>1.29"
Flow Length=1,600' Tc=43.9 min CN=60 Runoff=12.76 cfs 1.635 af

Subcatchment2: Runoff Area=21.070 ac 0.00% Impervious Runoff Depth>1.44"
Flow Length=1,293' Tc=31.6 min CN=62 Runoff=23.10 cfs 2.523 af

Reach 1DP: Inflow=12.76 cfs 1.635 af
Outflow=12.76 cfs 1.635 af

Reach DP2: Inflow=23.10 cfs 2.523 af
Outflow=23.10 cfs 2.523 af

Total Runoff Area = 36.260 ac Runoff Volume = 4.157 af Average Runoff Depth = 1.38"
99.70% Pervious = 36.150 ac 0.30% Impervious = 0.110 ac

Summary for Subcatchment 1:

Runoff = 12.76 cfs @ 12.67 hrs, Volume= 1.635 af, Depth> 1.29"
Routed to Reach 1DP :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 100-yr Rainfall=5.26"

Area (ac)	CN	Description
15.080	60	Woods, Fair, HSG B
0.110	98	Paved parking, HSG B
15.190	60	Weighted Average
15.080		99.28% Pervious Area
0.110		0.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	100	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
27.5	1,500	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.9	1,600	Total			

Summary for Subcatchment 2:

Runoff = 23.10 cfs @ 12.46 hrs, Volume= 2.523 af, Depth> 1.44"
Routed to Reach DP2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 100-yr Rainfall=5.26"

Area (ac)	CN	Description
19.050	60	Woods, Fair, HSG B
2.020	79	Woods, Fair, HSG D
21.070	62	Weighted Average
21.070		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0800	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
17.0	1,193	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.6	1,293	Total			

Summary for Reach 1DP:

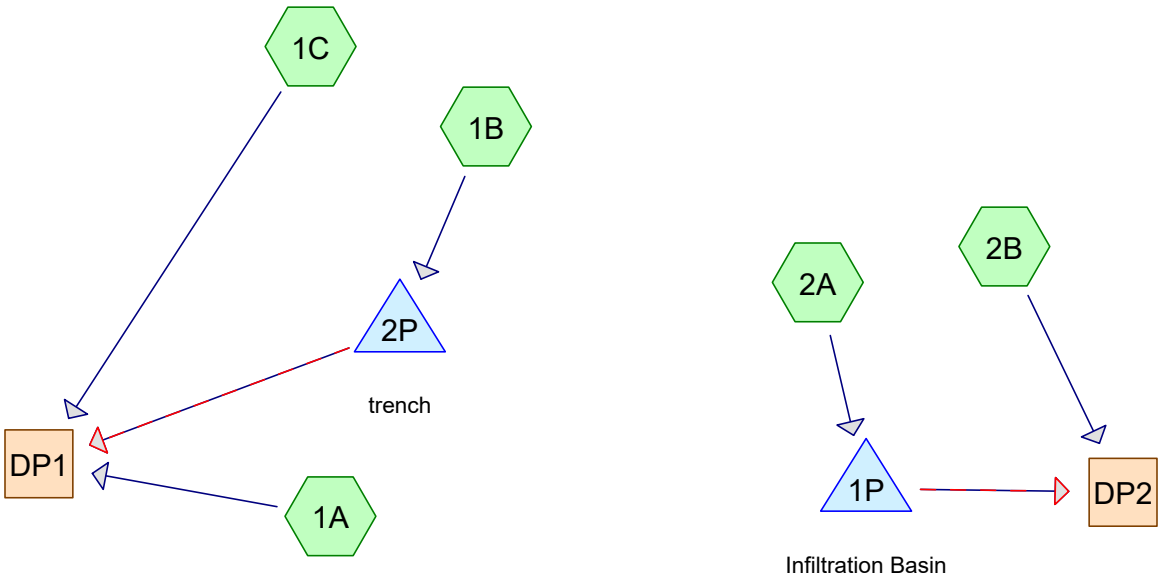
Inflow Area = 15.190 ac, 0.72% Impervious, Inflow Depth > 1.29" for 100-yr event
Inflow = 12.76 cfs @ 12.67 hrs, Volume= 1.635 af
Outflow = 12.76 cfs @ 12.67 hrs, Volume= 1.635 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DP2:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth > 1.44" for 100-yr event
Inflow = 23.10 cfs @ 12.46 hrs, Volume= 2.523 af
Outflow = 23.10 cfs @ 12.46 hrs, Volume= 2.523 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Subcat Reach Pond Link

Routing Diagram for Proposed Conditions
Prepared by Lansing Engineering PC, Printed 3/16/2026

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	NY-Essex 24-hr S1	1-yr	Default	24.00	1	2.01	2
2	10-yr	NY-Essex 24-hr S1	10-yr	Default	24.00	1	3.21	2
3	25-yr	NY-Essex 24-hr S1	25-yr	Default	24.00	1	3.91	2
4	100-yr	NY-Essex 24-hr S1	100-yr	Default	24.00	1	5.26	2

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

Subcatchment1A: Runoff Area=0.490 ac 0.00% Impervious Runoff Depth>0.05"
Flow Length=722' Tc=18.3 min CN=61 Runoff=0.01 cfs 0.002 af

Subcatchment1B: Runoff Area=1.020 ac 56.86% Impervious Runoff Depth>0.58"
Tc=6.0 min CN=82 Runoff=0.90 cfs 0.050 af

Subcatchment1C: Runoff Area=4.590 ac 2.40% Impervious Runoff Depth>0.05"
Flow Length=1,080' Tc=24.9 min CN=61 Runoff=0.05 cfs 0.021 af

Subcatchment2A: Runoff Area=13.450 ac 55.32% Impervious Runoff Depth>0.54"
Flow Length=900' Tc=12.3 min CN=81 Runoff=8.11 cfs 0.606 af

Subcatchment2B: Runoff Area=16.710 ac 0.00% Impervious Runoff Depth>0.06"
Flow Length=1,151' Tc=31.6 min CN=62 Runoff=0.24 cfs 0.090 af

Reach DP1: Inflow=0.05 cfs 0.023 af
Outflow=0.05 cfs 0.023 af

Reach DP2: Inflow=0.24 cfs 0.090 af
Outflow=0.24 cfs 0.090 af

Pond 1P: Infiltration Basin Peak Elev=990.67' Storage=17,264 cf Inflow=8.11 cfs 0.606 af
Discarded=0.32 cfs 0.215 af Primary=0.00 cfs 0.000 af Outflow=0.32 cfs 0.215 af

Pond 2P: trench Peak Elev=966.05' Storage=663 cf Inflow=0.90 cfs 0.050 af
Discarded=0.14 cfs 0.050 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.050 af

Total Runoff Area = 36.260 ac Runoff Volume = 0.768 af Average Runoff Depth = 0.25"
77.58% Pervious = 28.130 ac 22.42% Impervious = 8.130 ac

Summary for Subcatchment 1A:

Runoff = 0.01 cfs @ 12.72 hrs, Volume= 0.002 af, Depth> 0.05"
Routed to Reach DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 1-yr Rainfall=2.01"

Area (ac)	CN	Description
0.490	61	>75% Grass cover, Good, HSG B
0.490		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0750	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.28"
8.3	622	0.0322	1.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.3	722	Total			

Summary for Subcatchment 1B:

Runoff = 0.90 cfs @ 12.05 hrs, Volume= 0.050 af, Depth> 0.58"
Routed to Pond 2P : trench

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 1-yr Rainfall=2.01"

	Area (ac)	CN	Description
*	0.580	98	
	0.440	61	>75% Grass cover, Good, HSG B
	1.020	82	Weighted Average
	0.440		43.14% Pervious Area
	0.580		56.86% Impervious Area

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

Summary for Subcatchment 1C:

Runoff = 0.05 cfs @ 12.87 hrs, Volume= 0.021 af, Depth> 0.05"
Routed to Reach DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 1-yr Rainfall=2.01"

	Area (ac)	CN	Description
	4.090	60	Woods, Fair, HSG B
	0.390	61	>75% Grass cover, Good, HSG B
*	0.110	98	
	4.590	61	Weighted Average
	4.480		97.60% Pervious Area
	0.110		2.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	100	0.0650	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.28"
14.3	980	0.0520	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,080	Total			

Summary for Subcatchment 2A:

Runoff = 8.11 cfs @ 12.14 hrs, Volume= 0.606 af, Depth> 0.54"
Routed to Pond 1P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 1-yr Rainfall=2.01"

Area (ac)	CN	Description
7.440	98	Paved parking, HSG A
6.010	61	>75% Grass cover, Good, HSG B
13.450	81	Weighted Average
6.010		44.68% Pervious Area
7.440		55.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	47	0.0420	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
0.7	53	0.0400	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.28"
1.3	800	0.0216	10.58	33.25	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
12.3	900	Total			

Summary for Subcatchment 2B:

Runoff = 0.24 cfs @ 12.90 hrs, Volume= 0.090 af, Depth> 0.06"
Routed to Reach DP2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 1-yr Rainfall=2.01"

Area (ac)	CN	Description
13.030	60	Woods, Fair, HSG B
2.020	79	Woods, Fair, HSG D
1.660	61	>75% Grass cover, Good, HSG B
16.710	62	Weighted Average
16.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0500	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
14.0	1,051	0.0628	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.6	1,151	Total			

Summary for Reach DP1:

Inflow Area = 6.100 ac, 11.31% Impervious, Inflow Depth > 0.04" for 1-yr event
Inflow = 0.05 cfs @ 12.86 hrs, Volume= 0.023 af
Outflow = 0.05 cfs @ 12.86 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DP2:

Inflow Area = 30.160 ac, 24.67% Impervious, Inflow Depth > 0.04" for 1-yr event
Inflow = 0.24 cfs @ 12.90 hrs, Volume= 0.090 af
Outflow = 0.24 cfs @ 12.90 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Infiltration Basin

Inflow Area = 13.450 ac, 55.32% Impervious, Inflow Depth > 0.54" for 1-yr event
Inflow = 8.11 cfs @ 12.14 hrs, Volume= 0.606 af
Outflow = 0.32 cfs @ 18.04 hrs, Volume= 0.215 af, Atten= 96%, Lag= 354.0 min
Discarded = 0.32 cfs @ 18.04 hrs, Volume= 0.215 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach DP2 :

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 990.67' @ 18.04 hrs Surf.Area= 27,410 sf Storage= 17,264 cf

Plug-Flow detention time= 229.1 min calculated for 0.215 af (35% of inflow)
Center-of-Mass det. time= 128.0 min (955.1 - 827.1)

Volume	Invert	Avail.Storage	Storage Description
#1	990.00'	137,169 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
990.00	23,977	0	0
992.00	34,194	58,171	58,171
994.00	44,804	78,998	137,169

Device	Routing	Invert	Outlet Devices
#1	Discarded	990.00'	**0.500 in/hr Exfiltration over Surface area**
#2	Primary	991.00'	**18.0" Round Culvert** L= 371.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 991.00' / 989.00' S= 0.0054 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#3	Device 2	991.25'	**10.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	993.00'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.32 cfs @ 18.04 hrs HW=990.67' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.32 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=990.00' (Free Discharge)
└─**2=Culvert** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: trench

Inflow Area = 1.020 ac, 56.86% Impervious, Inflow Depth > 0.58" for 1-yr event
Inflow = 0.90 cfs @ 12.05 hrs, Volume= 0.050 af
Outflow = 0.14 cfs @ 11.95 hrs, Volume= 0.050 af, Atten= 85%, Lag= 0.0 min
Discarded = 0.14 cfs @ 11.95 hrs, Volume= 0.050 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach DP1 :
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach DP1 :

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 966.05' @ 12.62 hrs Surf.Area= 3,000 sf Storage= 663 cf

Plug-Flow detention time= 35.3 min calculated for 0.049 af (99% of inflow)
Center-of-Mass det. time= 34.4 min (853.7 - 819.3)

Volume	Invert	Avail.Storage	Storage Description
#1	965.50'	3,000 cf	**Custom Stage Data (Prismatic)** Listed below 7,500 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
965.50	3,000	0	0
966.50	3,000	3,000	3,000
967.50	3,000	3,000	6,000
968.00	3,000	1,500	7,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	965.50'	**2.000 in/hr Exfiltration over Surface area**
#2	Secondary	968.00'	**10.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#3	Primary	964.26'	**15.0" Round Culvert** L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 964.26' / 962.00' S= 0.0269 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#4	Device 3	967.50'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.14 cfs @ 11.95 hrs HW=965.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=965.50' (Free Discharge)
↑—**3=Culvert** (Passes 0.00 cfs of 4.65 cfs potential flow)
↑—**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=965.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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

Subcatchment1A: Runoff Area=0.490 ac 0.00% Impervious Runoff Depth>0.38"
Flow Length=722' Tc=18.3 min CN=61 Runoff=0.12 cfs 0.016 af

Subcatchment1B: Runoff Area=1.020 ac 56.86% Impervious Runoff Depth>1.42"
Tc=6.0 min CN=82 Runoff=2.18 cfs 0.121 af

Subcatchment1C: Runoff Area=4.590 ac 2.40% Impervious Runoff Depth>0.38"
Flow Length=1,080' Tc=24.9 min CN=61 Runoff=1.04 cfs 0.145 af

Subcatchment2A: Runoff Area=13.450 ac 55.32% Impervious Runoff Depth>1.35"
Flow Length=900' Tc=12.3 min CN=81 Runoff=21.10 cfs 1.511 af

Subcatchment2B: Runoff Area=16.710 ac 0.00% Impervious Runoff Depth>0.41"
Flow Length=1,151' Tc=31.6 min CN=62 Runoff=3.96 cfs 0.572 af

Reach DP1: Inflow=1.24 cfs 0.165 af
Outflow=1.24 cfs 0.165 af

Reach DP2: Inflow=3.96 cfs 0.815 af
Outflow=3.96 cfs 0.815 af

Pond 1P: Infiltration Basin Peak Elev=991.62' Storage=45,668 cf Inflow=21.10 cfs 1.511 af
Discarded=0.37 cfs 0.277 af Primary=0.49 cfs 0.243 af Outflow=0.87 cfs 0.520 af

Pond 2P: trench Peak Elev=967.53' Storage=2,435 cf Inflow=2.18 cfs 0.121 af
Discarded=0.14 cfs 0.103 af Primary=0.17 cfs 0.004 af Secondary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.107 af

Total Runoff Area = 36.260 ac Runoff Volume = 2.364 af Average Runoff Depth = 0.78"
77.58% Pervious = 28.130 ac 22.42% Impervious = 8.130 ac

Summary for Subcatchment 1A:

Runoff = 0.12 cfs @ 12.32 hrs, Volume= 0.016 af, Depth> 0.38"
Routed to Reach DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 10-yr Rainfall=3.21"

Area (ac)	CN	Description
0.490	61	>75% Grass cover, Good, HSG B
0.490		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0750	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.28"
8.3	622	0.0322	1.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.3	722	Total			

Summary for Subcatchment 1B:

Runoff = 2.18 cfs @ 12.05 hrs, Volume= 0.121 af, Depth> 1.42"
Routed to Pond 2P : trench

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 10-yr Rainfall=3.21"

	Area (ac)	CN	Description
*	0.580	98	
	0.440	61	>75% Grass cover, Good, HSG B
	1.020	82	Weighted Average
	0.440		43.14% Pervious Area
	0.580		56.86% Impervious Area

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

Summary for Subcatchment 1C:

Runoff = 1.04 cfs @ 12.45 hrs, Volume= 0.145 af, Depth> 0.38"
Routed to Reach DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 10-yr Rainfall=3.21"

	Area (ac)	CN	Description
	4.090	60	Woods, Fair, HSG B
	0.390	61	>75% Grass cover, Good, HSG B
*	0.110	98	
	4.590	61	Weighted Average
	4.480		97.60% Pervious Area
	0.110		2.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	100	0.0650	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.28"
14.3	980	0.0520	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,080	Total			

Summary for Subcatchment 2A:

Runoff = 21.10 cfs @ 12.13 hrs, Volume= 1.511 af, Depth> 1.35"
Routed to Pond 1P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 10-yr Rainfall=3.21"

Area (ac)	CN	Description
7.440	98	Paved parking, HSG A
6.010	61	>75% Grass cover, Good, HSG B
13.450	81	Weighted Average
6.010		44.68% Pervious Area
7.440		55.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	47	0.0420	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
0.7	53	0.0400	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.28"
1.3	800	0.0216	10.58	33.25	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
12.3	900	Total			

Summary for Subcatchment 2B:

Runoff = 3.96 cfs @ 12.55 hrs, Volume= 0.572 af, Depth> 0.41"
Routed to Reach DP2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 10-yr Rainfall=3.21"

Area (ac)	CN	Description
13.030	60	Woods, Fair, HSG B
2.020	79	Woods, Fair, HSG D
1.660	61	>75% Grass cover, Good, HSG B
16.710	62	Weighted Average
16.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0500	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
14.0	1,051	0.0628	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.6	1,151	Total			

Summary for Reach DP1:

Inflow Area = 6.100 ac, 11.31% Impervious, Inflow Depth > 0.32" for 10-yr event
Inflow = 1.24 cfs @ 12.62 hrs, Volume= 0.165 af
Outflow = 1.24 cfs @ 12.62 hrs, Volume= 0.165 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DP2:

Inflow Area = 30.160 ac, 24.67% Impervious, Inflow Depth > 0.32" for 10-yr event
Inflow = 3.96 cfs @ 12.56 hrs, Volume= 0.815 af
Outflow = 3.96 cfs @ 12.56 hrs, Volume= 0.815 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Infiltration Basin

Inflow Area = 13.450 ac, 55.32% Impervious, Inflow Depth > 1.35" for 10-yr event
Inflow = 21.10 cfs @ 12.13 hrs, Volume= 1.511 af
Outflow = 0.87 cfs @ 15.64 hrs, Volume= 0.520 af, Atten= 96%, Lag= 210.6 min
Discarded = 0.37 cfs @ 15.64 hrs, Volume= 0.277 af
Primary = 0.49 cfs @ 15.64 hrs, Volume= 0.243 af
Routed to Reach DP2 :

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 991.62' @ 15.64 hrs Surf.Area= 32,272 sf Storage= 45,668 cf

Plug-Flow detention time= 241.4 min calculated for 0.518 af (34% of inflow)
Center-of-Mass det. time= 153.7 min (956.3 - 802.6)

Volume	Invert	Avail.Storage	Storage Description
#1	990.00'	137,169 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
990.00	23,977	0	0
992.00	34,194	58,171	58,171
994.00	44,804	78,998	137,169

Device	Routing	Invert	Outlet Devices
#1	Discarded	990.00'	**0.500 in/hr Exfiltration over Surface area**
#2	Primary	991.00'	**18.0" Round Culvert** L= 371.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 991.00' / 989.00' S= 0.0054 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#3	Device 2	991.25'	**10.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	993.00'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.37 cfs @ 15.64 hrs HW=991.62' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.37 cfs)

Primary OutFlow Max=0.49 cfs @ 15.64 hrs HW=991.62' (Free Discharge)
└**2=Culvert** (Passes 0.49 cfs of 1.58 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 0.49 cfs @ 2.08 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: trench

Inflow Area = 1.020 ac, 56.86% Impervious, Inflow Depth > 1.42" for 10-yr event
Inflow = 2.18 cfs @ 12.05 hrs, Volume= 0.121 af
Outflow = 0.31 cfs @ 12.64 hrs, Volume= 0.107 af, Atten= 86%, Lag= 35.7 min
Discarded = 0.14 cfs @ 11.60 hrs, Volume= 0.103 af
Primary = 0.17 cfs @ 12.64 hrs, Volume= 0.004 af
Routed to Reach DP1 :
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach DP1 :

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 967.53' @ 12.64 hrs Surf.Area= 3,000 sf Storage= 2,435 cf

Plug-Flow detention time= 165.7 min calculated for 0.107 af (89% of inflow)
Center-of-Mass det. time= 129.1 min (924.4 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	965.50'	3,000 cf	**Custom Stage Data (Prismatic)** Listed below 7,500 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
965.50	3,000	0	0
966.50	3,000	3,000	3,000
967.50	3,000	3,000	6,000
968.00	3,000	1,500	7,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	965.50'	**2.000 in/hr Exfiltration over Surface area**
#2	Secondary	968.00'	**10.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#3	Primary	964.26'	**15.0" Round Culvert** L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 964.26' / 962.00' S= 0.0269 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#4	Device 3	967.50'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.14 cfs @ 11.60 hrs HW=965.53' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.16 cfs @ 12.64 hrs HW=967.53' (Free Discharge)
↑—**3=Culvert** (Passes 0.16 cfs of 9.61 cfs potential flow)
↑—**4=Orifice/Grate** (Weir Controls 0.16 cfs @ 0.55 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=965.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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

Subcatchment1A: Runoff Area=0.490 ac 0.00% Impervious Runoff Depth>0.67"
Flow Length=722' Tc=18.3 min CN=61 Runoff=0.27 cfs 0.027 af

Subcatchment1B: Runoff Area=1.020 ac 56.86% Impervious Runoff Depth>1.97"
Tc=6.0 min CN=82 Runoff=3.09 cfs 0.167 af

Subcatchment1C: Runoff Area=4.590 ac 2.40% Impervious Runoff Depth>0.67"
Flow Length=1,080' Tc=24.9 min CN=61 Runoff=2.22 cfs 0.256 af

Subcatchment2A: Runoff Area=13.450 ac 55.32% Impervious Runoff Depth>1.89"
Flow Length=900' Tc=12.3 min CN=81 Runoff=30.30 cfs 2.114 af

Subcatchment2B: Runoff Area=16.710 ac 0.00% Impervious Runoff Depth>0.71"
Flow Length=1,151' Tc=31.6 min CN=62 Runoff=8.00 cfs 0.991 af

Reach DP1: Inflow=3.32 cfs 0.320 af
Outflow=3.32 cfs 0.320 af

Reach DP2: Inflow=8.77 cfs 1.713 af
Outflow=8.77 cfs 1.713 af

Pond 1P: Infiltration Basin Peak Elev=992.01' Storage=58,523 cf Inflow=30.30 cfs 2.114 af
Discarded=0.40 cfs 0.305 af Primary=1.55 cfs 0.722 af Outflow=1.94 cfs 1.027 af

Pond 2P: trench Peak Elev=967.61' Storage=2,531 cf Inflow=3.09 cfs 0.167 af
Discarded=0.14 cfs 0.108 af Primary=1.19 cfs 0.038 af Secondary=0.00 cfs 0.000 af Outflow=1.32 cfs 0.145 af

Total Runoff Area = 36.260 ac Runoff Volume = 3.555 af Average Runoff Depth = 1.18"
77.58% Pervious = 28.130 ac 22.42% Impervious = 8.130 ac

Summary for Subcatchment 1A:

Runoff = 0.27 cfs @ 12.27 hrs, Volume= 0.027 af, Depth> 0.67"
Routed to Reach DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 25-yr Rainfall=3.91"

Area (ac)	CN	Description
0.490	61	>75% Grass cover, Good, HSG B
0.490		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0750	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.28"
8.3	622	0.0322	1.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.3	722	Total			

Summary for Subcatchment 1B:

Runoff = 3.09 cfs @ 12.04 hrs, Volume= 0.167 af, Depth> 1.97"
Routed to Pond 2P : trench

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 25-yr Rainfall=3.91"

	Area (ac)	CN	Description
*	0.580	98	
	0.440	61	>75% Grass cover, Good, HSG B
	1.020	82	Weighted Average
	0.440		43.14% Pervious Area
	0.580		56.86% Impervious Area

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

Summary for Subcatchment 1C:

Runoff = 2.22 cfs @ 12.38 hrs, Volume= 0.256 af, Depth> 0.67"
Routed to Reach DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 25-yr Rainfall=3.91"

	Area (ac)	CN	Description
	4.090	60	Woods, Fair, HSG B
	0.390	61	>75% Grass cover, Good, HSG B
*	0.110	98	
	4.590	61	Weighted Average
	4.480		97.60% Pervious Area
	0.110		2.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	100	0.0650	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.28"
14.3	980	0.0520	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,080	Total			

Summary for Subcatchment 2A:

Runoff = 30.30 cfs @ 12.13 hrs, Volume= 2.114 af, Depth> 1.89"
Routed to Pond 1P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 25-yr Rainfall=3.91"

Area (ac)	CN	Description
7.440	98	Paved parking, HSG A
6.010	61	>75% Grass cover, Good, HSG B
13.450	81	Weighted Average
6.010		44.68% Pervious Area
7.440		55.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	47	0.0420	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
0.7	53	0.0400	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.28"
1.3	800	0.0216	10.58	33.25	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
12.3	900	Total			

Summary for Subcatchment 2B:

Runoff = 8.00 cfs @ 12.49 hrs, Volume= 0.991 af, Depth> 0.71"
Routed to Reach DP2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 25-yr Rainfall=3.91"

Area (ac)	CN	Description
13.030	60	Woods, Fair, HSG B
2.020	79	Woods, Fair, HSG D
1.660	61	>75% Grass cover, Good, HSG B
16.710	62	Weighted Average
16.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0500	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
14.0	1,051	0.0628	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.6	1,151	Total			

Summary for Reach DP1:

Inflow Area = 6.100 ac, 11.31% Impervious, Inflow Depth > 0.63" for 25-yr event
Inflow = 3.32 cfs @ 12.32 hrs, Volume= 0.320 af
Outflow = 3.32 cfs @ 12.32 hrs, Volume= 0.320 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DP2:

Inflow Area = 30.160 ac, 24.67% Impervious, Inflow Depth > 0.68" for 25-yr event
Inflow = 8.77 cfs @ 12.54 hrs, Volume= 1.713 af
Outflow = 8.77 cfs @ 12.54 hrs, Volume= 1.713 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Infiltration Basin

Inflow Area = 13.450 ac, 55.32% Impervious, Inflow Depth > 1.89" for 25-yr event
Inflow = 30.30 cfs @ 12.13 hrs, Volume= 2.114 af
Outflow = 1.94 cfs @ 13.76 hrs, Volume= 1.027 af, Atten= 94%, Lag= 98.0 min
Discarded = 0.40 cfs @ 13.76 hrs, Volume= 0.305 af
Primary = 1.55 cfs @ 13.76 hrs, Volume= 0.722 af
Routed to Reach DP2 :

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 992.01' @ 13.76 hrs Surf.Area= 34,249 sf Storage= 58,523 cf

Plug-Flow detention time= 215.9 min calculated for 1.023 af (48% of inflow)
Center-of-Mass det. time= 139.3 min (933.3 - 794.0)

Volume	Invert	Avail.Storage	Storage Description
#1	990.00'	137,169 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
990.00	23,977	0	0
992.00	34,194	58,171	58,171
994.00	44,804	78,998	137,169

Device	Routing	Invert	Outlet Devices
#1	Discarded	990.00'	**0.500 in/hr Exfiltration over Surface area**
#2	Primary	991.00'	**18.0" Round Culvert** L= 371.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 991.00' / 989.00' S= 0.0054 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#3	Device 2	991.25'	**10.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	993.00'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.40 cfs @ 13.76 hrs HW=992.01' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=1.55 cfs @ 13.76 hrs HW=992.01' (Free Discharge)
└**2=Culvert** (Passes 1.55 cfs of 3.76 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 1.55 cfs @ 2.97 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: trench

Inflow Area = 1.020 ac, 56.86% Impervious, Inflow Depth > 1.97" for 25-yr event
Inflow = 3.09 cfs @ 12.04 hrs, Volume= 0.167 af
Outflow = 1.32 cfs @ 12.25 hrs, Volume= 0.145 af, Atten= 57%, Lag= 12.2 min
Discarded = 0.14 cfs @ 11.50 hrs, Volume= 0.108 af
Primary = 1.19 cfs @ 12.25 hrs, Volume= 0.038 af
Routed to Reach DP1 :
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach DP1 :

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 967.61' @ 12.25 hrs Surf.Area= 3,000 sf Storage= 2,531 cf

Plug-Flow detention time= 128.0 min calculated for 0.145 af (87% of inflow)
Center-of-Mass det. time= 87.3 min (874.2 - 786.8)

Volume	Invert	Avail.Storage	Storage Description
#1	965.50'	3,000 cf	**Custom Stage Data (Prismatic)** Listed below 7,500 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
965.50	3,000	0	0
966.50	3,000	3,000	3,000
967.50	3,000	3,000	6,000
968.00	3,000	1,500	7,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	965.50'	**2.000 in/hr Exfiltration over Surface area**
#2	Secondary	968.00'	**10.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#3	Primary	964.26'	**15.0" Round Culvert** L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 964.26' / 962.00' S= 0.0269 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#4	Device 3	967.50'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.14 cfs @ 11.50 hrs HW=965.53' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=1.17 cfs @ 12.25 hrs HW=967.61' (Free Discharge)
↑—**3=Culvert** (Passes 1.17 cfs of 9.75 cfs potential flow)
↑—**4=Orifice/Grate** (Weir Controls 1.17 cfs @ 1.08 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=965.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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

Subcatchment1A: Runoff Area=0.490 ac 0.00% Impervious Runoff Depth>1.38"
Flow Length=722' Tc=18.3 min CN=61 Runoff=0.64 cfs 0.056 af

Subcatchment1B: Runoff Area=1.020 ac 56.86% Impervious Runoff Depth>3.10"
Tc=6.0 min CN=82 Runoff=4.83 cfs 0.264 af

Subcatchment1C: Runoff Area=4.590 ac 2.40% Impervious Runoff Depth>1.37"
Flow Length=1,080' Tc=24.9 min CN=61 Runoff=5.29 cfs 0.525 af

Subcatchment2A: Runoff Area=13.450 ac 55.32% Impervious Runoff Depth>3.00"
Flow Length=900' Tc=12.3 min CN=81 Runoff=48.99 cfs 3.364 af

Subcatchment2B: Runoff Area=16.710 ac 0.00% Impervious Runoff Depth>1.44"
Flow Length=1,151' Tc=31.6 min CN=62 Runoff=18.32 cfs 2.001 af

Reach DP1: Inflow=7.43 cfs 0.694 af
Outflow=7.43 cfs 0.694 af

Reach DP2: Inflow=20.86 cfs 3.615 af
Outflow=20.86 cfs 3.615 af

Pond 1P: Infiltration Basin Peak Elev=992.98' Storage=94,273 cf Inflow=48.99 cfs 3.364 af
Discarded=0.46 cfs 0.361 af Primary=3.01 cfs 1.615 af Outflow=3.47 cfs 1.976 af

Pond 2P: trench Peak Elev=967.77' Storage=2,723 cf Inflow=4.83 cfs 0.264 af
Discarded=0.14 cfs 0.116 af Primary=4.56 cfs 0.113 af Secondary=0.00 cfs 0.000 af Outflow=4.70 cfs 0.230 af

Total Runoff Area = 36.260 ac Runoff Volume = 6.209 af Average Runoff Depth = 2.05"
77.58% Pervious = 28.130 ac 22.42% Impervious = 8.130 ac

Summary for Subcatchment 1A:

Runoff = 0.64 cfs @ 12.24 hrs, Volume= 0.056 af, Depth> 1.38"
Routed to Reach DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 100-yr Rainfall=5.26"

Area (ac)	CN	Description
0.490	61	>75% Grass cover, Good, HSG B
0.490		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0750	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.28"
8.3	622	0.0322	1.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.3	722	Total			

Summary for Subcatchment 1B:

Runoff = 4.83 cfs @ 12.04 hrs, Volume= 0.264 af, Depth> 3.10"
Routed to Pond 2P : trench

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 100-yr Rainfall=5.26"

	Area (ac)	CN	Description
*	0.580	98	
	0.440	61	>75% Grass cover, Good, HSG B
	1.020	82	Weighted Average
	0.440		43.14% Pervious Area
	0.580		56.86% Impervious Area

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

Summary for Subcatchment 1C:

Runoff = 5.29 cfs @ 12.35 hrs, Volume= 0.525 af, Depth> 1.37"
Routed to Reach DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 100-yr Rainfall=5.26"

	Area (ac)	CN	Description
	4.090	60	Woods, Fair, HSG B
	0.390	61	>75% Grass cover, Good, HSG B
*	0.110	98	
	4.590	61	Weighted Average
	4.480		97.60% Pervious Area
	0.110		2.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	100	0.0650	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.28"
14.3	980	0.0520	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,080	Total			

Summary for Subcatchment 2A:

Runoff = 48.99 cfs @ 12.12 hrs, Volume= 3.364 af, Depth> 3.00"
Routed to Pond 1P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 100-yr Rainfall=5.26"

Area (ac)	CN	Description
7.440	98	Paved parking, HSG A
6.010	61	>75% Grass cover, Good, HSG B
13.450	81	Weighted Average
6.010		44.68% Pervious Area
7.440		55.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	47	0.0420	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
0.7	53	0.0400	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.28"
1.3	800	0.0216	10.58	33.25	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
12.3	900	Total			

Summary for Subcatchment 2B:

Runoff = 18.32 cfs @ 12.46 hrs, Volume= 2.001 af, Depth> 1.44"
Routed to Reach DP2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 100-yr Rainfall=5.26"

Area (ac)	CN	Description
13.030	60	Woods, Fair, HSG B
2.020	79	Woods, Fair, HSG D
1.660	61	>75% Grass cover, Good, HSG B
16.710	62	Weighted Average
16.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0500	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.28"
14.0	1,051	0.0628	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.6	1,151	Total			

Summary for Reach DP1:

Inflow Area = 6.100 ac, 11.31% Impervious, Inflow Depth > 1.37" for 100-yr event
Inflow = 7.43 cfs @ 12.30 hrs, Volume= 0.694 af
Outflow = 7.43 cfs @ 12.30 hrs, Volume= 0.694 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DP2:

Inflow Area = 30.160 ac, 24.67% Impervious, Inflow Depth > 1.44" for 100-yr event
Inflow = 20.86 cfs @ 12.47 hrs, Volume= 3.615 af
Outflow = 20.86 cfs @ 12.47 hrs, Volume= 3.615 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Infiltration Basin

Inflow Area = 13.450 ac, 55.32% Impervious, Inflow Depth > 3.00" for 100-yr event
Inflow = 48.99 cfs @ 12.12 hrs, Volume= 3.364 af
Outflow = 3.47 cfs @ 13.34 hrs, Volume= 1.976 af, Atten= 93%, Lag= 73.1 min
Discarded = 0.46 cfs @ 13.34 hrs, Volume= 0.361 af
Primary = 3.01 cfs @ 13.34 hrs, Volume= 1.615 af
Routed to Reach DP2 :

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 992.98' @ 13.34 hrs Surf.Area= 39,399 sf Storage= 94,273 cf

Plug-Flow detention time= 220.2 min calculated for 1.976 af (59% of inflow)
Center-of-Mass det. time= 153.6 min (936.0 - 782.3)

Volume	Invert	Avail.Storage	Storage Description
#1	990.00'	137,169 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
990.00	23,977	0	0
992.00	34,194	58,171	58,171
994.00	44,804	78,998	137,169

Device	Routing	Invert	Outlet Devices
#1	Discarded	990.00'	**0.500 in/hr Exfiltration over Surface area**
#2	Primary	991.00'	**18.0" Round Culvert** L= 371.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 991.00' / 989.00' S= 0.0054 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#3	Device 2	991.25'	**10.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	993.00'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.46 cfs @ 13.34 hrs HW=992.98' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.46 cfs)

Primary OutFlow Max=3.01 cfs @ 13.34 hrs HW=992.98' (Free Discharge)
└**2=Culvert** (Passes 3.01 cfs of 8.04 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 3.01 cfs @ 5.52 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: trench

Inflow Area = 1.020 ac, 56.86% Impervious, Inflow Depth > 3.10" for 100-yr event
Inflow = 4.83 cfs @ 12.04 hrs, Volume= 0.264 af
Outflow = 4.70 cfs @ 12.10 hrs, Volume= 0.230 af, Atten= 3%, Lag= 3.5 min
Discarded = 0.14 cfs @ 11.10 hrs, Volume= 0.116 af
Primary = 4.56 cfs @ 12.10 hrs, Volume= 0.113 af
Routed to Reach DP1 :
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach DP1 :

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 967.77' @ 12.10 hrs Surf.Area= 3,000 sf Storage= 2,723 cf

Plug-Flow detention time= 83.7 min calculated for 0.229 af (87% of inflow)
Center-of-Mass det. time= 44.9 min (820.2 - 775.3)

Volume	Invert	Avail.Storage	Storage Description
#1	965.50'	3,000 cf	**Custom Stage Data (Prismatic)** Listed below 7,500 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
965.50	3,000	0	0
966.50	3,000	3,000	3,000
967.50	3,000	3,000	6,000
968.00	3,000	1,500	7,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	965.50'	**2.000 in/hr Exfiltration over Surface area**
#2	Secondary	968.00'	**10.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#3	Primary	964.26'	**15.0" Round Culvert** L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 964.26' / 962.00' S= 0.0269 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#4	Device 3	967.50'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.14 cfs @ 11.10 hrs HW=965.53' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=4.49 cfs @ 12.10 hrs HW=967.77' (Free Discharge)
↑—**3=Culvert** (Passes 4.49 cfs of 10.03 cfs potential flow)
↑—**4=Orifice/Grate** (Weir Controls 4.49 cfs @ 1.69 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=965.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Appendix D

Calculations – Storm Management, Green Infrastructure, Pipe Sizing

Steps 3 and 5 - Apply RR Techniques and Standard SMPs

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					
Project Title	**Essex BOCES**		*Enter 90% Rainfall Event as P*					
P=	1.05	inches						
Calculate Required WQv								
	Contributing Area (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**SMP Description**		
Project Area Total	16.04	8.02	50.00	0.50	30,568			
SMP Practice								
1	13.45	7.44	55	0.55	28,085	Infiltration Basin		
2	1.02	0.58	57	0.56	2,184	Infiltration Trench		
3	1.91	0.00	0	0.05	0	Conservation of Natural Areas		
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
Sum of Practices	16.38	8.02	49	0.49	30,633			
Total	16.04	8.02	50	0.500	**30568**	**Required WQv**	**0.702**	**af**

Steps 3 and 5 - Apply RR Techniques and Standard SMPs

Enter the Soils Data for the site						
Hydrologic Soil Group	Acres	S				
A		55%				
B	15.69	40%				
C		30%				
D		20%				
Total Area	15.69					
Calculate the Minimum RRv						
S =	**0.40**					
Impervious =	8.02	*acres*				
Precipitation	1.05	*inches*				
Rv	0.95					
Minimum RRv	**0.267**	***af***				
	11631	cf				

Steps 3 and 5 - Apply RR Techniques and Standard SMPs

Design Point:	**Essex BOCES**	**Drainage Area Number**	3				
Design Criteria							
Does the conservation area proposed have a minimum contiguous area of 10,000						Yes	
Is the conservation area permanently protected through establishment of a legal conservation easement?						Yes	
Does the conservation area receive runoff from existing or new impervious areas?						No	
Is Sheet Flow to Riparian Buffer or another area based practice already being used for this area?						No	
Sizing Criteria							
	Contributing Area (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	
Required WQv	16.04	8.02	50	0.50	30,568	1.05	
Subtract Area Conserved	1.91						
Area Reduction WQv	14.13	8.02		0.50	26,928	1.05	
Area Reduction Adjustments							
RRv Provided	**3,640**	**cf**					

Infiltration Trench (I-1)

Design Point:	Essex BOCES

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**
2	1.02	0.58	57	0.56	2,184	1.05	Infiltration Trench

Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	6	
Is the contributing area to the practice an "Infiltration Restricted" stormwater hotspot?	No	
Is the contributing area to the practice an "Infiltration Prohibited" stormwater hotspot?	No	
Is the contributing area greater than 5 acres?	No	
Enter depth to seasonal high water table (ft)	10	
Enter depth to bedrock (ft)	10	
Enter pretreatment volume provided (cf)	1518	
Enter depth of pea gravel (inches)	6	
Enter depth of stone reservoir (ft)	3.5	
Is an observation well provided?	Yes	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	2184	cf	
Porosity	n	0.40		
Stone Reservoir Depth	dt	3.5	ft	
Required Surface Area	At	1,560.00	sf	
Enter Surface Area Provided	At	2975	sf	

Determine Runoff Reduction		
RRv Provided	**2,184**	***cf***

Infiltration Basin (I-2)

Design Point:	Essex BOCES

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	13.45	7.44	55	0.55	28,085	1.05	Infiltration Basin

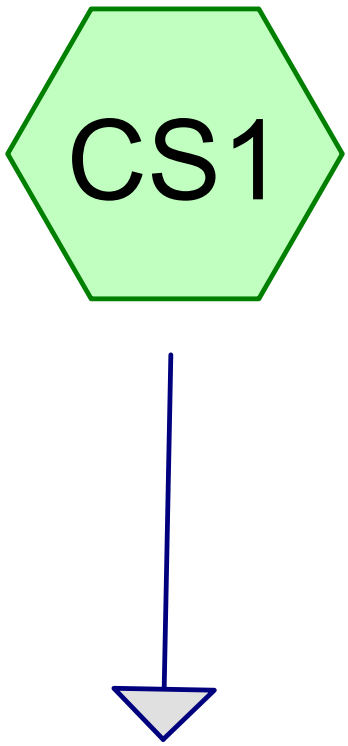
Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	2	
Is the contributing area to the practice an "Infiltration Restricted" stormwater hotspot?	No	
Is the contributing area to the practice an "Infiltration Prohibited" stormwater hotspot?	No	
Maximum contributing impervious area (acres)	10	
Is the contributing area greater than the maximum allowed contributing area?	No	
Enter depth to seasonal high water table (ft)	5	
Enter depth to bedrock (ft)	7	
Enter pretreatment volume provided (cf)	28334	
Enter depth of freeboard (ft)	1.04	
Enter depth of basin (ft)	4.5	
Enter slope of maintenance access (%)	2	
Enter width of maintenance access (ft)	12	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	28085	cf	
Basin depth	db	4.5	ft	
Required Surface Area	Ab	6,241	sf	
Enter Surface Area Provided	Ab	8658	sf	

Determine Runoff Reduction		
RRv Provided	**28,085**	***cf***

Steps 3 and 5 - Apply RR Techniques and Standard SMPs

Runoff Reduction Volume and Treated Volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**(cf)**	**(cf)**
RR Techniques	Conservation of Natural Areas	RR-1	1.91		3,640	
	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	1.02	0.58	2,184	0
	Infiltration Basin	I-2	13.45	7.44	28,085	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	0.00	0.00	0	0
	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	→	1.91	0.00	3,640	
	Totals by Standard SMP w/RRV	→	14.47	8.02	30,269	0
	Totals by Standard SMP	→	0.00	0.00		0
	Totals by Alternative SMP	→	0.00	0.00		0
	Totals (RR Techniques + all SMPs)	→	16.38	8.02	33,909	0



(new Reach)

Subcat Reach Pond Link

Routing Diagram for CS Sizing
Prepared by Lansing Engineering PC, Printed 3/16/2026

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	90% WQv	NY-Essex 24-hr S1	1-yr	Default	24.00	1	1.05	2

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

SubcatchmentCS1: Runoff Area=10.140 ac 72.58% Impervious Runoff Depth>0.25"
Tc=12.3 min CN=88 Runoff=2.72 cfs 0.210 af

Reach 1R: (new Reach) Inflow=2.72 cfs 0.210 af
Outflow=2.72 cfs 0.210 af

Total Runoff Area = 10.140 ac Runoff Volume = 0.210 af Average Runoff Depth = 0.25"
27.42% Pervious = 2.780 ac 72.58% Impervious = 7.360 ac

Summary for Subcatchment CS1:

Runoff = 2.72 cfs @ 12.14 hrs, Volume= 0.210 af, Depth> 0.25"
Routed to Reach 1R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Essex 24-hr S1 1-yr 90% WQv Rainfall=1.05"

Area (ac)	CN	Description
7.360	98	Paved parking, HSG B
2.780	61	>75% Grass cover, Good, HSG B
10.140	88	Weighted Average
2.780		27.42% Pervious Area
7.360		72.58% Impervious Area

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

Summary for Reach 1R: (new Reach)

Inflow Area = 10.140 ac, 72.58% Impervious, Inflow Depth > 0.25" for 90% WQv event
Inflow = 2.72 cfs @ 12.14 hrs, Volume= 0.210 af
Outflow = 2.72 cfs @ 12.14 hrs, Volume= 0.210 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Appendix E

Grading/Drainage/Sediment, Erosion Control, and Landscaping Plan

LEGEND

EXISTING FEATURES		PROPOSED FEATURES
	FIRE HYDRANT	
	GATE VALVE	
W	WATER LINE	W
SAN	SANITARY LINE	
CB	CATCH BASIN FRAME/GRATE	CB
	STORM/SANITARY MANHOLE FRAME/SOLID COVER	DMH
ST	STORM WATER LINE	
	PROPERTY LINE	
	EASEMENT LINE	
	SWPPP GRADING LINE	

APPROXIMATE LOCATION AND DIRECTION OF SIGN

TRAFFIC CONTROL DEVICE SCHEDULE

PLAN NO.	DESCRIPTION	QTY.
1	R1-1 "STOP" SIGN 30"X30"	6
2	R5-1 "DO NOT ENTER" SIGN	4
3	R7-1 "NO PARKING" SIGN	5
4	R7-8 "RESERVED PARKING" SIGN W/ R7-8A "VAN ACCESSIBLE" SIGN	7
5	R6-2L "ONE WAY" SIGN "LEFT"	2
6	R6-2R "ONE WAY" SIGN "RIGHT"	2
7	R3-2 "NO LEFT TURN" SIGN	1
8	R2-1 "SPEED LIMIT 30" SIGN	2
9	STREET IDENTIFICATION SIGN	1
10	STORMWATER MANAGEMENT FACILITY NOTIFICATION SIGN	1

NO. 30 CHAMPLAIN DRIVE
LANDS N/F OF
LORI A. FULLER
DEED BOOK 480, PAGE 463
TAX ID. NO. 96.27-6-9

NO. 26 CHAMPLAIN DRIVE
LANDS N/F OF
JAMES & CHRISTINA M St DENIS
DEED BOOK 2092, PAGE 180
TAX ID. NO. 96.27-6-8

NO. 46 CHAMPLAIN DRIVE
LANDS N/F OF
RAYMOND L. & TRACY M. BRIGGS
DEED BOOK 2185, PAGE 74
TAX ID. NO. 96.28-3-17

NO. 36 CHAMPLAIN DRIVE
LANDS N/F OF
MICHAEL & ROXANNE STODDARD
DEED BOOK 2173, PAGE 96
TAX ID. NO. 96.28-3-16.001

NO. 52 CHAMPLAIN DRIVE
LANDS N/F OF
WILLIAM F. & MAUREEN I. ARMSTRONG
DEED BOOK 1680, PAGE 142
TAX ID. NO. 96.28-3-14.003

NO. 58 CHAMPLAIN DRIVE
LANDS N/F OF
GERALD GRIMES
DEED BOOK 1686, PAGE 83
TAX ID. NO. 96.28-3-13

NO. 60 CHAMPLAIN DRIVE
LANDS N/F OF
EDWARD E. CARPENTER JR. & DENISE L. CARPENTER
DEED BOOK 1210, PAGE 75
TAX ID. NO. 96.28-3-12

DEPEW
DEED BOOK 1142, PAGE 134
TAX ID. NO. 96.28-3-10

2984 PLANK ROAD
LANDS N/F OF
GEORGE T. & DEBRA J. CELOTTI
DEED BOOK 1376, PAGE 300
TAX ID. NO. 96.2-1-24

PROPOSED O&M GARAGE
PROPOSED TREELINE (TYP.)
PROPOSED DUMPSTER ENCLOSURE (TYP.)
PROPOSED STRUCTURES
EXISTING TREELINE (TYP.)
PROPOSED CROSSWALK (TYP.)
PROPOSED 2' WIDE ASPHALT WINGEDGE
PROPOSED ASPHALT STRIPING (TYP.)
PROPOSED 30,000 GALLON LIQUID PROPANE TANK
PROPOSED PLAYGROUND, FURNITURE, & AMENITIES BY OTHERS (TYP.)
PROPOSED 4' CHAIN LINK FENCE (TYP.)
PROPOSED INTEGRATED CURB AND SIDEWALK (TYP.)
PROPOSED PAVILION (TYP.)
PROPOSED ADA ACCESSIBLE PARKING SPACES (TYP.)
PROPOSED 4' CHAIN LINK FENCE (TYP.)
PROPOSED MULTI-USE TRAIL (TYP.)
PROPOSED HALF BASKETBALL COURT, PLAYGROUND, FURNITURE, AND ASSOCIATED AMENITIES BY OTHERS (TYP.)
LIGHT POLE W/ BASE (TYP.)
METAL BEAM GUIDERAIL (TYP.)

CAREER AND TECHNICAL EDUCATION FACILITY/RISE CENTER
107,600 SF FOOTPRINT
FFE=1011.00

ROAD A
PLANK ROAD
SCH. B ITEM NO. 6
20' WIDE RIGHT OF WAY

MH
RIM=979.82
INV.IN 8"CLAY=973.87
INV.OUT 8"CLAY=973.72

2962 PLANK ROAD
LANDS N/F OF
THOMAS R. MARCIL & BUFFY M. MARCIL
DEED BOOK 1408, PAGE 90
TAX ID. NO. 96.2-1-26.12

PLANK ROAD
LANDS N/F OF
THOMAS MARCIL JR
DEED BOOK 2117, PAGE 55
TAX ID. NO. 96.2-1-26.113

2944 PLANK ROAD
LANDS N/F OF
BAILEY MARCIL & GAVIN FLEURY
DEED BOOK 2117, PAGE 51
TAX ID. NO. 96.2-1-26.112

LAYOUT & MATERIALS PLAN

0 25 50 100 200
SCALE: 1"=50'

ESSEX BOCES FACILITY
PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK

DATE | REVISIONS RECORD/DESCRIPTION

PRELIMINARY / NOT FOR CONSTRUCTION

CIVIL TRANSPORTATION ENVIRONMENTAL LANDSURVEYING

LANSING ENGINEERING
8452 STATE ROUTE 9 SUITE 301
LAKE LUZERNE, NY 12846
(518) 696-5543

LAYOUT & MATERIALS

PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 02/25/2026

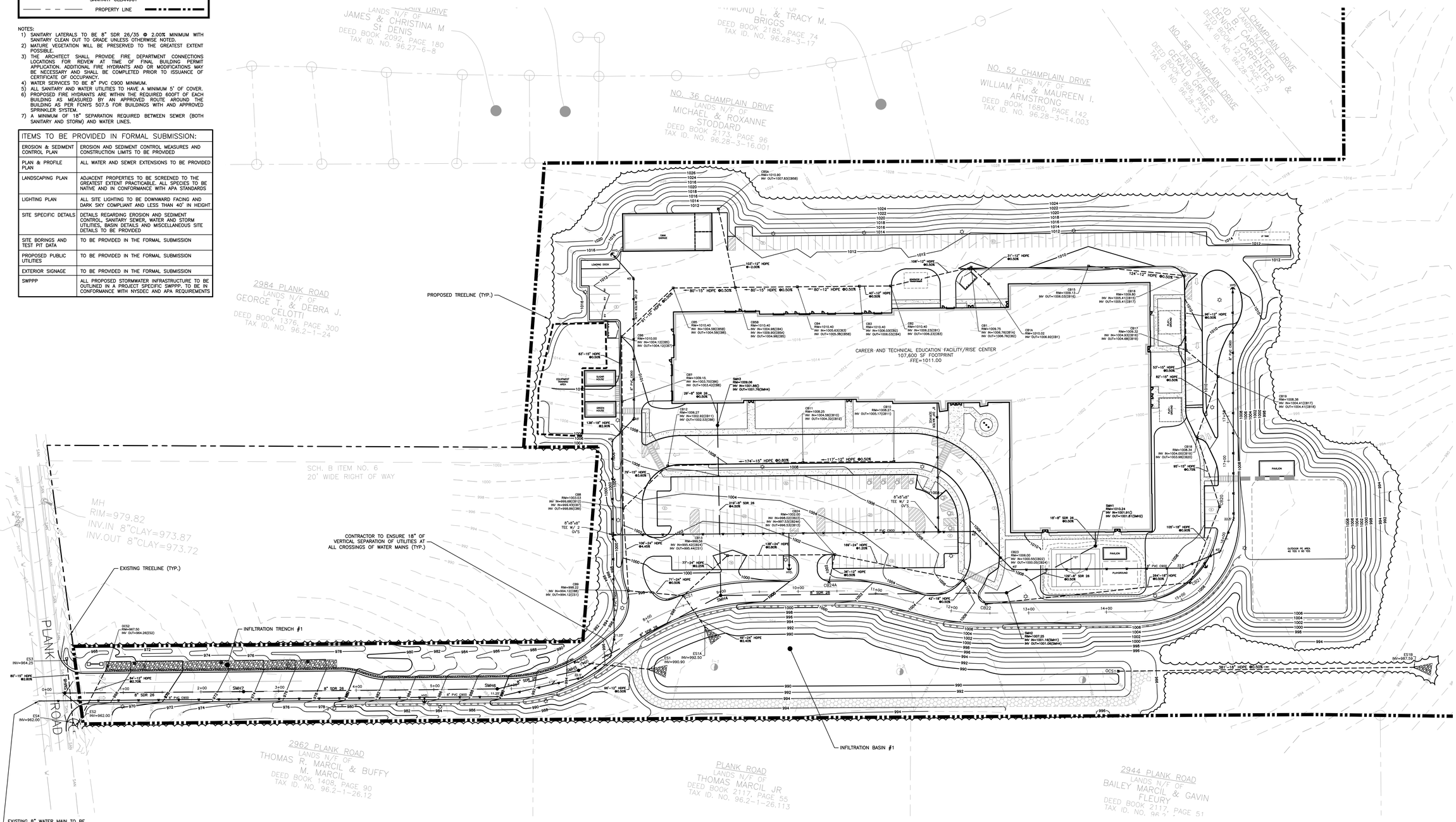
LM-1
SHEET 4 OF 20

LEGEND

EXISTING FEATURES		PROPOSED FEATURES
	FIRE HYDRANT	
	WATER LINE	
	CATCH BASIN FRAME/GRATE	CB
	STORM MANHOLE FRAME/SOLID COVER	DMH
	STORM WATER LINE	
	SANITARY GRAVITY LINE	
	SANITARY FORCEMAIN	
	SANITARY STRUCTURE	
	GRINDER PUMP	GP
	SANITARY CLEANOUT	CO
	PROPERTY LINE	

NOTES:
1) SANITARY LATERALS TO BE 8" SDR 26/35 @ 2.00% MINIMUM WITH SANITARY CLEAN OUT TO GRADE UNLESS OTHERWISE NOTED.
2) MATURE VEGETATION WILL BE PRESERVED TO THE GREATEST EXTENT POSSIBLE.
3) THE ARCHITECT SHALL PROVIDE FIRE DEPARTMENT CONNECTIONS LOCATIONS FOR REVIEW AT TIME OF FINAL BUILDING PERMIT APPLICATION. ADDITIONAL FIRE HYDRANTS AND OR MODIFICATIONS MAY BE NECESSARY AND SHALL BE COMPLETED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
4) WATER SERVICES TO BE 8" PVC C900 MINIMUM.
5) ALL SANITARY AND WATER UTILITIES TO HAVE A MINIMUM 5' OF COVER.
6) PROPOSED FIRE HYDRANTS ARE WITHIN THE REQUIRED 600FT OF EACH BUILDING AS MEASURED BY AN APPROVED ROUTE AROUND THE BUILDING AS PER FCNYS 507.5 FOR BUILDINGS WITH AND APPROVED SPRINKLER SYSTEM.
7) A MINIMUM OF 18" SEPARATION REQUIRED BETWEEN SEWER (BOTH SANITARY AND STORM) AND WATER LINES.

ITEMS TO BE PROVIDED IN FORMAL SUBMISSION:	
EROSION & SEDIMENT CONTROL PLAN	EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS TO BE PROVIDED
PLAN & PROFILE PLAN	ALL WATER AND SEWER EXTENSIONS TO BE PROVIDED
LANDSCAPING PLAN	ADJACENT PROPERTIES TO BE SCREENED TO THE GREATEST EXTENT PRACTICABLE. ALL SPECIES TO BE NATIVE AND IN CONFORMANCE WITH APA STANDARDS
LIGHTING PLAN	ALL SITE LIGHTING TO BE DOWNWARD FACING AND DARK SKY COMPLIANT AND LESS THAN 40' IN HEIGHT
SITE SPECIFIC DETAILS	DETAILS REGARDING EROSION AND SEDIMENT CONTROL, SANITARY SEWER, WATER AND STORM UTILITIES, BASIN DETAILS AND MISCELLANEOUS SITE DETAILS TO BE PROVIDED
SITE BORINGS AND TEST PIT DATA	TO BE PROVIDED IN THE FORMAL SUBMISSION
PROPOSED PUBLIC UTILITIES	TO BE PROVIDED IN THE FORMAL SUBMISSION
EXTERIOR SIGNAGE	TO BE PROVIDED IN THE FORMAL SUBMISSION
SWPPP	ALL PROPOSED STORMWATER INFRASTRUCTURE TO BE OUTLINED IN A PROJECT SPECIFIC SWPPP. TO BE IN CONFORMANCE WITH NYSDEC AND APA REQUIREMENTS



UTILITIES & GRADING PLAN

0 25 50 100 200
SCALE: 1"=50'

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ESSEX BOCES FACILITY
PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK

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CIVIL · TRANSPORTATION · ENVIRONMENTAL · LAND SURVEYING

LANSING ENGINEERING
8452 STATE ROUTE 9 SUITE 301
LEWIS, NY 12950
(518) 888-8243

UTILITIES & GRADING

PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 02/25/2026

UG-1
SHEET 5 OF 20

NO. 30 CHAMPLAIN DRIVE
LANDS N/F OF
LORI A. FULLER
DEED BOOK 480, PAGE 463
TAX ID. NO. 96.27-6-9

NO. 26 CHAMPLAIN DRIVE
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NO. 36 CHAMPLAIN DRIVE
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TAX ID. NO. 96.28-3-16.001

NO. 52 CHAMPLAIN DRIVE
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2984 PLANK ROAD
LANDS N/F OF
RGE T. & DEBRA J. CELOTTI
BOOK 1376, PAGE 300
ID. NO. 96.2-1-24

NO. 2978 PLANK RD.
LANDS OF
AARON F. TUR
DEED BOOK 2077, PAGE 22
TAX ID. NO. 96.2-1-25
AREA BEFORE LLA = 5.48± ACRES
AREA AFTER LLA = 4.00± ACRES

PLANK RD.
LANDS OF
AARON F. TUR
DEED BOOK 2077, PAGE 26
TAX ID. NO. 96.2-1-23.1
AREA BEFORE LLA = 37.27± ACRES
AREA AFTER LLA = 38.75± ACRES

2962 PLANK ROAD
LANDS N/F OF
THOMAS R. MARCIL & BUFFY M. MARCIL
DEED BOOK 1408, PAGE 90
TAX ID. NO. 96.2-1-26.12

PLANK ROAD
LANDS N/F OF
THOMAS MARCIL JR
DEED BOOK 2117, PAGE 55
TAX ID. NO. 96.2-1-26.113

2944 PLANK ROAD
LANDS N/F OF
BAILEY MARCIL & GAVIN FLEURY
DEED BOOK 2117, PAGE 51
TAX ID. NO. 96.2-1-26.112

SCH. B ITEM NO. 6
20' WIDE RIGHT OF WAY

MH
RIM=979.82
INV.IN 8"CLAY=973.87
INV.OUT 8"CLAY=973.72

BENCHMARK SET
NAIL IN PP 75
ELEV. = 969.97

CAREER AND TECHNICAL EDUCATION FACILITY/RISE CENTER
107,600 SF FOOTPRINT
FFE=1011.00

PAVILION
PLAYGROUND
OUTDOOR PE AREA
60' YDS x 80' YDS

WOODS

PLANK ROAD

SPOT GRADING PLAN

0 25 50 100 200
SCALE: 1"=50'

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ESSEX BOCES FACILITY
PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK

DATE	REVISIONS RECORD/DESCRIPTION

PRELIMINARY / NOT FOR CONSTRUCTION

CIVIL TRANSPORTATION ENVIRONMENTAL LAND SURVEYING

LANSING ENGINEERING
8452 STATE ROUTE 9 SUITE 301
ANSONIA, NY 12901
(518) 569-5543

SPOT GRADING

PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 02/25/2026

SG-1
SHEET 6 OF 20

TABLE 5.3 SOIL RESTORATION REQUIREMENTS*

TYPE OF SOIL DISTURBANCE	SOIL RESTORATION REQUIREMENT	COMMENTS/ EXAMPLES
NO SOIL DISTURBANCE	RESTORATION NOT PERMITTED	PRESERVATION OF NATURAL FEATURES
MINIMAL SOIL DISTURBANCE	RESTORATION NOT PERMITTED	CLEARING AND GRUBBING
AREAS WHERE TOPSOIL IS STRIPPED ONLY – NO CHANGE IN GRADE	HSG A&B APPLY 6 INCHES OF TOPSOIL	PROTECT AREA FROM ANY ONGOING CONSTRUCTION ACTIVITIES
AREAS OF CUT OR FILL	HSG A&B AERATE AND APPLY 6 INCHES OF TOPSOIL	
HEAVY TRAFFIC AREAS ON SITE (ESPECIALLY IN A ZONE 5–25 FEET AROUND BUILDINGS BUT NOT WITHIN A 5 FOOT PERIMETER AROUND FOUNDATION WALLS)	APPLY FULL SOIL RESTORATION (DE–COMPACTION AND COMPOST ENHANCEMENT)	
AREAS WHERE RUNOFF REDUCTION AND/OR INFILTRATION PRACTICES ARE APPLIED	RESTORATION NOT REQUIRED, BUT MAY BE APPLIED TO ENHANCE THE REDUCTION SPECIFIED FOR APPROPRIATE PRACTICES	KEEP CONSTRUCTION EQUIPMENT FROM CROSSING THESE AREAS. TO PROTECT NEWLY INSTALLED PRACTICE FROM ANY ONGOING CONSTRUCTION ACTIVITIES, CONSTRUCT A SINGLE PHASE OPERATION FENCE AREA
REDEVELOPMENT PROJECTS	SOIL RESTORATION IS REQUIRED ON REDEVELOPMENT PROJECTS IN ARES WHERE EXISTING IMPERVIOUS AREA WILL BE CONVERTED TO PERVIOUS AREA	

*** TAKEN FROM PAGE 5–12 OF NEW YORK STATE STORMWATER DESIGN MANUAL (JULY, 2024)**
**** AERATION INCLUDES THE USE OF MACHINES SUCH AS TRACTOR–DRAWN IMPLEMENTS WITH COULTERS MAKING A NARROW SLIT IN THE SOIL, A ROLLER WITH MANY SPIKES MAKING INDENTATIONS IN THE SOIL, OR PRONGS WHICH FUNCTION LIKE A MINI–SUBSOILER.**
***** PER "DEEP RIPPING AND DE–COMPACTION, DEC 2008". A COPY IS INCLUDED WITHIN THE APPROVED SWPPP**

RECOMMENDED SOIL EROSION AND SEDIMENT CONTROL MEASURES

MEASURES SHOWN ARE TO DEFINE INTENT. ACTUAL MEASURES WILL BE IMPLEMENTED AS SITE CONDITIONS WARRANT BY THE CONTRACTOR. CONTRACTOR SHALL PROVIDE ALL NEEDED CONTROL MEASURES TO PREVENT SOIL EROSION.

GENERAL MEASURES:

1. DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE.
2. INSOFAR AS PRACTICABLE, EXISTING VEGETATION SHALL BE PRESERVED. FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
3. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE AREA AND DURATION OF SOIL DISRUPTION.
4. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED.

PARTICULAR MEASURES:

1. IMMEDIATELY FOLLOWING COMPLETION OF ANY AND ALL OF THE PROPOSED STORM DRAIN INLETS, STORM DRAIN INLET PROTECTION SHALL BE CONSTRUCTED.
2. DRAINAGE DITCH SEDIMENT FILTERS: UNTIL SUCH TIME AS FINAL SITE STABILIZATION IS COMPLETED, DITCHES SHALL RECEIVE TREATMENT WITH STONE CHECK DAMS SO AS TO EFFECTIVELY TRAP SEDIMENT AND MINIMIZE ITS RELEASE OFF–SITE. STONE CHECK DAMS SHALL BE CONSTRUCTED WITHIN EACH DITCH BEGINNING AT ITS DOWNSTREAM TERMINUS AND SHOULD NOT BE PLACED AT INTERVALS EXCEEDING 20 FEET.
3. TOPSOIL AND FILL THAT IS TO REMAIN STOCKPILED ON–SITE FOR PERIODS GREATER THAN 14–DAYS SHALL BE STABILIZED BY SEEDING AND MULCHING. PROVIDE SILT FENCE EROSION CONTROL DOWNGRADIENT OF SOIL STOCKPILE AREA.
4. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FEET OF ANY DITCH, STREAM, OR OTHER SURFACE WATER BODY.
5. PERMANENT VEGETATIVE COVER: IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
6. ALL HEALTHY TREES OF DESIRABLE SPECIES ARE TO BE PROTECTED FROM DAMAGE. ALL UNNECESSARY REMOVAL OF HEALTHY TREES SHALL BE AVOIDED.
7. THE CONTRACTOR IS TO ADHERE TO ALL REQUIREMENTS SET FORTH IN THE SWPPP.
8. WETLAND PROTECTION FENCE SHALL BE INSTALLED ALONG THE PERIMETER OF WETLANDS PRIOR TO THE START OF CONSTRUCTION.

MAINTENANCE OF EROSION CONTROL MEASURES

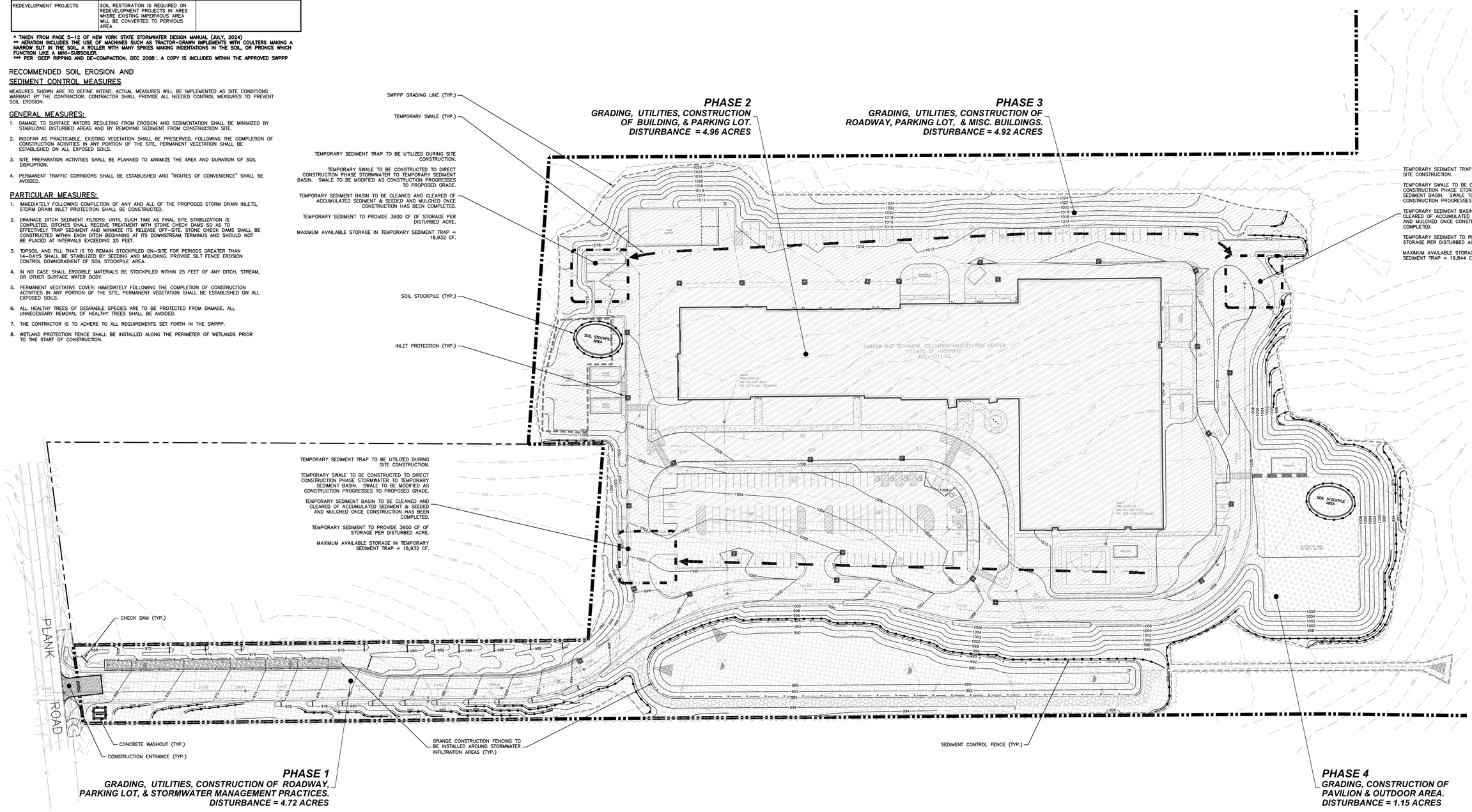
THE DEVELOPER/CONTRACTOR OR THEIR BUILDER SHALL INSPECT AND MAINTAIN THE INTEGRITY AND FUNCTION OF ALL TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE DEVELOPMENT PROCESS. TO ASSURE PROPER FUNCTION, SILTATION BARRIERS SHALL BE MAINTAINED IN GOOD CONDITION AND REINFORCED, EXTENDED, REPAIRED OR REPLACED AS NECESSARY. WASHOUTS SHALL BE IMMEDIATELY REPAIRED, RE–SEEDED AND PROTECTED FROM FURTHER EROSION. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AND CONTAINED IN APPROPRIATE SPOIL AREAS. WATER SHALL BE APPLIED TO NEWLY SEEDED AREAS AS NEEDED UNTIL GRASS COVER IS WELL ESTABLISHED. TO EFFECTIVELY CONTROL WIND EROSION, WATER SHALL BE APPLIED TO ALL EXPOSED SOILS AS NECESSARY UNTIL GROUND COVER IS PERMANENTLY ESTABLISHED.

NOTE:

1. CONTRACTOR TO STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE WITH SEED AND MULCH AS SOON AS WORK IS COMPLETED.
2. THIS PLAN INTENDS TO DISTURB APPROXIMATELY 17.14 ACRES IN TOTAL. MORE THAT 5 ACRES WILL BE REQUIRED TO BE DISTURBED AT ONE TIME DUE TO SITE GRADING AND EXISTING TOPOGRAPHY. AS SUCH, A GREATER THAN 5 ACRE DISTURBANCE PERMIT MUST BE APPLIED FOR IN ORDER TO COMPLETE THE ROUGH GRADING OF THE SITE. CONTRACTOR SHALL IMMEDIATELY STABILIZE AREAS THAT HAVE BEEN BROUGHT TO ROUGH GRADE AS CONSTRUCTION PROGRESSES IN ORDER TO LIMIT THE AMOUNT OF DISTURBED SOILS AS MUCH AS POSSIBLE.

PHASE 1 = 4.72 AC. DISTURBANCE
PHASE 2 = 4.96 AC. DISTURBANCE
PHASE 3 = 4.92 AC. DISTURBANCE
PHASE 4 = 1.15 AC. DISTURBANCE

LEGEND
- SILT FENCE
- INLET PROTECTION
- CHECK DAM
- TEMPORARY SWALE
- SOIL BOUNDARY



EROSION & SEDIMENT CONTROL PLAN

0 25 50 100 200
SCALE: 1"=50'

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ESSEX BOCES FACILITY
PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK
DATE REVISIONS RECORD/DESCRIPTION

PRELIMINARY / NOT FOR CONSTRUCTION

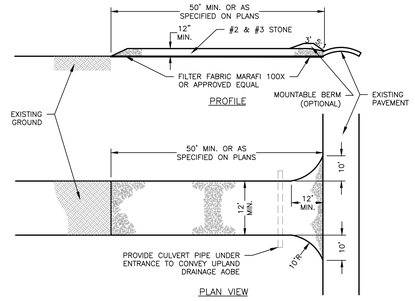
CIVIL–TRANSPORTATION–ENVIRONMENTAL–LAND SURVEYING

LANSING ENGINEERING
24158 STATE ROUTE 8 SUITE 301
WATERTOWN, NY 13601
(315) 858-5243

EROSION & SEDIMENT CONTROL

PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 02/25/2026

ESC–1
SHEET 7 OF 20



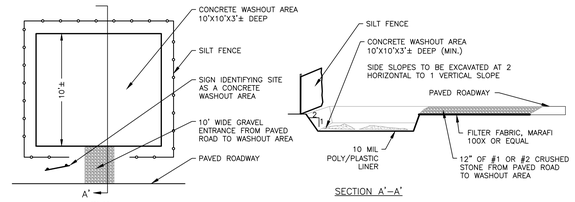
CONTRACTOR SHALL REMOVE MATERIALS AND RESTORE ENTRANCE AREA, ESTABLISHING VEGETATIVE COVER.

NOTE:

1. STONE SIZE – USE MIXTURE OF #2 & #3 STONE (1–4 INCHES), OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN FIFTY (50) FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A THIRTY (30) FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN TWELVE (12) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY–FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

1 STABILIZED CONSTRUCTION ENTRANCE

SCALE: NTS



CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

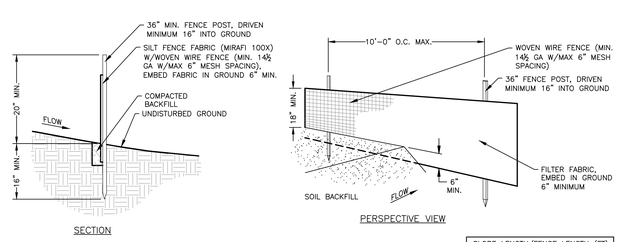
1. CONCRETE WASHOUT LOCATION SHALL BE A MINIMUM OF 100' FROM SENSITIVE AREAS.
2. THE BASIN DIMENSIONS DEPICTED ABOVE ARE REQUIRED MINIMUMS. CONCRETE WASHOUT FACILITY SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. (APPROX. 60 GAL. OF WATER/WASTE PER TRUCK)
3. PLASTIC LINING MATERIAL SHALL BE 10 MIL(MINIMUM) POLY SHEETING AND BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. LINER TO BE ANCHORED BEYOND THE TOP OF THE PIT WITH AN EARTHEN BERM, SAND BAGS, OR STONE.
4. WASHOUT FACILITY MUST BE CLEANED OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.

MAINTENANCE AND CLEANING

1. DO NOT DISCHARGE LIQUID OR SLURRY TO WATERWAYS, STORM DRAINS OR DIRECTLY ONTO GROUND.
2. DO NOT USE SANITARY SEWER WITHOUT LOCAL APPROVAL.
3. PLACE A SECURE NON–COLLAPSING, NON–WATER COLLECTING COVER OVER THE FACILITY PRIOR TO PREDICTED WET WEATHER TO PREVENT ACCUMULATION AND OVERFLOW.
4. REMOVE AND DISPOSE OF HARDENED CONCRETE AND RETURN THE STRUCTURE TO A FUNCTIONAL STATE.
5. INSPECT THE WASHOUT FACILITY FOR SIGNS OF WEAKENING OR DAMAGE AND REPAIR AS NECESSARY (RE–LINE THE STRUCTURE WITH NEW POLY SHEETING AFTER EACH CLEANING).

2 CONCRETE WASHOUT AREA

SCALE: NTS



CONSTRUCTION SPECIFICATIONS

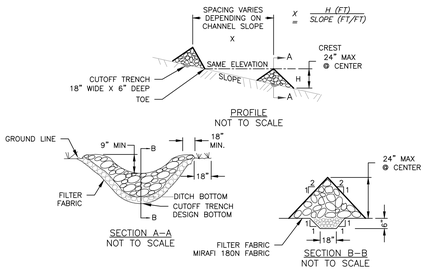
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12½ GA, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER–LAPPED BY (6) INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SLOPE	STEEPNESS	SLOPE LENGTH/FENCE LENGTH (FT) STANDARD	REINFORCED	SUPER
<2%	<50:1	300/1500	N/A	N/A
2–10%	50:1 TO 10:1	125/1000	250/2000	300/2500
10–20%	10:1 TO 5:1	100/750	150/1000	200/1000
20–33%	5:1 TO 3:1	60/500	80/750	100/1000
33–50%	3:1 TO 2:1	40/250	70/350	100/500
>50%	>2:1	20/125	30/175	50/250

STANDARD SILT FENCE (SF) IS FABRIC ROLLS STAPLED TO WOODEN STAKES DRIVEN 16" IN THE GROUND.
REINFORCED SILT FENCE (RSF) IS FABRIC PLACED AGAINST WELDED WIRE FABRIC WITH ANCHORED STEEL POSTS DRIVEN 16" IN THE GROUND.
SUPER SILT FENCE (SSF) IS FABRIC PLACED AGAINST CHAIN LINK FENCE AS SUPPORT BACKING WITH POSTS DRIVEN 3' IN THE GROUND.

3 SEDIMENT CONTROL FENCE

SCALE: NTS

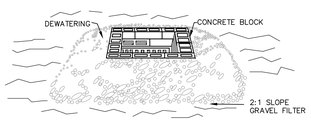


CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE. MAXIMUM DRAINAGE AREA TWO (2) ACRES.

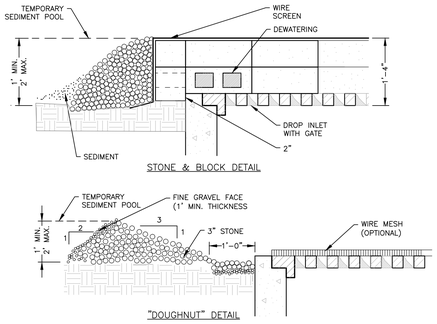
4 STONE CHECK DAM DETAIL

SCALE: NTS



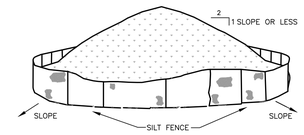
CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2" MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL ½"– ¾"ø PLACED 2" BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1' THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3" STONE AS SHOWN ON THE DRAWINGS.
5. MAXIMUM DRAINAGE AREA 1 ACRE.

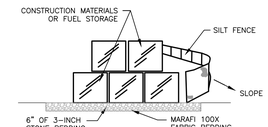


5 STONE AND BLOCK DROP INLET PROTECTION

SCALE: NTS



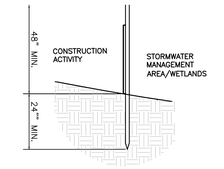
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. SILT FENCING SHALL BE PLACED 5' DOWNSLOPE OF EACH PILE. UPON COMPLETION OF SOIL STOCKPILING, TOPSOIL SHALL BE STABILIZED WITH SEED AND MULCH IF NOT TO BE DISTURBED/UTILIZED WITHIN 14 DAYS.
4. SEE ADDITIONAL DETAILS FOR INSTALLATION OF SILT FENCE.
5. TEMPORARY PERIMETER DIKES MAY BE REQUIRED TO DIRECT CLEAN RUNOFF FROM STOCKPILE AREAS. REFER TO EROSION AND SEDIMENT CONTROL PLAN.

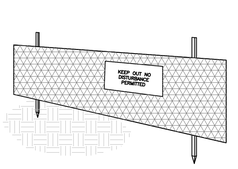


1. AREA CHOSEN FOR STORAGE OPERATIONS SHALL BE DRY AND STABLE.
2. MINIMUM DISTANCE TO A NATURAL WATER COURSE SHALL BE 50'.
3. THE TOP SIX INCHES OF NATIVE MATERIAL SHALL BE REMOVED FROM MATERIAL/FUEL STORAGE AREA AND REPLACED WITH MARAFI 100X GEOTEXTILE FABRIC AND 6" INCHES OF CRUSHED STONE BEDDING. CRUSHED STONE SHALL MEET NYSDOT ITEM NO. 623.11 SPECIFICATIONS.
4. SILT FENCING SHALL BE PLACED 5' DOWNSLOPE OF STORAGE AREA.
5. TEMPORARY PERIMETER DIKES MAY BE REQUIRED TO DIRECT CLEAN RUNOFF FROM STORAGE AREAS. REFER TO EROSION AND SEDIMENT CONTROL PLAN.

6 MATERIAL STORAGE & SOIL STOCKPILE STABILIZATION DETAIL

SCALE: NTS





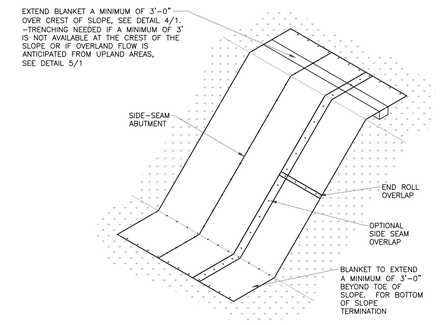
GENERAL NOTES

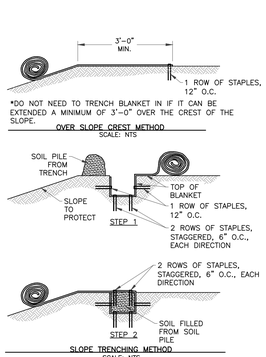
1) STORMWATER MANAGEMENT/WETLAND PROTECTION FENCING TO BE INSTALLED PRIOR TO GRADING AND THE INSTALLATION OF EROSION AND CONTROL SEDIMENT CONTROL MEASURES.

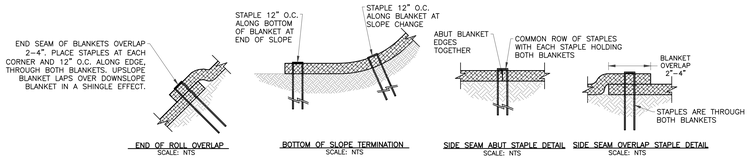
2) ALL PROTECTION FENCING IS TO REMAIN IN PLACE UNTIL CONSTRUCTION ACTIVITIES ARE COMPLETE

7 STORMWATER MANAGEMENT / WETLAND PROTECTION FENCING

SCALE: N.T.S.







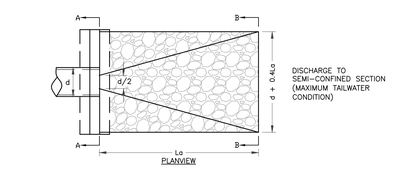
NOTE: TOPSOIL AND SEED SHALL BE PLACED ON SLOPE PRIOR TO PLACEMENT OF EROSION CONTROL MATTING.

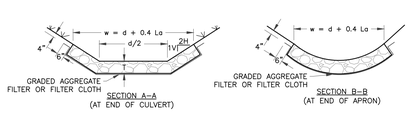
8 EROSION CONTROL BLANKET

SCALE: NTS

STONE FILL APRON SIZING*					
PIPE SIZE (d) (IN.)	PIPE SLOPE	STONE DIMENSION (d50) (IN.)	NYSDOT STANDARD STONE FILLING	APRON THICKNESS (T) (IN.)	APRON LENGTH (La) (FT.)
12	**0–3%**	**4**	**LIGHT**	**18**	**10**
	3–7%	6	LIGHT	18	14
	7–10%	9	MEDIUM	24	15
15,18	**0–3%**	**8**	**LIGHT**	**18**	**14**
	2–5%	9	MEDIUM	24	20
	5–10%	12	MEDIUM	30	24
24	0–1%	6	MEDIUM	24	14
	1–2%	9	MEDIUM	24	20
	2–5%	**12**	**MEDIUM**	**30**	**26**
	5–8%	18	HEAVY	36	30
30	0–3%	12	MEDIUM	28	28
	3–6%	18	HEAVY	36	36
36	0–1%	9	MEDIUM	24	24
	1–2%	15	HEAVY	36	32
	2–4%	18	HEAVY	36	40
	4–6%	21	HEAVY	38	45
42	0–1%	12	HEAVY	28	28
	1–2%	15	HEAVY	36	36
	2–3%	18	HEAVY	36	42
	3–4%	21	HEAVY	38	45
48	0–1%	12	MEDIUM	28	32
	1–2%	18	HEAVY	36	42
	2–3%	24	HEAVY	44	48
	3–4%	24	HEAVY	44	52
60	0–1%	18	HEAVY	32	44
	1–2%	24	HEAVY	43	58
	2–3%	30	HEAVY	54	66
	3–4%	33	HEAVY	59	70

*THE ABOVE TEXT IS BASED ON: NYSDEC "NEW YORK STATE STANDARDS & SPECIFICATIONS FOR EROSION & SEDIMENT CONTROL" – FIGURE 3.16 OUTLET PROTECTION DESIGN – MINIMUM TAILWATER CONDITION (DESIGN OF OUTLET PROTECTION FOR A ROUND PIPE FLOWING FULL, MINIMUM TAILWATER CONDITION: Tw < 0.5do) (USDA–NRCS)





NOTES:

1. SEE RIPRAP STANDARDS AND SPECIFICATION FOR MAXIMUM TAILWATER CONDITIONS, STONE FILL SIZES AND APRON SIZES.
2. APRON DIMENSIONS ARE BASED ON PIPES FLOWING FULL; USING ACTUAL FLOWS MAY RESULT IN DIFFERENT APRON DIMENSIONS.
3. MINIMUM THICKNESS OF THE STONE FILL LAYER SHALL BE 1.5 TIMES THE MAXIMUM STONE DIAMETER FOR d50 OF 15" OR LESS; & 1.2 TIMES THE MAXIMUM STONE SIZE OR d50 GREATER THAN 15".

9 RIPRAP OUTLET PROTECTION

SCALE: NTS

ESSEX BOCES FACILITY
PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK

DATE | REVISIONS RECORD/DESCRIPTION

PRELIMINARY / NOT FOR CONSTRUCTION

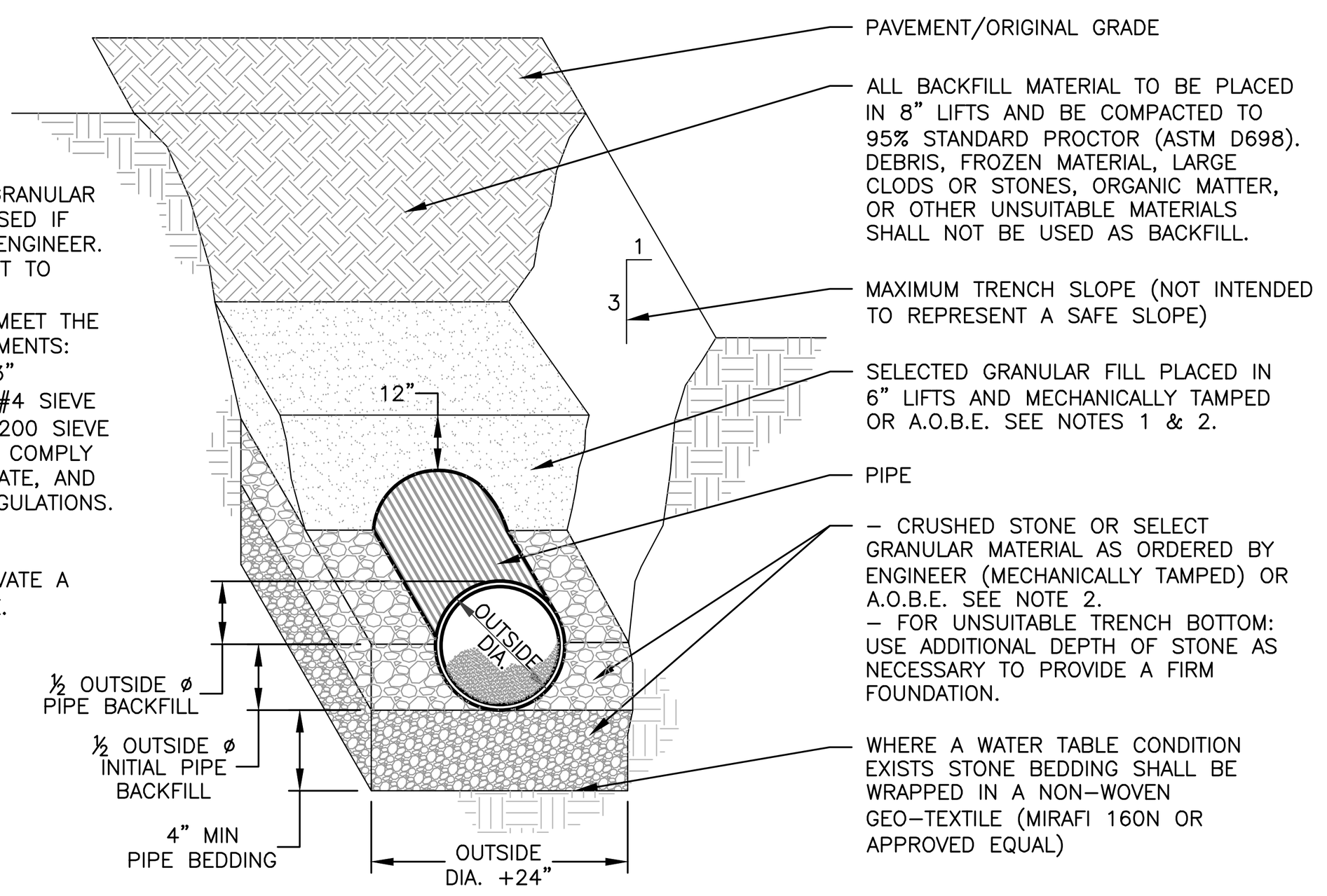
CIVIL - TRANSPORTATION - ENVIRONMENTAL - LAND SURVEYING

LANSING ENGINEERING
2485B STATE ROUTE 9 SUITE 301
CLIFTON PARK, NY 12065
(518) 899-5043

EROSION & SEDIMENT CONTROL DETAILS

PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 02/25/2026

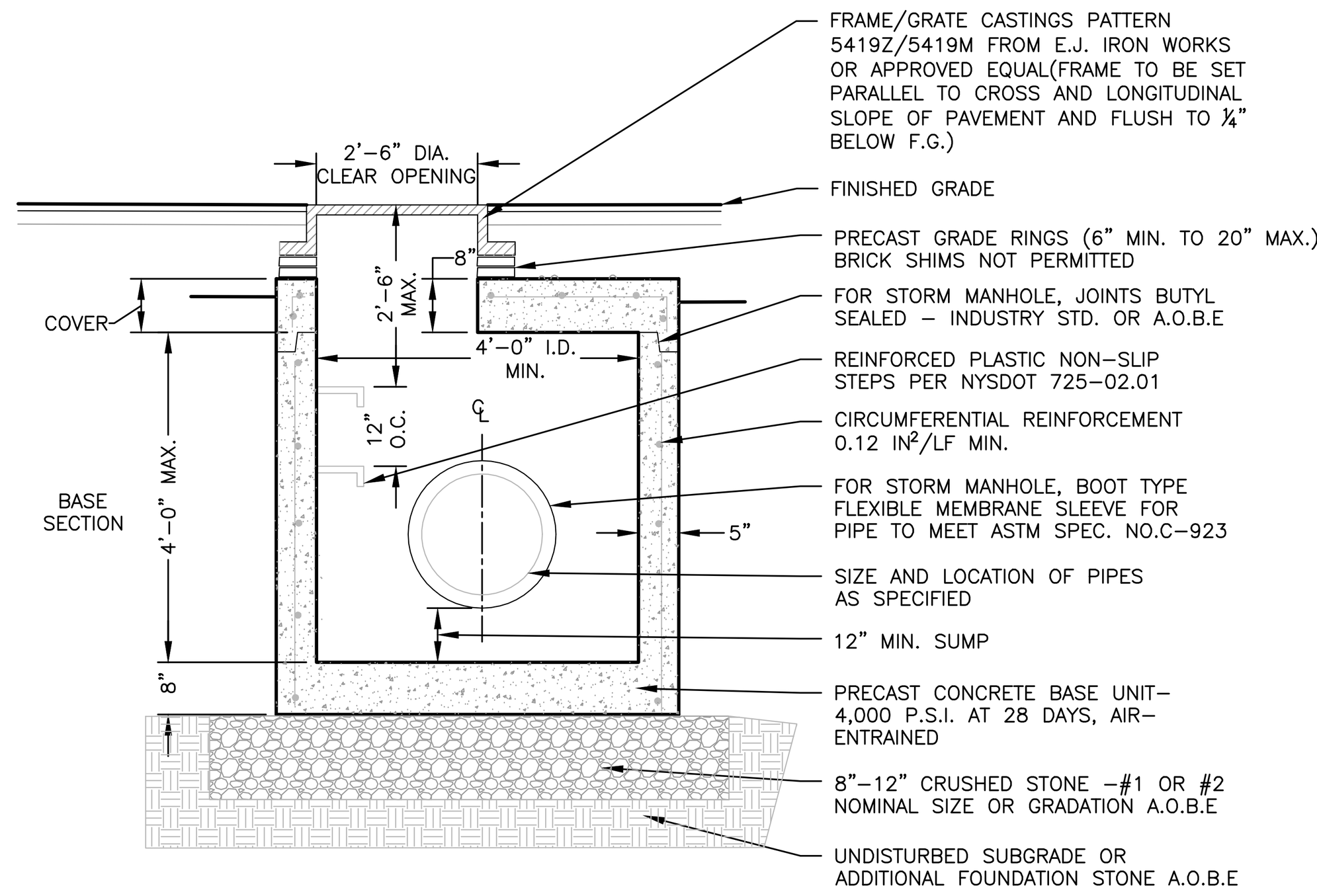
DT–1
SHEET 12 OF 20



NOTES:
1. NATIVE EXCAVATED GRANULAR MATERIAL MAY BE USED IF APPROVED BY THE ENGINEER.
2. CRUSHED STONE NOT TO EXCEED #2 IN SIZE. GRANULAR FILL TO MEET THE FOLLOWING REQUIREMENTS:
0% IN EXCESS OF 3"
25%–75% PASSING #4 SIEVE
0%–15% PASSING #200 SIEVE
3. CONTRACTORS MUST COMPLY WITH ALL LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. (OSHA & NYSDOT)
4. WHERE ROCK IS ENCOUNTERED EXCAVATE A MIN. 6" BELOW PIPE.

1 TYPICAL TRENCH DETAIL FOR CORRUGATED HDPE PIPE

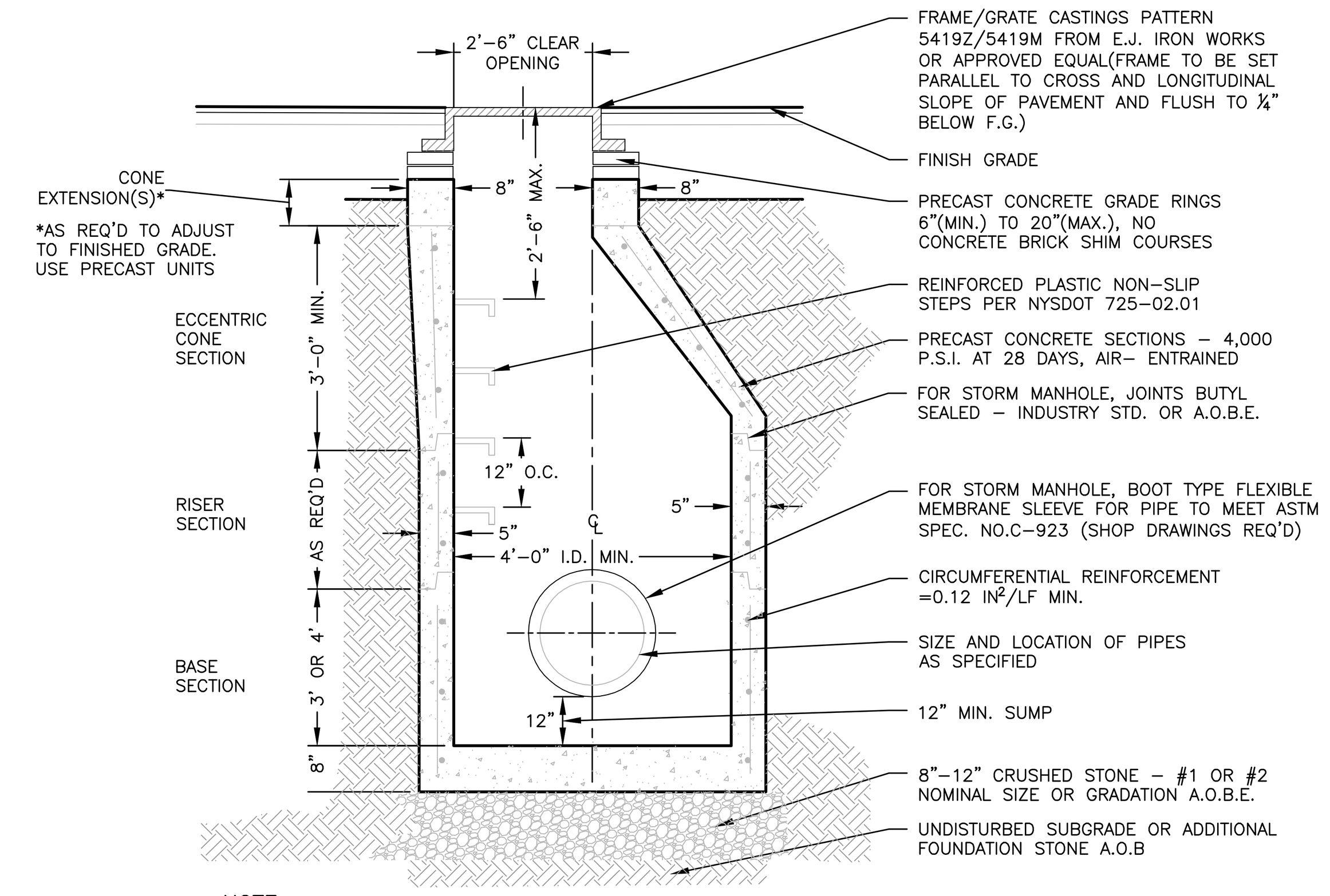
SCALE: NTS



NOTE:
1. SHOP DRAWINGS REQUIRED TO BE REVIEWED BY THE ENGINEER.
2. ALL MANHOLES TO BE PLACED IN ANY TRAFFIC AREAS SHALL MEET AASHTO HS20–44 WHEEL LOADING REQUIREMENTS.
3. FOUNDATION DRAIN LATERALS: TO BE 4" PVC SDR 35 AT A MIN. SLOPE OF 1.00%. THE CROWN OF THE FOUNDATION DRAINS SHALL MATCH THE CROWN OF THE HIGHEST PIPE WITHIN THE CATCH BASIN STRUCTURE. FOUNDATION DRAINS TO EXTEND 5' MIN. PAST PROPERTY LINE OF LOT SERVICED.
4. ROADWAY UNDERDRAINS: TO BE 4" HDPE AT SLOPE EQUAL TO ROADWAY GRADE. THE INVERT OF THE UNDERDRAIN SHALL BE LOCATED 2' BELOW THE RIM ELEVATION OF THE CATCH BASIN.

2 PRECAST CONCRETE MANHOLE - UNDER 5' DEEP

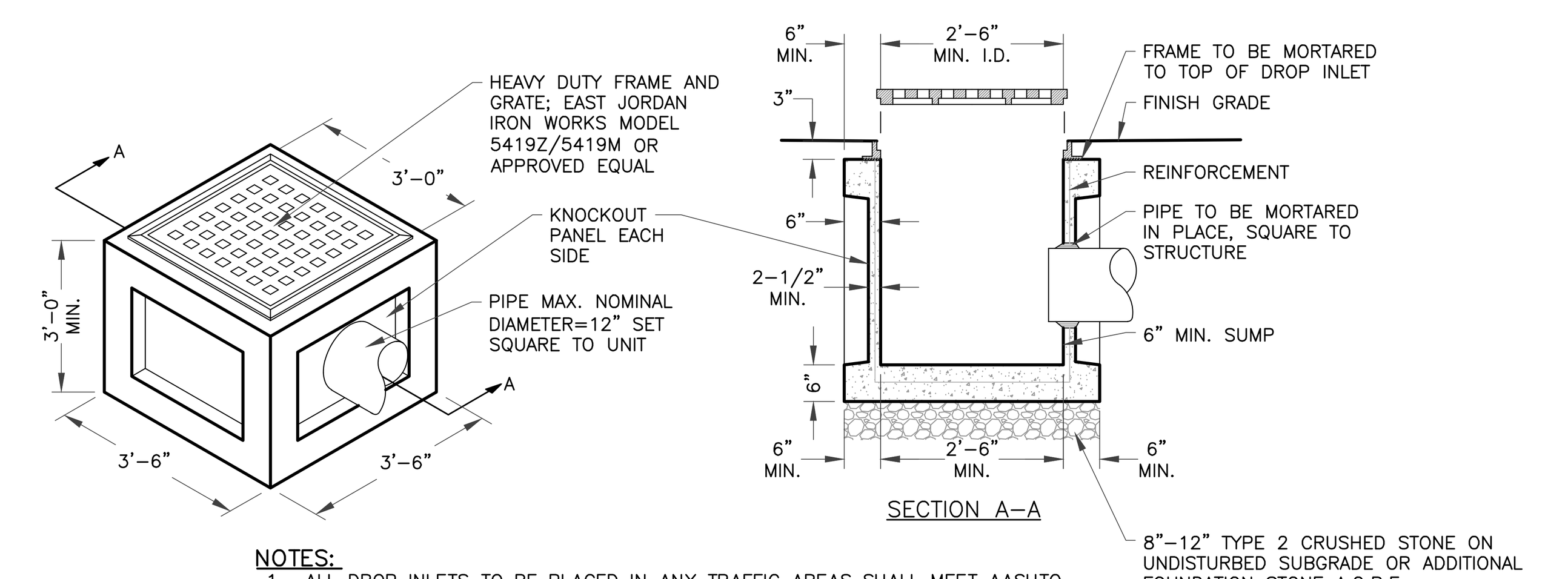
SCALE: NTS



NOTE:
1. SHOP DRAWINGS REQUIRED TO BE REVIEWED BY THE ENGINEER.
2. ALL MANHOLES TO BE PLACED IN ANY TRAFFIC AREAS SHALL MEET AASHTO HS20–44 WHEEL LOADING REQUIREMENTS.
3. FOUNDATION DRAIN LATERALS: TO BE 4" PVC SDR 35 AT A MIN. SLOPE OF 1.00%. THE CROWN OF THE FOUNDATION DRAINS SHALL MATCH THE CROWN OF THE HIGHEST PIPE WITHIN THE CATCH BASIN STRUCTURE. FOUNDATION DRAINS TO EXTEND 5' MIN. PAST PROPERTY LINE OF LOT SERVICED.
4. ROADWAY UNDERDRAINS: TO BE 4" HDPE AT SLOPE EQUAL TO ROADWAY GRADE. THE INVERT OF THE UNDERDRAIN SHALL BE LOCATED 2' BELOW THE RIM ELEVATION OF THE CATCH BASIN.

3 PRECAST CONCRETE MANHOLE - 5' DEEP AND OVER

SCALE: NTS

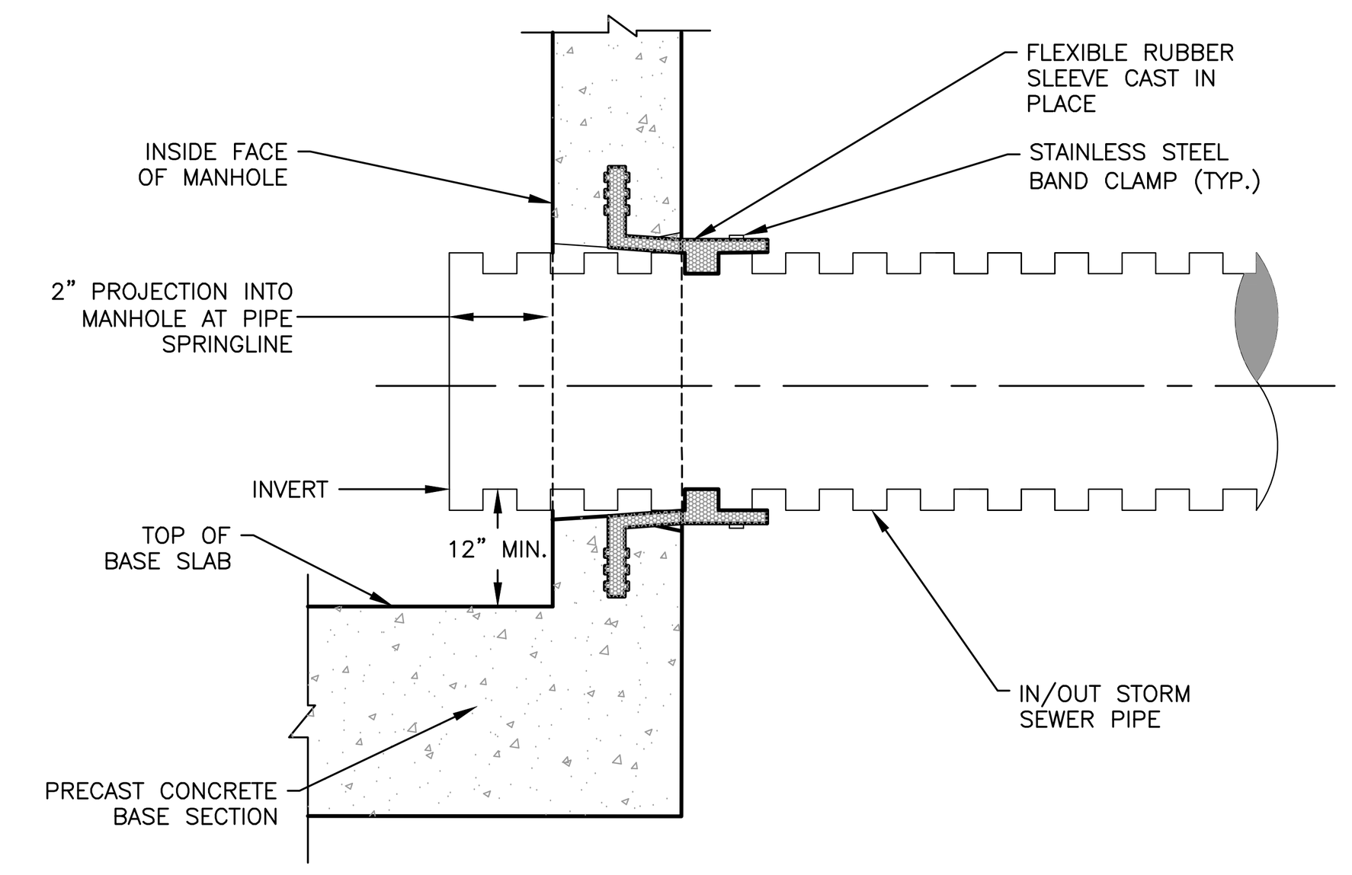


NOTES:
1. ALL DROP INLETS TO BE PLACED IN ANY TRAFFIC AREAS SHALL MEET AASHTO HS20–44 WHEEL LOADING REQUIREMENTS.
2. CONCRETE TO BE 4000 PSI @ 28 DAYS.
3. MINIMUM REINFORCEMENT – 6x6 – 10/10 WWM ALL FOUR SIDES AND BOTTOM.

*FOR USE AS APPROVED BY CITY ENGINEER

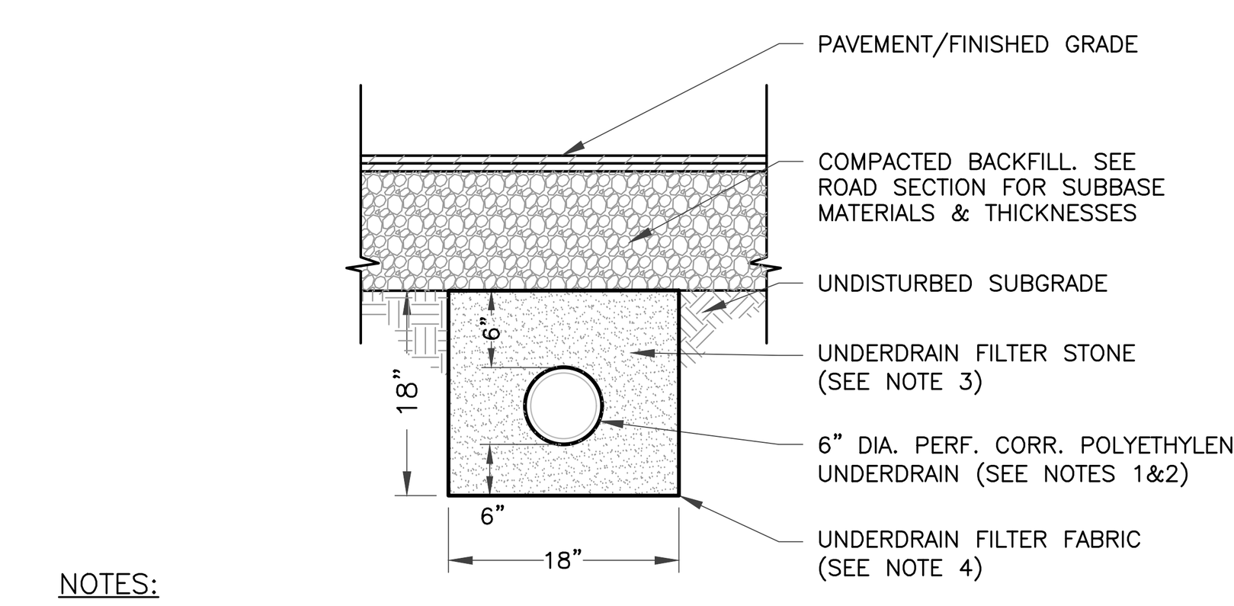
4 2'-6" X 2'-6" I.D. KNOCKOUT CATCH BASIN

SCALE: NTS



5 HDPE PIPE TO STRUCTURE: BOOTED JOINT

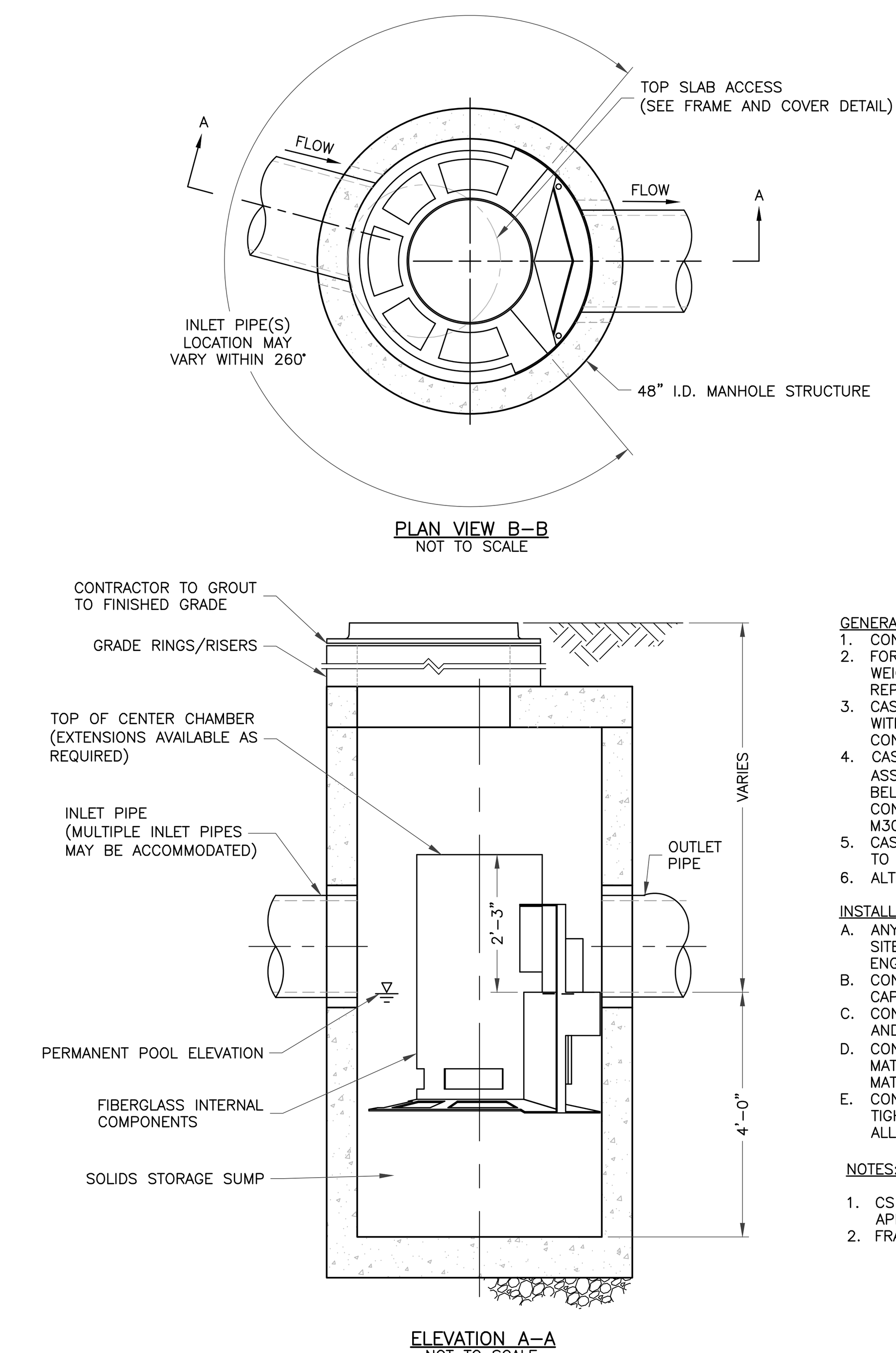
SCALE: NTS



NOTES:
1. UNDERDRAIN SHALL MEET THE REQUIREMENTS OF NYSDOT ITEM 605.1701.
2. UNDERDRAIN TO BE PLACED WITH PERFORATIONS FACING UPWARD.
3. FILTER STONE (TYPE 1) SHALL MEET THE REQUIREMENTS OF NYSDOT ITEM 605.0901.
4. UNDERDRAIN FILTER FABRIC TO BE TYPE II NYSDOT ITEM 605.1001.

6 UNDERDRAIN DETAIL

SCALE: NTS



GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0'–2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB–BASE, BACKFILL DEPTH, AND/OR ANTI–FLOTATION PROVISIONS ARE SITE–SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

NOTES:
1. CS1 UNIT TO BE SUPPLIED BY CONTECH MODEL NUMBER CS–5 OR APPROVED EQUAL.
2. FRAME AND GRATE TO BE CAMPBELL NO. 1396 OR APPROVED EQUAL.

7 CASCADE SEPARATOR UNIT (CS1)

SCALE: NTS

ESSEX BOCES FACILITY
PLANK ROAD, TOWN OF MORIAH, ESSEX COUNTY, NEW YORK

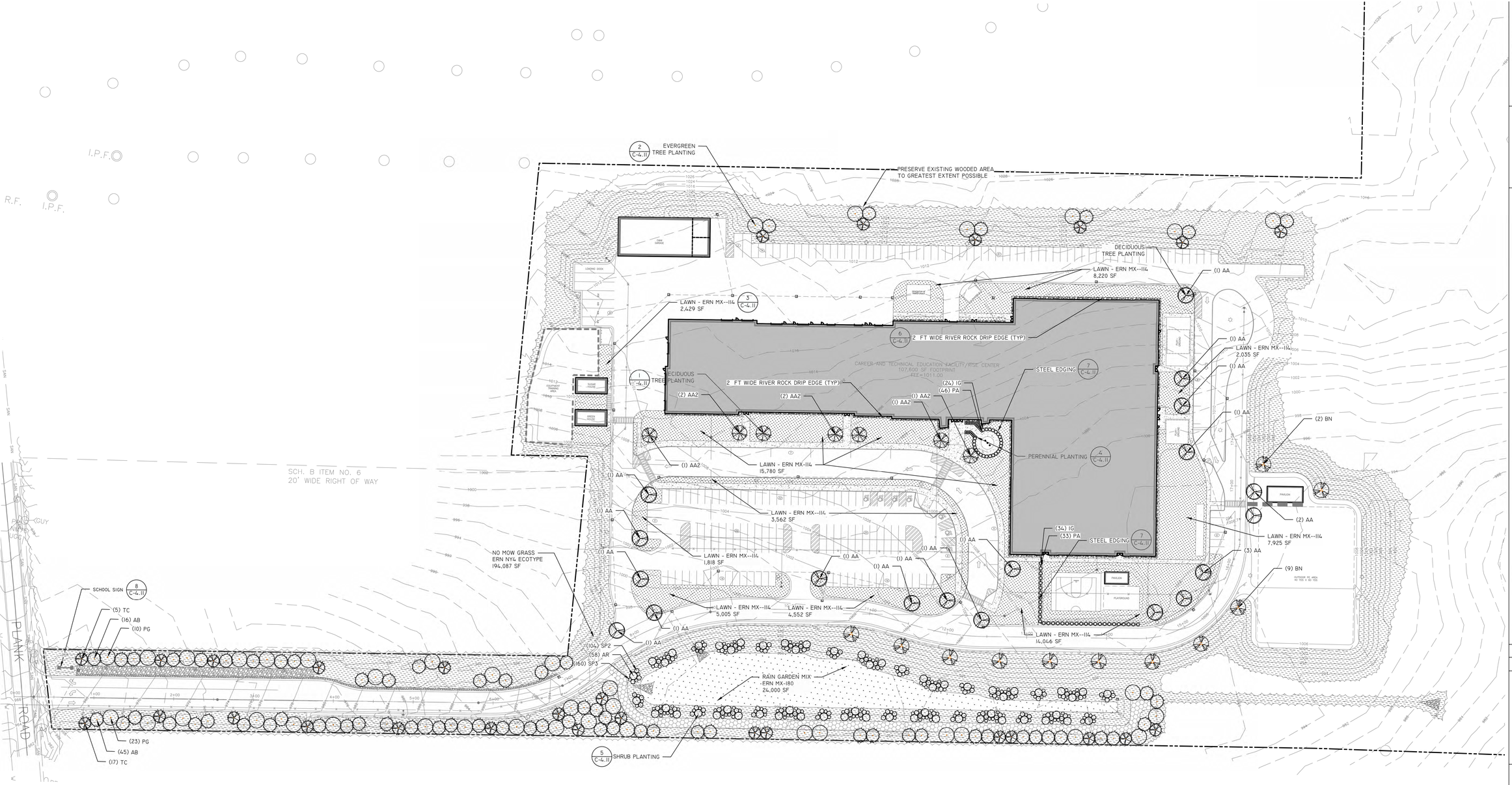
PRELIMINARY / NOT FOR CONSTRUCTION

LANSING ENGINEERING

STORM DETAILS

PROJ. NO: 1126.00
SCALE: AS SHOWN
DATE: 02/25/2026

DT–2
SHEET 13 OF 20



PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	DETAIL	REMARKS
TREES							
	AB	68	ABIES BALSAMEA / BALSAM FIR	6' HT.	B&B		
	AA	19	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG RED MAPLE	2" CAL.	B&B		
	AA2	8	ACER RUBRUM 'AUTUMN FLAME' / AUTUMN FLAME RED MAPLE	2" CAL.	B&B		
	BN	11	BETULA NIGRA / RIVER BIRCH MULTI-TRUNK	2" CAL.	B&B		
	PG	42	PICEA GLAUCA / WHITE SPRUCE	6' HT.	B&B		
	TC	29	TSUGA CANADENSIS / EASTERN HEMLOCK	6' HT.	B&B		
		177	SUBTOTAL:				
SHRUBS							
	AR	58	ALNUS INCANA RUGOSA / SPECKLED ALDER	3 GAL.	CONTAINER		
	IG	58	ILEX GLABRA / INKBERRY HOLLY	3 GAL.	CONTAINER		
	PA	78	POLYPODIUM APPALACHIANUM / APPALACHIAN POLYPODY FERN	1 GAL.	CONTAINER		
	SP3	160	SALIX DISCOLOR / PUSSY WILLOW	3' HT.	CONTAINER		
	SP2	104	SALIX PYRIFOLIA / BALSAM WILLOW	3' HT.	CONTAINER		
		458	SUBTOTAL:				

RAIN GARDEN SEED MIX	ERN MX-180	24,000 SF	15 LB/ACRE
LAWN - CONSERVATION MIX	ERN MX-114	59,661 SF	3-5 LB/1000 SF
NO MOW GRASS -INDIAN GRASS	ERNST - NY4 ECOTYPE	194,087 SF	6 LB/ACRE

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TRUST | QUALITY
COLLABORATION | INNOVATION

74 Warren Street, Suite 1
Saratoga Springs, NY 12866
518.450.4030

LEGEND

- PROPERTY LINE
- EXISTING TREE LINE
- PROPOSED SHRUBS/ GROUNDCOVE
- PROPOSED TREES
- PROPOSED TURF GRASS AREA
- NO MOW GRASS
- ERN MX-180

MAP INFORMATION:
BASE MAP INFORMATION OBTAINED FROM LANSING ENGINEERING

DIG SAFE NOTE:
THIS PLAN SET WAS DRAFTED WITHOUT THE BENEFIT OF "DIG SAFE" MARKINGS. UTILITIES SHOWN ARE NOT WARRANTED TO BE EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 811 BEFORE COMMENCING ANY WORK AND SHALL PRESERVE EXISTING UTILITIES WHICH ARE NOT SPECIFIED TO BE REMOVED IN THIS PLAN SET.

REVISIONS

DATE	DESCRIPTION

DRAWINGS NOT FOR CONSTRUCTION

PREPARED FOR

LANSING ENGINEERING
2452 STATE ROUTE 9
MALTA, NY 12020

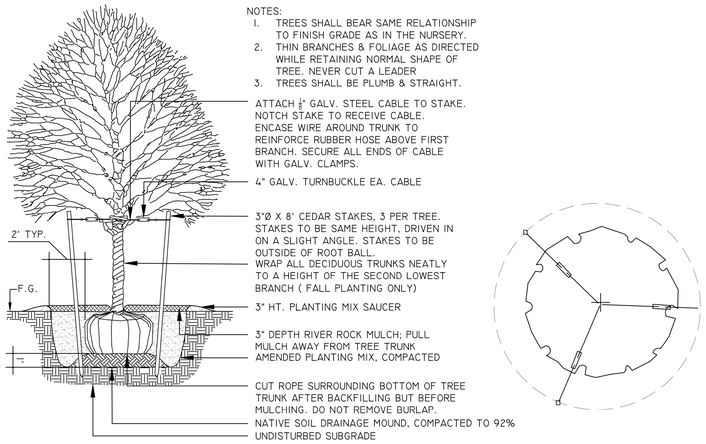
PROJECT

MORIAH BOCES
PLANK ROAD
TOWN OF MORIAH, NY

DRAWING TITLE

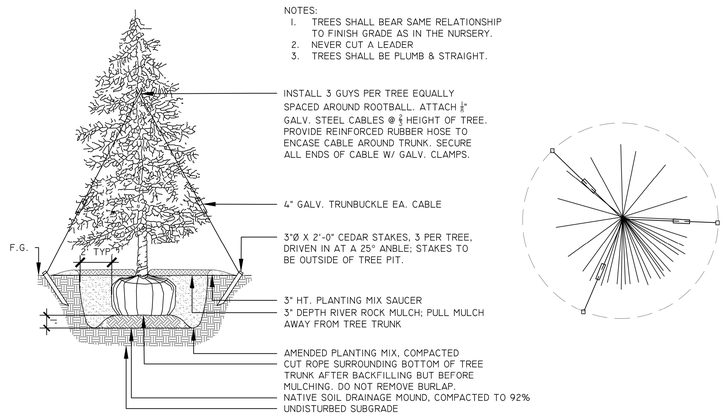
PLANTING PLAN

PROJECT NO.	25054
DATE: 03/13/2026	DRAWING NO. LS-1
DWG 9	



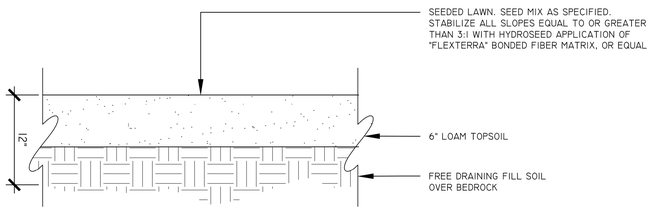
1 DECIDUOUS TREE PLANTING

SCALE: N.T.S.



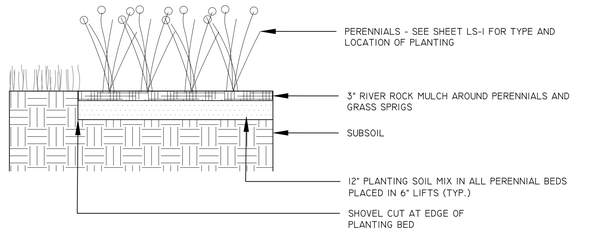
2 EVERGREEN TREE PLANTING

SCALE: N.T.S.



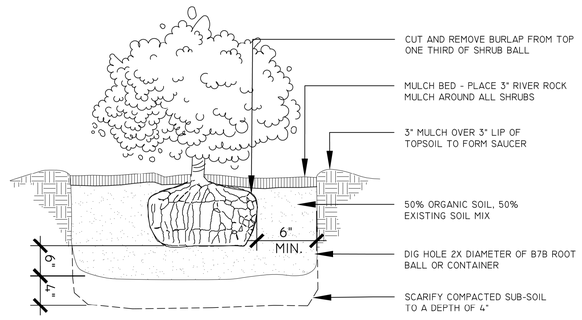
3 SEEDED AREA

SCALE: N.T.S.



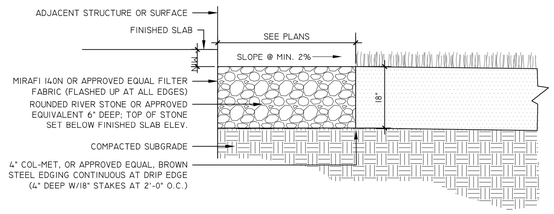
4 PERENNIAL & GRASS PLANTING

SCALE: N.T.S.



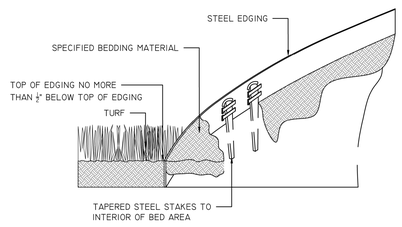
5 SHRUB (B&B) DETAIL

SCALE: N.T.S.



6 DRIP EDGE & STONE SURFACE DETAIL

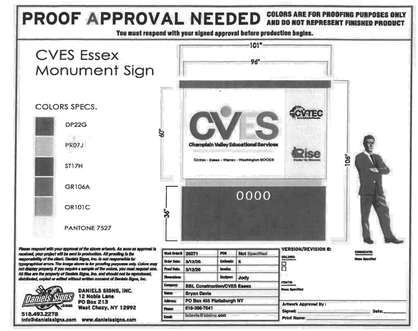
SCALE: N.T.S.



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

7 STEEL EDGING DETAIL

SCALE: N.T.S.



8 SIGN DETAIL

SCALE: N.T.S.

PLANTING NOTES:

1. ALL PLANT BEDS TO BE MULCHED WITH 3" DEEP SHREDDED CEDAR-NATURAL COLOR, UNLESS OTHERWISE NOTED ON THE PLANS.
2. PRIOR TO PLANTING, CONTRACTOR SHALL LOCATE, VERIFY, AND REPORT ANY CONFLICTS WITH EXISTING UTILITY LINES TO THE LANDSCAPE ARCHITECT.
3. ALL NEW PLANT MATERIAL SHALL CONFORM TO THE MINIMAL GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. AND SHALL BE OF SPECIMEN QUALITY UNLESS APPROVED OTHERWISE BY LANDSCAPE ARCHITECT.
4. WRITTEN APPROVAL IS REQUIRED FROM LANDSCAPE ARCHITECT OF ANY PROPOSED SUBSTITUTIONS OF PLANT MATERIAL. CHANGED PLANTS SHALL BE EQUIVALENT FORM, HEIGHT, FLOWER, COLOR, LEAF, SIZE, BRANCHING, CULTURE AND FRUIT.
5. PRIOR TO COMMENCEMENT OF PLANTING, STAKE LOCATION OF ALL PLANTINGS FOR APPROVAL BY LANDSCAPE ARCHITECT.
6. SCHEDULE DELIVERY OF PLANTS ONLY IN REASONABLE TIME AS TO WHEN THEY CAN BE INSTALLED. PLANTS TO BE INSPECTED BY LANDSCAPE ARCHITECT AT DELIVERY.
7. MAINTENANCE TO BEGIN IMMEDIATELY FOLLOWING INSTALLATION OF PLANT MATERIALS UNTIL FINAL ACCEPTANCE.
8. TREES SHALL NOT BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING. TREES SHALL BE PLANTED 5" HIGHER THAN PREVIOUS GRADE. SHRUBS AND GROUND COVER SHALL BE PLANTED AS THE SAME RELATIONSHIP TO GRADE AS PREVIOUS GRADE.
9. PLANT MATERIAL QUANTITIES TO BE PROVIDED BY CONTRACTOR AS SHOWN ON DRAWINGS.
10. UNLESS NOTED ON PLANT LIST, PLANTS TO BE BALLED AND BURLAPPED OR CONTAINER GROWN.

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LANDSCAPE ARCHITECTURE | ENGINEERING | PLANNING
TRUST | QUALITY
COLLABORATION | INNOVATION
74 Warren Street, Suite 1
Saratoga Springs, NY 12866
518.450.4030

MAP INFORMATION:
BASE MAP INFORMATION OBTAINED FROM LANSING ENGINEERING

DIG SAFE NOTE:
THIS PLAN SET WAS DRAFTED WITHOUT THE BENEFIT OF "DIG SAFE" MARKINGS. UTILITIES SHOWN ARE NOT WARRANTED TO BE EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 811 BEFORE COMMENCING ANY WORK AND SHALL PRESERVE EXISTING UTILITIES WHICH ARE NOT SPECIFIED TO BE REMOVED IN THIS PLAN SET.

REVISIONS

DATE	DESCRIPTION

DRAWINGS NOT FOR CONSTRUCTION

PREPARED FOR
LANSING ENGINEERING
2452 STATE ROUTE 9
MALTA, NY 12020

PROJECT
MORIAH BOCES
PLANK ROAD
TOWN OF MORIAH, NY

DRAWING TITLE
CONSTRUCTION DETAILS

PROJECT NO.	25054
DATE: 03/13/2026	DRAWING NO. LS-2
DWG ID	

Appendix F

NYSDEC SPDES General Permit GP-0-25-001

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-25-001

Construction General Permit (CGP)

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

of the Environmental Conservation Law

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

Scott E. Sheeley

Chief Permit Administrator

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

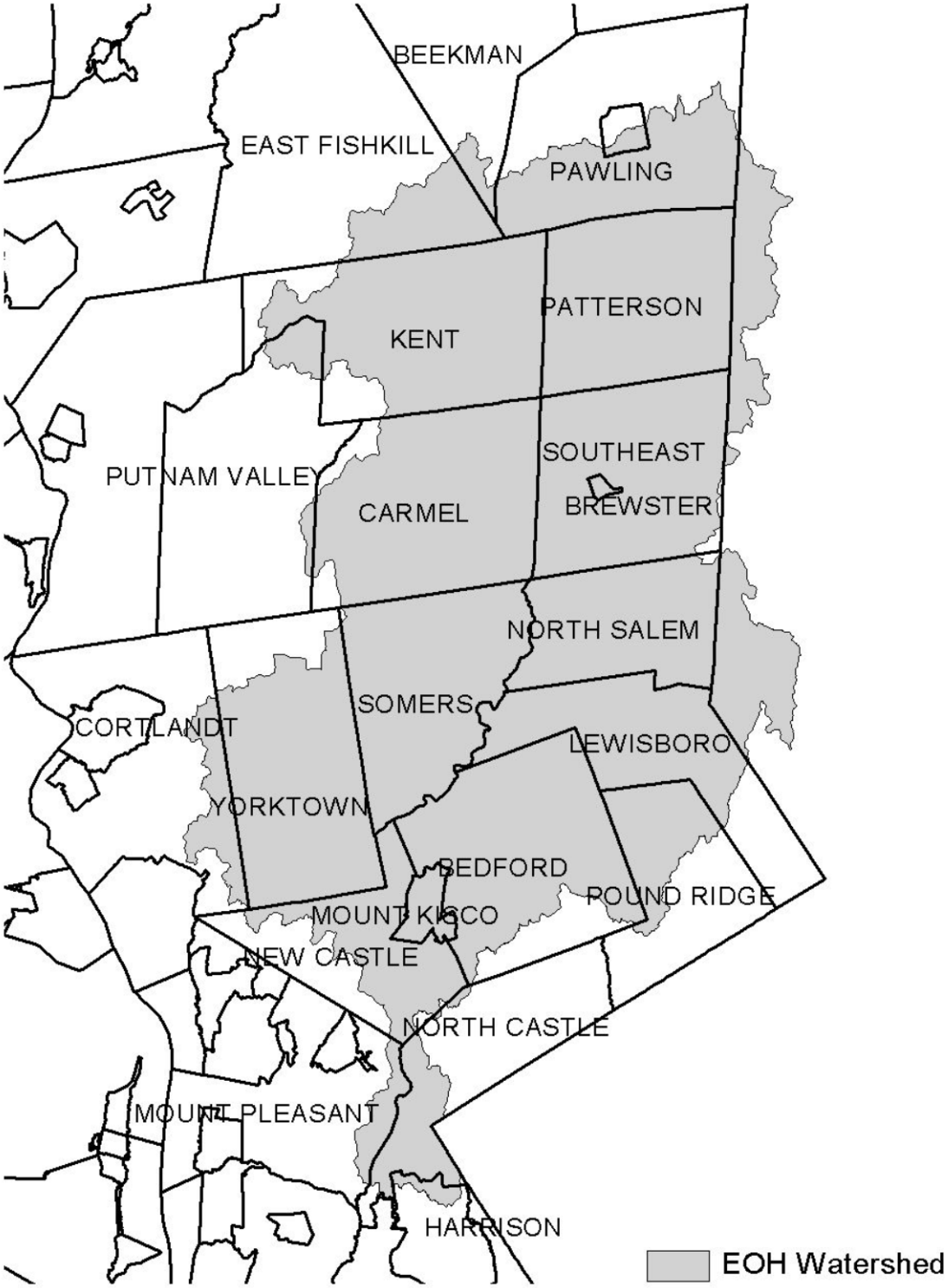


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

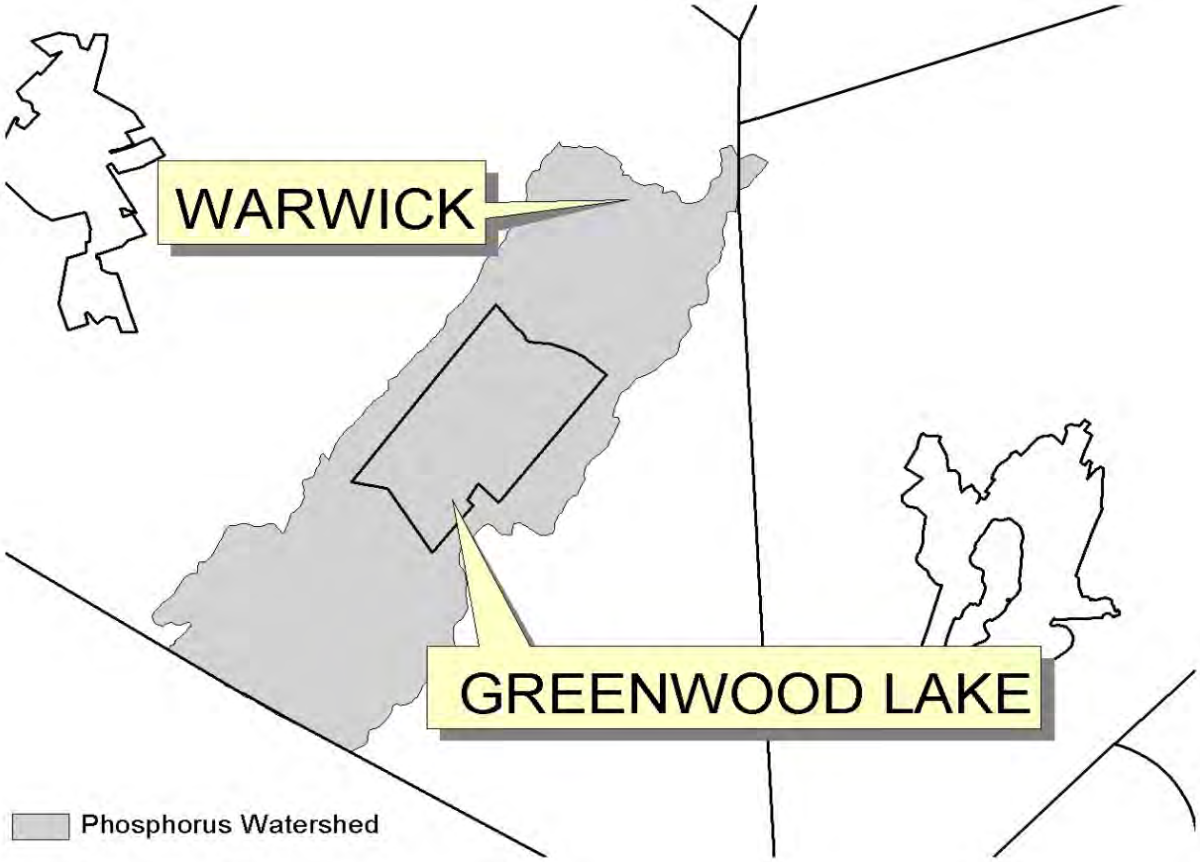


Figure 4 - Oscawana Lake Watershed

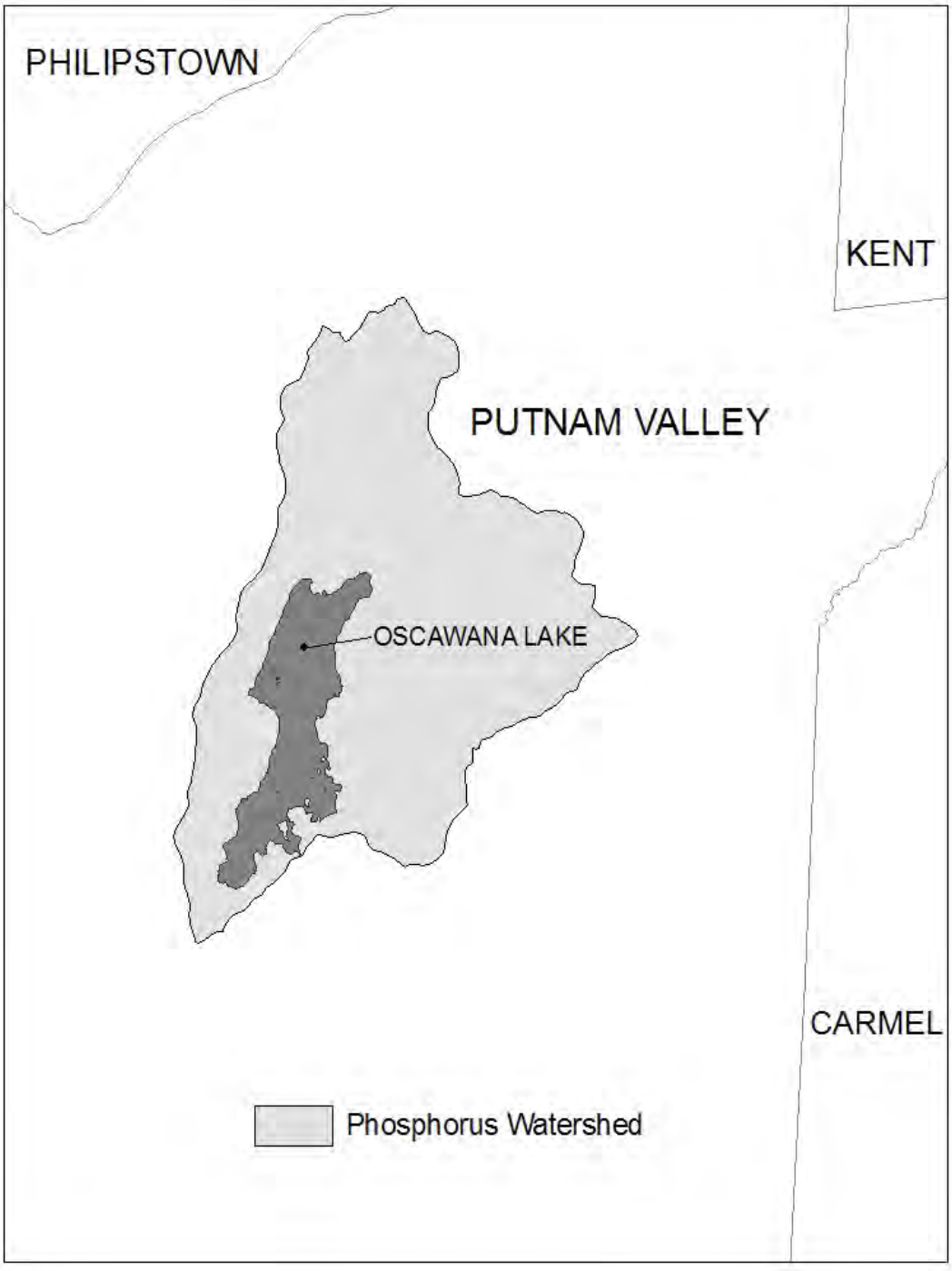
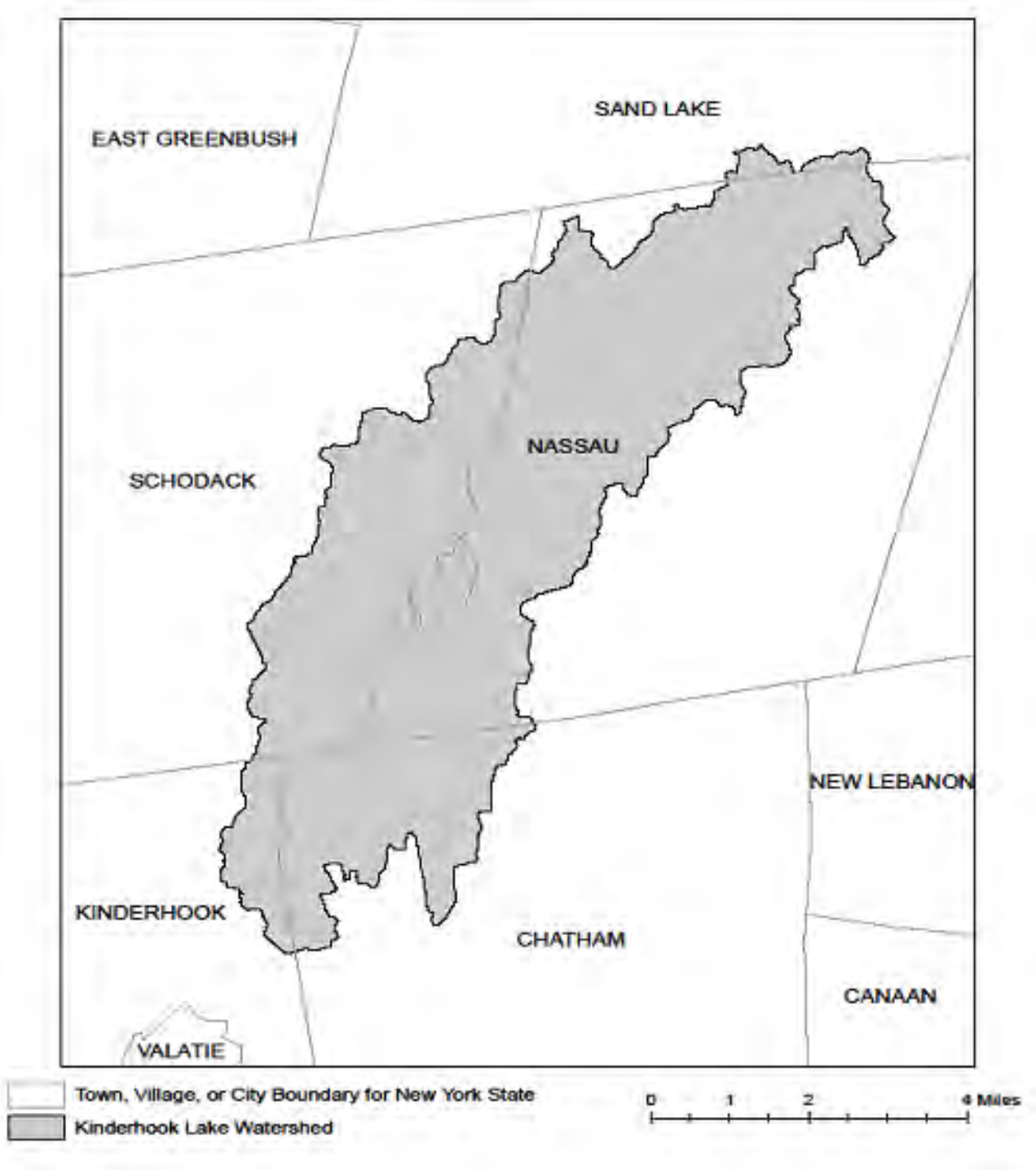


Figure 5 - Kinderhook Lake Watershed



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

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

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

APPENDIX E – List of NYSDEC Regional Offices

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

APPENDIX F – SWPPP Preparer Certification Form

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

SWPPP Preparer Certification Form

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

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

Project/Site Name:

eNOI Submission ID:

Owner/Operator Name:

Certification Statement – SWPPP Preparer

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

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature

Date

Revised: January 2025

APPENDIX G – MS4 SWPPP Acceptance Form

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

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

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

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

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

MS4 SWPPP Acceptance Form - continued

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

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

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

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

APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form

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

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

SWPPP Acceptance/Approval

Application Number:

I. Project Owner/Operator Information

1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:
6. Street Address:
7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval

8. SWPPP Reviewed by:
9. Title/Position: /
10. Date Final SWPPP Reviewed and Accepted:
11. Acceptance/Approval Expiration Date:

IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity

12. Name of MS4: *CITY OF NEW YORK*
13. MS4 SPDES Permit Identification Number: *NY-0287890*
14. Contact Person:
15. Street Address: *59-17 Junction Blvd. 9th Floor*
16. City/State/Zip: *Flushing, NY 11373*
17. Telephone Number:

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

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

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

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

Printed Name:

Title/Position:

Signature:

Date:

VI. Conditions of Acceptance/Approval and Additional Information

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

APPENDIX I – MS4 No Jurisdiction Form

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

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

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

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

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID:

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

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

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

b. Title/Position:

c. Signature:

d. Date:

APPENDIX J – Owner/Operator Certification Form

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

Owner/Operator Certification Form

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

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

Project/Site Name: _____

eNOI Submission ID: _____

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

Certification Statement - Owner/Operator

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

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

Appendix G

Construction Phase Inspection Report (Sample Form)

WEEKLY SWPPP SITE INSPECTION REPORT

Project:
LE Project Number:
Contractor:
Inspector's Name/Title:
NYR#:

Date and Time:
Temperature:
Ambient Conditions:
Soil Conditions:
LE SIMPL:

INSPECTION CHECKLIST

Record Keeping

Yes	No	N/A	
☐	☐	☐	1) Is the Notice of Intent and NOI Acknowledgement Letter retained at the construction site?
☐	☐	☐	2) Is the MS4 Acceptance Form retained at the construction site?
☐	☐	☐	3) Is a copy of the General Permit (GP-0-25-001) and SWPPP retained at the construction site?
☐	☐	☐	4) Are all necessary contractor certifications signed and retained at the construction site?
☐	☐	☐	5) Are SWPPP inspection reports signed and retained at the construction site?

Visual Observations

Yes	No	N/A	
☐	☐	☐	6) Are there currently less than 5 acres of disturbed soils at the site?
☐	☐	☐	7) Are natural resource areas (i.e. streams, surface waterbodies, wetlands, trees, etc.) protected with barriers or similar erosion and sediment controls?
☐	☐	☐	8) Have permanent stormwater controls such as sediment basins and conveyance systems been constructed? (Not applicable during beginning phases of construction)
☐	☐	☐	9) Were all stormwater discharges clear or the same as receiving waters on the day of inspection? This includes receiving waters, all conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow. Please describe the quality and quantity at all points of discharge from the site and the condition of receiving waters.
☐	☐	☐	10) Are catch basins/storm drain inlets properly protected?
☐	☐	☐	11) Have vegetative or structural stabilization measures been implemented on all **inactive** areas where there are exposed soils?

Visual Observations (cont'd)

Yes	No	N/A	
☐	☐	☐	12) Have vegetative or structural stabilization methods been implemented on any inactive critical slopes (high probability of erosion) where there are exposed soils?
☐	☐	☐	13) Have on-site vehicle tracking sediments and other eroded sediments been cleared?
☐	☐	☐	14) Is the construction entrance preventing sediment from being tracked onto the street?
☐	☐	☐	15) Are roads and properties adjacent to the construction site free of sediment and/or debris?
☐	☐	☐	16) Is dust adequately controlled at the construction site?
☐	☐	☐	17) Have all erosion and sediment control practices and pollution prevention measures been installed properly and are they functioning as designed?
☐	☐	☐	18) Are all erosion and sediment control practices and pollution prevention measures being maintained to ensure integrity and effectiveness?
☐	☐	☐	19) Have all post-construction erosion and sediment controls been constructed as designed? (Not applicable during beginning phases of construction)

GENERAL REMINDERS

SPECIFIC COMMENTS

DISCHARGE LOCATIONS & DRAINAGE PATHWAYS (areas subject to change)

Location (see map)	**Description**	**Discharge**	**Receiving Waters**	**Construction Status**	**Comments & Recommendations**

SITE MAP

	ACTIVE SOILS	~ 0.00 acres +/-
	INACTIVE SOILS NOT STABILIZED	~ 0.00 acres +/-
	TEMPORARILY STABILIZED SOILS	~ 0.00 acres +/-
	PERMANENTLY STABILIZED SOILS	~ 0.00 acres +/-

CERTIFICATION

Lansing Engineering Qualified Inspector Signature:_____ *Date:*_____

Appendix H

MS4 Acceptance Form

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 I

Notice of Intent (NOI)

Appendix J

Notice of Termination (NOT) Documentation

NEW YORK STATE | Department of Environmental Conservation

eNOT Owner or Operator Certification

for construction activities seeking termination from the

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

(The completed form must be attached to the eNOT, which must be submitted to NYSDEC electronically in accordance with CGP Part V.A.5.)

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. CGP SPDES Permit ID:

III. Certification Statement

I certify that I have met the requirements of CGP Part V.A.1., 2., 3., and 4. 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.

a. Printed name of the Owner or Operator:

b. Title/Position:

c. Signature:

d. Date:

eNOT Qualified Inspector Certification – SMPs

for construction activities seeking termination from the

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

(The completed form must be attached to the eNOT, which must be submitted to NYSDEC electronically in accordance with CGP Part V.A.5.)

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. CGP SPDES Permit ID:

III. Certification Statement

I hereby certify that all the requirements in CGP Part V.A.1.a.iv. or CGP Part V.A.1.b.iv. have been achieved. 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.

a. Printed name of the Qualified Inspector:

b. Title/Position:

c. Signature:

d. Date:

eNOT Qualified Inspector Certification – Final Stabilization

for construction activities seeking termination from the

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

(The completed form must be attached to the eNOT, which must be submitted to NYSDEC electronically in accordance with CGP Part V.A.5.)

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. CGP SPDES Permit ID:

III. Certification Statement

I hereby certify that all the requirements in CGP Part V.A.1.a.i., ii., and iii. or CGP Part V.A.1.b.i., ii., and iii. have been achieved. 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.

a. Printed name of the Qualified Inspector:

b. Title/Position:

c. Signature:

d. Date:

eNOT MS4 Acceptance

for construction activities seeking termination from the

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

(The completed form must be attached to the eNOT, which must be submitted to NYSDEC electronically in accordance with CGP Part V.A.5.)

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. CGP SPDES Permit 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

I have determined that it is acceptable for the owner or operator of the construction project identified above to submit the electronic Notice of Termination in accordance with CGP Part V. 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.

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 K

Deep Ripping and Decompaction

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

April 2008

New York State
Department of Environmental Conservation

Document Prepared by:

John E. Lacey,
Land Resource Consultant and Environmental Compliance Monitor
(Formerly with the Division of Agricultural Protection and Development Services,
NYS Dept. of Agriculture & Markets)

Alternative Stormwater Management
Deep-Ripping and Decompaction

Description

The two-phase practice of 1) “Deep Ripping;” and 2) “Decompaction” (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decompaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil’s water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decompaction – is complete). A heavy-duty tractor is pulling a three-shank ripper on the first of several series of incrementally deepening passes through the construction access corridor's densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.

Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper “rips” through severely compressed subsoil.

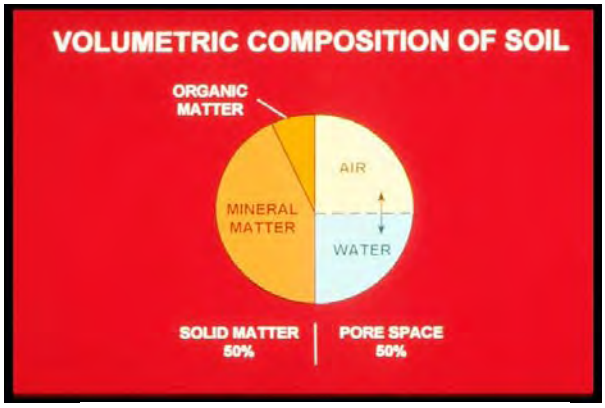


Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

The objective of Deep Ripping and Decompaction is to effectively fracture (vertically and laterallly) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the "two-phase" practice of Deep Ripping and Decompaction first became established as a "best management practice" through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).

Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decompaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.

Benefits

Aggressive "deep ripping" through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by "decompaction," i.e.: "sub-soiling," through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area's direct surface infiltration of rainfall by providing the open site's mitigated soil condition and lowers the demand on concentrated runoff control structures

- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures

- Decreases runoff volume generated and provides hydrologic source control

- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility / Limitations

The effectiveness of Deep Ripping and Decompaction is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implement maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology, Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decompaction, followed by the permanent establishment of an appropriate, deep taproot

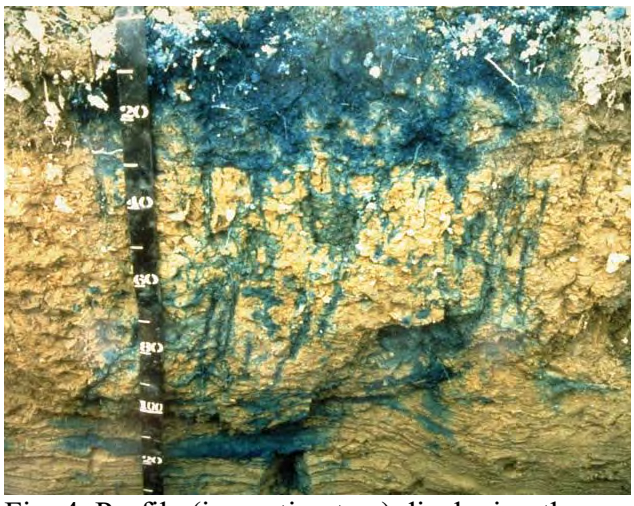


Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decompaction practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basal till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompaction. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decompaction practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration; and structural runoff control practices rather than Deep Ripping and Decompaction should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decompation (subsoiling); and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompaction (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompacted. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompaction work in relation to the lay of the slope should be reviewed for safety and practicality. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompaction (deep

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a "plastic" or "liquid" state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the "slicing and smearing" of the material or added "squeezing and compression" instead of the necessary fracturing. Ample drying time is needed for a "rippable" soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

The "poor man's Atterberg field test" for soil plasticity is a simple "hand-roll" method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a "plastic" state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.

Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistence, too wet for final decompaction (deep subsoiling) at this time.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and

2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, "decompaction," mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area's soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

Implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only "scarify" the uppermost surface portion of the mass of compacted subsoil material. The term "chisel plow" is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).

Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.

Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a "heavy duty" agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like "lifting and shattering" action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompacting a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/ leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp, (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.

Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or "teeth" of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompaction (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a "normal" maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/implement operator must first remove the guide wheels and other non essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a ¾ inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompation (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.

Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.

Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompaction on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decompation (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas

For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.

- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.

- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a ¾-inch cone penetrometer.)

Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.

Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

Corridors

In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

● A second series of passes makes a broad “S” shaped pattern of rips, continually and gradually alternating the “S” curves between opposite edges inside the compacted corridor.

● The third and final series again uses the broad, alternating S pattern, but it is “flip-flopped” to continually cross the previous S pattern along the corridor’s centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decompation is completed, two items are essential for maintaining a site’s soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.

Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months; shown before deep ripping, topsoil replacement, and decompaction.

Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

The Deep Ripping and Decompaction practice is, by necessity, more extensive than periodic subsoiling of farmland.The cost of deep ripping and decompacting (deep subsoiling), will vary according to the depth and severity of soil-material compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decompaction should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at $1800 per day, the net cost is $900 per acre. If the Phase 2) Decompacting or deep subsoiling takes 3/4 the time as Phase 1, it costs $675 per acre for a combined total of $1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

Publications:

- American Society of Agricultural Engineers. 1971. *Compaction of Agricultural Soils.* ASAE.

- Brady, N.C., and R.R. Weil. 2002. *The Nature and Properties of Soils. 13th ed.* Pearson Education, Inc.

- Baver, L.D. 1948. *Soil Physics.* John Wiley & Sons.

- Carpachi, N. 1987 (1995 fifth printing). *Excavation and Grading Handbook, Revised. 2nd ed.* Craftsman Book Company
- Ellis, B. (Editor). 1997. Safe & Easy Lawn Care: The Complete Guide to Organic Low Maintenance Lawn. Houghton Mifflin.

- Harpstead, M.I., T.J. Sauer, and W.F. Bennett. 2001. *Soil Science Simplified. 4th ed.* Iowa State University Press.

- Magdoff, F., and H. van Es. 2000. *Building Soils for Better Crops. 2nd ed.* Sustainable Agricultural Networks

- McCarthy, D.F. 1993. *Essentials of Soil Mechanics and Foundations, Basic Geotechnics 4th ed.* Regents/Prentice Hall.

- Plaster, E.J. 1992. *Soil Science & Management. 3rd ed.* Delmar Publishers.

- Union Gas Limited, Ontario, Canada. 1984. *Rehabilitation of Agricultural Lands, Dawn-Kerwood Loop Pipeline; Technical Report*. Ecological Services for Planning, Ltd.; Robinson, Merritt & Devries, Ltd. and Smith, Hoffman Associates, Ltd.

- US Department of Agriculture in cooperation with Cornell University Agricultural Experiment Station. Various years. *Soil Survey of (various names) County, New York.* USDA.

Internet Access:

- Examples of implements:

V-Rippers. Access by internet search of *John Deere Ag -New Equipment for 915* (larger-frame model) *V-Rippe*; and, *for 913* (smaller-frame model) *V-Ripper*. Deep, angled-leg subsoiler. Access by internet search of: B*igham Brothers Shear Bolt Paratill-Subsoiler.* http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_tillage/2008/feature/rippers/915v_pattern_frame.html?sbu=ag&link=prodcat Last visited March 08.

- Soils data of USDA Natural Resources Conservation Service. *NRCS Web Soil Survey.* http://websoilsurvey.nrcs.usda.gov/app/ and *USDA-NRCS Official Soil Series Descriptions; View by Name.* http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi . *Last visited Jan. 08.*

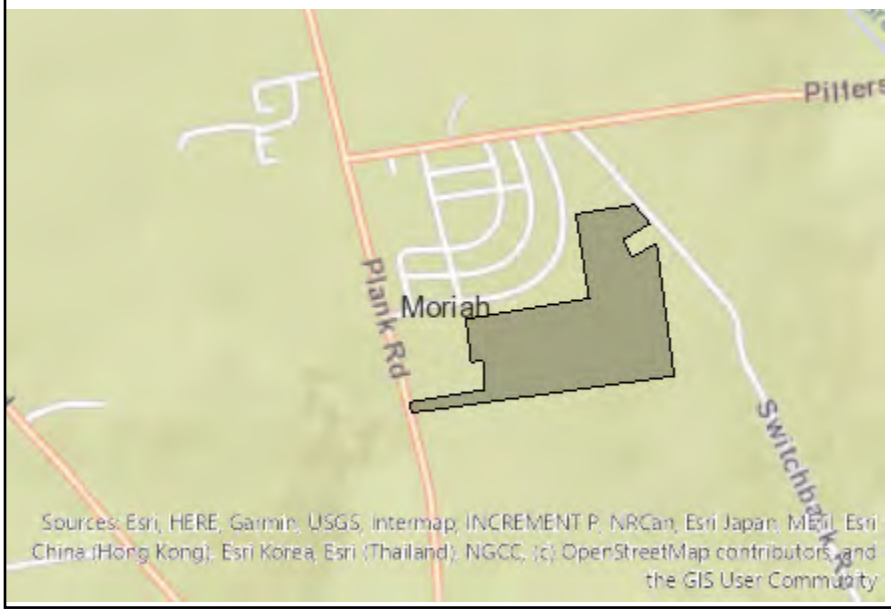
- Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester), PSU Extension;* as well as *Dickey-john Soil Compaction Tester*. http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf and http://cropsoil.psu.edu/Extension/Facts/uc178pdf Last visited Sept. 07

Appendix L

Permit Eligibilty

EAF Mapper Summary Report

Wednesday, February 4, 2026 11:47 AM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources to confirm data provided by the Mapper or to obtain data not provided by the Mapper.

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes - Digital mapping information on local, New York State, and federal wetlands and waterbodies is known to be incomplete. Refer to the EAF Workbook.
E.2.h.ii [Surface Water Features]	Yes - Digital mapping information on local, New York State, and federal wetlands and waterbodies is known to be incomplete. Refer to the EAF Workbook.
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local, New York State, and federal wetlands and waterbodies is known to be incomplete. Refer to the EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, APA Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	APA Wetland (in acres):0.48324938
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.

E.2.j. [100 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.k. [500 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Indiana Bat, Northern Long-eared Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	No
E.3.i. [Designated River Corridor]	No

March 16th, 2026

Arthur Morgan
Town of Moriah Water and Sewer Department
38 Park Place, Suite 2
Port Henry, NY 12974

Re: Plank Road BOCES Facility Water and Sewer Service Letter/Report

Dear Mr. Morgan:

The Plank Road BOCES Facility Site Plan proposes one primary structure totaling 107,600 square feet that will serve as a relocation and expansion for all instructional programs currently located at the CVES BOCES Mineville campus. The site of the proposed action is located east of Plank Road approximately 800 feet South of Champlain Drive. This letter/report will describe the water use and wastewater generation for the proposed development. Public water and sanitary sewer services are proposed to be provided by the Town of Moriah Water and Sewer Department.

The wastewater generated by the proposed development has been calculated based upon 10 gallons per day (gpd) per student plus an additional 5 gpd per student for food service within the facility. Staff members have been calculated similarly based upon 15 gpd. At full operation, the maximum number of students and staff during any semester is anticipated to be 463 persons, which is to be split between two half-day sessions. Conservatively, the total number of students and staff have been used for wastewater generation. The Average Daily Wastewater Flow generated from the proposed development is calculated to be approximately 5,556 gpd and 3.86 gallons per minute (gpm), respectively. These flows have been calculated as shown below in the Hydraulic Capacity Calculations.

Plank Road BOCES Facility Wastewater Flows – Hydraulic Capacity Calculations:

CTE Facility / RISE Center:
(463 students & staff) x (15 gpd) = 6,945 gpd

Design Average Daily Wastewater Flow = Total Wastewater Flow x 20% reduction for water saving measures

Design Average Daily Wastewater Flow = (6,945 gpd) x (80%) = 5,556 gpd

The Design Average Daily Flow from the Plank Road BOCES Facility is 5,556 gpd or 3.86 gpm and the Cumulative Peak Hour Wastewater Flow is 22,168 gpd or 15.39 gpm. The wastewater from the proposed development will ultimately be conveyed to the Port Henry wastewater treatment plant via an 8" proposed sanitary sewer gravity service connection to the existing sanitary sewer main located along the east side of Plank Road. Discussions with the Town of Moriah Water and Sewer Department have indicated that adequate capacity exists within the sanitary collection system to serve the proposed project.

The proposed sanitary sewer gravity service, including all manholes on the project site will be owned, operated, and maintained by the owner and applicant.

Sanitary Sewer Conveyance System Capacity – The Recommended Standards for Wastewater Facilities, 2014 Edition (10-States Standards), Paragraph 11.13, states that an engineering report must evaluate the impact the proposed project will have on all existing wastewater facilities, including gravity sewers, lift stations, and treatment facilities.

Analyzing the survey information of the sanitary sewer main running parallel to the east of Plank Road where the proposed project is to tie-in, the capacity of the existing 8" clay sanitary sewer main is approximately 1,275 gpm. Using the Cumulative Peak Hour Wastewater Flow of 15.39 gpm, the additional flow generated by this proposed project represents only 1.21% of the total capacity of the existing sanitary sewer main and is therefore negligible.

Based on the above review and evaluation of the existing wastewater facilities and in accordance with the Recommended Standards for Wastewater Facilities, 2014 Edition (10-States Standards), it is our professional determination that the wastewater flows from the proposed Plank Road BOCES Facility will not have a negative impact on the existing wastewater facilities, including gravity sewers, lift stations, and treatment facilities.

Plank Road BOCES Facility Water Flows – The water demand rate for the proposed development is based on the same calculations as the wastewater. The Average Daily Water Demand generated from the proposed development has been calculated to be approximately 5,556 gpd and 3.86 gpm, with a Max Daily water demand of 9,168 gpd and 6.37 gpm.

Water Demand Rates

Average Day	= 100% of average daily demand rate
Max Day	= 165% of average daily demand rate

Water Demand For Service Area

Average Day	= (100%) x (5,556 gpd) = 5,556 gpd	= 3.86 gpm
Max Day	= (165%) x (5,556 gpd) = 9,168 gpd	= 6.37 gpm

The water service connection to the Town of Moriah Water and Sewer Department will be sized to provide the domestic needs of the proposed development. The proposed building will have a sprinkler system, and all connections will be sized to provide adequate firefighting flows for the proposed development. Discussions with the Town of Moriah Water and Sewer Department have indicated that adequate water supply exists within this area to serve the proposed project.

The estimated Max Day water usage and Peak Hour wastewater flows for the Plank Road BOCES Facility Site Plan are relatively insignificant in comparison with the water and wastewater capacity in the area. Therefore, it is expected that the connection of the water and sanitary systems will not have an adverse impact on the existing utilities.

Please review this letter/report, and pending your acceptance please provide an approval letter for these connections. Please contact me at (518) 899-5243 ext. 111 if you have any questions or require any additional information. Thank you.

Sincerely,

LANSING ENGINEERING, PC

Paul R. Lubera Jr., PE, CPESC

Cc: File
Applicant

March 16, 2026

Jonathan deForest, LEED AP
President/Principal
BBL Construction Services, LLC
302 Washington Avenue Ext.
Albany, New York 12203

RE: Traffic Impact Evaluation for Proposed CVES BOCES Mineville, Plank Road, Hamlet of Mineville
Town of Moriah, New York

Dear Mr. deForest:

Lansing Engineering (LE) has prepared this traffic impact evaluation to assess the potential traffic impacts for the proposed Boards of Cooperative Educational Services (BOCES) facility located on Plank Road in the Hamlet of Mineville, Town of Moriah, New York.

Site Location and Proposed Development

The project site, located at 2978 Plank Road in the Town of Moriah, New York, is undeveloped and predominantly wooded. The proposed project includes the relocation and expansion of the existing Champlain Valley Educational Services (CVES) BOCES facility, CV-TEC Mineville Campus, located north of the proposed project site at 3092 Plank Road. The project includes the construction of a 107,600 sf building that will relocate and expand the existing CV-TEC Mineville Campus Career and Technology Education (CTE) and Rise Center for Success programs.

Access to the site is proposed via a single full access driveway on Plank Road. The site is expected to be fully built and occupied by 2028.

Site Generated Traffic Volumes

Site generated trips for the proposed BOCES campus at full occupancy were estimated using data provided by the Applicant including number of students, daily schedule, number of staff/faculty, and bus arrivals and departures. The trip estimates are focused on the morning arrival and afternoon departure times when the highest volume of traffic will be generated by the site with both student and staff arrivals and departures. The afternoon peak period is earlier than the typical afternoon peak period that coincides with commuter travel (i.e., between 4:00 and 6:00 p.m.). The following is noted regarding the peak hour site generated trips that are summarized in Table 1:

- The existing CV-TEC Mineville Campus services 220 CTE students and 48 RISE students with 56 staff
- At full occupancy the proposed relocated and expanded facility will service 388 students with 75 staff, with 300 CTE students and 88 RISE students
- The CTE program has morning and afternoon sessions with 150 students in each session.
    - Approximately 2% of the morning session students drive to school

    - Approximately 45% of the afternoon session students drive to school. The larger percent of student drivers in the afternoon is due to the number of seniors in the afternoon program.
    - There are approximately 10 parent drop-offs daily
        - 10 morning session drop offs/pick ups and 10 afternoon session drop offs/pick ups are assumed
- The RISE program operates with a single full day session with 88 students
- Morning student arrival time for both programs is between 8:30 and 8:45 a.m.
    - Two small buses and 6 large buses service both the CTE and RISE students
- Afternoon student departure time for both programs is between 2:00 and 2:30 p.m.
    - Two small buses and 6 large buses service both the CTE and RISE students
- 75 staff will service the two programs, including 5 support staff (kitchen/custodial). Of the75 staff, 8 will be part-time.
    - Staff generally arrive at 8:00 a.m. and depart at 3:00 p.m.
    - Arrival and departure of all 75 staff are assumed to occur during the peak hours

The Trip Generation Summary, illustrated in Table 1, assumes that staff and students will arrive and depart the site during the same one-hour period and 100% of the staff and students are in attendance. These assumptions provide for a worst-case peak hour trip generation estimate since it is unlikely that all staff and students will arrive during a single hour and a typical day will generally experience some level of late or absent students and/or staff.

Table 1 Trip Generation Summary

Vehicle Type	**AM Peak Hour (7:45-8:45)**			**PM Peak Hour (2:15-3:15)**		
	Enter	**Exit**	**Total**	**Enter**	**Exit**	**Total**
Passenger Vehicles						
Staff	75	0	75	0	75	75
Students	3	0	3	0	68	68
Parent Drop off/Pick up	10	10	20	10	10	20
Buses						
Large (35-45 ft long)	6	6	12	6	6	12
Small (20-25 ft long)	2	2	4	2	2	4
Total Trips	**96**	**18**	**114**	**18**	**161**	**179**

Table 1 shows that the new BOCES campus, at full occupancy, is expected to generate a maximum of 114 AM peak hour trips (96 entering and 18 exiting) and a maximum of 179 PM peak hour trips (18 entering and 161 exiting).

The existing CV-TEC Mineville Campus is located about a half-mile north of the proposed new campus and services 220 students with 56 staff; therefore, a large percentage of traffic that will relocate to the new campus is already on the roadway system. Using similar trip characteristics as the proposed campus, the trips associated with the existing campus were estimated and are summarized in Table 2. The following assumptions were included in the estimate of existing trips:

- The existing CTE program has morning and afternoon sessions with 110 students in each session.
    - Approximately 2% of the morning session students drive to school

    - Approximately 45% of the afternoon session students drive to school. The larger percent of student drivers in the afternoon is due to the number of seniors in the afternoon program.
    - Assumed 8 parent drop-offs daily during the morning and afternoon sessions
        - 8 morning session drop offs/pick ups and 8 afternoon session drop offs/pick ups
- The RISE program operates with a single full day session with 48 students
- Morning student arrival time for both programs is between 8:30 and 8:45 a.m.
    - Two small buses and 6 large buses service the existing school
- Afternoon student departure time for both programs is between 2:00 and 2:30 p.m.
    - Two small buses and 6 large buses service the existing school
- The 56 staff generally arrive at 8:00 a.m. and depart at 3:00 p.m.

Table 2 summarizes the vehicle trips associated with the existing CV-TEC Mineville Campus and provides a comparison to the future peak hour trips with the relocated and expanded facility.

Table 2 Existing School Trip Generation Summary and Comparison

Vehicle Type	**AM Peak Hour (7:45-8:45)**			**PM Peak Hour (2:15-3:15)**		
	Enter	**Exit**	**Total**	**Enter**	**Exit**	**Total**
Passenger Vehicles						
Staff	56	0	56	0	56	56
Students	2	0	2	0	50	50
Parent Drop off/Pick up	8	8	16	8	8	16
Buses						
Large (35-45 ft long)	6	6	12	6	6	12
Small (20-25 ft long)	2	2	4	2	2	4
Total Existing Trips	**74**	**16**	**90**	**16**	**122**	**138**
Total Future Trips	**96**	**18**	**114**	**18**	**161**	**179**
Net Increase in Trips	**+22**	**+2**	**+24**	**+2**	**+39**	**+41**

As shown, the relocated and expanded campus will result in the generation of an additional 24 trips during the AM peak hour and 41 trips during the PM peak hour than what is currently experienced at the existing campus. This illustrates that a majority of the trips to the relocated and expanded CV-TEC Mineville Campus are already on the roadway network traveling to and from the existing school.

The magnitude of the additional site generated trips results in less than the New York State Department of Transportation (NYSDOT) and ITE trip thresholds of the generation of 100 vehicle trips on a single intersection approach for determining the need for detailed off-site intersection analysis. These agency thresholds were developed as a tool to identify locations where the magnitude of site-generated traffic has the potential to impact operations at off-site intersections and screen out locations that do not meet the threshold and are therefore unlikely to require mitigation. Based on the industry guidelines, a detailed analysis of off-site intersections is not warranted for the project. The site traffic will be accommodated for by the existing roadway network.

Sight Distance

A sight distance analysis was performed at the proposed site driveway on Plank Road consistent with guidelines published by the American Association of State Highway and Transportation Officials

(AASHTO) in *A Policy on Geometric Design of Highways and Streets, 7th Edition*[1]. Stopping and intersection sight distances were measured at the proposed site driveway for passenger vehicles and buses. Stopping sight distance (SSD) is the distance along the roadway for a vehicle approaching an intersection from either direction to perceive, react, and come to a complete stop before colliding with an object in the road. Intersection sight distance (ISD) is based on the time required for perception, reaction, and completion of the desired turning maneuver into or out of the site driveway without causing approaching vehicles on the main road to unduly reduce their speed.

Plank Road is designated County Road 7 (CR 7) with a single travel lane in each direction and narrow paved shoulders. Along the project frontage Plank Road has two 11-foot wide travel lanes, 1-foot paved shoulders, and a posted speed limit of 40-mph. The sight distance evaluation was conducted for a 50-mph operating speed (the posted speed limit plus 10 mph) for both passenger cars and buses and is summarized in Tables 3 through 6. ISD guidelines are different for passenger cars and buses as they are determined based on both driver behavior and vehicle characteristics.

Table 3 Stopping Sight Distance (feet) for Passenger Cars

Location	Travel Direction	85th Percentile Speed (mph)	Guideline	Measurement
Plank Road/Site Dwy	NB	50	380 [a]	920
	SB	50	495 [b]	775

a Guideline for a 50-mph operating speed and an 8% upgrade
b Guideline for a 50-mph operating speed and an 8% downgrade

Table 4 Stopping Sight Distance (feet) for Buses

Location	Travel Direction	85th Percentile Speed (mph)	Guideline	Measurement
Plank Road/Site Dwy	NB	50	380 [a]	920
	SB	50	495 [b]	810

a Guideline for a 50-mph operating speed and an 8% upgrade
b Guideline for a 50-mph operating speed and an 8% downgrade

Tables 3 and 4 show that the available stopping sight distances for both passenger cars and buses traveling northbound and southbound on Plank Road meet the AASHTO guidelines at the proposed site driveway for a 50-mph operating speed.

[1] A Policy on Geometric Design of Highways and Streets, 7th Edition, AASHTO 2018

Table 5 Intersection Sight Distance (feet) for Passenger Cars					
Location	**Travel Movement**	**Guideline**		**Measurement**	
Plank Rd/Site Dwy	Left-turn Out Right-turn Out Left-turn In	D_L = 555 D_L = 480 D_S = 405	D_R = 555	D_L = 1,000+ D_L = 1,000+ D_S = 920	D_R = 840

Table 6 Intersection Sight Distance (feet) for Buses					
Location	**Travel Movement**	**Guideline**		**Measurement**	
Plank Road/Site Dwy	Left-turn Out Right-turn Out Left-turn In	D_L = 700 D_L = 625 D_S = 480	D_R = 700	D_L = 1,000+ D_L = 1,000+ D_S = 920	D_R = 935

Tables 5 and 6 show that the available intersection sight distances for all movements for both passenger cars and buses meet the AASHTO guidelines for a 50-mph operating speed. The sight distance measurements summarized in Tables 5 and 6 were taken during leaf-off conditions. To maintain sight lines that are maximized and meet the AASHTO guidelines, grading and clearing and maintaining of the brush/vegetation along the project frontage and within the county right-of-way on the adjacent parcel to the south of the site driveway is recommended as referenced in photographs 1 and 2.

Photo 1: Looking left at Site Driveway

Photo 2: Looking Right at Site Driveway

Site signage and landscaping should be placed a minimum of 14.5 feet back from the roadway to maximize available sight lines.

Conclusions and Recommendations

Lansing Engineering has conducted a traffic impact evaluation to assess the potential traffic impacts associated with relocation and expansion of the existing CV-TEC Mineville Campus from the existing campus located at 3092 Plank Road south approximately a half-mile south to 2978 Plank Road. Access to the new campus is proposed via a full access driveway on Plank Road. The project is expected to be constructed and fully occupied by 2028. Based on the evaluation, the following conclusions are noted:

- The site consists of the construction of a 107,600 sf buildings to service 388 students with 75 staff. This is an increase over the existing school that services 220 CTE students and 48 RISE students with 56 staff.
- At full occupancy, the expanded CV-TEC Mineville Campus will generate a maximum of 114 trips during the AM peak hour (96 entering and 18 exiting) and 179 trips during the PM peak hour (18 entering and 161 exiting). The school afternoon peak period occurs from 2:15 to 3:15 p.m. which is outside of the typical commuter peak period.
- The campus expansion results in an increase of 24 trips during the AM peak hour and 41 trips during the PM peak hour over the current trips at the existing CV-TEC Mineville Campus located a half mile north of the proposed site. This increase in vehicle trips will be accommodated by the existing roadway network.
- The stopping sight distance evaluation at the proposed site driveway illustrated that the available sight distance for drivers traveling northbound and southbound on Plank Road meets the AASHTO guidelines for a 50-mph operating speed for both passenger cars and buses.
- The intersection sight distance evaluation at the proposed site driveway illustrated that the available sight distances meet the AASHTO guidelines for a 50-mph operating speed for both passenger cars and buses. To maintain and maximize sight lines during leaf-on conditions, clearing and maintaining of vegetation along the site frontage and within the right-of-way on the adjacent parcel to the south is recommended.
- Site signage and landscaping should be placed a minimum of 14.5 feet back from the roadway to maximize available sight lines.

Please call with questions regarding the above evaluation.

Sincerely,

LANSING ENGINEERING, PC

Wendy C. Holsberger, PE, PTOE, RSP1
Principal Engineer

Alanna M. Moran, PE, PTOE
Principal Engineer