

**NY DRYDEN III, LLC SOLAR FACILITY
MORRIS ROAD SOLAR PROJECT
TOWN OF DRYDEN, TOMPKINS COUNTY, NEW YORK
TAX MAP ID: SECTION 24, BLOCK 1, LOT 4**

**STORMWATER POLLUTION PREVENTION PLAN
(SWPPP)**

PREPARED FOR:

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PWGC Project Number: DRS2322

APRIL 2024

SWPPP CERTIFICATION

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



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04/10/2024
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 NY DRYDEN III, LLC SOLAR PROJECT
 TOWN OF DRYDEN, TOMPKINS COUNTY, NEW YORK**

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1.0 INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared on behalf of NY Dryden III, LLC (Owner) to support the proposed construction activities (Work) at 30 Morris Road, Dryden, NY 13068 (Site). The Site is identified on the NYS GIS Clearinghouse as ID 24-1-4. For detailed information regarding the design and planned construction activities, refer to the “Existing and Proposed Site Plans” (Construction Drawings) prepared by P.W. Grosser Consulting Engineer and Hydrogeologist, P.C. (Engineer) included as Appendix A.

This SWPPP fulfills the requirements of the New York State Department of Environmental Conservation (NYSDEC) SPDES (State Pollutant Discharge Elimination System) General Permit for Storm Water Discharges from Construction Activity (Permit No. GP-0-20-001). The SWPPP objectives for the Site are to:

- Minimize the potential for erosion and conveyance of soil/sediment via surface runoff to downgradient on-site areas outside the limits of work, and downgradient off-site areas.
- Minimize the potential for erosion and sediment migration within the work areas.
- Minimize the potential for erosion and migration of soil/sediment via surface runoff such that water quality in downgradient water bodies is not significantly affected relative to pre-construction conditions.
- Minimize the potential for mechanical tracking of soils/sediments onto off-site areas.
- Identify potential stormwater pollutants and their sources; eliminate, control, or otherwise manage each potential pollutant or its source using appropriate Best Management Practices (BMPs).

This SWPPP has been prepared in accordance with the latest requirements of the New York State Standards and Specifications for Erosion and Sediment Control and New York State Stormwater Management Design Manual.

1.1. Project Description

NY Dryden III, LLC is proposing to develop an approximately 5.0-megawatt of alternating current (MW AC) ground-mounted solar facility on a 117.39±-acre site located along the south side of Morris Road. The solar facility would be developed on the southeast portion of the Site. The proposed development would include solar modules with a maximum height of 15 feet, the installation of an eight (8)-foot-high deer fence around the proposed solar facility with an associated eight (8)-foot gate, the installation of two (2) inverters and two (2) transformers and the construction of a gravel access road from Morris Road. The project area would be approximately 30.92 acres and would result in the clearing of 14.58± acre of woodland/forested area. Additionally, approximately 12.34 acres of row crops and 4.0 acres of meadows would be converted to landscaped area. It is noted that the project area would be seeded with native grasses upon clearing. Construction of the solar facility will take place in a singular phase. All improvements are to conform to state, county and local standards and specifications.

All solar power generated by the proposed action would be sold as Community Distributed Generation. This program allows subscribed participants to share the benefits of clean energy production. According to the applicant, a mix of residential and commercial customers, specifically New York State Electric and Gas (NYSEG)



customers, would be able to receive a share of the solar power generated by the proposed action as well as a discount off their electricity bills.

1.2. Site Description

The Site is located on the south side of Morris Road in Dryden, New York and is identified on the NYS GIS Clearinghouse as ID 24-1-4. The Site is currently improved with a single-family residence and is zoned within the Rural Agricultural District of the Town of Dryden.

Stormwater runoff generated within the Site limits would naturally flow and discharge into a proposed rain garden on site, in the same direction stormwater runoff currently flows. See Sheet C-200 for the Grading and Drainage Plan within the Construction Drawings (Appendix A). The site contains potential wetlands to the west of the project area, which stormwater currently flows to.

1.3. Adjacent Property

The land uses adjacent to the Site include single-family residential, as well as forested and pastoral agricultural lands.

1.4. Soils

Soils within the Site limits are identified below in Table 1-4.

Table 1-4 – Existing Soils On-site

Map Symbol	Unit	Map Unit Name	Hydrologic Soil Group Rating
Ab		Alluvial land	A/D
CnB		Chenango gravelly loam, fan, 0 to 8 percent slopes	A
FdB		Fredon silt loam, 0 to 5 percent slopes	B/D
HdA		Howard gravelly loam, 0 to 5 percent slopes	A
HdC		Howard gravelly loam, 5 to 15 percent simple slopes	A
HdCK		Howard gravelly loam, 5 to 15 percent complex slopes	A
HdD		Howard gravelly loam 15 to 25 percent slopes	A
HpE		Howard and Palmyra soils, 25 to 35 percent slopes	A
HrC		Howard-Valois gravelly loams, 5 to 15 percent slopes	A
Mm		Madalin mucky silty clay loam	C/D
PhB		Phelps gravelly silt loam, 3 to 8 percent slopes	B/D
RkB		Rhinebeck silt loam, 2 to 6 percent slopes	C/D
Ws		Wayland soils complex, 0 to 3 percent slopes, frequently flooded.	B/D

Soil type(s) were identified based on information available from the United States Department of Agriculture (USDA) Web Soil Survey (Appendix B).

1.5. Groundwater

The depth to groundwater at the Site was not encountered during the test pits performed on February 12, 2024. Refer to the PWGC Test Pit Logs (Appendix C).

1.6. Project Permitting and Compliance

1.6.1. State Pollution Discharge Elimination System General (SPDES) Permit

This SWPPP has been prepared in accordance with the substantive requirements of the GP-0-20-001 (Appendix D). Activities included in this SWPPP require coverage under the GP-0-20-001 as this project will disturb more than one (1) acre. A Notice of Intent (NOI) form will be submitted to the NYSDEC for this project (Appendix E). The NOI will include SWPPP Preparer and project Owner/Operator certification forms.

1.6.2. Municipal Separate Stormwater Sewer System Permit

Based on the NYSDEC Stormwater Interactive Map, the Site lies within a Municipal Separate Stormwater Sewer System (MS4) Additionally Designated Area (Criterion 3). In addition to the NYSDEC, the Town of Dryden will additionally review and may take the lead to regulate stormwater for the proposed site.

1.6.3. Office of Parks, Recreation and Historic Preservation Review

In accordance with the GP-0-20-001, any construction activities that have the potential to affect historic and/or archaeological resources are not eligible for coverage under the general permit unless the screening and consultation process specified in the Letter of Resolution that was developed between the NYSDEC and the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) has been completed and the required documentation demonstrating that potential impacts have been avoided or mitigated is obtained and maintained on-site.

Review of the New York State Cultural Resource Information System (CRIS) indicates that the Site does not lie within an archaeological sensitive area and that there are no registered historic resources within the vicinity of the Site.

2.0 CONSTRUCTION SEQUENCE AND SCHEDULING

This section outlines the general sequence of activities that will take place prior to, during and following development of the Site regarding the implementation of erosion and sediment control measures. Specific construction activity sequencing may vary depending on actual field conditions encountered at time of construction or as the project progresses. The contractor will be responsible for ensuring that any changes to the sequence will be protective of stormwater quality. Any implemented changes to the construction sequencing will be completed in compliance with applicable regulatory requirements and the overall objectives described above in Section 1.0 of this report. Additional sequence and phasing information can be found on the Construction Drawings (Appendix A).

The general sequence of activities which require soil disturbance will include the following items described below:

1. Install erosion and sediment controls per the requirements of this SWPPP. The primary controls to be installed will include a stabilized construction entrance (SCE), silt fence and drop inlet protection, as necessary.
2. Perform pre-construction site assessment to confirm all appropriate erosion and sediment controls are in place and properly installed.
3. Clear project location of vegetation and overgrowth.
4. Strip and segregate existing top soil and gravel, where possible, for potential reuse during restoration.
5. Grade site per Sheet C-200 of the Construction Drawings (Appendix A).
6. Installation of remaining temporary and permanent erosion and sediment controls (i.e., rain garden).
7. Installation of gravel access road and excavation and backfill for installation of underground utilities as well as the transformer.
8. Perform seedbed preparation activities (surface roughening and seeding preparation) in areas to be vegetated.
9. Installation of deer fence and solar arrays, utilities, and appurtenances. Trench excavation/backfill areas will be stabilized progressively with seed mix and mulch.
10. Complete plantings per the specifications and layout outlined in the Construction Drawings (Appendix A).
11. Remove SCE, all construction equipment, materials, support facilities, and project-derived waste from the Site.
12. Remove all remaining erosion and sediment controls upon final stabilization and inspection in accordance with Section 3.6.

Specific construction activity scheduling may vary depending on field conditions encountered at the time of construction. The construction sequence described below is expected to start in the Fall of 2024.

3.0 EROSION AND SEDIMENT CONTROL

The purpose of this section is to identify and address pollutants that could impact stormwater during construction activities. Site-related pollutants include concrete, dust and other debris. Activities that could impact stormwater include earthwork, waste disposal, and vehicular traffic. Site-related pollutants can originate from the handling, sorting, temporary storage, transport and disposal of soil, stone, and debris that will be generated from site activities. This section also serves to identify the types of temporary erosion and sediment controls that will be used during site activities. These erosion and sediment controls will provide soil stabilization for disturbed areas and structural controls to divert runoff and remove sediment.

The contractor will be responsible for installing and maintaining all temporary erosion and sediment control measures required during project construction activities. All erosion and sediment controls will be installed and maintained in accordance with the latest edition of the NYS Standards and Specifications for Erosion and Sediment Control (NYS Standards and Specifications). Erosion and sediment controls specific to this project are provided in the Construction Drawings (Appendix A).

Temporary erosion and sediment control measures will be installed prior to initiation of soil disturbing activities. The contractor will also be responsible for providing additional erosion and sediment control measures, as needed, or as directed, to achieve the stormwater management objectives of this SWPPP and maintain compliance with this SWPPP.

3.1. Identification and Control of Potential Stormwater Pollutants

The purpose of this subsection is to identify and address pollutants that could impact stormwater during site activities.

3.1.1. Significant Material Inventory

Pollutants that result from the redevelopment of the site that have the potential to be present in stormwater runoff are listed in Table 3-1.

Table 3-1 Potential Site Stormwater Pollutants

Trade Name Material	Chemical/Physical Description	Stormwater Pollutants
Wastewater from demolition equipment	Water	Soil, oil & grease, solids
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethylbenzene, toluene, xylenes
Diesel Fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil & grease, naphthalene, xylenes
Kerosene	Pale yellow liquid petroleum Hydrocarbon	Coal oil, petroleum distillates
Antifreeze/coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)
Erosion	Solid particles	Soil, sediment

3.1.2. Potential Sources for Stormwater Pollution

The following potential source areas of stormwater pollution were identified and evaluated:

- Construction Site Entrance
- Drive Area Construction
- Construction Equipment
- Construction Material and Equipment Staging Areas
- Waste Material Staging Areas
- Topsoil and Fill Material Staging Areas
- Clearing And Grading Areas
- Utility Installation

Table 3-2 presents site-specific information regarding the stormwater pollution potential from each of these areas.

Table 3-2 Locations of Potential Sources of Stormwater Pollution

Potential Storm Water Pollution Point	Potential Pollutants	Potential Problem
Construction Site Entrances, Drive Areas, Construction Material and Equipment Staging Areas, and Waste Material Staging Areas.	hydraulic oil, gasoline, antifreeze, soil erosion	Leaking hydraulic oil and antifreeze from clearing equipment. Gasoline and diesel fuel spills while fueling equipment, and erosion of exposed and stockpiled soils. Tracking of soil into the road through the construction site entrance(s).
Clearing and Grading Areas, Topsoil and Fill Material Storage Areas	Soil erosion, SVOCs, metals, Landscaping materials (e.g., mulch, fertilizer, pesticides and PCBs), Vegetative debris from clearing operations	Erosion of soils from clearing and grading areas have the potential to discharge into local surface water bodies.
Utility Installation	Soil erosion	Erosion of soils from excavation areas have the potential to be discharged from the site.

3.1.3. Good Housekeeping Practices to Minimize Stormwater Pollution

Good housekeeping and spill control practices will be followed during site activities to minimize stormwater contamination from concrete, petroleum products and waste materials. Good housekeeping and spill control practices include the following:

- Materials and equipment necessary for spill cleanup shall be maintained onsite. Equipment will include, but is not limited to brooms, dust pans, mops, rags, gloves, goggles, plastic trash containers, and trash liners;
- On-site vehicles shall be monitored for leaks and will receive regular preventive maintenance to reduce the possibility of leakage;
- Petroleum products shall be stored in tightly sealed containers which are clearly labeled;

- Spill kits shall be included with all fueling sources and maintenance activities;
- Spills shall be cleaned up immediately upon discovery. Spills large enough to reach the storm system will be reported to the National Response Center at 1-800-424-8802;
- Dump trucks hauling material from the site shall be covered with a tarpaulin;
- Paved streets adjacent to the site entrances shall be swept as needed to remove excess mud, dirt, or rock tracked from the site; and
- Ruts caused by equipment used shall be graded.

3.2. Temporary Erosion and Sediment Controls

The purpose of this subsection is to identify the types of temporary erosion and sediment controls that will be used during site activities. Each of the practices listed below are located on Sheet C-201 of the Construction Drawings and detailed on Sheet C-601 of the Construction Drawings (Appendix A).

3.2.1. Site Planning and Prevention Measures

This project will implement the following site planning and prevention measures for effective temporary and final erosion control during construction:

- The contractor and Owner will work together to properly plan and sequence construction events in an effort to minimize the time that soil and stockpiled materials are exposed.
- Temporary stockpiles of soil will be located in upland areas where stockpiles are protected from significant runoff. Additional stormwater perimeter controls may be required at downgradient locations.
- Restore the surface (i.e., establish the vegetative cover or gravel) as soon as possible.
- The contractor and Owner will evaluate site conditions prior to construction to determine if existing vegetation can be preserved or transplanted to the extent practical.

3.2.2. Stabilized Construction Entrance

An SCE will be installed at the proposed site ingress/egress along Morris Road at the location indicated on Sheet C-201 of the Construction Drawings (Appendix A) and will be maintained throughout construction.

The SCE shall be constructed with a six (6)-inch minimum layer of stone as indicated on the detail provided on Sheet C-601 of the Construction Drawings (Appendix A). The length and width of the SCE should be a minimum of 50 feet and 12 feet, respectively. The exact locations and lengths of the SCEs shall be determined by the contractor and Owner's on-site representative on a case-by-case basis. The SCE shall capture mud and debris from vehicles before entering public roads to minimize the tracking of sediments off the property and will assist in controlling dust on the site. The contractor will be responsible for placing additional stone on the SCE as site activities progress as necessary to maintain effectiveness.

The SCE would be constructed such that any stormwater runoff that exits the Site would flow through the SCE to allow for the SCE to assist in filtering out sediment from the stormwater runoff. Additional SCEs would be installed as necessary at the

work site if additional entrances are required as part of the proposed Work. The SCE(s) are to remain in place for the duration of the Work and until final site stabilization.

3.2.3. Perimeter Sediment Controls

Silt fencing with wire mesh backing will be used to reduce the potential migration of suspended sediments from work areas to downgradient off-site areas, as depicted on Sheet C-201 (see Appendix A). Silt fence will be installed along the limits of disturbance and positioned parallel to the existing contours to the extent practical. Silt fence may also be installed around construction material and equipment staging areas, and as otherwise needed to control potential off-site migration of suspended sediments in sheet flow. The filter cloth component of the fencing shall be embedded a minimum of six (6) inches in the ground.

3.2.4. Drop Inlet Protection

The silt fence will remain until all construction activities are completed. Care will be taken to install drop inlet protection for any drainage structures (if applicable) along Morris Road to prevent sediment build-up.

3.2.5. Dust Control

Dust (particulate matter) control measures shall be implemented throughout the duration of the construction activities.

The following dust control measures shall be implemented in driving areas:

- Limit on-site vehicle speed limits.
- Sweeping of roadways and other hard surfaces.
- Spray water from a domestic water supply on dry material being loaded on trucks that might release dust. Water for dust suppression shall be applied such that runoff does not occur and excessive “water weight” is not added to the soil.
- Cover trucks carrying loose material such as debris generated by site activities, excavated soil or fill and verify that the covers are properly sealed.

The following dust control measures shall be implemented at soil stockpiles in non-driving areas:

- Spray water from a domestic water supply on stockpiles with appropriate distribution equipment that shall be kept on-site throughout the duration of the site activities. Water for dust suppression shall be applied such that runoff does not occur and excessive “water weight” is not added to the soil.
- Cover stockpiles with plastic sheeting and verify that the covers are properly weighed down.
- Spray a non-hazardous, biodegradable suppressing agent.

3.2.6. Vehicle Maintenance and Material Storage Areas

The contractor will perform vehicle/equipment maintenance activities and will store construction materials (such as fuels, fertilizers, construction materials) in a designated area to prevent a potential release to stormwater. Vehicles shall be maintained for excess sediment accumulation and washed in designated areas that limit the release of sediment laden runoff. Additional erosion and sediment control

measures will be installed, as needed, prior to vehicle washing to reduce the potential for erosion of downgradient areas and minimize sediment migration. Construction materials (such as tools, building supplies, fertilizers, grass seed) and any fuel or fluids that could adversely impact stormwater must be properly covered, contained, or placed in a temporary shed or enclosure.

3.2.7. Temporary Seeding

Temporary seeding of select areas may be implemented to reduce the potential for erosion and sediment transport from disturbed areas, bare soil areas, or soil stockpile areas. This seeding will be applied to provide a temporary protective cover on disturbed areas when construction activities have temporarily ceased, such as when preparing for winter shutdown, or to provide cover when permanent seed growth is delayed due to mid-summer heat or drought. If bare soil is exposed for more than 14 days, temporary seeding or other controls will be utilized to the extent practicable and will be initiated by the end of the next workday. Note that seeding should be performed promptly after completing the grading activities to minimize the need for surface roughening. Areas to be seeded will be scarified as needed prior to seeding. Seed mix would include a native perennial pollinator mix. Runoff control measures shall be installed, as needed, prior to seeding to reduce the potential for erosion of the newly seeded area.

3.2.8. Topsoiling

Unless described otherwise, final stabilization will be completed with topsoil and seeding, mulching and/or sodding. Topsoiling shall be performed in accordance with NYS Standards and Specifications and the Landscaping Plan (see Sheet C-500 of the Construction Drawings in Appendix A). Sod and seed areas are to receive a minimum of 4" of topsoil as necessary. Lime will be applied at a rate that shall achieve a soil pH of 6.0. Topsoil shall be further amended with fertilizer with 6,600 lbs. of 5-10-10 or equivalent per acre (14 lbs./100 sq. ft.).

3.2.9. Mulching

Mulching will be performed immediately following seeding per NYS Standards and Specifications and the Landscaping Plan shown on Sheet C-500 of the Construction Drawings (Appendix A). Mulching provides immediate erosion control during the establishment of vegetation, moderation of seedbed conditions (e.g., temperature and moisture) and serves as a dust control measure. Air-dried hay or straw mulch, free of undesirable seeds and coarse materials, will be applied at a rate of approximately two (2) tons (i.e., 100-120 bales) per acre.

3.2.10. Surface Roughening

Surface roughening will aid in the establishment of vegetative cover from seed, reduce runoff velocity and increase infiltration, and trap sediment. Surface roughening includes creating horizontal grooves across a slope (i.e., perpendicular to the downslope direction) using a spike-tooth harrow, tilling equipment, disking attachments, or tracking the area with appropriate construction equipment. The type of surface roughening techniques will be determined in the field by the contractor and the Owner's on-site representative.

3.2.11. Permanent Seeding

Permanent seeding and sodding shall be implemented per NYS Standards and Specifications and the Landscaping Plan shown on Sheet C-500 of the Construction Drawings (Appendix A). This seeding will be applied to provide a protective cover following achievement of final grades or during a long-term dormancy period (e.g., longer than one [1] year). Seed shall be applied in early spring or late fall and shall be promptly provided with mulch per the “Mulching” Section. Areas to be seeded will be scarified as needed prior to seeding. Seed mix shall be 94.9% Sheep Fescue, 2.5% Butterfly Milkweed, 2.0% Partridge Pea PA Ecotype, 0.3% Showy Evening Primrose, 0.3% Zigzag Spiderwort VA Ecotype at a rate of 40 lbs./acre as provided by Ernst Seeds, “Northeast Solar Pollinator 3’ mix” or engineer approved equivalent. Following seeding, mulch shall be applied per Mulching Specification. Runoff control measures such as erosion control mats shall be installed, as needed, prior to seeding to reduce the potential for erosion of the newly seeded area.

3.3. Inspection and Maintenance of Erosion and Sediment Controls

3.3.1. Inspection and Contractor Notification Requirements

Inspections of erosion and sediment controls will be performed to confirm that this SWPPP is being implemented and remains functional relative to site conditions and actual project activities. Prior to land disturbing activities (excluding installation of erosion and sediment control practices), a Qualified Inspector, who must meet the requirements of GP-0-20-001 (see Section 3.3.5), will perform a pre-construction site assessment to verify that erosion and sediment controls are properly installed and functional.

During construction activities, all erosion and sediment control practices and pollution prevention measures implemented within the active work area will be inspected daily by a Trained Contractor (as specified in Section 3.3.5) to ensure that they are being maintained in effective operating conditions at all times. If deficiencies are identified, the contractor (or subcontractors) will begin implementing corrective actions within one (1) business day and shall complete the corrective actions in a reasonable time frame.

Throughout the active construction period, a Qualified Inspector (see Section 3.3.5) will conduct inspections of all site areas affected by construction at least once every seven (7) calendar days. If more than five (5) acres of soil is disturbed, inspection frequencies will increase to at least twice every seven (7) calendar days. These two (2) inspections will be separated by a minimum of two (2) full calendar days. At a minimum, the Qualified Inspector will inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, until the Site is deemed sufficiently stable and no longer requiring inspection.

Inspections include all disturbed areas that have not achieved final stabilization, all points of discharge to natural surface waterbodies within or immediately adjacent to the Site, and all points of stormwater discharge from the Site. After each inspection, the Qualified Inspector will prepare an inspection report in accordance with Section 3.5.1 within one (1) business day of the completion of an inspection. Additionally, the Qualified Inspector will notify the Owner’s on-site representative and/or the Engineer and appropriate contractor (or subcontractors) of any

necessary corrective actions. The contractor (or subcontractor) will begin implementing the corrective actions within one (1) business day of the inspection notification and will complete the corrective action in a reasonable time frame, unless a modified timetable is approved by the Owner's on-site representative and/or the Engineer.

3.3.2. Inspections During Shutdown

In the event project activities are temporarily suspended (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the Qualified Inspector will conduct a site inspection at least once every 30 calendar days. The Owner's representative will notify the Division of Water (DOW) (SPDES) Program contact at the NYSDEC Regional Office (5768 Widewaters Parkway, Syracuse, NY 13214), in writing prior to reducing the inspection frequency. Additionally, the Qualified Inspector can discontinue these inspections if all disturbed areas of the Site (as of the project shutdown date) have achieved final stabilization.

3.3.3. Maintenance

The contractor is responsible for all maintenance of erosion and sediment controls in accordance with this SWPPP. Maintenance or repair of installed erosion and sediment controls will be initiated within one (1) business day following notification of deficiencies unless a modified timetable is approved by the Owner's on-site representative and completed in a reasonable timeframe (i.e., prior to the next scheduled inspection). Erosion and sediment control measures will be maintained for the duration of the project until such time as all permanent stabilization measures have become fully established and a satisfactory final Site inspection (described in Section 3.6) has been performed by a Qualified Inspector.

The following maintenance practices shall be used to maintain erosion and sediment controls:

- Excess sediment buildup will be removed from silt fencing when it has reached one-third the height of the barrier/fence. Fabric will be replaced when bulges or tears develop; silt fencing will be reinstalled if the fabric is not securely attached to the wire mesh and fence posts, the fabric is not properly entrenched in the ground, or if the fence posts are not properly secured in the ground.
- The SCE(s) will be stabilized by topping with aggregate as necessary and as construction proceeds. Sediment which is washed or tracked to public rights-of-way will be removed immediately.
- Excess sediment buildup will be removed from drainage structures, if applicable.
- Dust control will be implemented as necessary.
- The Site shall be maintained and remain free of refuse and debris.
- All seeded areas will be fertilized, reseeded as necessary, and mulched to maintain a vigorous, dense vegetative cover.

3.3.4. Contractor Compliance Certification

The contractor and subcontractors are required to certify that their respective activities will comply with the relevant portions of this SWPPP. All such

certifications will be in writing and retained at the Site with the SWPPP document. The contractor certification statement and signature page are included with this SWPPP (Section 5.2). In accordance with GP-0-20-001, all contractors and subcontractors must provide contact information and describe the elements of this SWPPP they are responsible for.

3.3.5. Training Requirements

The contractor and subcontractors involved in soil-disturbing activities will identify at least one (1) person from their company that will be responsible for inspection of the SWPPP components defined herein. This individual will have completed the requirements to be considered a “Trained Contractor” in accordance with GP-0-20-001, meaning 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. At least one (1) Trained Contractor must be on-site daily when soil-disturbing activities are being performed. Note that the Trained Contractor cannot perform the duties of the Qualified Inspector unless the Trained Contractor also meets the Qualified Inspector qualifications.

The Qualified Inspector will meet the requirements of GP-0-20-001, meaning they will be a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, NYSDEC-endorsed individual, 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.

A site-specific employee training program will be developed and implemented to educate employees and outside contractors on the requirements of the SWPPP. This education program will include background on the components and goals of the SWPPP. The program will also include hands-on training in erosion controls, spill prevention and response, good housekeeping, proper material handling, disposal and control of waste, equipment fueling, and proper storage, washing and inspection procedures. The SWPPP must also identify periodic dates for such training, which must be conducted at a minimum of one (1) training session per year. On-site employees will be trained prior to their first day on-site.

The training program shall be reviewed annually to determine its effectiveness and make any necessary changes to the program. Workers in critical areas (i.e., unloading personnel) will also have specific SWPPP procedures and activities emphasized in their training. All specific SWPPP training will be documented, and sign-in sheets shall be provided for each session, both of which will be retained with the SWPPP on-site.

Periodic employee meetings will cover the following items:

- Environmental or health and safety incidents;
- Upcoming training sessions;

- Brief reminders on good housekeeping, pollution prevention and response procedures, and material handling practices; and
- New management procedures or other changes to the SWPPP.

Employee training program topics will include the following:

- Summary of the SWPPP's purpose and what the SWPPP includes;
- Review of good housekeeping measures, maintenance of BMPs, and management of stockpile material onsite;
- Demonstrate proper sampling and reporting requirements;
- Review and demonstrate basic spill procedures and how to identify them;
- Indicate proper disposal methods and locations; and
- Inform employees with emergency contacts and telephone numbers.

3.4. Pollution Prevention

In addition to the good housekeeping practices discussed in Section 3.1.3, the contractor will implement measures to prevent spills from occurring and to properly respond to spill emergencies. The contractor will also adhere to all applicable local, state, and federal regulations in the event of a spill.

At a minimum, the following sections outline pollution prevention procedures that will be implemented by the contractor during construction.

3.4.1. Spill Prevention Plan

Prior to mobilization, all equipment to be delivered to the Site will be visually inspected by the contractor for potential sources of spills or leakage of hydraulic fluid, engine oil, transmission fluid, fuel, and grease. For potential sources that are identified, the contractor will remove and replace the subject equipment and/or make available on-site the necessary materials to manage the source and impacted area in the event of a spill or leakage. At a minimum, the Site will be equipped with at least one (1) spill kit consisting of sorbents, absorbent booms, and fire extinguishers. In the event of a spill or leakage, the contractor will be responsible for safely mitigating the source condition and removal/disposal of any impacted materials.

The contractor will take the following precautions to minimize the potential for spills of fuel or lubricants during construction activities:

- Place secondary containment measures around all fuel and lubricant storage tanks/units.
- Perform refueling activities on level ground within designated vehicle/equipment maintenance and fueling areas, away from steep slopes and runoff conveyance features (e.g., ditches, storm sewers, catch basins, etc.).
- Do not leave equipment unattended during refueling.
- Smoking, snacking, eating, etc., only in areas designated for such activities, that are located away from the refueling area.
- Engines will not be running when refilling fuel tanks.
- Replacing fuel caps immediately after filling and before starting the engine.
- Securing fuel pump dispensers when not in use to avoid accidental fuel release.

- Perform inspections and tests of equipment and portable fuel tanks to check for leaks and evaluate the condition of hoses and connections. If leaks are observed, transfer the contents to an alternate tank/storage unit and replace the equipment/tank or repair the leak, as appropriate.
- Maintain all equipment in accordance with the manufacturer's specifications.
- Operate all vehicles and equipment safely and park them a safe distance away from site hazards and sensitive resources.

3.4.2. Spill Response Plan

The contractor will be responsible for implementing all appropriate spill response procedures when responding to accidental releases of oil, and other pollutant products or materials during the performance of construction activities. All spills will be immediately reported by the contractor to federal, state, and local agencies as required, as well as the Owner and Owner's representatives.

Reporting requirements of spills to necessary agencies will be in accordance with applicable regulations. The contractor will be responsible for implementing appropriate spill response procedures, which may include the following:

- Ceasing operation of the affected equipment.
- Containing the spill: If the spilled material is floating on a water surface, spill-absorbent pads/booms will be placed across the path of the floating spill. If the spilled material sinks below the water surface, a dam, weir, or other containment method will be used to stop the flow of the spilled material. If the spill occurs on land, in a ditch, dam, or other, a containment unit will be constructed to stop the flow of the spilled material. Absorbent material will be applied as necessary.
- Cleaning up the spill: Spills in water will be recovered using the most appropriate measure until the spilled material is recovered (and no sheens or other evidence of the spill are observed). Spills on land will be recovered using pumps, sorbent material, hand tools, and/or heavy equipment, as necessary, until the spilled material is recovered.
- Containerizing spill materials: Spilled materials, impacted soils, sorbent pads, and other spill cleanup or containment materials will be containerized in NYS Department of Transportation-approved containers. The containers will be labeled with the waste type and date of accumulation in accordance with applicable regulations. Samples will be collected to characterize the spilled materials for disposal, as required.
- Disposing of spill materials: Impacted materials and spill cleanup debris will be disposed of at a facility permitted to accept such materials.
- Performing post-spill maintenance: Following cleanup of the spill, the contractor's project manager will verify that all used spill cleanup material and equipment have been disposed, or decontaminated, as appropriate. If the equipment that caused the spill cannot be properly repaired, replacement equipment will be obtained.

In the event of a spill and/or emergency, the contractor's project manager will also complete the activities described below:

- Immediately notify appropriate site personnel (i.e., Owner's on-site representative).
- Inform all site personnel of any potential hazards and required levels of personal protective equipment (PPE) to conduct the cleanup.
- Record the following information pertaining to the spill:
 - Name of the person(s) who identified and reported the spill incident;
 - Date, time, and location;
 - Brief description and cause of the spill;
 - Estimated quantity and type of material spilled;
 - Extent and description of impacts to soil, sediment, and water from the spill;
 - Any damages or injuries related to the spill; and
 - Actions completed to stop, contain or control, and clean up the spill.
- If there is an immediate threat to human health or the environment, the contractor will promptly notify the appropriate authorities (i.e., local police, fire department, hospitals, and state and local emergency response teams).
- Coordinate spill reporting to the appropriate agencies (e.g., NYSDEC).

3.5. Recordkeeping

SWPPP (and related documents) – a copy of this SWPPP, NOI, NOI Acknowledgement Letter, inspection reports, contractor compliance certification, and any other relevant documents will be retained on-site for the duration of project construction activities. These documents will be retained in a secured location readily available to individuals performing compliance inspections.

3.5.1. Weekly Inspections Reports

The Site will be inspected at a minimum of once every seven (7) calendar days (see Section 3.2.1). Inspection reports will be prepared by a Qualified Inspector after every inspection. At a minimum, the inspection report shall include and/or address the following:

- Date and time of inspection.
- Name and title of person(s) performing the inspection.
- A description of the weather and soil conditions (e.g., dry, wet, saturated) at the time of inspection.
- A description of the condition of the runoff at all points of discharge from the construction site, including any discharges of sediment and discharges from conveyance systems (i.e., culverts and ditches) and overland flow.
- A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody.
- Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance.
- 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.

- Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection.
- Current phase of construction of all post-construction stormwater management practices and identification of construction that is not in conformance with this SWPPP and technical standards.
- 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 installation of the PCSM practice(s) (if applicable).
- 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 on-site 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.

Within one (1) business day of the completion of an inspection, the Qualified Inspector shall notify the Owner or Owner's on-site representative and appropriate contractor or subcontractor personnel of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one (1) business day of this notification and shall complete the corrective actions in a reasonable time frame. All inspection reports will be signed by the Qualified Inspector and copies maintained on-site with the SWPPP. A Construction Duration Inspections Checklist is included as Appendix F.

3.5.2. Records Retention

Copies of this SWPPP, NOI, NOI Acknowledgement Letter, and any reports submitted or prepared in conjunction with this SWPPP will be retained by the Owner for a period of at least five (5) years from the date that the NYSDEC receives the Notice of Termination (NOT).

3.5.3. SWPPP Amendments

The SWPPP will be amended for any of the following cases:

- When a significant change in design, remediation, operation, or maintenance occurs which may have a significant effect on the potential for discharge of pollutants to the waters of the United States and which has not otherwise been addressed in this SWPPP.
- When the SWPPP proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in this SWPPP.
- When the SWPPP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges from the Site.



- To identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modifications to the SWPPP will be described and recorded on the Construction Duration Inspection Checklist form in Appendix .

3.6. Final Stabilization and Cleanup

After construction is complete the disturbed areas not containing pavement, riprap, cobble, etc., will be permanently stabilized. Once construction activities are complete in an area, it shall be stabilized with permanent seed and mulch within seven (7) days.

The temporary control measures other than perimeter controls will be removed during final grading. The temporary perimeter controls (e.g., silt fence) will not be removed until all construction activities at the Site are complete and soils have been stabilized.



4.0 POST-CONSTRUCTION STORMWATER MANAGEMENT

Redevelopment of the Site will further stabilize the site and reduce peak runoff flows and total runoff, despite increasing by 0.86 acres of impervious area. As such, the post construction peak discharge rate is less than predevelopment rates and the project is exempt from providing storage for Overbank and Extreme Flood Controls. Rain gardens are proposed for runoff reduction to reduce the total water quality volume and meet Channel Protection Volume runoff requirements.

A hydraulic analysis of pre-development and post-development conditions has been performed and is discussed below.

4.1. Water Quality Volume Calculations

The Proposed Development for the Site involves the construction of a solar farm, access road, fencing and drainage components. The Water Quality Volume (WQv) sizing criteria has been addressed by designing the solar panels to be constructed on post systems (or approved equal), which are elevated off the ground surface, designing the solar panels to be spaced apart and sloped to allow rainwater to flow off as sheet flow. The individual rows of solar panels are typically installed parallel to the Site's topography so that rainwater sheet flows down slope. Lastly, the ground surface below the panels would be established with vegetative cover.

Post-development, stormwater runoff would continue to flow towards potential wetlands in the southwest portion of the Site. It is anticipated that the proposed action would not result in a change of flow to the receiving surface water body as compared to pre-construction conditions.

WQv calculations have been included in Appendix G. For this Site, the 90% rainfall event is assumed to be 1 inch. Based on the calculations, the drainage area provides more storage volume than what is required to capture, treat and discharge 100% of the WQv calculated.

Table 4-1: Water Quality Volume and Runoff Reduction Requirements

Water Quality Volume (ac-ft)	Runoff Reduction Volume (ac-ft)
0.21	0.047

Runoff reduction volume is proposed to be stored in a rain garden that runs along the solar panel fence line in the northwest section of the project area . It is approximately 1,000 feet long and has a volume of 0.37 ac-ft. The rain garden is proposed at lower points on the proposed grade to allow the existing grade to flow the runoff to these points. Total storage is summed up and presented in the table below:

Table 4-1.1: Runoff Reduction Storage Provided

Runoff Reduction Volume Provided (ac-ft)
0.29

4.2. Water Quantity Volume Calculations

Precipitation data for the site was acquired using the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 10, Version 3 Point Precipitation Frequency Estimates online tool (Appendix H). Table 4-2 below lists the precipitation amounts for various storm events for the Site.

Table 4-2: Site Precipitation Data

Storm Event	Precipitation (in)
1-Year, 24-Hour	2.02
10-Year, 24-Hour	3.80
100-year, 24-Hour	5.90

4.2.1. Pre-Development Conditions Analysis

A pre-development analysis was conducted to establish the existing conditions peak discharge rates for the 1-, 10- and 100-Year, 24-hour storm events. The discharge values correspond to the Channel Protection Volume (Cpv), Overbank Flood Control Criteria (Qp) and Extreme Flood Control Criteria (Qf) sizing criteria per GP-0-20-001.

Existing land cover types and their respective areas were identified and delineated using New York State Ortho imagery and AutoCAD Civil3D to calculate the weighted Curve Number (CN) for each of the drainage areas. Areas were classified as one (1) of the following values:

1. Row Crops, Straight Row (Poor; HSG A), CN = 72
2. Woods/grass comb. (Fair; HSG A), CN = 43

Time of concentration (Tc) paths were determined for the Site utilizing available topography data and calculated using USDA Technical Release 55 (TR-55) Urban Hydrology for Small Watersheds methodology for calculating travel time for sheet flow and shallow concentrated flow as applicable.

Peak discharges for each drainage area were calculated for the 1-, 10- and 100-Year, 24-hour storm events using the SCS Method for Type II rainfall distribution using HydroCAD software. The existing conditions peak discharges for each drainage area are summarized in Table 4-2.1 below.

Table 4-2.1: Pre-Development Drainage Conditions Summary

Drainage Area	Area (ac)	Weighted CN	Tc (min)	Runoff Volume (ac-ft) 1-Year, 24-Hour Storm (Cpv)	Peak Discharge (cfs) 1-Year, 24-Hour Storm (Cpv)	Runoff Volume (ac-ft) 10-Year, 24-Hour Storm (Qp)	Peak Discharge (cfs) 10-Year, 24-Hour Storm (Qp)	Runoff Volume (ac-ft) 100-Year, 24-Hour Storm (Qf)	Peak Discharge (cfs) 100-Year, 24-Hour Storm (Qf)
A	29.15	63	34.9	0.258	0.61	1.970	14.85	5.118	45.53
B	1.77	44	22.5	0.0	0.0	0.017	0.02	0.103	0.74
Total	30.92	-	-	0.258	0.61	1.987	14.87	5.221	46.27

4.2.2. Post-Development Conditions Analysis

A post-development analysis was conducted to establish the existing conditions peak discharge rates for the 1-, 10- and 100-Year, 24-hour storm events. The discharge values correspond to the Channel Protection Volume (Cpv), Overbank Flood Control Criteria (Qp) and Extreme Flood Control Criteria (Qf) sizing criteria per GP-0-20-001.

Proposed land cover types and their respective areas were identified and delineated using New York State Ortho imagery adjusted with post development conditions and AutoCAD Civil3D to calculate the weighted Curve Number (CN) for each of the drainage areas. Areas were classified as one (1) of the following values:

1. Pasture/grassland/range, (Good; HSG A), CN = 39
2. Gravel surface, (HSG A), = CN = 96

Table 4-2.2: Post-Development Drainage Conditions Summary

Drainage Area	Area (ac)	Weighted CN	Tc (min)	Runoff Volume (ac-ft) 1-Year, 24-Hour Storm	Peak Discharge (cfs) 1-Year, 24-Hour Storm	Runoff Volume (ac-ft) 10-Year, 24-Hour Storm	Peak Discharge (cfs) 10-Year, 24-Hour Storm	Runoff Volume (ac-ft) 100-Year, 24-Hour Storm	Peak Discharge (cfs) 100-Year, 24-Hour Storm
A	29.15	41	32.0	0.0	0.0	0.135	0.17	1.274	5.59
B	1.77	39	15.6	0.0	0.0	0.004	0.01	0.062	0.31
Total	30.92	-	-	0.0	0.0	0.118	0.15	1.132	4.99

The post-construction stormwater management system for the proposed development provides a reduction in the peak discharge rates for the Site under all three (3) storm events (i.e., 1-, 10- and 100-year, 24-hour). Detailed calculations for the drainage areas can be found in Appendix G.

4.3. Summary of Post Stormwater Controls

Water Quality Volume is proposed to be reduced through use of Runoff Reduction Techniques including rain gardens. A rain garden is proposed for the site which runs adjacent to the fence line on the West side of the project area, and another rain garden just outside of the project area on the west side of the project area. The volume of the proposed rain gardens exceeds the total Water Quality Volume for the site as shown in Section 4.1.

The pre-development conditions compared to the post-development conditions indicate that runoff volume and peak discharge is reduced for the Channel Protection Volume, Overbank Flood Control Criteria, and the Extreme Flood Control Criteria. This is mainly due to improving soil conditions through use of seeding of a solar farm pollinator friendly seed mix and mulching.

To provide 24-hour extended detention of the post developed 1-year, 24-hour storm event, the Channel Protection Volume, the rain garden is proposed for the site. The total

required Channel Protection Volume for the post-development conditions is 0.0 ac-ft and 0.29 ac-ft of volume are provided in the rain gardens.

As the drainage analysis indicates that the post-development peak and overall runoff conditions are less than the pre-development conditions, no extended detention is proposed for the Overbank Flood Control Criteria or Extreme Flood Control Criteria.

4.4. Post-Construction Maintenance

The estimated maintenance schedule for the post-construction stormwater management practices is summarized below. The Owner/Operator shall be responsible for ensuring proper maintenance is performed as needed.

1. Rain Garden –
 - a. At the end of each season in the late fall or winter, the growth can be mowed.
 - b. Sediment removal should be done at least every five (5) years.
 - c. Any sediment accumulation shall be removed.

A Drainage System Operation, Maintenance and Management Inspection Checklist is included as Appendix I.



5.0 CERTIFICATIONS

5.1. Preparers Certifications

“I certify that this document and all attachments were prepared under my direction and supervision in accordance with the current SPDES General Permit. Qualified personnel performed due diligence in gathering and evaluating the information contained in this SWPPP. Based on my design and inquiry of the Owners and/or sponsors of the project, the information contained in this SWPPP is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

Michael Scanlon, PE
Preparers' Name

Michael Scanlon
Signature

Project Manager
Title

P.W. Grosser Consulting
Firm Name

630 Johnson Avenue, Suite 7, Bohemia, NY 11716
Firm Address

(631)589-6353
Firm Telephone Number

30 Morris Road
Town of Dryden, New York 13068
Site Address

04/10/2024
Certification Date





5.1. Contractors & Subcontractors Compliance Certifications

“I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the Qualified Inspector during a site inspection. I also understand that the Owner or Operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) general permit for stormwater discharges from site activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.”

Trained Contractor’s Name

Signature

Title

Responsible for the following SWPPP Measures:

1. _____

Firm Name

2. _____

3. _____

Firm Address

4. _____

5. _____

Firm Telephone Number

6. _____

7. _____

Site Address

8. _____

9. _____

Certification Date

10. _____



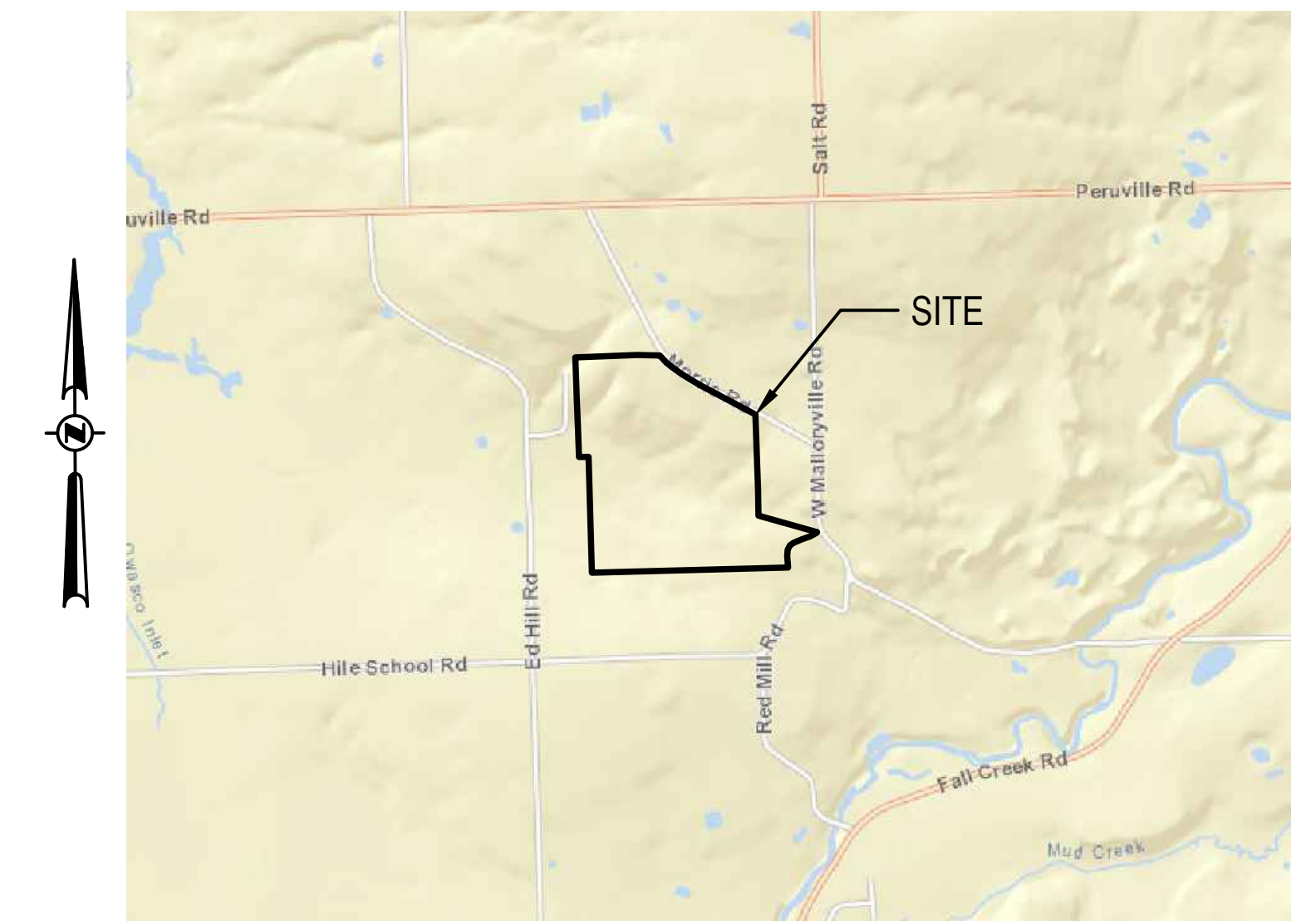
APPENDIX A

EXISTING AND PROPOSED SITE PLANS (CONSTRUCTION DRAWINGS)



NY DRYDEN III, LLC

MORRIS ROAD SOLAR PROJECT 5.0 MW AC DRYDEN, NEW YORK



SOURCE: NEW YORK STATE GIS RESOURCES

VICINITY MAP
SCALE: 1"=2000'
0 2000 4000
SCALE: 1" = 2000'

PLANS

ISSUED FOR: TOWN SUBMISSION
ISSUE DATE: 04/11/2024
LAST REVISED: 04/11/2024

PROJECT CONTACTS

ENGINEER:
P.W. GROSSER CONSULTING, INC.
630 JOHNSON AVENUE, SUITE 7, BOHEMIA, NY 11716
TEL: (631) 589-6353
FAX: (631) 589-8705

MUNICIPAL CONTACTS

TOWN:
TOWN OF DRYDEN
93 E MAIN STREET
DRYDEN, NY 13053

COUNTY:
TOMPKINS COUNTY
320 N TIOGA STREET
ITHACA, NY 14850
TEL (607) 274-5431

SITE INFORMATION

SITE: 30 MORRIS ROAD, DRYDEN, NY 13068
TM #: 24-1-4
LOT AREA: 117.39 AC

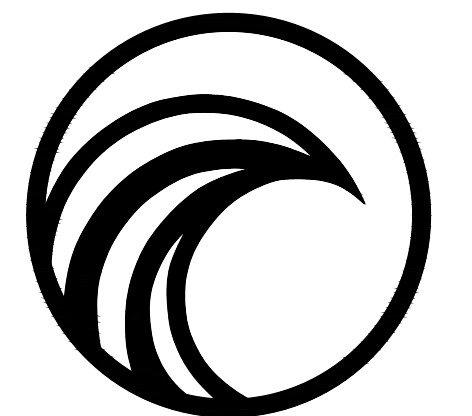
SHEET INDEX

NO.	SHEET	TITLE
1.	COVER	
2.	C-001	GENERAL NOTES AND LEGEND INFORMATION
3.	C-100	EXISTING CONDITIONS PLAN
4.	C-101	CONCEPTUAL SITE LAYOUT PLAN
5.	C-200	CONCEPTUAL GRADING AND DRAINAGE PLAN
6.	C-201	CONCEPTUAL EROSION AND SED. CONTROL PLAN
7.	C-500	CONCEPTUAL LANDSCAPING PLAN
8.	C-501	PRIME SOILS IMPACT MAP
9.	C-600	SITE DETAILS
10.	C-601	EROSION AND SED. CONTROL DETAILS

CLIENT INFORMATION

CLIENT:
NY DRYDEN III, LLC
P.O. BOX 384
CALLICOON, NY 12783

FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION



PWGC

CLIENT DRIVEN SOLUTIONS

P.W. GROSSER CONSULTING, INC.

630 Johnson Avenue • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

COVER
SHEET 1 OF 10

BASEMAP NOTES

- EXISTING CONDITIONS BASEMAP INFORMATION IS BASED ON LIDAR FROM NYS GIS DATA DOWNLOADED ON 01-08-24.
- PROPOSED SOLAR DEVELOPMENT LAYOUT INFORMATION IS BASED ON CONCEPTUAL LAYOUT PLAN DEVELOPED BY MONGAUP RIVER SOLAR, SHEET TITLED "LAYOUT TECHNICAL REVIEW" AT 1":200 SCALE, DATED 04-05-24. ALL BASEMAP INFORMATION IS TO BE CONSIDERED APPROXIMATE AND IS TO BE FIELD VERIFIED BY A NEW YORK STATE LICENSED SURVEYOR PRIOR TO FINALIZING DESIGN.
- LOT LINES BASED ON INFORMATION PROVIDED FROM NYS GIS; DOWNLOADED ON 02-16-24.

SURVEY NOTES

- ALL SURVEY AND SITE STAKEOUTS FOR PROPOSED FEATURES SHALL BE PERFORMED BY A NEW YORK STATE LICENSED SURVEYOR.
- CONTRACTOR WILL BE RESPONSIBLE TO LOCATE, MARK AND PROTECT ALL EXISTING SURVEY, PROPERTY, AND RIGHT-OF-WAY MARKERS FOR THE SITE. ANY MARKERS, PINS, MONUMENTS OR OTHER FEATURES DEFINING PROPERTY LIMITS THAT MAY BE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE PROPERLY TIED AND RESET BY A NEW YORK STATE LICENSED SURVEYOR UPON COMPLETION OF THE WORK.
- THE HORIZONTAL DATUM IS NAD83 NEW YORK STATE PLANE COORDINATE SYSTEM, (US FT).
- THE VERTICAL DATUM IS NAVD88.

GENERAL NOTES

- THE INFORMATION IN THIS DRAWING SET IS CONCEPTUAL AND IS INTENDED FOR TOWN BOARD PLANNING AND DISCUSSION PURPOSES ONLY. THIS DRAWING SET IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.
- CONTRACTOR WILL BE RESPONSIBLE TO FIELD VERIFY ALL EXISTING CONDITIONS AND SITE FEATURES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES FOUND SHALL BE DOCUMENTED IN WRITING AND SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
- CONTRACTOR WILL BE RESPONSIBLE TO LOCATE AND MARK OUT ALL EXISTING UTILITIES, INCLUDING THOSE UNDERGROUND, PRIOR TO CONSTRUCTION. ANY POTENTIAL INTERFERENCES WITH PROPOSED FEATURES SHALL BE DOCUMENTED IN WRITING AND SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING SITE FEATURES AND UTILITIES THAT ARE NOT DESIGNATED FOR REMOVAL. ANY SITE FEATURE, UTILITY, STREET APPURTENANCE, OR OTHER ITEM THIS IS DAMAGED BY THE CONTRACTOR OR ITS SUBCONTRACTORS DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED IN-KIND BY THE CONTRACTOR, AS DETERMINED BY THE OWNER OR ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR WILL BE REQUIRED TO OBTAIN ANY ADDITIONAL PERMITS THAT ARE NOT PROVIDED BY THE OWNER OR ENGINEER. ALL WORK WITHIN AN EXISTING RIGHT-OF-WAY WILL REQUIRE PERMITTING WITH RESPECTIVE OWNER, STATE OR COUNTY AGENCY, TOWN DEPARTMENT OF PUBLIC WORKS, OR HIGHWAY DEPARTMENT AS APPLICABLE.

ZONING ANALYSIS

TM #: 24-1-4
 EXISTING ZONING: RURAL AGRICULTURAL
 LOT AREA: 117.39 ACRES
 PROPOSED USE: LARGE SCALE SOLAR

	REQUIRED	PROPOSED
LOT SIZE	5 AC.	117.39 AC.
MAX. LOT COVERAGE	50%	7.5%
HEIGHT	20'	15'
PROPERTY SETBACK (FRONT & ROAD)	50'	784'
PROPERTY SETBACK (SIDE/BACK)	50'	71.5'

EROSION AND SEDIMENT CONTROL NOTES

- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK), AND LOCAL GOVERNING SOIL AND WATER CONSERVATION DISTRICT STANDARDS. THE EROSION AND SEDIMENT CONTROLS SHOWN ON THESE PLANS AND AS DESCRIBED IN THE PROJECT SWPPP REPRESENT THE MINIMUM REQUIREMENTS AND ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING PROJECT REMAINS IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS AND STANDARDS PERTAINING TO EROSION AND SEDIMENT CONTROLS.
- EROSION AND SEDIMENT CONTROLS WILL BE INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITIES AND WILL BE MAINTAINED FOR THE DURATION OF THE WORK, INCLUDING TEMPORARY CONSTRUCTION SWALES AND DETENTION POND WITH OUTLET STRUCTURE AND ROCK OUTLET PROTECTION.
- CONTRACTOR WILL UTILIZE MEANS, METHODS AND SEQUENCING THAT MINIMIZE THE AMOUNT OF EARTH DISTURBANCE TO THE EXTENT PRACTICAL, AND NOT TO EXCEED MORE THAN 5.0 ACRES AT ANY GIVEN TIME.
- CONTRACTOR SHALL PROTECT ALL ON-SITE, ADJACENT AND/OR DOWNSTREAM STORM/SANITARY SEWERS, AND/OR OTHER WATER COURSES FROM CONTAMINATION BY WATER BORNE SILTS, SEDIMENTS, FUELS, SOLVENTS, LUBRICANTS OR OTHER POLLUTANTS ORIGINATING FROM THE SITE OR WORK BEING PERFORMED.
- CONTRACTOR WILL FOLLOW GOOD HOUSEKEEPING AND SPILL CONTROL PRACTICES DURING SITE ACTIVITIES TO MINIMIZE STORMWATER CONTAMINATION FROM CONCRETE, PETROLEUM PRODUCTS AND WASTE MATERIALS. NO WET OR FRESH CONCRETE, LEACHATE OR WASHINGS FROM EQUIPMENT SHALL BE ALLOWED TO MIGRATE INTO EXISTING STORM/SANITARY SEWERS, DITCHES OR OTHER WATERS OF NEW YORK STATE.
- ALL EXCAVATED OR IMPORTED MATERIAL STOCKPILES SHALL BE SUITABLY STABILIZED AND SURROUNDED BY SILT FENCE TO MINIMIZE POTENTIAL FOR SEDIMENT LADEN RUNOFF DISCHARGING TO DOWNSTREAM AREAS OR DRAINAGE FEATURES. DISTURBED SOILS OR STOCKPILES THAT ARE TO BE EXPOSED FOR MORE THAN 14 CALENDAR DAYS SHALL BE TEMPORARILY STABILIZED WITH SEED MIX CONSISTING OF RYEGRASS (ANNUAL OR PERENNIAL) APPLIED AT 30 LBS PER ACRES (0.7 LBS PER 1,000 SQ. FT.), OR CERTIFIED "AROOSTOOK" WINTER RYE (CEREAL RYE) APPLIED AT 100 LBS PER ACRES (2.5 LBS PER 1,000 SQ. FT.) IF SEEDING IN OCTOBER OR NOVEMBER.
- CONTRACTOR MATERIAL AND EQUIPMENT STAGING AREAS AND CONSTRUCTION ENTRANCE LOCATIONS SHALL BE COORDINATED WITH THE OWNER PRIOR TO START OF CONSTRUCTION. CONSTRUCTION ENTRANCES AS SHOWN ON THE PLANS MAY BE MODIFIED BY THE CONTRACTOR WITH PRIOR APPROVAL FROM THE OWNER AND ENGINEER.
- ALL EXISTING OR NEWLY INSTALLED CATCH BASINS/DRAINAGE INLETS SHALL HAVE DROP INLET PROTECTION INSTALLED THROUGHOUT THE DURATION OF CONSTRUCTION TO PREVENT SEDIMENTATION FROM ENTERING THE STORM SYSTEM. CONTRACTOR SHALL MAINTAIN OR REPLACE DROP INLET PROTECTION WHEN SIGNIFICANT SEDIMENT BUILDUP IS OBSERVED OR IS NOT FUNCTIONING CORRECTLY.
- CONTRACTOR SHALL TAKE ALL NECESSARY AND APPROPRIATE MEASURES TO MITIGATE OR PREVENT FUGITIVE DUST THROUGHOUT THE DURATION OF CONSTRUCTION. CONTRACTOR SHALL ADHERE TO METHODS AS DESCRIBED IN THE PROJECT SWPPP.
- COMPLETED WORK THAT IS NOT SUBJECT TO FURTHER EARTHWORK OR CONSTRUCTION ACTIVITIES SHALL BE PERMANENTLY SEEDED AND MULCHED WITH HAY OR STRAW WITHIN ONE WEEK OF FINAL DISTURBANCE. MULCH SHALL BE MAINTAINED UNTIL A SUITABLE VEGETATIVE COVER IS ESTABLISHED.

GRADING NOTES

- CONCEPTUAL GRADING DESIGN SHOWN IN THESE PLANS IS BASED ON NYS LIDAR INFORMATION PROVIDED TO PWGC BY PACKER ASSOCIATES, INC. AND IS TO BE CONSIDERED APPROXIMATE AND CONCEPTUAL, AND FOR DISCUSSION PURPOSES ONLY. GRADING DESIGN IS SUBJECT TO CHANGE BASED ON FURTHER SITE INVESTIGATIONS AND ANALYSIS.
- ADDITIONAL SITE GEOTECHNICAL ANALYSIS IS REQUIRED TO VERIFY GRADING CONSTRAINTS AND FEASIBILITY.
- GRADING SHALL PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE AND OSHA REQUIREMENTS. THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF OSHA, AND ANY OTHER AGENCY HAVING JURISDICTION WITH REGARD TO SAFETY PRECAUTIONS WITH TRENCHING OR EXCAVATION AND GRADING OPERATIONS. THE REQUIREMENTS SET FORTH HEREIN ARE INTENDED TO SUPPLEMENT REQUIREMENTS ESTABLISHED BY THESE AGENCIES. IN THE CASE OF A CONFLICT BETWEEN REQUIREMENTS OF OTHER JURISDICTIONAL AGENCIES AND THESE DOCUMENTS, THE MORE STRINGENT REQUIREMENT ON THE CONTRACTOR SHALL APPLY.
- VOIDS LEFT BY UTILITY OR STRUCTURE EXCAVATIONS, OR GRUBBING OPERATIONS SHALL BE BACKFILLED AND PROPERLY COMPACTED WITH STRUCTURAL FILL (NYS DOT ITEM 304.12 OR EQUIVALENT) IN AREAS UNDER AND WITHIN 5 FEET HORIZONTALLY OF ALL STRUCTURES, AND PAVEMENTS. IN GRASSED AREAS, VOIDS LEFT SHALL BE FILLED AND PROPERLY COMPACTED WITH SUITABLE ON-SITE BACKFILL AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL DEWATER ALL EXCAVATIONS TO PREVENT THE INTRODUCTION OF GROUNDWATER OR PONDED WATER INTO THE TRENCHES/EXCAVATIONS AND WILL PROVIDE ALL EQUIPMENT NECESSARY TO MAINTAIN THE WATER AS NECESSARY. DEWATERING SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SWPPP.
- UNLESS OTHERWISE DIRECTED, THE CONTRACTOR SHALL PLACE AT MINIMUM 6 INCHES OF CLEAN TOPSOIL IN ALL DISTURBED AND NEWLY GRADED AREAS PRIOR TO SEEDING.

WETLANDS NOTES

- EXISTING STREAM AND WETLANDS INFORMATION IS BASED ON DEC ENVIRONMENTAL RESOURCE MAPPER PUBLICLY AVAILABLE DATA DOWNLOADED ON 02-14-24, AND PWGC WETLANDS DELINEATION PERFORMED.
- ACTUAL LIMITS OF ALL STREAMS, WETLANDS AND WETLAND ADJACENT AREAS ARE TO BE FIELD VERIFIED VIA SURVEY AND WILL BE MARKED IN THE FIELD BY SURVEY MARKERS, RIBBON, FLAGS, OR EQUIVALENT PRIOR TO START OF CONSTRUCTION.
- EFFORTS SHALL BE MADE TO MINIMIZE DISTURBANCE TO ANY STATE OR FEDERALLY REGULATED WETLANDS. UNNECESSARY REMOVAL OF VEGETATION OR DEGRADATION ALONG STREAM BANKS IS PROHIBITED.
- ONLY HAND CLEARING SHALL BE ALLOWED IN WETLAND AREAS AS NECESSARY. MACHINE CLEARING IS PROHIBITED WITHIN WETLAND AREAS.
- IF TEMPORARY ACCESS IS REQUIRED IN WETLAND AREAS, TEMPORARY TIMBER MATS WILL BE USED TO MINIMIZE DISTURBANCE TO UNDERLYING WETLAND SOILS.
- STAGING OF ANY CONSTRUCTION MATERIALS OR EQUIPMENT IS PROHIBITED IN WETLAND AREAS.
- ANY WETLAND DISTURBANCE IS TO BE RESTORED WITH APPROPRIATE WETLAND SEED MIX IN ACCORDANCE WITH NYS DOT ITEM 203.01920007 OR MOST CURRENT NYSDEC REQUIREMENTS RELATED TO WETLAND RESTORATION. COMPONENT OF THE SEED MIX MAY BE SUBSTITUTED WITH THE ENGINEER'S APPROVAL.

SOLAR MODULE NOTES

MANUFACTURER: HANWHA
 MODEL: Q.PEAK DUO XL-G11.3 / BFG
 MODULE OUTPUT POWER: 585 WP
 STRING SIZE: 24
 NUMBER OF STRINGS: 452
 MODULE QUANTITY: 10,848
 PV SYSTEM OUTPUT: 6,346.08 KWP DC

NOTES:

- SOLAR PANELS TO BE INSTALLED BY A QUALIFIED SOLAR INSTALLER AND SHALL BE BUILT, OPERATED AND MAINTAINED TO ACCEPTABLE INDUSTRY STANDARDS INCLUDING BUT NOT LIMITED TO THE MOST RECENT, APPLICABLE STANDARDS OF THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS ("IEEE") AND THE AMERICAN NATIONAL STANDARDS INSTITUTE.

LEGEND

EXISTING	CONCEPTUAL	NOTES
TOPOGRAPHIC FEATURES		
		MINOR CONTOURS (5-FT INTERVAL) MAJOR CONTOURS (10-FT INTERVAL) LIMITS OF GRADING
DRAINAGE ELEMENTS		
		STREAM WATER BAR
		LINED SWALE ROCK OUTLET PROTECTION
		DRAINAGE CULVERT DETENTION POND OUTLET STRUCTURE
		STORMWATER DETENTION POND
SITE FEATURES		
		PROPERTY BOUNDARY ZONING SETBACK
		APPROXIMATE WETLAND LIMITS POTENTIAL WETLAND LIMITS
		ADJACENT PROPERTY BOUNDARY APPROXIMATE WETLANDS OFFSET
		PAVED ROADWAY GRAVEL ROADWAY
		OVERHEAD ELECTRICAL UTILITY UNDERGROUND ELECTRICAL UTILITY
		8-FT TALL DEER FENCE SOLAR PANEL ARRAY
		SEED RESTORATION LIMITS TREE LINE
EROSION AND SEDIMENT CONTROL		
		SILT FENCE LAND GRADING ACTIVITIES
		STABILIZED CONSTRUCTION ENTRANCE DUST CONTROL MEASURES
		LIMITS OF CLEARING

FOR PERMITTING
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7		
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4		
3	CLIENT REVIEW	04/11/2024
2	TOWN SUBMISSION	03/29/2024
1	CLIENT REVIEW	03/01/2024
Number	Revision Description	Revision Date

Designed By: _____ Date Submitted: _____
 Drawn By: **RPV** Date Created: **02/14/2024**
 Approved By: **MTS** Scale: **AS NOTED**

Client:
NY DRYDEN III, LLC
P.O. BOX 384
CALLICOON, NY 12783

PROJECT ADDRESS

30 MORRIS ROAD
TOWN OF DRYDEN
TOMPKINS COUNTY, NEW YORK

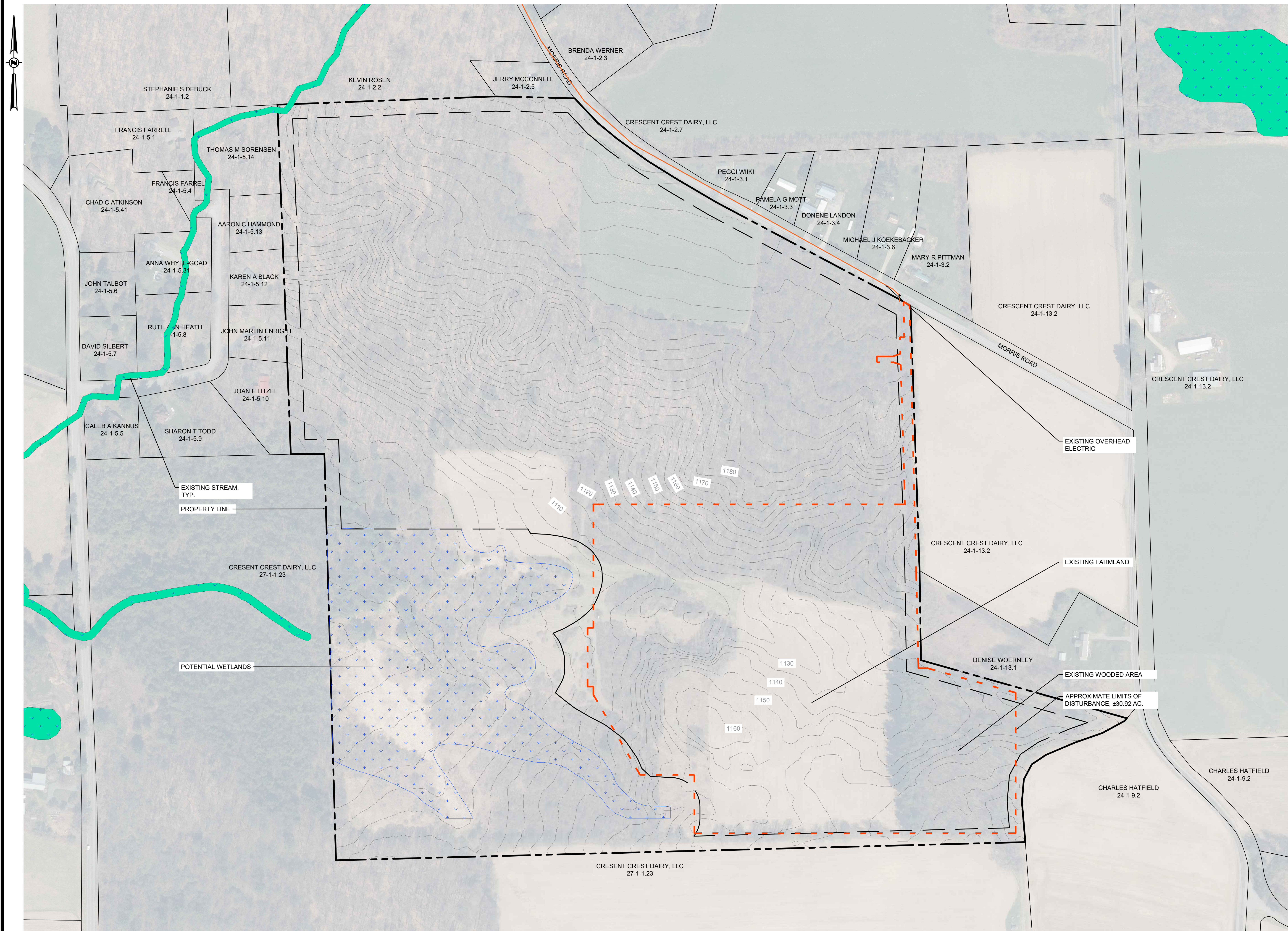
County File Map Number: **24-1-4** Contract Number: **---**
 Regulatory Reference Number: **---**
 Title of Drawing: **---**

GENERAL NOTES AND LEGEND INFORMATION

Drawing Number: **C-001**
 Sheet: **2** of **10**
 PWGC Project Number: **DRS2322**

STATE OF NEW YORK
 MICHAEL SCHWAB
 LICENSED PROFESSIONAL ENGINEER
 103321

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1	CLIENT REVIEW	03/01/2024
Number	Revision Description	Revision Date

Designed By		Date Submitted	
Drawn By	RPV	Date Created	02/24/2024
Approved By	MTS	Scale	1" = 150'


Client:
NY DRYDEN III, LLC
P.O. BOX 384
CALLICOON, NY 12783

Project:
**MORRIS ROAD SOLAR
FARM CONCEPTUAL PLAN**

Project Address:
**30 MORRIS ROAD
TOWN OF DRYDEN
TOMPKINS COUNTY, NEW YORK**

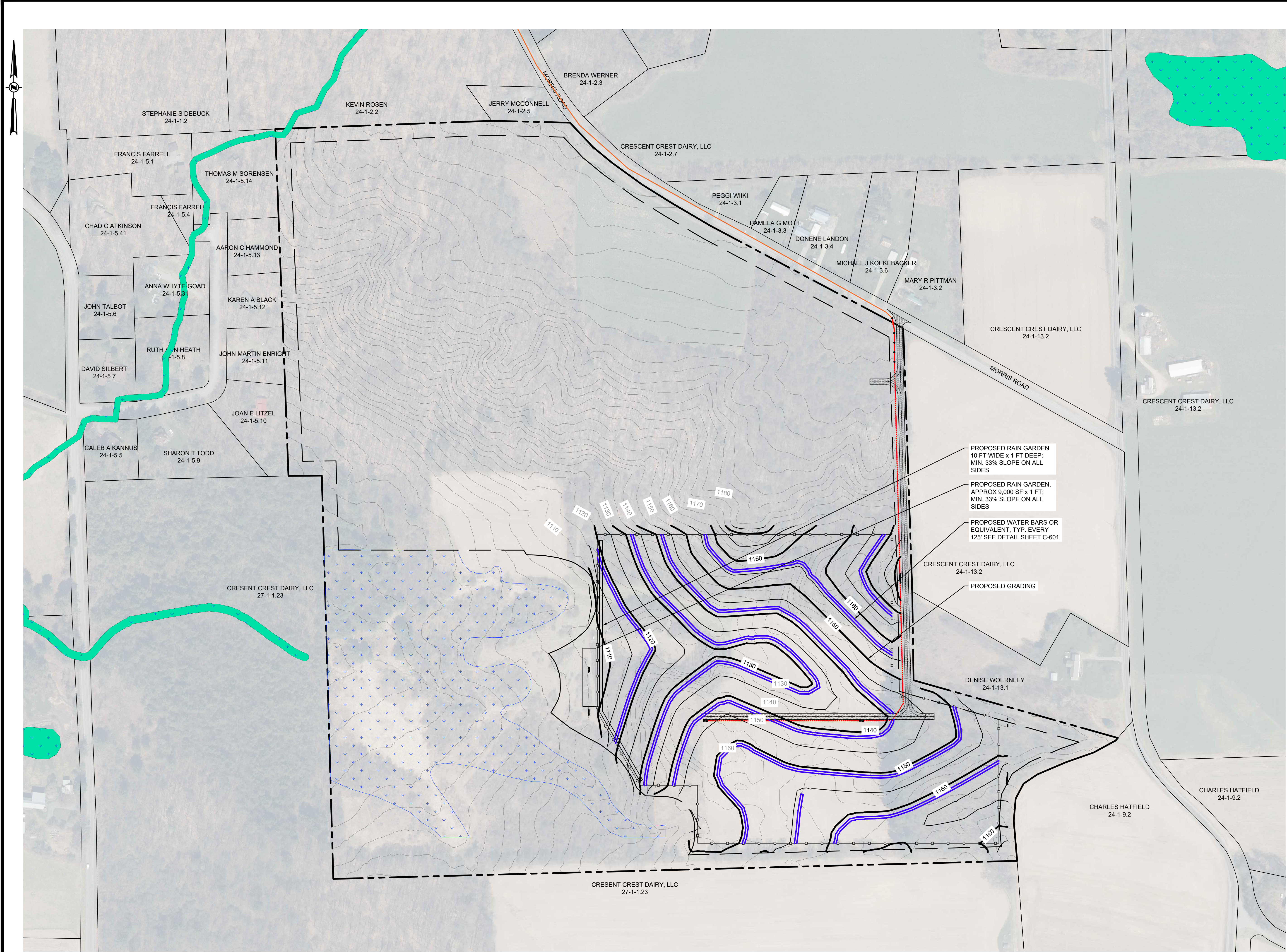
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Continued Number: ...
Regulatory Reference Number: ...
Title of Drawing: ...

**EXISTING
CONDITIONS
PLAN**



Drawing Number:
C-100

Sheet:
3 of 10
PWGC Project Number:
DRS2322



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Drawn By	RPV	Date Created 02/14/2024
Approved By	MTS	Scale 1" = 150'

Client:
NY DRYDEN III, LLC
P.O. BOX 384
CALLICOON, NY 12783

Project:
MORRIS ROAD SOLAR FARM CONCEPTUAL PLAN

Proposed Address:
30 MORRIS ROAD
TOWN OF DRYDEN
TOMPKINS COUNTY, NEW YORK

County File Map Number: 24-1-4 Contract Number: ---
Regulatory Reference Number: ---
Title of Drawing: ---

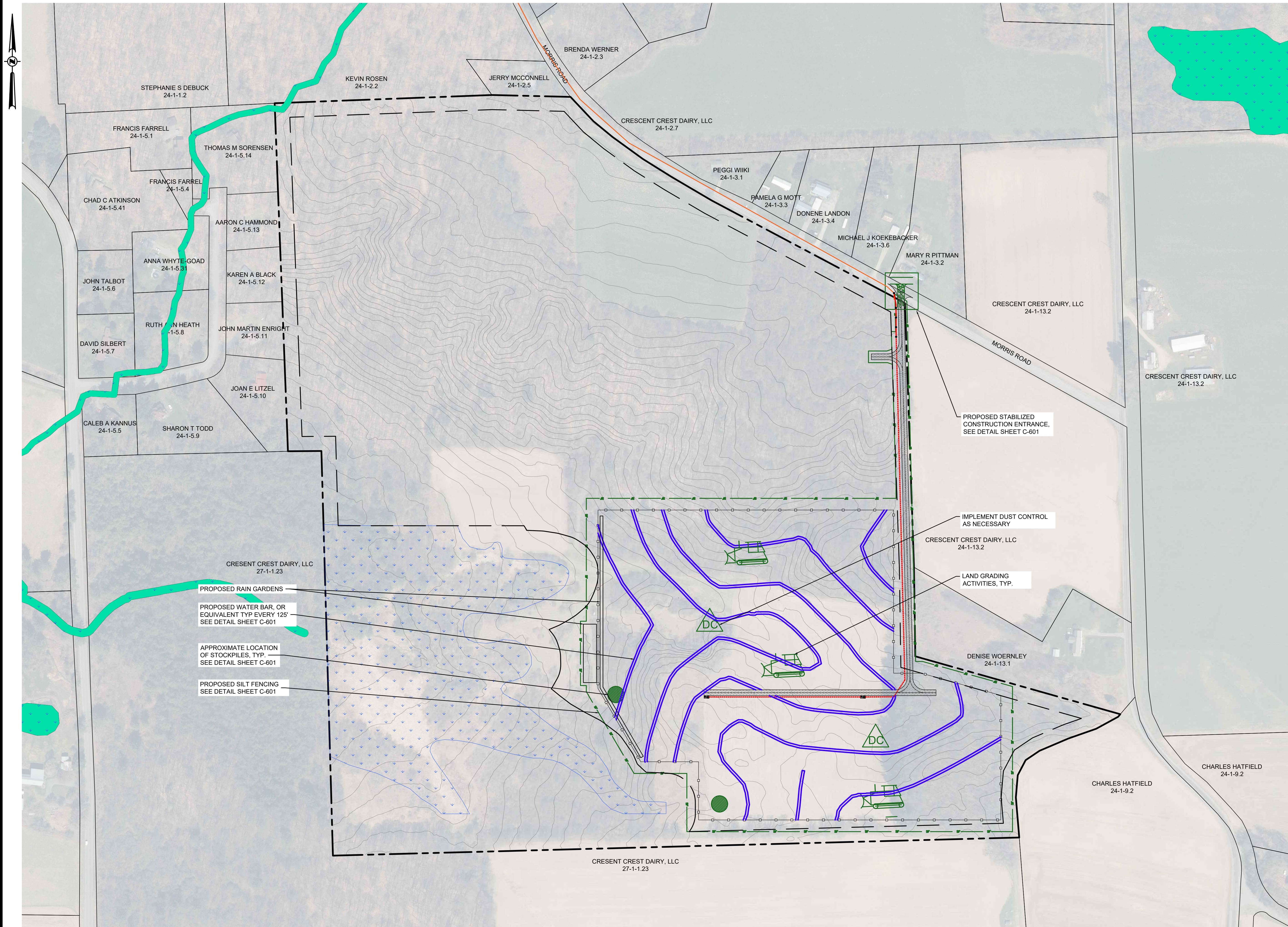
CONCEPTUAL GRADING AND DRAINAGE PLAN

Drawing Number: **C-200**

Sheet **5** of **10**

PWGC Project Number: **DRS2322**

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PROPOSED RAIN GARDENS
 PROPOSED WATER BAR, OR EQUIVALENT TYP EVERY 125'
 SEE DETAIL SHEET C-601
 APPROXIMATE LOCATION OF STOCKPILES, TYP.
 SEE DETAIL SHEET C-601
 PROPOSED SILT FENCING
 SEE DETAIL SHEET C-601

PROPOSED STABILIZED CONSTRUCTION ENTRANCE, SEE DETAIL SHEET C-601

IMPLEMENT DUST CONTROL AS NECESSARY

LAND GRADING ACTIVITIES, TYP.

630 Johnson Avenue, Suite 7
 Bohemia, NY 11716-2618
 Phone: (631) 589-6353, Fax: (631) 589-8705
 E-mail: INFO@PWGCROSSER.COM

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Number	Revision Description	Revision Date
7		
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 Drawn By: **RPV** Date Created: **02/14/24**
 Approved By: **MTS** Scale: **1" = 150'**

Client:
NY DRYDEN III, LLC
 P.O. BOX 384
 CALLICOON, NY 12783

MORRIS ROAD SOLAR FARM CONCEPTUAL PLAN

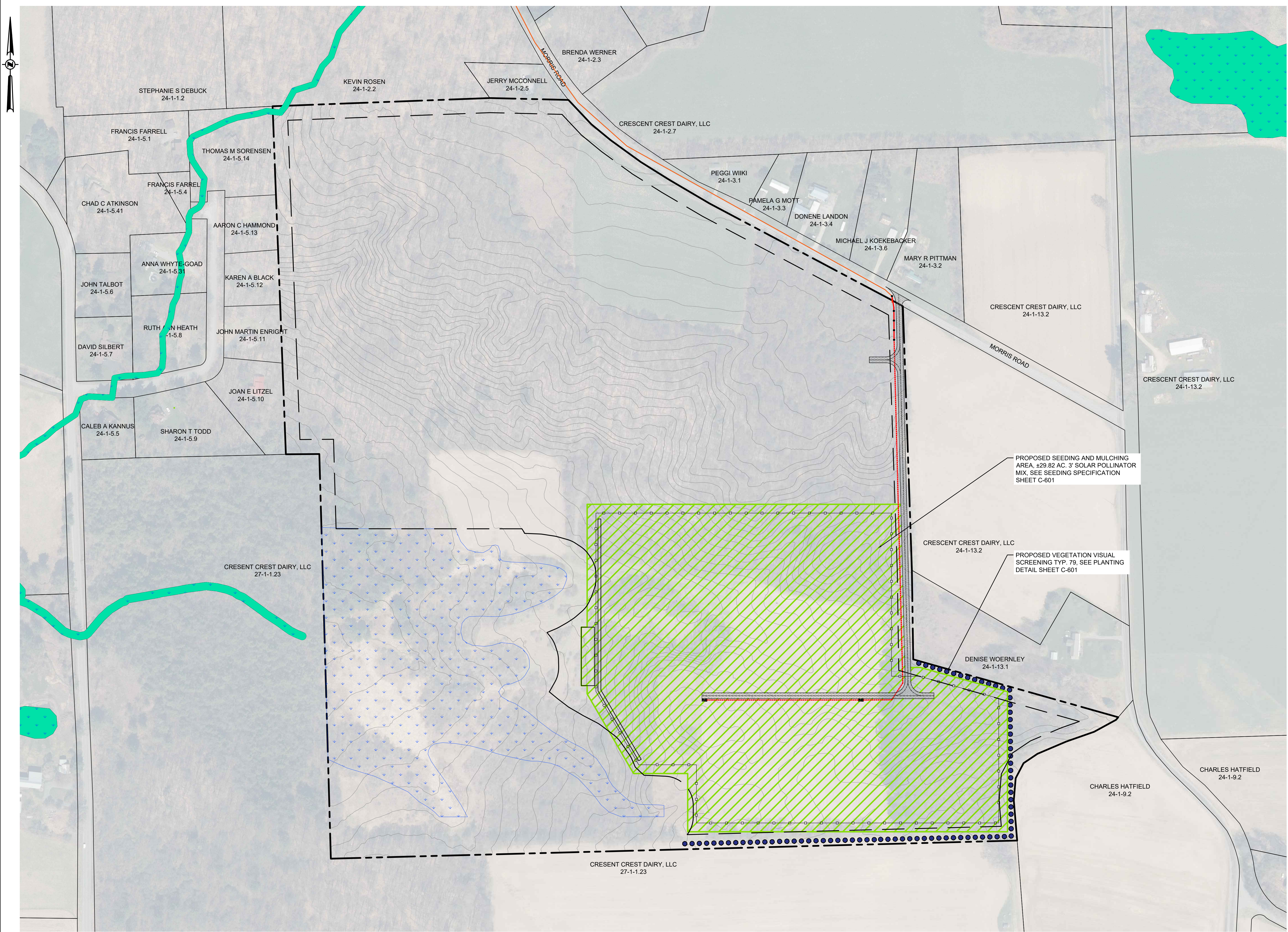
Project Address:
30 MORRIS ROAD
TOWN OF DRYDEN
TOMPKINS COUNTY, NEW YORK

County Tax Map Number: **24-1-4** Contract Number: _____
 Regulatory Reference Number: _____

CONCEPTUAL EROSION AND SED. CONTROL PLAN

C-201
 Sheet **6** of **10**
 PWGC Project Number: **DRS2322**

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Designed By: _____ Date Submitted: _____
 Drawn By: **RPV** Date Created: **02/14/2024**
 Approved By: **MTS** Scale: **1" = 150'**

Client:
NY DRYDEN III, LLC
P.O. BOX 384
CALLICOON, NY 12783
 Project:
MORRIS ROAD SOLAR
FARM CONCEPTUAL PLAN

Project Address:
30 MORRIS ROAD
TOWN OF DRYDEN
TOMPKINS COUNTY, NEW YORK
 County Tax Map Number: **24-1-4** Contract Number: **---**
 Regulatory Reference Number: **---**
 Title of Drawing: **---**

**CONCEPTUAL
LANDSCAPING
PLAN**



Drawing Number:
C-500

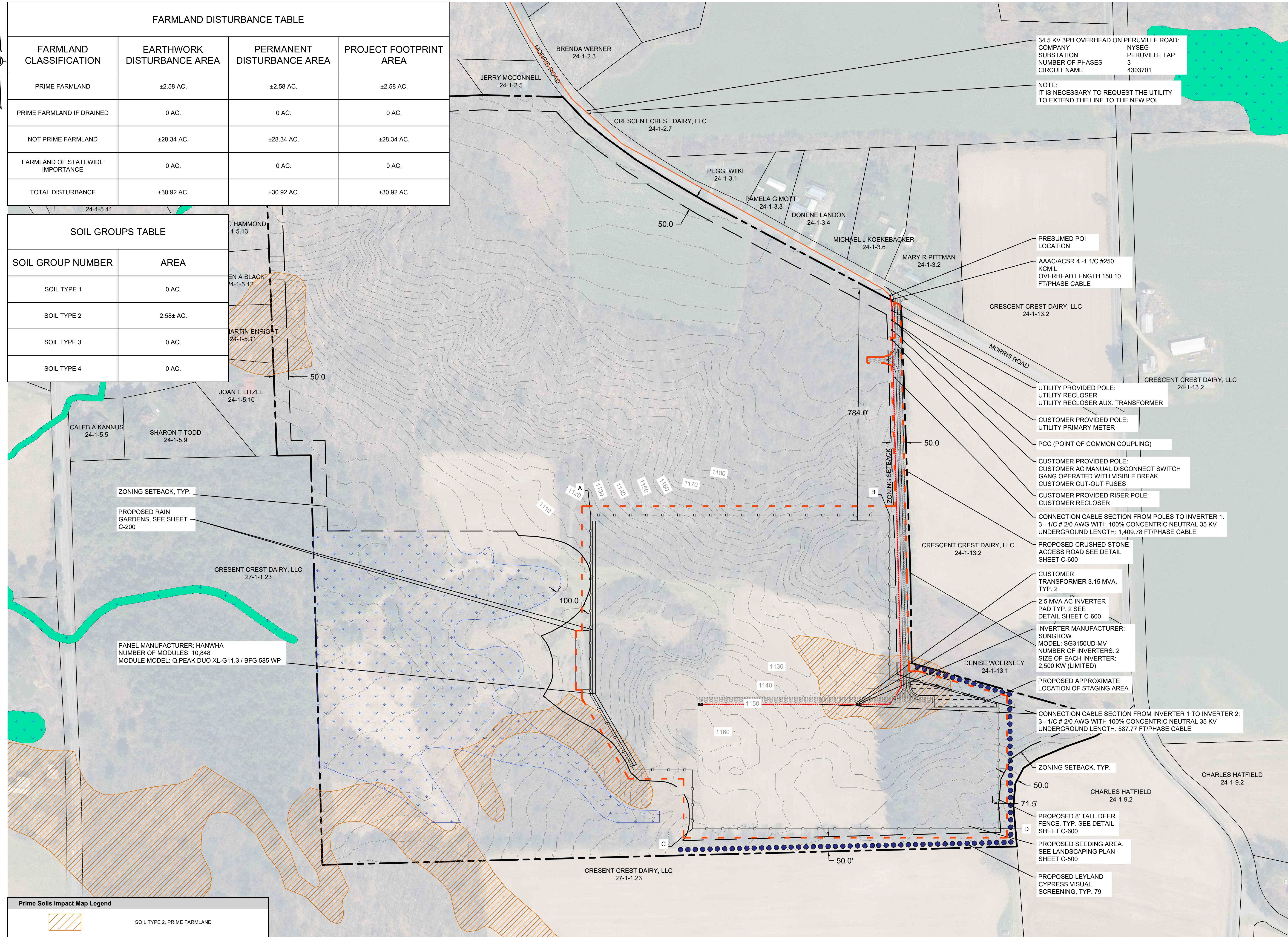
Sheet **7** of **10**
 PWGC Project Number:

DRS2322

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FARMLAND DISTURBANCE TABLE			
FARMLAND CLASSIFICATION	EARTHWORK DISTURBANCE AREA	PERMANENT DISTURBANCE AREA	PROJECT FOOTPRINT AREA
PRIME FARMLAND	±2.58 AC.	±2.58 AC.	±2.58 AC.
PRIME FARMLAND IF DRAINED	0 AC.	0 AC.	0 AC.
NOT PRIME FARMLAND	±28.34 AC.	±28.34 AC.	±28.34 AC.
FARMLAND OF STATEWIDE IMPORTANCE	0 AC.	0 AC.	0 AC.
TOTAL DISTURBANCE	±30.92 AC.	±30.92 AC.	±30.92 AC.

SOIL GROUPS TABLE	
SOIL GROUP NUMBER	AREA
SOIL TYPE 1	0 AC.
SOIL TYPE 2	2.58± AC.
SOIL TYPE 3	0 AC.
SOIL TYPE 4	0 AC.



34.5 KV 3PH OVERHEAD ON PERUVILLE ROAD.
 COMPANY NYSEG
 SUBSTATION PERUVILLE TAP
 NUMBER OF PHASES 3
 CIRCUIT NAME 4303701

NOTE:
 IT IS NECESSARY TO REQUEST THE UTILITY
 TO EXTEND THE LINE TO THE NEW POI.

PRESUMED POI
 LOCATION
 AAAC/ACSR 4 - 1 1/C #250
 KCML
 OVERHEAD LENGTH 150.10
 FT/PHASE CABLE

UTILITY PROVIDED POLE:
 UTILITY RECLOSER
 UTILITY RECLOSER AUX. TRANSFORMER

CUSTOMER PROVIDED POLE:
 UTILITY PRIMARY METER

PCC (POINT OF COMMON COUPLING)

CUSTOMER PROVIDED POLE:
 CUSTOMER AC MANUAL DISCONNECT SWITCH
 GANG OPERATED WITH VISIBLE BREAK
 CUSTOMER CUT-OUT FUSES

CUSTOMER PROVIDED RISER POLE:
 CUSTOMER RECLOSER

CONNECTION CABLE SECTION FROM POLES TO INVERTER 1:
 3 - 1/C # 2/0 AWG WITH 100% CONCENTRIC NEUTRAL 35 KV
 UNDERGROUND LENGTH: 1,409.78 FT/PHASE CABLE

PROPOSED CRUSHED STONE
 ACCESS ROAD SEE DETAIL
 SHEET C-600

CUSTOMER
 TRANSFORMER 3.15 MVA,
 TYP. 2

2.5 MVA AC INVERTER
 PAD TYP. 2 SEE
 DETAIL SHEET C-600

INVERTER MANUFACTURER:
 SUNGROW
 MODEL: SG3150UD-MV
 NUMBER OF INVERTERS: 2
 SIZE OF EACH INVERTER:
 2,500 KW (LIMITED)

CONNECTION CABLE SECTION FROM INVERTER 1 TO INVERTER 2:
 3 - 1/C # 2/0 AWG WITH 100% CONCENTRIC NEUTRAL 35 KV
 UNDERGROUND LENGTH: 587.77 FT/PHASE CABLE

PROPOSED APPROXIMATE
 LOCATION OF STAGING AREA

ZONING SETBACK, TYP.
 50.0

CHARLES HATFIELD
 24-1-9.2

PROPOSED 8' TALL DEER
 FENCE, TYP. SEE DETAIL
 SHEET C-600

PROPOSED SEEDING AREA.
 SEE LANDSCAPING PLAN
 SHEET C-500

PROPOSED LEYLAND
 CYPRESS VISUAL
 SCREENING, TYP. 79

Prime Soils Impact Map Legend	
	SOIL TYPE 2, PRIME FARMLAND

PWGC
 CLIENT DRIVEN SOLUTIONS
 P.W. GROSSER CONSULTING INC.

630 Johnson Avenue, Suite 7
 Bohemia, NY 11716-2618
 Phone: (631) 589-6353 • Fax: (631) 589-8705
 E-mail: INFO@PWGROSSER.COM

CONSULTANTS

Number	Revision Description	Revision Date
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 Approved By: **MTS** Scale: **1" = 150'**

NY DRYDEN III, LLC
 P.O. BOX 384
 CALLICOON, NY 12783

**MORRIS ROAD SOLAR
 FARM CONCEPTUAL PLAN**

Project Address:
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 TOWN OF DRYDEN
 TOMPKINS COUNTY, NEW YORK**

County Tax Map Number: **24-1-4** Contract Number: **---**
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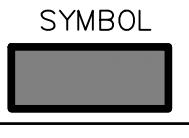
**PRIME SOILS
 IMPACT MAP**

STATE OF NEW YORK
 MICHAEL SANKOV
 LICENSED PROFESSIONAL ENGINEER
 103321

C-501

Sheet **8** of **10**
 PWGC Project Number: **DRS2322**

STANDARD AND SPECIFICATIONS FOR TEMPORARY CONSTRUCTION AREA SEEDING FOR WINTER SHUTDOWN



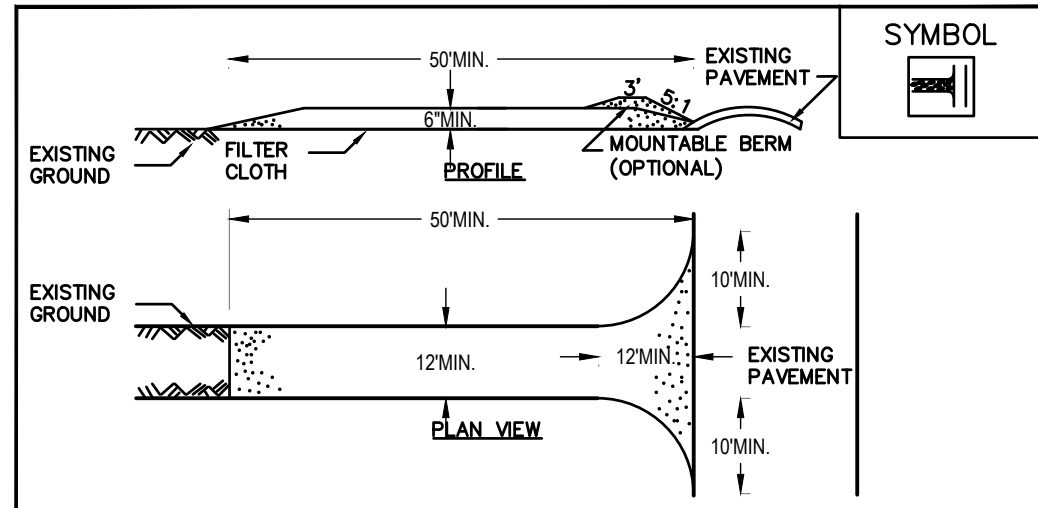
- CONSTRUCTION SPECIFICATIONS**
1. THE AREA MUST BE ROUGH GRADED AND SLOPES PHYSICALLY STABLE. LARGE DEBRIS AND ROCKS ARE USUALLY REMOVED.
 2. SEED BED MUST BE SEEDED WITHIN 24 HOURS OF DISTURBANCE OR SCARIFICATION OF THE SOIL SURFACE WILL BE NECESSARY PRIOR TO SEEDING.
 3. FERTILIZER OR LIME ARE NOT TYPICALLY USED FOR TEMPORARY SEEDINGS.
 4. LATE FALL OR EARLY WINTER, THEN SEED CERTIFIED 'ARROSTOCK' WINTER RYE AT 100 LBS. PER ACRE (2.5 LBS./1000 SQ. FT.).
 5. HYDRO-SEEDING METHOD TO BE USED WHICH WILL PROVIDE UNIFORM APPLICATION OF SEED TO THE AREA AND RESULT IN RELATIVELY GOOD SOIL TO SEED CONTACT.
 6. MULCH THE AREA WITH WOOD FIBER HYDRO-MULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL.

STANDARD AND SPECIFICATIONS FOR LOOSE STABILIZATION BLANKETS FOR WINTER SHUTDOWN

- HYDRAULICALLY APPLIED BLANKETS**
THESE BLANKETS ARE FORMED BY MIXING DIFFERENT TYPES OF MATERIALS WITH WATER AND ARE THEN APPLIED USING STANDARD HYDROSEEDING EQUIPMENT. THESE BLANKETS SHOULD NOT BE USED IN AREAS OF CONCENTRATED FLOW SUCH AS DITCHES AND CHANNELS.
- FLEXIBLE GROWTH MEDIUM (FGM)** - THIS METHOD HAS THE ADDED COMPONENT OF 1/2 INCH LONG, CRIMPED MANMADE FIBERS WHICH ADD A MECHANICAL BOND TO THE CHEMICAL BOND PROVIDED BY BRNS. THIS INCREASES THE BLANKET'S RESISTANCE TO BOTH RAINWATER IMPACT AND EROSION DUE TO RUNOFF. UNLIKE BRNS, A FLEXIBLE GROWTH MEDIUM TYPICALLY DOES NOT REQUIRE A CURING TIME TO BE EFFECTIVE. PROPERLY APPLIED, AN FGM IS ALSO VERY EFFECTIVE.
- THERE IS NO NEED TO SMOOTH THE SLOPE PRIOR TO APPLICATION. IN FACT SOME ROUGHENING OF THE SURFACE (EITHER NATURAL OR MECHANICALLY INDUCED) IS PREFERABLE.
- HOWEVER, LARGE ROCKS (>9 INCHES) AND EXISTING RILLS SHOULD BE REMOVED PRIOR TO APPLICATION. MIXING AND APPLICATION RATES SHOULD FOLLOW MANUFACTURER'S RECOMMENDATIONS.
- CONSTRUCTION SPECIFICATIONS**
1. FOMS ARE TYPICALLY APPLIED IN TWO STAGES. UNLESS SPECIFICALLY RECOMMENDED TO BE APPLIED IN ONE APPLICATION BY THE MANUFACTURER, THE SEED MIXTURE AND SOIL AMENDMENTS SHOULD BE APPLIED FIRST.
 2. AFTER THE SEED MIXTURE IS APPLIED, THE HYDRAULICALLY APPLIED BLANKETS SHOULD BE SPRAYED OVER THE AREA AT THE REQUIRED APPLICATION RATE, ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

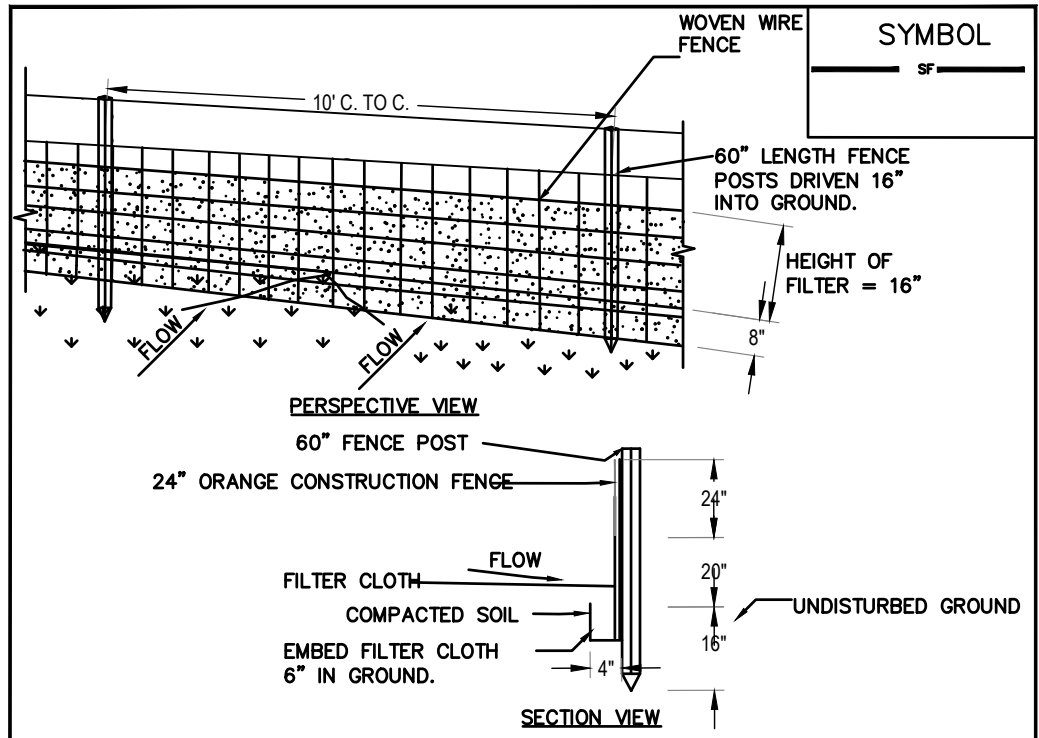
SEEDING/STABILIZATION BLANKET SPECIFICATIONS



- CONSTRUCTION SPECIFICATIONS**
1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
 3. THICKNESS - NOT LESS THAN SIX (6) 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. FILTER CLOTH - 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 TRACED 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.

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ENTRANCE



- 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 AND ORANGE CONSTRUCTION FENCING TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN.
 3. WHEN TWO SECTIONS OF FILTER CLOTH AND ORANGE CONSTRUCTION FENCING ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILUNKA T140N, OR APPROVED EQUIVALENT.
 4. PREFABRICATED UNITS SHALL BE GEOTAF, ENVROFENCE, OR APPROVED EQUIVALENT.
 5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN 'BULGES' DEVELOP IN THE SILT FENCE.

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SILT FENCE

CONSTRUCTION SPECIFICATIONS

1. CLEAN AND STRIP ROADED AND PARKING AREAS OF ALL VEGETATION, ROOTS AND OTHERS OBJECTIONABLE MATERIAL.
2. LOCATE PARKING AREAS ON NATURALLY FLAT AREAS AS AVAILABLE. KEEP GRADES SUFFICIENT FOR DRAINAGE, BUT NOT MORE THAN 2 TO 3 PERCENT.
3. PROVIDE SURFACE DRAINAGE AND DIVERT EXCESS RUNOFF TO STABILIZED AREAS.
4. MAINTAIN CUT AND FILL SLOPES TO 2:1 OR FLATTER AND STABILIZED WITH VEGETATION AS SOON AS GRADING IS ACCOMPLISHED.
5. SPREAD 6-INCH COURSE OF CRUSHED STONE EVENLY OVER THE FULL WIDTH OF THE ROAD AND SMOOTH TO AVOID DEPRESSIONS.
6. PROVIDE APPROPRIATE SEDIMENT CONTROL MEASURES TO PREVENT OFFSITE SEDIMENTATION.

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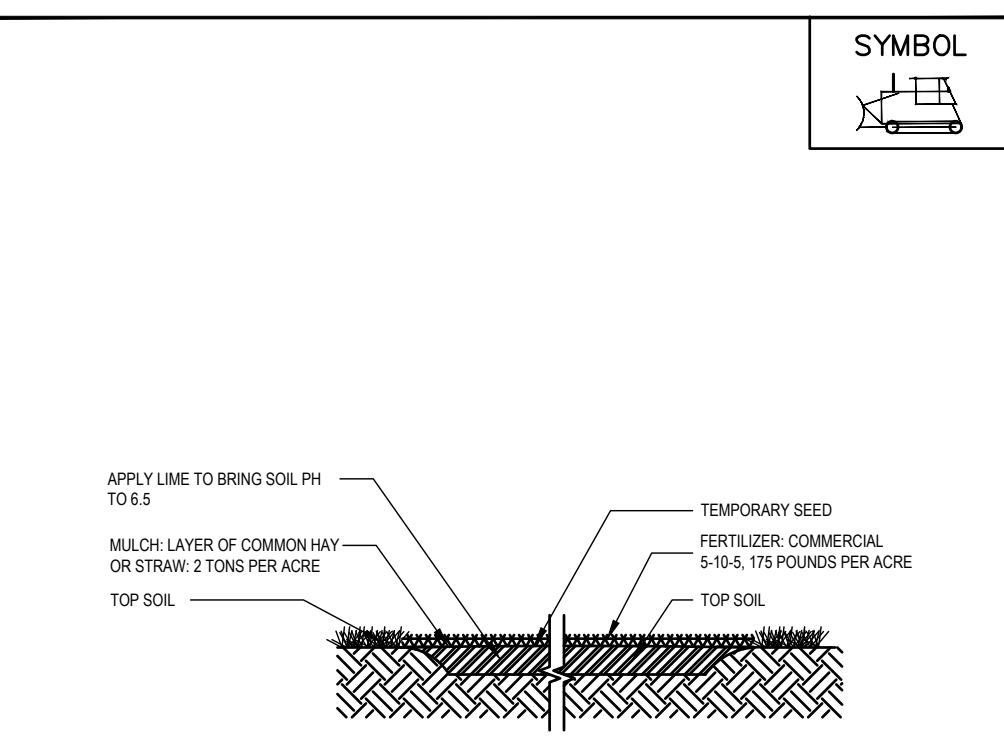
CONSTRUCTION ROAD STABILIZATION

CONSTRUCTION SPECIFICATIONS

1. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN UNTIL THEY ARE PERMANENTLY STABILIZED.
2. ALL SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN AND THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS.
3. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNT NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS.
4. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL.
5. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF FOUR INCHES PRIOR TO PLACEMENT OF TOPSOIL.
6. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
7. ALL FILL TO BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS.
8. EXCEPT FOR APPROVED LANDFILLS, FILL MATERIAL SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOIL, OR OTHER FOREIGN OR OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
9. FROZEN MATERIALS OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED IN FILLS.
10. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
11. ALL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
12. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
13. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.
14. STOCKPILES, BORROW AREAS AND SPOIL AREAS SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS STANDARD AND SPECIFICATION.

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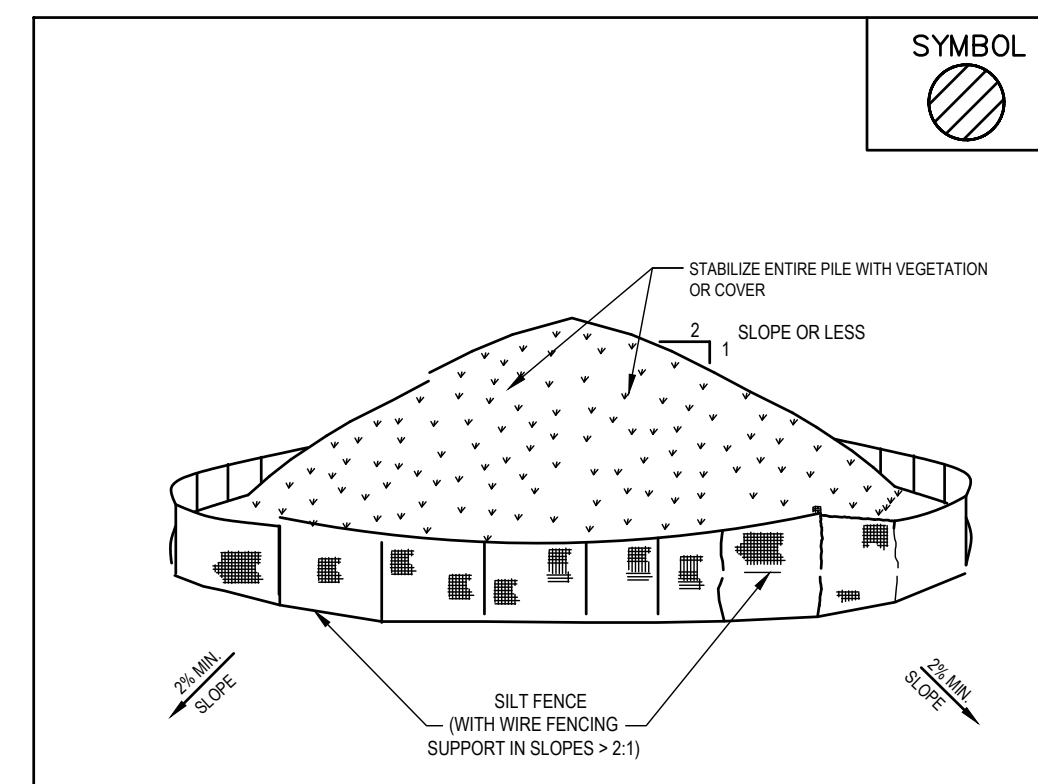
LANDGRADING SPECIFICATIONS



- CONSTRUCTION SPECIFICATIONS**
1. TOP SOIL, SEED, MULCH, AND FERTILIZER DISTURBED SOIL AREAS THAT WILL BE EXPOSED FOR 14 DAYS OR MORE.

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TEMPORARY TOPSOIL, FERTILIZER, SEED AND MULCH DETAIL



- INSTALLATION NOTES**
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
 2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
 3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
 4. SEE SILT FENCE DETAIL ABOVE.
 5. SILT FENCE TO BE 10' FROM TOE OF SLOPE AND 10' FROM PROPERTY LINES.

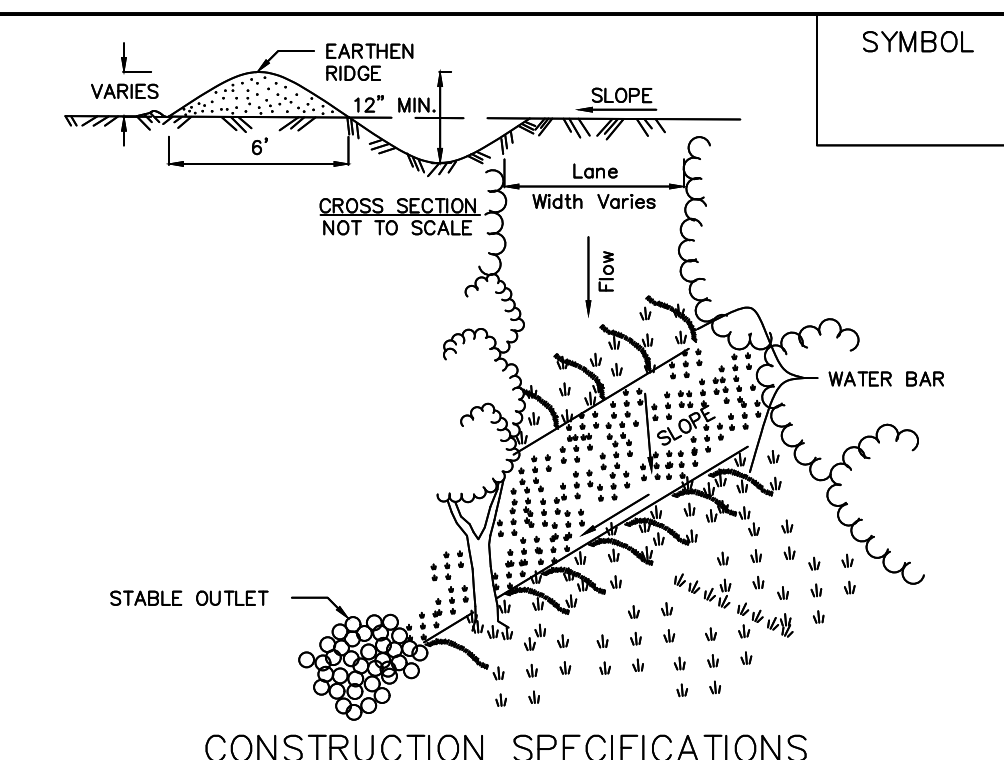
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SOIL STOCK PILE DETAIL

- SEEDING NOTE:**
1. ERNEST CONSERVATION SEEDS NORTHEAST POLLINATOR 3' MIX - ERNMX-612 TO BE SEEDED BELOW SOLAR PANELS. SEED AT 40 LB/AC WITH 30 LB/AC OF A COVER CROP. FOR A COVER CROP USE EITHER GRAIN OATS (1 JAN TO 31 JUL) OR GRAIN RYE (1 AUG TO 31 DEC).

NORTHEAST SOLAR POLLINATOR 3' MIX - ERNMX-612	
SHEEP FESCUE, VARIETY NOT STATED	94.90%
BUTTERFLY MILKWEED	2.50%
PARTRIDGE PEA, PA ECOTYPE	2.00%
SHOWY EVENING PRIMROSE	0.30%
ZIGZAG SPIDERWORT, VA ECOTYPE	0.30%

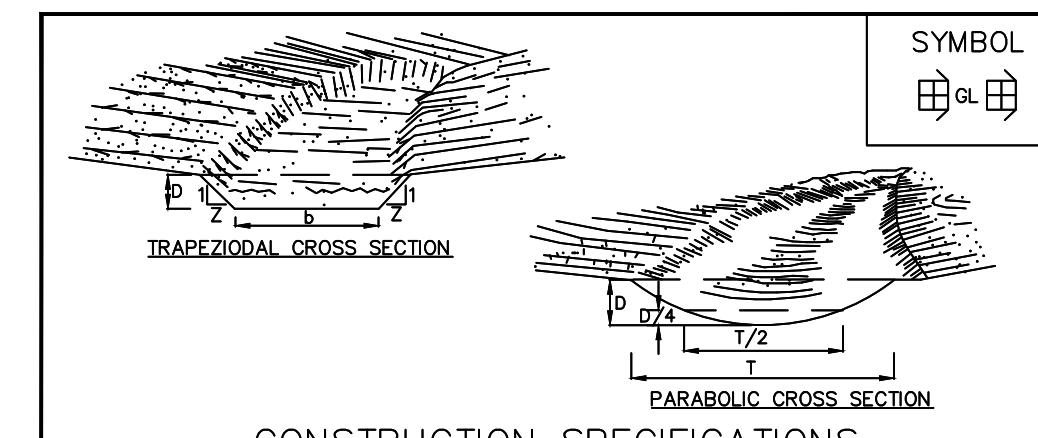
- WINTER SHUTDOWN CONSTRUCTION SCHEDULE**
1. POST CLEARING THE EXPOSED SOIL SHALL BE COVERED WITH MATERIAL(S) AS SET FORTH IN THE TECHNICAL STANDARD. NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, TO PREVENT THE EXPOSED SOIL FROM ERODING (SEE STANDARD AND SPECIFICATIONS FOR TEMPORARY CONSTRUCTION AREA SEEDING/STABILIZATION FOR WINTER SHUT DOWN, ABOVE).
 2. REGULARLY INSPECT, MAINTAIN AND RE-SEED ANY AREAS THAT ARE NOT ADEQUATELY STABILIZED UNTIL THE JULY 1 START DATE AND THEREAFTER, UNTIL ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED.
 3. SITE INSPECTIONS ARE TO TAKE PLACE TWICE PER MONTH WITH PHOTOS PROVIDED TO THE TOWN TO DEMONSTRATE THAT THE SITE REMAINS STABILIZED/PROTECTED UNTIL CONSTRUCTION STARTS.
 4. ONCE CONSTRUCTION STARTS, INSPECTIONS SHALL CONTINUE MONTHLY, WITH PHOTOS SUBMITTED TO THE TOWN, TO ENSURE THAT THE TEMPORARY STABILIZATION MEASURES REMAIN IN PLACE IN AREAS NOT UNDER ACTIVE CONSTRUCTION.



- CONSTRUCTION SPECIFICATIONS**
1. INSTALL THE WATER BAR AS SOON AS THE RIGHT OF WAY IS CLEARED AND GRADED.
 2. DISK OR STRIP THE SOD FROM THE BASE FOR THE CONSTRUCTED RIDGE BEFORE PLACING FILL.
 3. TRACK THE RIDGE TO COMPACT IT TO THE DESIGN CROSS SECTION.
 4. THE OUTLET SHALL BE LOCATED ON AN UNDISTURBED AREA. FIELD SPACING WILL BE ADJUSTED TO USE THE MOST STABLE OUTLET AREAS. OUTLET PROTECTION WILL BE PROVIDED WHEN NATURAL AREAS ARE NOT ADEQUATE.
 5. VEHICLE CROSSING SHALL BE STABILIZED WITH GRAVEL. EXPOSED AREAS SHALL BE SEEDED AND MULCHED WITHIN 2 DAYS.
 6. PERIODICALLY INSPECT WATER BARS FOR EROSION DAMAGE AND SEDIMENT. CHECK OUTLET AREAS AND MAKE REPAIRS AS NEEDED TO RESTORE OPERATION.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE.

WATER BARS



- CONSTRUCTION SPECIFICATIONS**
1. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE WATERWAY.
 2. THE WATERWAY SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN, AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPED NORMAL FLOW.
 3. FILLS SHALL BE COMPACTED AS NEEDED TO PREVENT UNEQUAL SETTLEMENT THAT WOULD CAUSE DAMAGE IN THE COMPLETE WATERWAY.
 4. ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE WATERWAY.
 5. STABILIZATION SHALL BE DONE ACCORDING TO THE APPROPRIATE STANDARD AND SPECIFICATIONS FOR VEGETATIVE PRACTICES.
 - A. FOR DESIGN VELOCITIES OF LESS THAN 3.5 FT. PER SEC., SEEDING AND MULCHING MAY BE USED FOR THE ESTABLISHMENT OF THE VEGETATION. IT IS RECOMMENDED THAT, WHEN CONDITIONS PERMIT, TEMPORARY WATERWAYS OR OTHER MEANS SHOULD BE USED TO PREVENT WATER FROM ENTERING THE WATERWAY DURING THE ESTABLISHMENT OF THE VEGETATION.
 - B. FOR DESIGN VELOCITIES OF MORE THAN 3.5 FT. PER SEC., THE WATERWAY SHALL BE STABILIZED WITH SOD, WITH SEEDING PROTECTED BY SUTE OR EXCELSIOR MATTING OR WITH SEEDING AND MULCHING INCLUDING TEMPORARY DIVERSION OF THE WATER UNTIL THE VEGETATION IS ESTABLISHED.
 - C. STRUCTURAL - VEGETATIVE PROTECTION SUBSURFACE DRAIN FOR BASE FLOW SHALL BE CONSTRUCTED AS SHOWN ON THE STANDARD DRAWING AND AS SPECIFIED IN THE STANDARD AND SPECIFICATIONS FOR SUBSURFACE DRAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE.

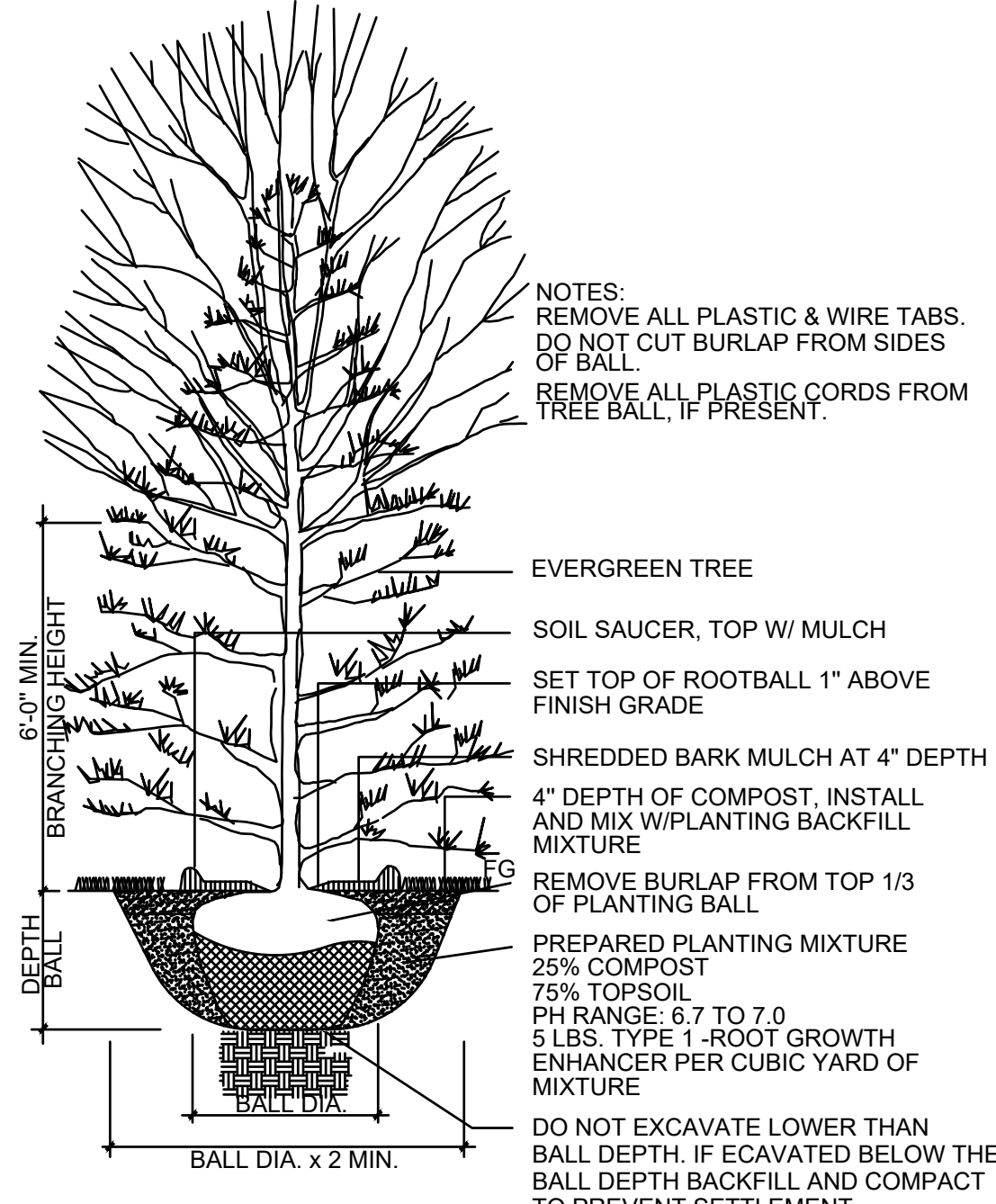
GRASSED WATERWAY

SOLAR ARRAY
COMPANY, LLC
24HR EMERGENCY CONTACT
NAME, PHONE, ADDRESS

DANGER
HIGH VOLTAGE.
KEEP OUT

SIGNAGE DETAIL
NOT TO SCALE

- SIGNAGE NOTE:**
1. SIGNAGE SHALL BE DEPICTED WITH AN AREA NO MORE THAN 8 SQUARE FEET AND MUST HAVE A YELLOW BACKGROUND WITH BLACK LETTERS AND BE LOCATED NEAR PAD MOUNTED TRANSFORMERS/SUBSTATION, ON THE GATE OF THE PERIMETER FENCE, AND ALONG THE PERIMETER FENCE.



PLANTING DETAIL
NOT TO SCALE

P.W. GROSSER CONSULTING INC.
630 Johnson Avenue, Suite 7
Bohemia, NY, 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

CONSULTANTS

U.S. DEPARTMENT OF AGRICULTURE
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION

Number	Revision Description	Revision Date
7		
6		
5		
4		
3	CLIENT REVIEW	04/11/2024
2	TOWN SUBMISSION	03/29/2024
1	CLIENT REVIEW	03/01/2024

Designed By: _____ Date Submitted: _____
Drawn By: **RPV** Date Created: **02/14/2024**
Approved By: **MTS** Scale: **AS NOTED**

NY DRYDEN III, LLC
P.O. BOX 384
CALLICOON, NY 12783
Project:
MORRIS ROAD TOWN OF DRYDEN TOMPKINS COUNTY, NEW YORK
County Tax Map Number: 24-1-4 Contract Number: ---
Regulatory Reference Number: ---
Title of Drawing:

EROSION AND SED. CONTROL DETAILS

STATE OF NEW YORK
MICHAEL SCHWARTZ
LICENSED PROFESSIONAL ENGINEER
103521

C-601

Sheet **10** of **10**
PWGC Project Number: **DRS2322**

Unauthorized alteration or addition to this drawing and related documents is a violation of Section 7209 of the New York State Education Law.

APPENDIX B

UNITED STATES DEPARTMENT OF AGRICULTURE WEB SOIL SURVEY



Custom Soil Resource Report for Tompkins County, New York



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

Custom Soil Resource Report

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

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

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

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

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

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

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

Custom Soil Resource Report

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

Soil Map

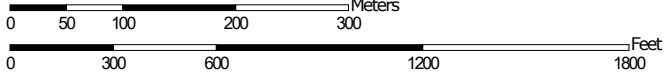
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:6,700 if printed on A landscape (11" x 8.5") sheet.



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

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Tompkins County, New York
 Survey Area Data: Version 19, Sep 5, 2023

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

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ab	Alluvial land	1.0	0.8%
CnB	Chenango gravelly loam, fan, 0 to 8 percent slopes	0.9	0.7%
FdB	Fredon silt loam, 0 to 5 percent slopes	4.2	3.6%
HdA	Howard gravelly loam, 0 to 5 percent slopes	2.3	2.0%
HdC	Howard gravelly loam, 5 to 15 percent simple slopes	30.9	26.3%
HdCK	Howard gravelly loam, 5 to 15 percent complex slopes	5.8	4.9%
HdD	Howard gravelly loam, 15 to 25 percent slopes	20.1	17.1%
HpE	Howard and Palmyra soils, 25 to 35 percent slopes	15.0	12.8%
HrC	Howard-Valois gravelly loams, 5 to 15 percent slopes	23.8	20.3%
Mm	Madalin mucky silty clay loam	1.0	0.8%
PhB	Phelps gravelly silt loam, 3 to 8 percent slopes	4.1	3.5%
RkB	Rhinebeck silt loam, 2 to 6 percent slopes	6.1	5.2%
Ws	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	2.2	1.8%
Totals for Area of Interest		117.4	100.0%

Map Unit Descriptions

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

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

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up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

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

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

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

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

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

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

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

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

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

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

Tompkins County, New York

Ab—Alluvial land

Map Unit Setting

National map unit symbol: 9xkp
Elevation: 100 to 3,000 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents and similar soils: 40 percent
Udifuvents and similar soils: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium with highly variable texture

Typical profile

H1 - 0 to 5 inches: silt loam
H2 - 5 to 72 inches: gravelly silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F140XY015NY - Wet Low Floodplain
Hydric soil rating: Yes

Description of Udifuvents

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit

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Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Alluvium with a wide range of texture

Typical profile

H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 72 inches: very gravelly sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)
Depth to water table: About 24 to 72 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A
Ecological site: F140XY014NY - Low Floodplain
Hydric soil rating: No

Minor Components

Eel (teel)

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

Genesee (hamlin)

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

Sloan

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

Fresh water marsh

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

Wayland

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

CnB—Chenango gravelly loam, fan, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9xlc
Elevation: 160 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Chenango, Fan

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, derived mainly from sandstone, shale, and siltstone

Typical profile

H1 - 0 to 8 inches: gravelly loam
H2 - 8 to 26 inches: gravelly silt loam
H3 - 26 to 60 inches: very gravelly loamy coarse sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 36 to 60 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F140XY021NY - Dry Outwash
Hydric soil rating: No

Minor Components

Genesee (hamlin)

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

Red hook

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

Braceville

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

Tioga

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

Arkport

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

FdB—Fredon silt loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 9xln
Elevation: 250 to 1,200 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Prime farmland if drained

Map Unit Composition

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

Description of Fredon

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy over sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 15 inches: silt loam
H2 - 15 to 25 inches: gravelly loam
H3 - 25 to 60 inches: gravelly silt loam

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Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)
Depth to water table: About 9 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Howard

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

Palmyra

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

Halsey

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

Lamson

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

Phelps

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

HdA—Howard gravelly loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 9xlt
Elevation: 160 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days

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Farmland classification: All areas are prime farmland

Map Unit Composition

Howard and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Howard

Setting

Landform: Terraces, valley trains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam

H2 - 9 to 25 inches: loam

H3 - 25 to 47 inches: gravelly silt loam

H4 - 47 to 60 inches: Error

Properties and qualities

Slope: 0 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A

Ecological site: F140XY021NY - Dry Outwash

Hydric soil rating: No

Minor Components

Fredon

Percent of map unit: 5 percent

Hydric soil rating: No

Valois

Percent of map unit: 5 percent

Hydric soil rating: No

Genesee (hamlin)

Percent of map unit: 5 percent

Hydric soil rating: No

Phelps

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

Eel (teel)

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

HdC—Howard gravelly loam, 5 to 15 percent simple slopes

Map Unit Setting

National map unit symbol: 9xlv
Elevation: 160 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Howard

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 25 inches: loam
H3 - 25 to 47 inches: gravelly silt loam
H4 - 47 to 60 inches: Error

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent

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Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

Ecological site: F140XY021NY - Dry Outwash

Hydric soil rating: No

Minor Components

Phelps

Percent of map unit: 5 percent

Hydric soil rating: No

Lansing

Percent of map unit: 5 percent

Hydric soil rating: No

Fredon

Percent of map unit: 5 percent

Hydric soil rating: No

Genesee (hamlin)

Percent of map unit: 5 percent

Hydric soil rating: No

Valois

Percent of map unit: 5 percent

Hydric soil rating: No

HdCK—Howard gravelly loam, 5 to 15 percent complex slopes

Map Unit Setting

National map unit symbol: 9xlw

Elevation: 160 to 1,970 feet

Mean annual precipitation: 32 to 42 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 120 to 160 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Howard and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Howard

Setting

Landform: Terraces, valley trains

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Tread

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Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 25 inches: loam
H3 - 25 to 47 inches: gravelly silt loam
H4 - 47 to 60 inches: Error

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

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

Minor Components

Phelps

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

Valois

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

Palmyra

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

Fredon

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

Arkport

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

HdD—Howard gravelly loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 9xlx
Elevation: 160 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Howard

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 25 inches: loam
H3 - 25 to 47 inches: gravelly silt loam
H4 - 47 to 60 inches: Error

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F140XY021NY - Dry Outwash
Hydric soil rating: No

Minor Components

Fredon

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

Valois

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

Palmyra

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

Arkport

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

Phelps

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

HpE—Howard and Palmyra soils, 25 to 35 percent slopes

Map Unit Setting

National map unit symbol: 9xm2
Elevation: 160 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Howard and similar soils: 40 percent
Palmyra and similar soils: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Howard

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam

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H2 - 9 to 25 inches: loam
H3 - 25 to 47 inches: gravelly silt loam
H4 - 47 to 60 inches: Error

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: F140XY021NY - Dry Outwash
Hydric soil rating: No

Description of Palmyra

Setting

Landform: Terraces, outwash plains, deltas
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy over sandy and gravelly glaciofluvial deposits, derived mainly from limestone and other sedimentary rocks

Typical profile

H1 - 0 to 12 inches: gravelly loam
H2 - 12 to 21 inches: gravelly clay loam
H3 - 21 to 60 inches: stratified extremely gravelly sand

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: F101XY005NY - Dry Outwash
Hydric soil rating: No

Minor Components

Valois

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

Mardin

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

Arkport

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

Chenango

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

Langford

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

HrC—Howard-Valois gravelly loams, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9xm4
Elevation: 160 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Howard and similar soils: 50 percent
Valois and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Howard

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

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Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 25 inches: loam
H3 - 25 to 47 inches: gravelly silt loam
H4 - 47 to 60 inches: Error

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F140XY021NY - Dry Outwash
Hydric soil rating: No

Description of Valois

Setting

Landform: End moraines, lateral moraines, valley sides
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived mainly from sandstone, siltstone, and shale

Typical profile

H1 - 0 to 2 inches: gravelly loam
H2 - 2 to 32 inches: gravelly silt loam
H3 - 32 to 49 inches: gravelly silt loam
H4 - 49 to 60 inches: gravelly silt loam

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: 24 to 36 inches to fragipan
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 35 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F140XY027NY - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Chenango

Percent of map unit: 5 percent

Hydric soil rating: No

Palmyra

Percent of map unit: 5 percent

Hydric soil rating: No

Bath

Percent of map unit: 5 percent

Hydric soil rating: No

Langford

Percent of map unit: 5 percent

Hydric soil rating: No

Mm—Madalin mucky silty clay loam

Map Unit Setting

National map unit symbol: 9xng

Elevation: 330 to 2,460 feet

Mean annual precipitation: 32 to 42 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 120 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Madalin and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Madalin

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: mucky silty clay loam

H2 - 8 to 26 inches: silty clay

H3 - 26 to 60 inches: clay

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Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: F140XY016NY - Mineral Wetlands
Hydric soil rating: Yes

Minor Components

Ovid

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

Rhinebeck

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

Hudson

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

Muck and peat

Percent of map unit: 5 percent
Landform: Marshes, swamps
Hydric soil rating: Yes

Canandaigua

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

PhB—Phelps gravelly silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9xny
Elevation: 160 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days

Custom Soil Resource Report

Farmland classification: All areas are prime farmland

Map Unit Composition

Phelps and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Phelps

Setting

Landform: Terraces, valley trains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 9 inches: gravelly silt loam

H2 - 9 to 15 inches: gravelly loam

H3 - 15 to 25 inches: silt loam

H4 - 25 to 60 inches: stratified gravelly loam to silt

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: About 15 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B/D

Ecological site: F101XY006NY - Moist Outwash

Hydric soil rating: No

Minor Components

Palmyra

Percent of map unit: 5 percent

Hydric soil rating: No

Arkport

Percent of map unit: 5 percent

Hydric soil rating: No

Braceville

Percent of map unit: 5 percent

Hydric soil rating: No

Howard

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

Fredon

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

RkB—Rhinebeck silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9xp1
Elevation: 80 to 1,000 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Prime farmland if drained

Map Unit Composition

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

Description of Rhinebeck

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 23 inches: silty clay loam
H3 - 23 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D

Ecological site: F101XY009NY - Moist Lake Plain

Hydric soil rating: No

Minor Components

Niagara

Percent of map unit: 5 percent

Hydric soil rating: No

Hudson

Percent of map unit: 5 percent

Hydric soil rating: No

Ovid

Percent of map unit: 5 percent

Hydric soil rating: No

Canandaigua

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Madalin

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Ws—Wayland soils complex, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2srgv

Elevation: 160 to 1,970 feet

Mean annual precipitation: 31 to 68 inches

Mean annual air temperature: 43 to 52 degrees F

Frost-free period: 105 to 180 days

Farmland classification: Not prime farmland

Map Unit Composition

Wayland and similar soils: 60 percent

Wayland, very poorly drained, and similar soils: 30 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wayland

Setting

Landform: Flood plains

Custom Soil Resource Report

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty and clayey alluvium derived from interbedded sedimentary rock

Typical profile

A - 0 to 6 inches: silt loam
Bg1 - 6 to 12 inches: silt loam
Bg2 - 12 to 18 inches: silt loam
C1 - 18 to 46 inches: silt loam
C2 - 46 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F139XY009OH - Wet Floodplain
Hydric soil rating: Yes

Description of Wayland, Very Poorly Drained

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey alluvium derived from interbedded sedimentary rock

Typical profile

A - 0 to 6 inches: mucky silt loam
Bg1 - 6 to 12 inches: silt loam
Bg2 - 12 to 18 inches: silt loam
C1 - 18 to 46 inches: silt loam
C2 - 46 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 inches

Custom Soil Resource Report

Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F139XY009OH - Wet Floodplain
Hydric soil rating: Yes

Minor Components

Wakeville

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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

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

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

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

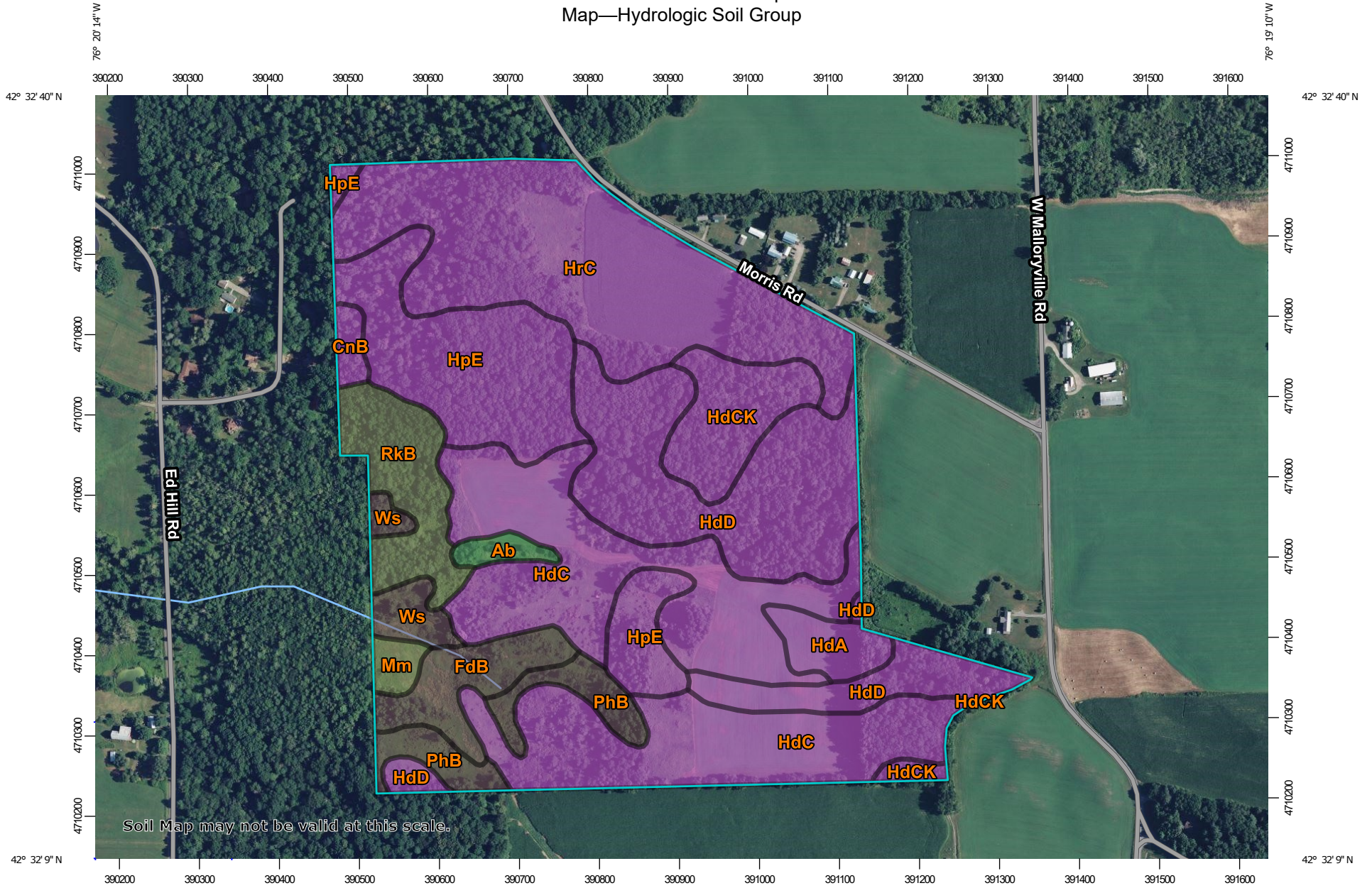
Custom Soil Resource Report

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

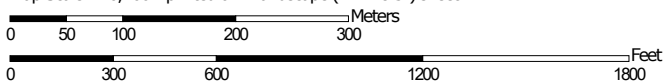
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over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

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

Custom Soil Resource Report Map—Hydrologic Soil Group




Map Scale: 1:6,700 if printed on A landscape (11" x 8.5") sheet.



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

MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





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

Soil Rating Lines


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

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

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


Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Tompkins County, New York
 Survey Area Data: Version 19, Sep 5, 2023

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

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

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

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ab	Alluvial land	A/D	1.0	0.8%
CnB	Chenango gravelly loam, fan, 0 to 8 percent slopes	A	0.9	0.7%
FdB	Fredon silt loam, 0 to 5 percent slopes	B/D	4.2	3.6%
HdA	Howard gravelly loam, 0 to 5 percent slopes	A	2.3	2.0%
HdC	Howard gravelly loam, 5 to 15 percent simple slopes	A	30.9	26.3%
HdCK	Howard gravelly loam, 5 to 15 percent complex slopes	A	5.8	4.9%
HdD	Howard gravelly loam, 15 to 25 percent slopes	A	20.1	17.1%
HpE	Howard and Palmyra soils, 25 to 35 percent slopes	A	15.0	12.8%
HrC	Howard-Valois gravelly loams, 5 to 15 percent slopes	A	23.8	20.3%
Mm	Madalin mucky silty clay loam	C/D	1.0	0.8%
PhB	Phelps gravelly silt loam, 3 to 8 percent slopes	B/D	4.1	3.5%
RkB	Rhinebeck silt loam, 2 to 6 percent slopes	C/D	6.1	5.2%
Ws	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	B/D	2.2	1.8%
Totals for Area of Interest			117.4	100.0%

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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

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

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

APPENDIX C

PWGC Test Pit Logs



PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP001	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 10:15	TIME FINISHED: 10:27
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	FIELD NOTES
0			TOPSOIL: Moist, dark brown Topsoil	
1			INORGANIC CLAY (CL): Moist, light gray Clay	
2				
3				
4				
5				
6			POORLY GRADED SAND (SP): Moist, light brown, fine grained Sand	
7				
8				
9				
10				Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.

PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP002	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 10:38	TIME FINISHED: 10:50
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	FIELD NOTES
0			ORGANIC SOIL (OL): Moist, light brown Silt w/ some clay	
1			SILTY SAND (SM): Moist, brown to dark brown Sand with some silt	
2				
3				
4				
5				
6				
7				
8				
9				
10				Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.

PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP003	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 11:00	TIME FINISHED: 11:25
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	FIELD NOTES
0			TOPSOIL: Moist, dark brown Topsoil	
1			SILTY SAND (SM): Moist, light brown to brown, Sandy Silt	
2				
3				
4			SILTY CLAY (CL): Moist, brown Silty Clay	
5				
6				Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.
7			POORLY GRADED GRAVEL WITH SAND (GP): Moist, brown to dark brown Gravel and Sand	
8				
9			POORLY GRADED GRAVEL WITH SAND (GP): Very moist, brown to gray coarse Gravel with Sand, some 3"-4" diameter cobbles	
10				

PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP004	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 11:30	TIME FINISHED: 11:50
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	FIELD NOTES
0			TOPSOIL: Brown Topsoil	
1			SILTY GRAVEL (GM): Moist, light brown Silty Gravel with little 3" diameter cobbles	
2				
3				
4				
5			POORLY GRADED GRAVEL WITH SAND (GP): Moist, brown Gravel and Sand, with little 3"-4" cobbles	
6				
7				
8				
9			POORLY GRADED GRAVEL WITH SAND (GP): Moist, dark brown coarse Gravel and Sand	
10				Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.

PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP005	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 12:00	TIME FINISHED: 12:20
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	FIELD NOTES
0			TOPSOIL: Dark brown Topsoil	
0			SILTY GRAVEL (GM): Moist, light brown Silty Gravel	
1				
2				
3			SANDY CLAY (CL): Moist, light gray Clay with little silt and sand	
4				Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.
5			CLAYEY GRAVEL (GC): Moist, light gray and brown Gravel with clay, moist	
6				
7				
8				
9			CLAYEY GRAVEL (GC): Very moist, light brown Gravel with clay	
10				

PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP006	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 12:27	TIME FINISHED: 12:40
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	FIELD NOTES
0			TOPSOIL: Moist, dark brown Topsoil	
			SILTY SAND (SM): Moist, light brown Silty Sand	
1				
2				
3				
4				
5				
6				
7				
			POORLY GRADED GRAVEL WITH SAND (GP): Moist, brown to dark brown Sandy Gravel	
8				
9				
10				

Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.

PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP007	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 12:50	TIME FINISHED: 13:05
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	FIELD NOTES
0			TOPSOIL: Moist, dark brown Topsoil	
1			SILTY SAND (SM): Moist, light brown Silty Sand with some gravel	
2				
3				
4				
5			POORLY GRADED SAND (SP): Moist, dark brown, fine to medium Sand	
6				
7				
8				
9			POORLY GRADED SAND WITH GRAVEL (SP): Moist, dark brown Sand, little gravel	
10				Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.

PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP008	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 13:15	TIME FINISHED: 13:27
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION	FIELD NOTES
			SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	
0			SILTY SAND (SM): Moist, light brown Silty Sand, trace gravel	
1				
2				
3				
4				
5				
6				
7				
8			SILTY SAND (SM): Moist, dark brown to gray Silty Sand, little gravel and cobbles	
9				Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.
10				

PROJECT #:	DRS2322		
SITE ADDRESS:	30 Morris Rd, Dryden NY 13068		
TEST PIT ID:	TP009	BORING DEPTH (FT): 10	CORE LENGTH (FT): N/A
GRID:	N/A	BORING DIAMETER (IN): N/A	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Murdock Excavation Inc.	DATE STARTED: 02/12/2024	DATE FINISHED: 02/12/2024
DRILLING METHOD:	Test Pit Excavation	TIME STARTED: 13:35	TIME FINISHED: 13:50
DRILLING EQUIPMENT:	Hitachi ZX85USB-5	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Grab	PROJECT MANAGER: BH	LOGGED BY: MGM

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	DESCRIPTION SOIL TYPE (USCS): saturation, density, color, texture, Major Component, minor components	FIELD NOTES
0			TOPSOIL: Moist, dark brown Topsoil	
1			SILTY SAND (SM): Moist, light brown Silty Sand, trace gravel	
2				
3				
4				
5				
6				
7				
8				
9			POORLY GRADED GRAVEL WITH SAND AND SILT (GP-GM): Moist, light brown to gray Sandy Gravel, little silt	Maximum depth for machine reached at 10 ft bgs. Bedrock was not encountered.
10				

APPENDIX D

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL
CONSERVATION SPDES GENERAL PERMIT FOR STORMWATER
DISCHARGES FROM CONSTRUCTION ACTIVITY
(PERMIT NO. GP-0-20-001)**





Department of
Environmental
Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

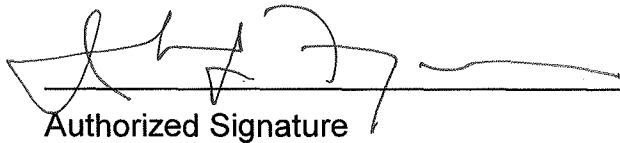
Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator



Authorized Signature

1-23-20
Date

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

PREFACE

Pursuant to Section 402 of the Clean Water Act (“CWA”), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System (“NPDES”)* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of “*construction activity*”, as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

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

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
CONSTRUCTION ACTIVITIES**

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

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

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants to surface waters of the State*.
3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize the discharge of pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

- a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:
- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
 - (ii) Control stormwater *discharges*, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;
 - (iii) *Minimize* the amount of soil exposed during *construction activity*;
 - (iv) *Minimize* the disturbance of *steep slopes*;
 - (v) *Minimize* sediment *discharges* from the site;
 - (vi) Provide and maintain *natural buffers* around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
 - (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;
 - (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and
 - (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.
- b. **Soil Stabilization.** In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

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

- c. **Dewatering.** *Discharges* from *dewatering* activities, including *discharges* from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

- d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:
 - (i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

 - (ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

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

- e. **Prohibited Discharges.** The following *discharges* are prohibited:
 - (i) Wastewater from washout of concrete;

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

- (iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;
 - (iv) Soaps or solvents used in vehicle and equipment washing; and
 - (v) Toxic or hazardous substances from a spill or other release.
- f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices (“SMPs”) are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

- (i) Runoff Reduction Volume (“RRv”): Reduce the total Water Quality Volume (“WQv”) by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual.

The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (“Cpv”): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site discharges directly to tidal waters, or fifth order or larger streams.

- (iv) *Overbank* Flood Control Criteria (“Qp”): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site discharges directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

- (v) Extreme Flood Control Criteria (“Qf”): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site discharges directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

b. Sizing Criteria for New Development in Enhanced Phosphorus Removal Watershed

- (i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

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

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

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.
- (v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

- (i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.
- (1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or
 - (2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or
 - (3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or
 - (4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

- (ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

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

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

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

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and
3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

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

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges*; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: “Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned”; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharges* from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

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

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

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

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

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*; and
 - c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture (“USDA”) Soil Survey as Soil Slope Phase “D”, (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase “E” or “F” (regardless of the map unit name), or a combination of the three designations.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*; and
 - c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase “D” (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase “E” or “F” (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:
- a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.
 - 1-5 acres of disturbance - 20 feet
 - 5-20 acres of disturbance - 50 feet
 - 20+ acres of disturbance - 100 feet, or
 - b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
 - (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
 - (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
 - (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
 - (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or
 - c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

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

d. Documentation that:

- (i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.
9. *Discharges from construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.
2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.
3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of Owner or Operator) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

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

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

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.
3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.
2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (<http://www.dec.ny.gov/>) for more information,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act* ("UPA") (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain UPA permits

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

- c. the final SWPPP has been prepared, and
 - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:
- a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or
 - (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;
 - (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed “MS4 SWPPP Acceptance” form, or
 - (ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed “MS4 SWPPP Acceptance” form.
4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination (“NOT”) has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor’s or subcontractor’s certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
3. The *owner or operator of a construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

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

- a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..
 5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
 6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

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

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

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

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

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4*, the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.
2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.
3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

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

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:
 - a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

- b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;
 - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority; and
 - d. to document the final construction conditions.
5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.
6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

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

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *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* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

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

B. Required SWPPP Contents

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

- b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge(s)*;
- c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
- d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;
- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

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

- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;
 - k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and
 - l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

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

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

- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. A Stormwater Modeling and Analysis Report that includes:
 - (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;
 - (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;
 - (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;
 - (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;
 - (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and
 - (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;
- d. Soil testing results and locations (test pits, borings);
- e. Infiltration test results, when required; and
- f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

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

C. Required SWPPP Components by Project Type

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

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.
2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

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

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.
3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

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

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

- licensed Professional Engineer,
 - Certified Professional in Erosion and Sediment Control (CPESC),
 - New York State Erosion and Sediment Control Certificate Program holder
 - Registered Landscape Architect, or
 - someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].
1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

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

- b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:
- a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
 - b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

- d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the “*Final Stabilization*” and “*Post-Construction Stormwater Management Practice*” certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.
 - e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.
 4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
- f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;
- g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
- k. Identification and status of all corrective actions that were required by previous inspection; and

- I. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.
2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:
 - a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

- b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;
 - c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.
 - d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.
3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the “*Final Stabilization*” and “*Post-Construction Stormwater Management Practice certification statements*” on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.
4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the “*MS4 Acceptance*” statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector’s* final site inspection certification(s) required in Part V.A.3. of this permit.
5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:
 - a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

- b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
- c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,
- d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

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

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

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

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:
 - a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or
 - c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (i) the chief executive officer of the agency, or
 - (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

- c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.
3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.
4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

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

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge(s)*, the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner's or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.
4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.
2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

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

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer

BMP – Best Management Practice

CPESC – Certified Professional in Erosion and Sediment Control

Cpv – Channel Protection Volume

CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)

DOW – Division of Water

EAF – Environmental Assessment Form

ECL - Environmental Conservation Law

EPA – U. S. Environmental Protection Agency

HSG – Hydrologic Soil Group

MS4 – Municipal Separate Storm Sewer System

NOI – Notice of Intent

NOT – Notice of Termination

NPDES – National Pollutant Discharge Elimination System

OPRHP – Office of Parks, Recreation and Historic Places

Qf – Extreme Flood

Qp – Overbank Flood

RRv – Runoff Reduction Volume

RWE – Regional Water Engineer

SEQR – State Environmental Quality Review

SEQRA - State Environmental Quality Review Act

SHPA – State Historic Preservation Act

SPDES – State Pollutant Discharge Elimination System

SWPPP – Stormwater Pollution Prevention Plan

TMDL – Total Maximum Daily Load

UPA – Uniform Procedures Act

USDA – United States Department of Agriculture

WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

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

Agricultural Property – means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

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

Combined Sewer - means a sewer that is designed to collect and convey both “sewage” and “stormwater”.

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

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

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

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

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

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

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

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department’s rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

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

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

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

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

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

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

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

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

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

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

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a *combined sewer*, and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

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

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

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

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

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

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

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

Performance Criteria – means the design criteria listed under the “Required Elements” sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

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

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

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

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

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

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

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

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

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

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

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

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

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

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

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

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

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

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

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

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint sources*. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint sources*, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

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

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

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

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

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

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

<p>The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:</p> <ul style="list-style-type: none">• Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not directly discharging</u> to one of the 303(d) segments listed in Appendix E• Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E• Construction of a barn or other <i>agricultural building</i>, silo, stock yard or pen.
<p>The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:</p> <p>All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.</p>
<p>The following construction activities that involve soil disturbances of one (1) or more acres of land:</p> <ul style="list-style-type: none">• Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains• Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects• Pond construction• Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover• Cross-country ski trails and walking/hiking trails• Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;• Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.• Slope stabilization projects• Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

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

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State”, excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES
POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover*, and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

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

Figure 1 - New York City Watershed East of the Hudson

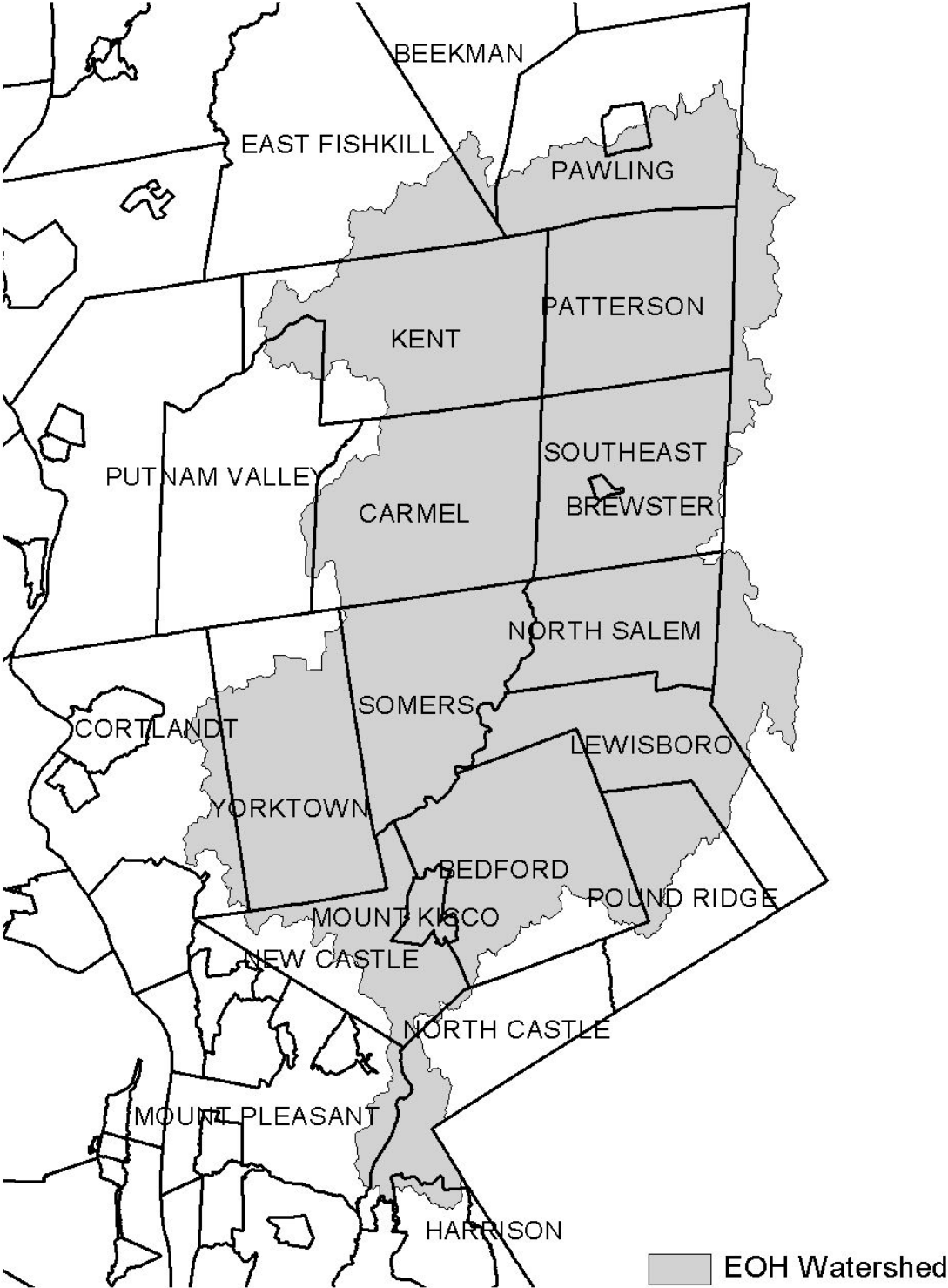


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed



Figure 4 - Oscawana Lake Watershed

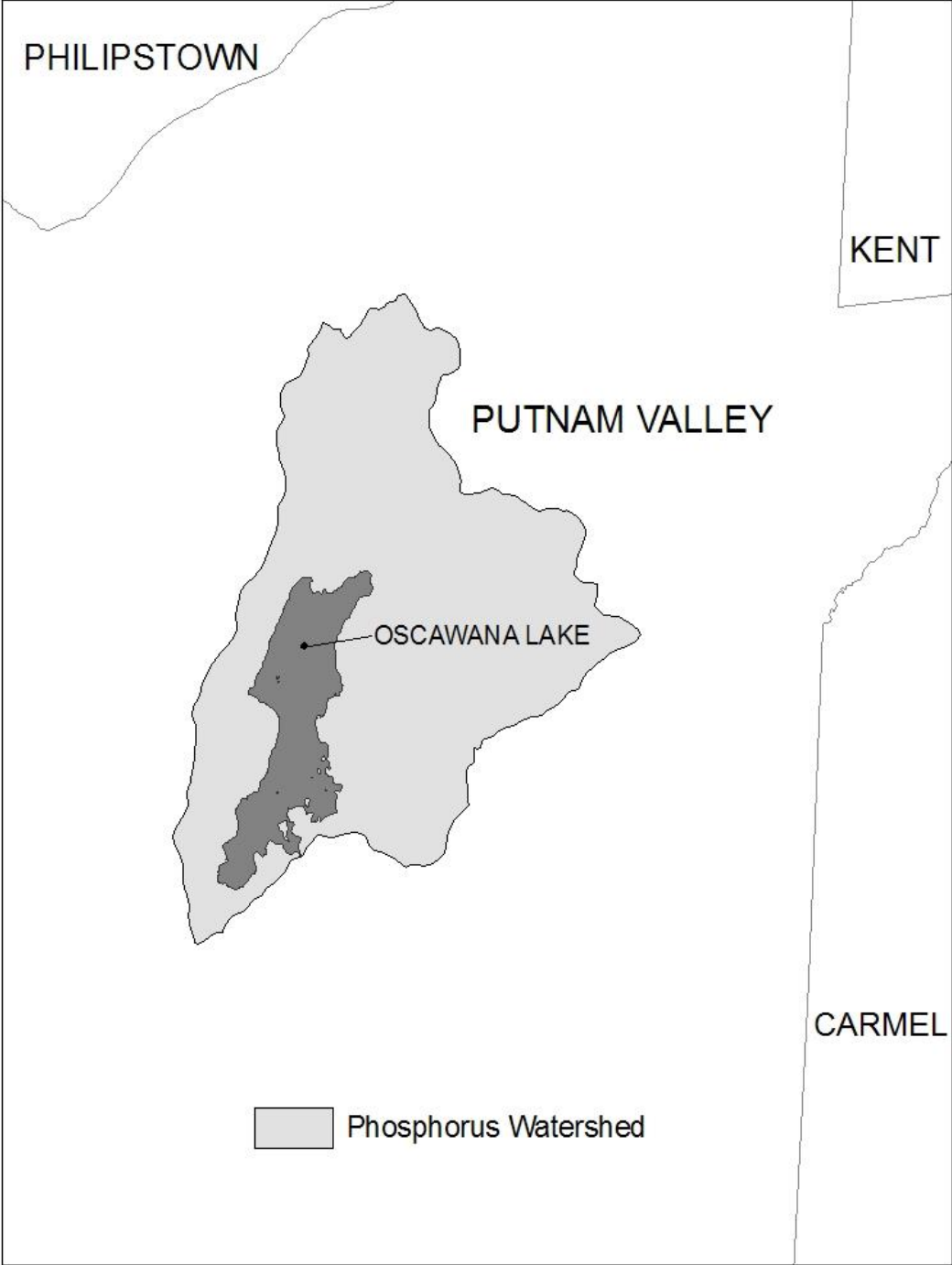
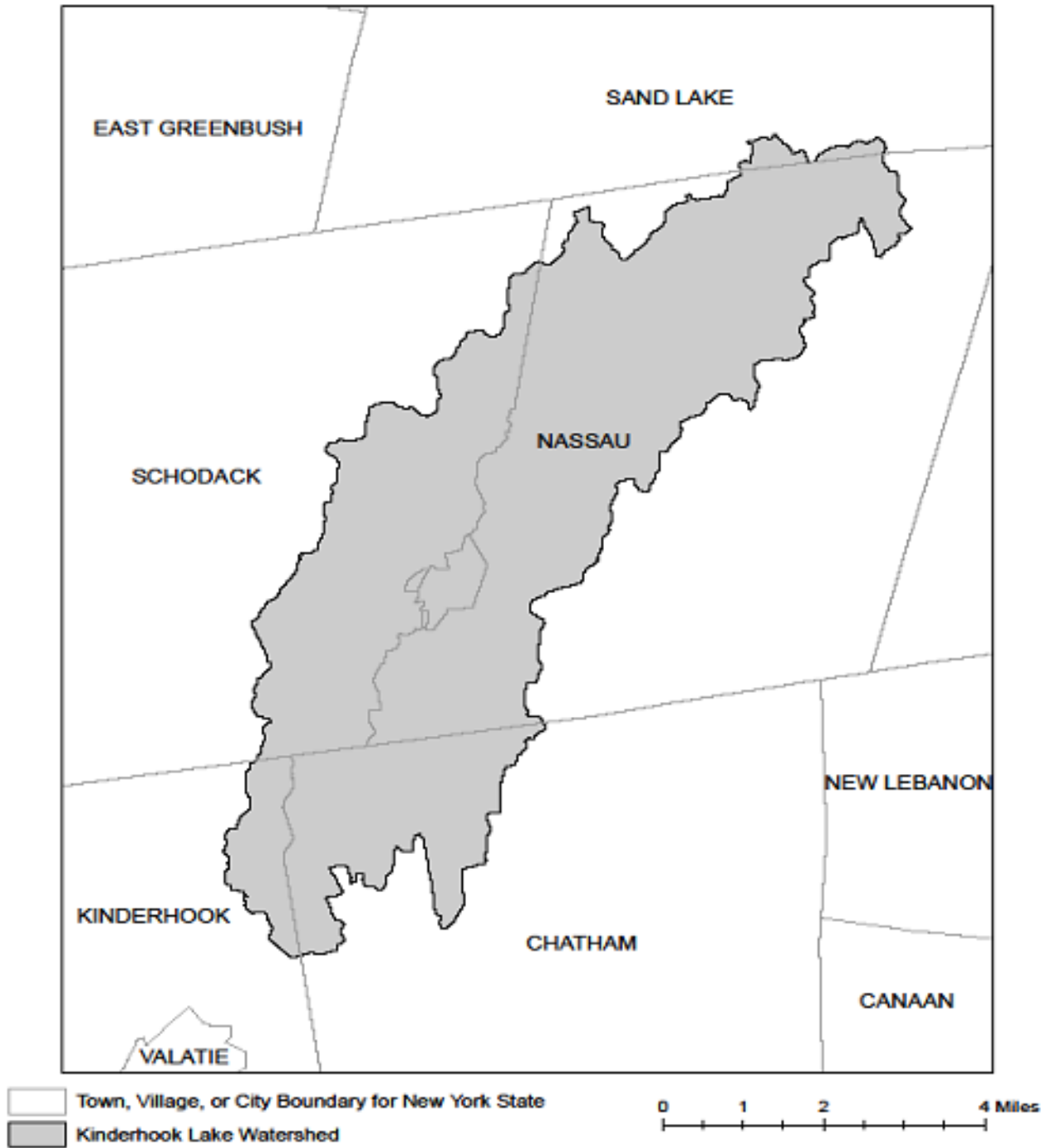


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

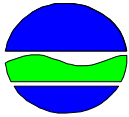
<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, Po Box 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD WARRENSBURG, NY 12885-1172 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX E

NOTICE OF INTENT



NOTICE OF INTENT



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

NYR
 (For DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001
 All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

- IMPORTANT -
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State Zip -

Phone (Owner/Operator) - - Fax (Owner/Operator) - -

Email (Owner/Operator)

FED TAX ID - (not required for individuals)

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

SELECT ONLY ONE CHOICE FOR EACH

**Pre-Development
Existing Land Use**

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

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**Post-Development
Future Land Use**

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

Number of Lots

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

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

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area																				
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5. Do you plan to disturb more than 5 acres of soil at any one time? Yes No

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

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7. Is this a phased project? Yes No

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

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

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

Two rows of empty grid boxes for text entry.

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

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

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

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

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

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

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

Post-construction Stormwater Management Practice (SMP) Requirements

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

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

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

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

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

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

Total WQv Required

. **acre-feet**

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

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

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

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

<u>RR Techniques (Area Reduction)</u>	<u>Total Contributing Area (acres)</u>		<u>Total Contributing Impervious Area (acres)</u>	
<input type="radio"/> Conservation of Natural Areas (RR-1) ...	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Tree Planting/Tree Pit (RR-3)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4) ..	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<u>RR Techniques (Volume Reduction)</u>				
<input type="radio"/> Vegetated Swale (RR-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Rain Garden (RR-6)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Stormwater Planter (RR-7)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Rain Barrel/Cistern (RR-8)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Porous Pavement (RR-9)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Green Roof (RR-10)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<u>Standard SMPs with RRv Capacity</u>				
<input type="radio"/> Infiltration Trench (I-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Infiltration Basin (I-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Dry Well (I-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Underground Infiltration System (I-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Bioretention (F-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Dry Swale (O-1)	<input type="text"/>	<input type="text"/>	0	9 1
<u>Standard SMPs</u>				
<input type="radio"/> Micropool Extended Detention (P-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Pond (P-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Extended Detention (P-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Multiple Pond System (P-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pocket Pond (P-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Surface Sand Filter (F-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Underground Sand Filter (F-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Perimeter Sand Filter (F-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Organic Filter (F-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Shallow Wetland (W-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Extended Detention Wetland (W-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pond/Wetland System (W-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pocket Wetland (W-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Swale (O-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>

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

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

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

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

WQv Provided

						
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APPENDIX F

CONSTRUCTION DURATION INSPECTION CHECKLIST



SITE PLAN/SKETCH

Inspector (print name)

Date of Inspection

Qualified Inspector (print name)

Qualified Inspector Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

- Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
- Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
- All disturbance is within the limits of the approved plans.
- Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

- Is construction site litter, debris and spoils appropriately managed?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

- Maximum diameter pipes necessary to span creek without dredging are installed.
- Installed non-woven geotextile fabric beneath approaches.
- Is fill composed of aggregate (no earth or soil)?
- Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

- Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
- Clean water from upstream pool is being pumped to the downstream pool.
- Sediment laden water from work area is being discharged to a silt-trapping device.
- Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

- Installed per plan.
- Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
- Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

- Installed per plan with minimum side slopes 2H:1V or flatter.
- Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
- Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

- Is channel stable? (flow is not eroding soil underneath or around the structure).
- Check is in good condition (rocks in place and no permanent pools behind the structure).
- Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

- Installed per plan.
- Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

- Stockpiles are stabilized with vegetation and/or mulch.
- Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

- Temporary seedings and mulch have been applied to idle areas.
- 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

- Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

- Installed concrete blocks lengthwise so open ends face outward, not upward.
 - Placed wire screen between No. 3 crushed stone and concrete blocks.
 - Drainage area is 1acre or less.
 - Excavated area is 900 cubic feet.
 - Excavated side slopes should be 2:1.
 - 2" x 4" frame is constructed and structurally sound.
 - Posts 3-foot maximum spacing between posts.
 - Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
 - Posts are stable, fabric is tight and without rips or frayed areas.
 - Manufactured insert fabric is free of tears and punctures.
 - Filter Sock is not torn or flattened and fill material is contained within the mesh sock.
- Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

- Outlet structure is constructed per the approved plan or drawing.
 - Geotextile fabric has been placed beneath rock fill.
 - Sediment trap slopes and disturbed areas are stabilized.
- Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

- Basin and outlet structure constructed per the approved plan.
 - Basin side slopes are stabilized with seed/mulch.
 - Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
 - Sediment basin dewatering pool is dewatering at appropriate rate.
- Sediment accumulation is ___% of design capacity.

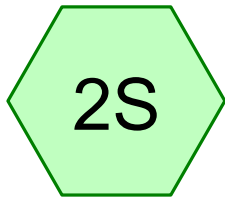
Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

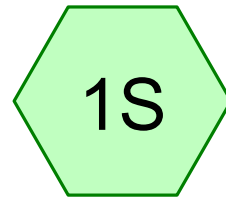
APPENDIX G

WATER QUANTITY VOLUME CALCULATIONS

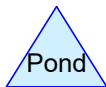
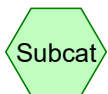




Subcatchment A



Subcatchment B



Morris Road - Preconstruction 04.10.24

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 yr 24 hr	Type II 24-hr		Default	24.00	1	2.02	2
2	10 yr 24 hr	Type II 24-hr		Default	24.00	1	3.80	2
3	100 yr 24 hr	Type II 24-hr		Default	24.00	1	5.90	2

Morris Road - Preconstruction 04.10.24

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
20.330	72	Row crops, straight row, Poor, HSG A (1S, 2S)
10.590	43	Woods/grass comb., Fair, HSG A (1S, 2S)
30.920	62	TOTAL AREA

Morris Road - Preconstruction 04.10.24

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
30.920	HSG A	1S, 2S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
30.920		TOTAL AREA

Morris Road - Preconstruction 04.10.24

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
20.330	0.000	0.000	0.000	0.000	20.330	Row crops, straight row, Poor	1S, 2S
10.590	0.000	0.000	0.000	0.000	10.590	Woods/grass comb., Fair	1S, 2S
30.920	0.000	0.000	0.000	0.000	30.920	TOTAL AREA	

Morris Road - Preconstruction 04.10.24

Type II 24-hr 1 yr 24 hr Rainfall=2.02"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SubcatchmentB

Runoff Area=1.770 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=255' Tc=22.5 min CN=44 Runoff=0.00 cfs 0.000 af

Subcatchment2S: SubcatchmentA

Runoff Area=29.150 ac 0.00% Impervious Runoff Depth=0.11"
Flow Length=1,653' Tc=34.9 min CN=63 Runoff=0.61 cfs 0.258 af

Total Runoff Area = 30.920 ac Runoff Volume = 0.258 af Average Runoff Depth = 0.10"
100.00% Pervious = 30.920 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Subcatchment B

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

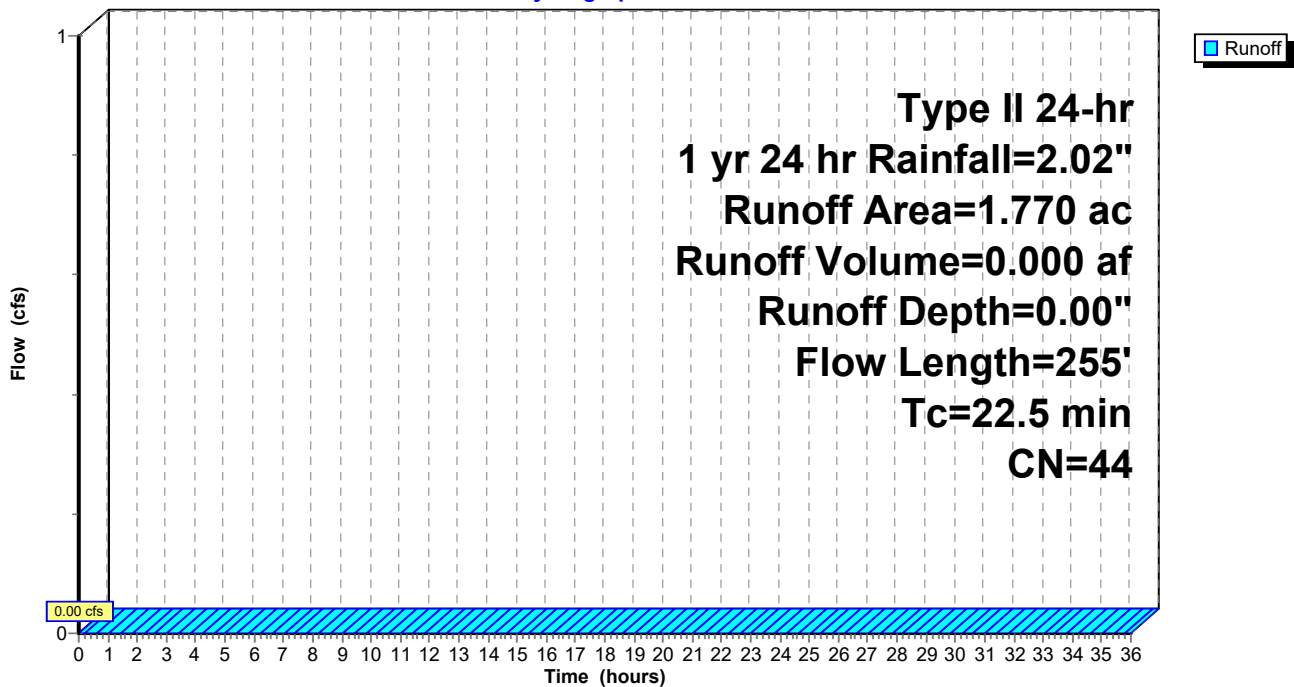
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1 yr 24 hr Rainfall=2.02"

Area (ac)	CN	Description
0.060	72	Row crops, straight row, Poor, HSG A
1.710	43	Woods/grass comb., Fair, HSG A
1.770	44	Weighted Average
1.770		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0667	0.12		Sheet Flow, Sheet Flow - Subcat A
					Woods: Light underbrush n= 0.400 P2= 2.47"
1.6	105	0.0476	1.09		Shallow Concentrated Flow, Subcat A - Line 2
					Woodland Kv= 5.0 fps
22.5	255	Total			

Subcatchment 1S: Subcatchment B

Hydrograph



Summary for Subcatchment 2S: Subcatchment A

Runoff = 0.61 cfs @ 12.66 hrs, Volume= 0.258 af, Depth= 0.11"

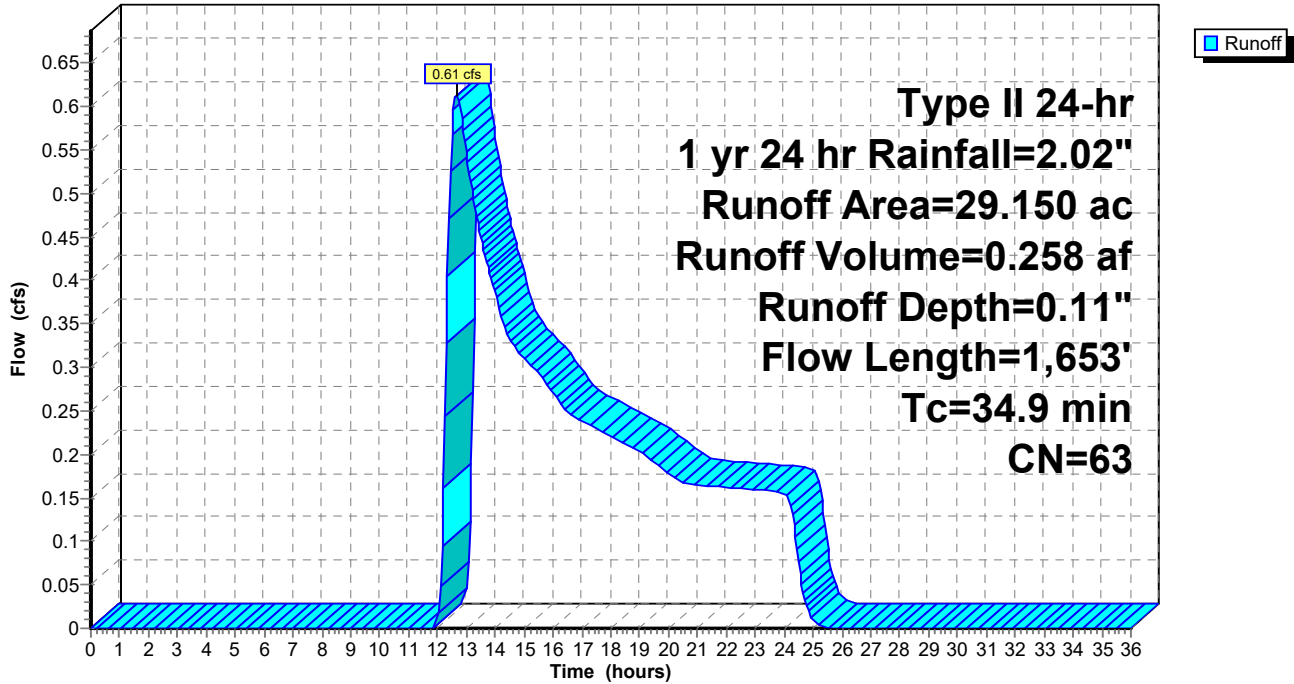
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1 yr 24 hr Rainfall=2.02"

Area (ac)	CN	Description
20.270	72	Row crops, straight row, Poor, HSG A
8.880	43	Woods/grass comb., Fair, HSG A
29.150	63	Weighted Average
29.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	150	0.1220	0.15		Sheet Flow, Sheet Flow - Subcat A Woods: Light underbrush n= 0.400 P2= 2.47"
4.2	251	0.0398	1.00		Shallow Concentrated Flow, SCF LINE 1 Woodland Kv= 5.0 fps
2.4	202	0.0248	1.42		Shallow Concentrated Flow, SCF LINE 2 Cultivated Straight Rows Kv= 9.0 fps
5.8	579	0.0345	1.67		Shallow Concentrated Flow, SCF LINE 3 Cultivated Straight Rows Kv= 9.0 fps
3.3	252	0.0200	1.27		Shallow Concentrated Flow, SCF LINE 4 Cultivated Straight Rows Kv= 9.0 fps
2.8	219	0.0685	1.31		Shallow Concentrated Flow, SCF LINE 5 Woodland Kv= 5.0 fps
34.9	1,653	Total			

Subcatchment 2S: Subcatchment A

Hydrograph



Morris Road - Preconstruction 04.10.24

Type II 24-hr 10 yr 24 hr Rainfall=3.80"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SubcatchmentB

Runoff Area=1.770 ac 0.00% Impervious Runoff Depth=0.11"
Flow Length=255' Tc=22.5 min CN=44 Runoff=0.02 cfs 0.017 af

Subcatchment2S: SubcatchmentA

Runoff Area=29.150 ac 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,653' Tc=34.9 min CN=63 Runoff=14.85 cfs 1.970 af

Total Runoff Area = 30.920 ac Runoff Volume = 1.987 af Average Runoff Depth = 0.77"
100.00% Pervious = 30.920 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Subcatchment B

Runoff = 0.02 cfs @ 13.29 hrs, Volume= 0.017 af, Depth= 0.11"

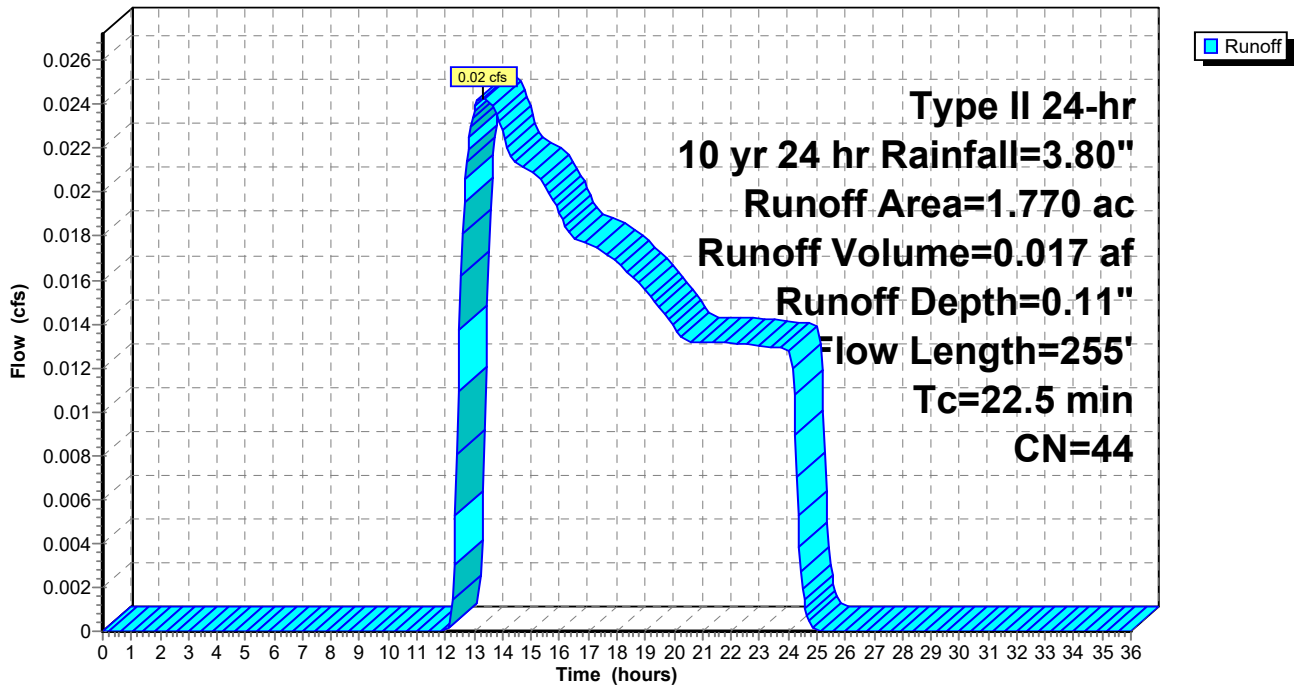
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10 yr 24 hr Rainfall=3.80"

Area (ac)	CN	Description
0.060	72	Row crops, straight row, Poor, HSG A
1.710	43	Woods/grass comb., Fair, HSG A
1.770	44	Weighted Average
1.770		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0667	0.12		Sheet Flow, Sheet Flow - Subcat A
1.6	105	0.0476	1.09		Woods: Light underbrush n= 0.400 P2= 2.47"
					Shallow Concentrated Flow, Subcat A - Line 2
					Woodland Kv= 5.0 fps
22.5	255	Total			

Subcatchment 1S: Subcatchment B

Hydrograph



Summary for Subcatchment 2S: Subcatchment A

Runoff = 14.85 cfs @ 12.36 hrs, Volume= 1.970 af, Depth= 0.81"

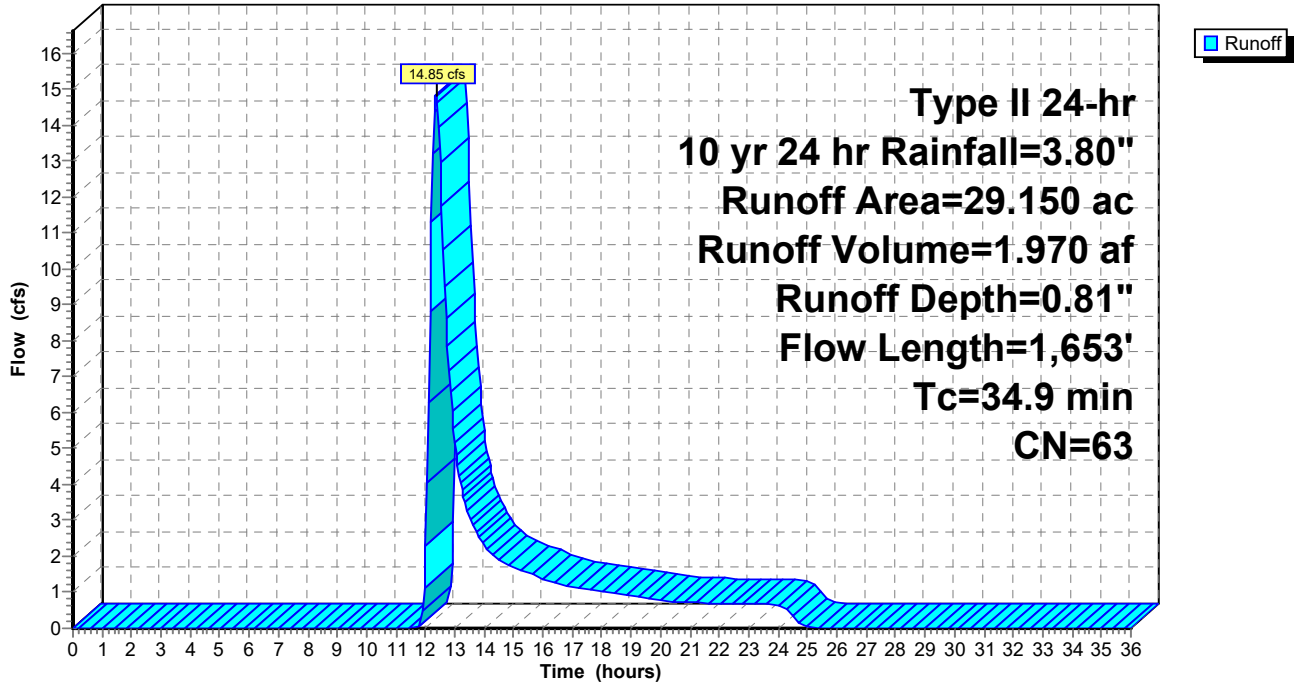
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10 yr 24 hr Rainfall=3.80"

Area (ac)	CN	Description
20.270	72	Row crops, straight row, Poor, HSG A
8.880	43	Woods/grass comb., Fair, HSG A
29.150	63	Weighted Average
29.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	150	0.1220	0.15		Sheet Flow, Sheet Flow - Subcat A
					Woods: Light underbrush n= 0.400 P2= 2.47"
4.2	251	0.0398	1.00		Shallow Concentrated Flow, SCF LINE 1
					Woodland Kv= 5.0 fps
2.4	202	0.0248	1.42		Shallow Concentrated Flow, SCF LINE 2
					Cultivated Straight Rows Kv= 9.0 fps
5.8	579	0.0345	1.67		Shallow Concentrated Flow, SCF LINE 3
					Cultivated Straight Rows Kv= 9.0 fps
3.3	252	0.0200	1.27		Shallow Concentrated Flow, SCF LINE 4
					Cultivated Straight Rows Kv= 9.0 fps
2.8	219	0.0685	1.31		Shallow Concentrated Flow, SCF LINE 5
					Woodland Kv= 5.0 fps
34.9	1,653	Total			

Subcatchment 2S: Subcatchment A

Hydrograph



Morris Road - Preconstruction 04.10.24

Type II 24-hr 100 yr 24 hr Rainfall=5.90"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SubcatchmentB

Runoff Area=1.770 ac 0.00% Impervious Runoff Depth=0.70"
Flow Length=255' Tc=22.5 min CN=44 Runoff=0.74 cfs 0.103 af

Subcatchment2S: SubcatchmentA

Runoff Area=29.150 ac 0.00% Impervious Runoff Depth=2.11"
Flow Length=1,653' Tc=34.9 min CN=63 Runoff=45.53 cfs 5.118 af

Total Runoff Area = 30.920 ac Runoff Volume = 5.221 af Average Runoff Depth = 2.03"
100.00% Pervious = 30.920 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Subcatchment B

Runoff = 0.74 cfs @ 12.23 hrs, Volume= 0.103 af, Depth= 0.70"

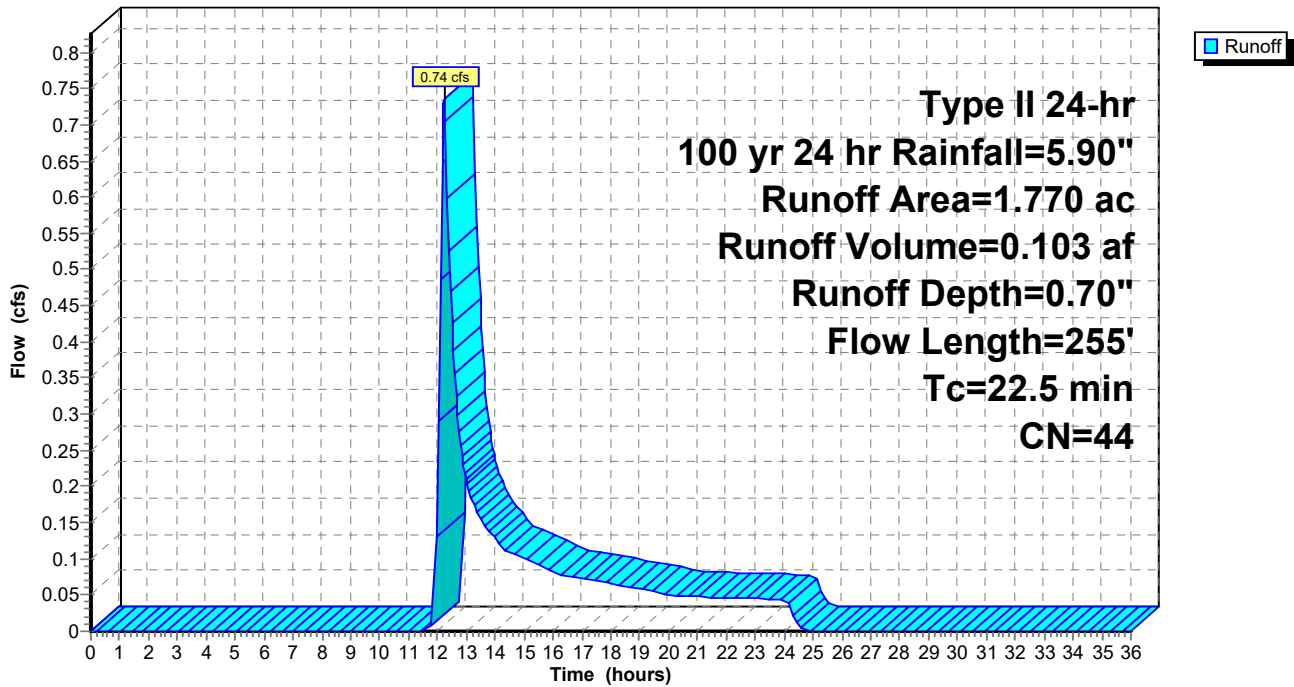
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100 yr 24 hr Rainfall=5.90"

Area (ac)	CN	Description
0.060	72	Row crops, straight row, Poor, HSG A
1.710	43	Woods/grass comb., Fair, HSG A
1.770	44	Weighted Average
1.770		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0667	0.12		Sheet Flow, Sheet Flow - Subcat A
1.6	105	0.0476	1.09		Woods: Light underbrush n= 0.400 P2= 2.47"
					Shallow Concentrated Flow, Subcat A - Line 2
					Woodland Kv= 5.0 fps
22.5	255	Total			

Subcatchment 1S: Subcatchment B

Hydrograph



Summary for Subcatchment 2S: Subcatchment A

Runoff = 45.53 cfs @ 12.32 hrs, Volume= 5.118 af, Depth= 2.11"

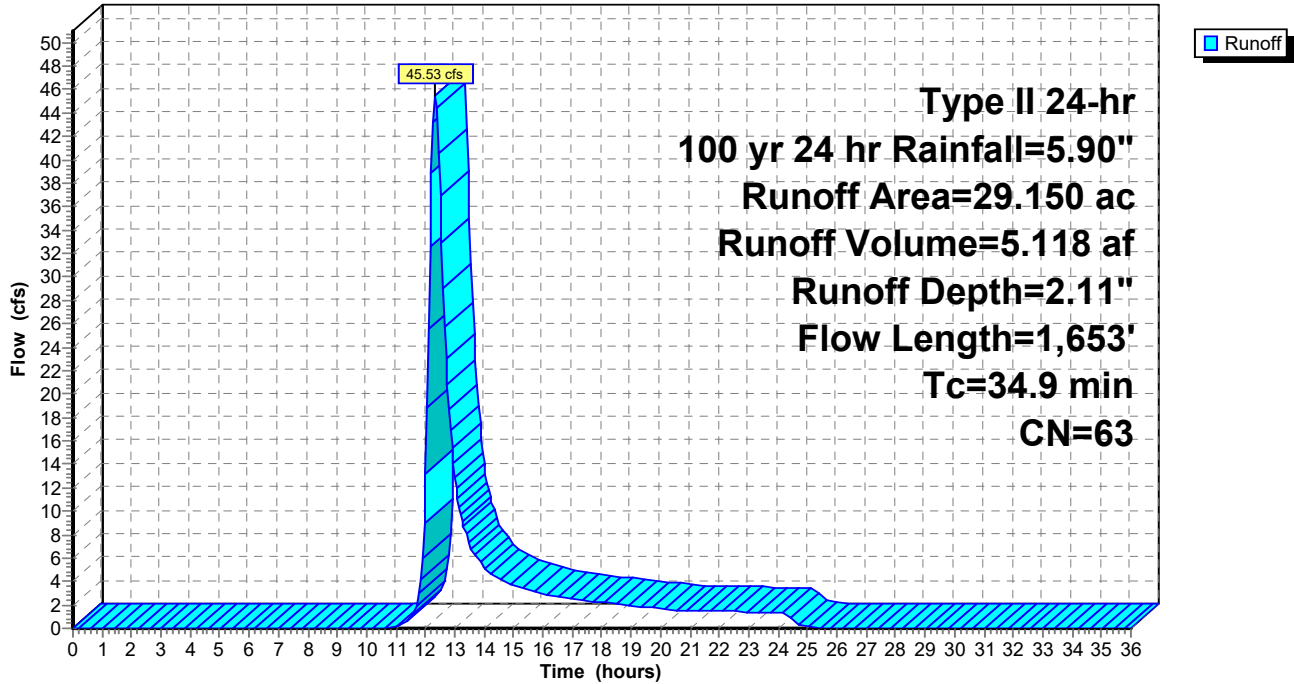
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100 yr 24 hr Rainfall=5.90"

Area (ac)	CN	Description
20.270	72	Row crops, straight row, Poor, HSG A
8.880	43	Woods/grass comb., Fair, HSG A
29.150	63	Weighted Average
29.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	150	0.1220	0.15		Sheet Flow, Sheet Flow - Subcat A
					Woods: Light underbrush n= 0.400 P2= 2.47"
4.2	251	0.0398	1.00		Shallow Concentrated Flow, SCF LINE 1
					Woodland Kv= 5.0 fps
2.4	202	0.0248	1.42		Shallow Concentrated Flow, SCF LINE 2
					Cultivated Straight Rows Kv= 9.0 fps
5.8	579	0.0345	1.67		Shallow Concentrated Flow, SCF LINE 3
					Cultivated Straight Rows Kv= 9.0 fps
3.3	252	0.0200	1.27		Shallow Concentrated Flow, SCF LINE 4
					Cultivated Straight Rows Kv= 9.0 fps
2.8	219	0.0685	1.31		Shallow Concentrated Flow, SCF LINE 5
					Woodland Kv= 5.0 fps
34.9	1,653	Total			

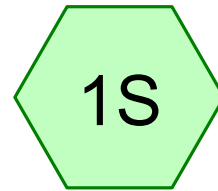
Subcatchment 2S: Subcatchment A

Hydrograph

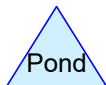
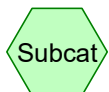




Subcatchment A



Subcatchment B



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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 yr 24 hr	Type II 24-hr		Default	24.00	1	2.02	2
2	10 yr 24 hr	Type II 24-hr		Default	24.00	1	3.80	2
3	100 yr 24 hr	Type II 24-hr		Default	24.00	1	5.90	2

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.080	96	Gravel surface, HSG A (2S)
29.840	39	Pasture/grassland/range, Good, HSG A (1S, 2S)
30.920	41	TOTAL AREA

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
30.920	HSG A	1S, 2S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
30.920		TOTAL AREA

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
1.080	0.000	0.000	0.000	0.000	1.080	Gravel surface	2S
29.840	0.000	0.000	0.000	0.000	29.840	Pasture/grassland/range, Good	1S
							,
							2S
30.920	0.000	0.000	0.000	0.000	30.920	TOTAL AREA	

Morris Road - Post construction 04.10.24

Type II 24-hr 1 yr 24 hr Rainfall=2.02"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SubcatchmentB

Runoff Area=1.770 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=198' Tc=15.6 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment2S: SubcatchmentA

Runoff Area=29.150 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,522' Tc=32.0 min CN=41 Runoff=0.00 cfs 0.000 af

Total Runoff Area = 30.920 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
100.00% Pervious = 30.920 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Subcatchment B

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

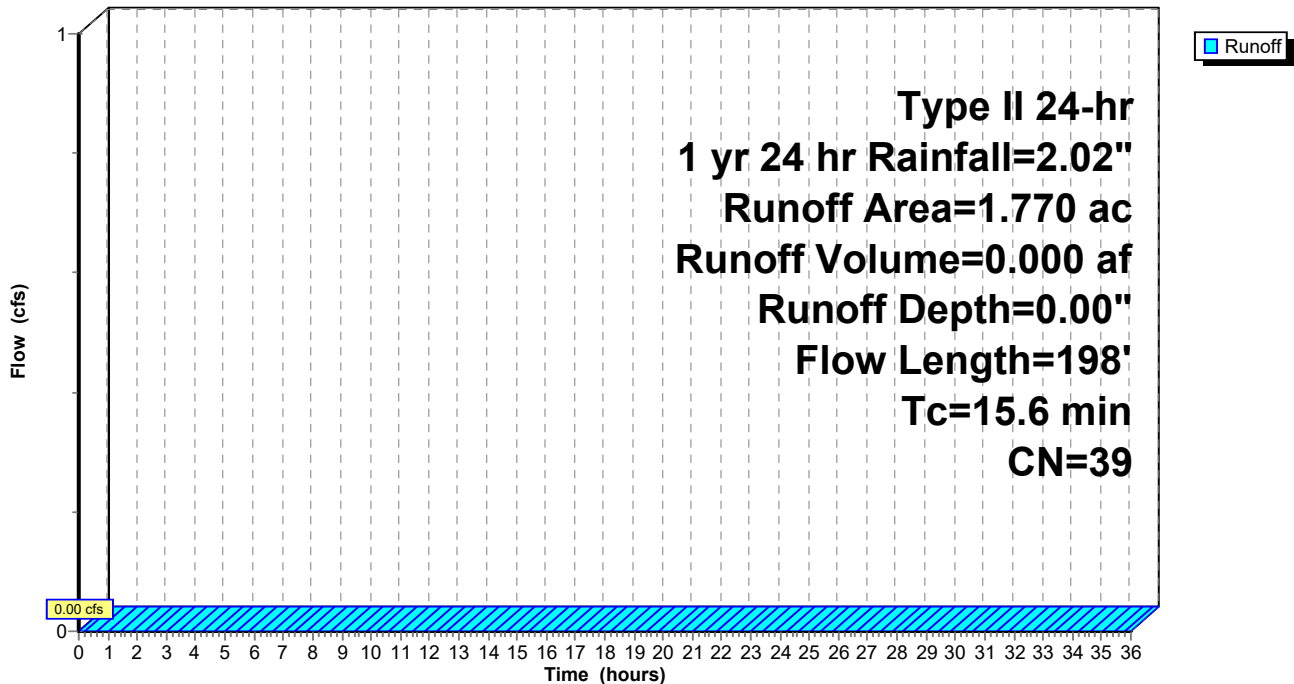
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1 yr 24 hr Rainfall=2.02"

Area (ac)	CN	Description
1.770	39	Pasture/grassland/range, Good, HSG A
1.770		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0533	0.16		Sheet Flow, Sheet Flow - Subcat A Grass: Dense n= 0.240 P2= 2.47"
0.4	48	0.1042	2.26		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.6	198	Total			

Subcatchment 1S: Subcatchment B

Hydrograph



Summary for Subcatchment 2S: Subcatchment A

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

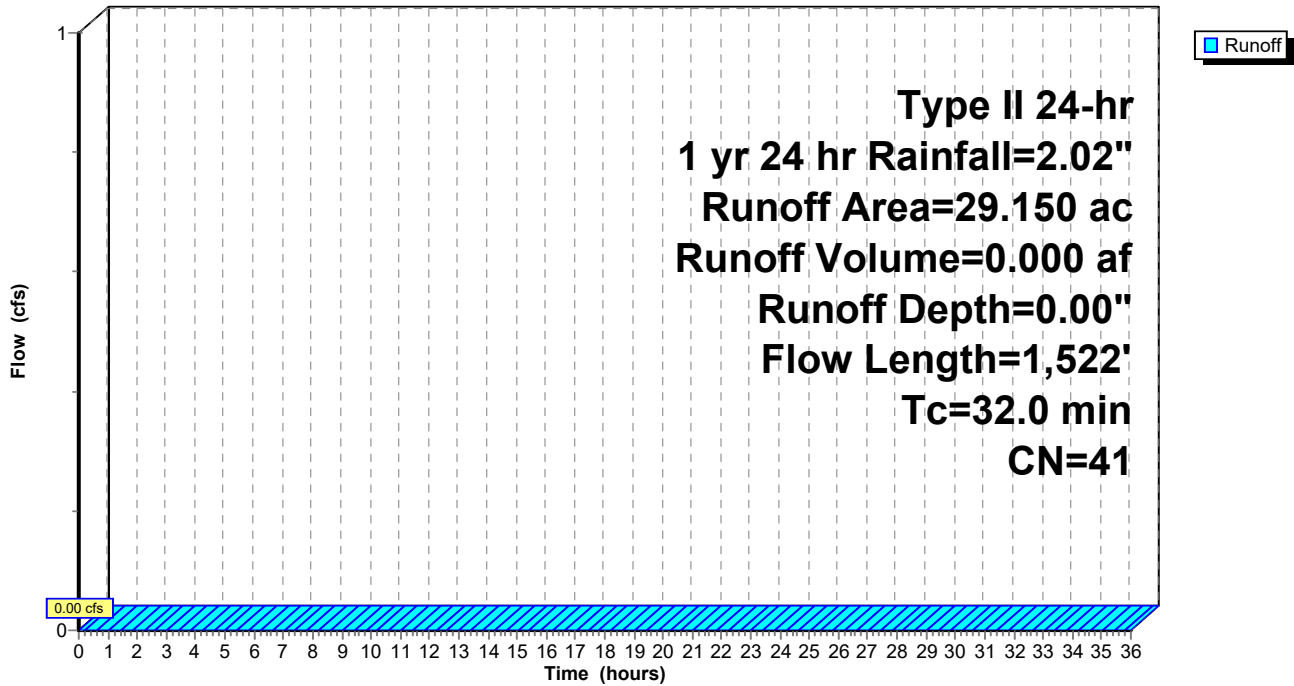
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1 yr 24 hr Rainfall=2.02"

Area (ac)	CN	Description
1.080	96	Gravel surface, HSG A
28.070	39	Pasture/grassland/range, Good, HSG A
29.150	41	Weighted Average
29.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	135	0.0889	0.20		Sheet Flow, Sheet Flow - Subcat A Grass: Dense n= 0.240 P2= 2.47"
3.5	318	0.0472	1.52		Shallow Concentrated Flow, SCF LINE 1 Short Grass Pasture Kv= 7.0 fps
3.5	278	0.0359	1.33		Shallow Concentrated Flow, SCF LINE 2 Short Grass Pasture Kv= 7.0 fps
10.3	455	0.0110	0.73		Shallow Concentrated Flow, SCF LINE 3 Short Grass Pasture Kv= 7.0 fps
1.8	179	0.0559	1.66		Shallow Concentrated Flow, SCF LINE 4 Short Grass Pasture Kv= 7.0 fps
1.5	157	0.0637	1.77		Shallow Concentrated Flow, SCF LINE 5 Short Grass Pasture Kv= 7.0 fps
32.0	1,522	Total			

Subcatchment 2S: Subcatchment A

Hydrograph



Morris Road - Post construction 04.10.24

Type II 24-hr 10 yr 24 hr Rainfall=3.80"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SubcatchmentB

Runoff Area=1.770 ac 0.00% Impervious Runoff Depth=0.03"
Flow Length=198' Tc=15.6 min CN=39 Runoff=0.01 cfs 0.004 af

Subcatchment2S: SubcatchmentA

Runoff Area=29.150 ac 0.00% Impervious Runoff Depth=0.06"
Flow Length=1,522' Tc=32.0 min CN=41 Runoff=0.17 cfs 0.135 af

Total Runoff Area = 30.920 ac Runoff Volume = 0.139 af Average Runoff Depth = 0.05"
100.00% Pervious = 30.920 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Subcatchment B

Runoff = 0.01 cfs @ 24.00 hrs, Volume= 0.004 af, Depth= 0.03"

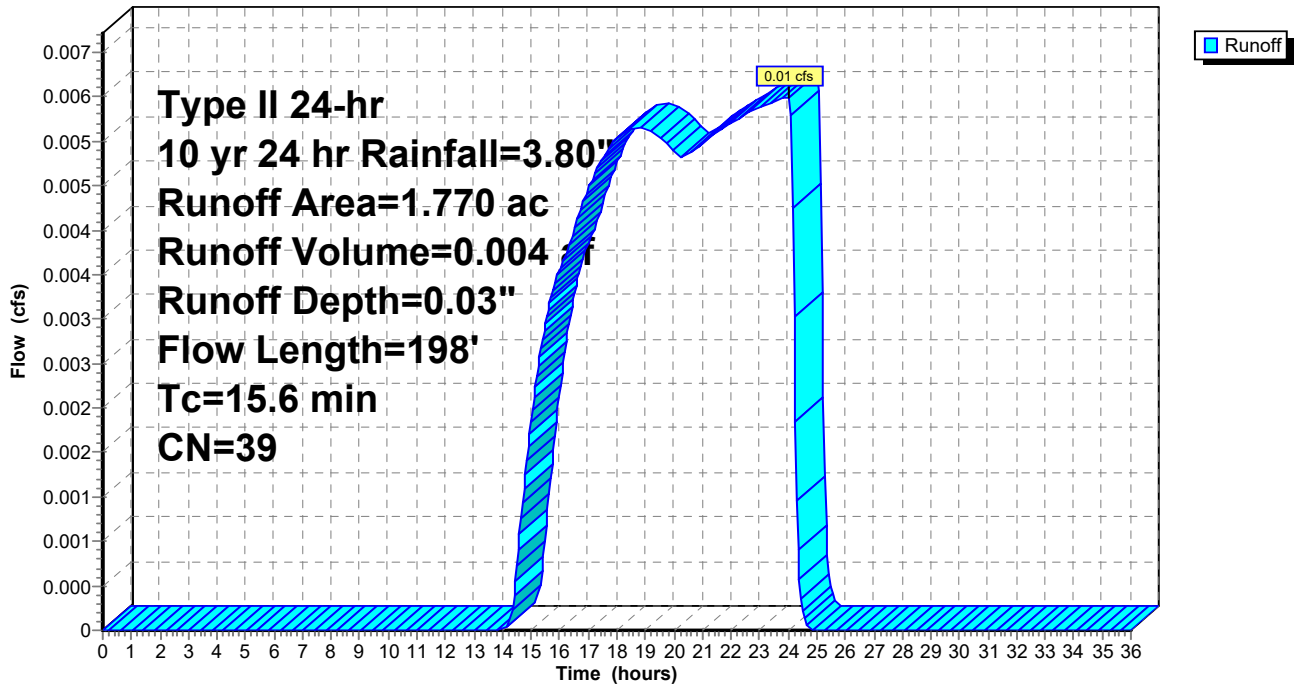
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10 yr 24 hr Rainfall=3.80"

Area (ac)	CN	Description
1.770	39	Pasture/grassland/range, Good, HSG A
1.770		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0533	0.16		Sheet Flow, Sheet Flow - Subcat A Grass: Dense n= 0.240 P2= 2.47"
0.4	48	0.1042	2.26		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.6	198	Total			

Subcatchment 1S: Subcatchment B

Hydrograph



Summary for Subcatchment 2S: Subcatchment A

Runoff = 0.17 cfs @ 17.76 hrs, Volume= 0.135 af, Depth= 0.06"

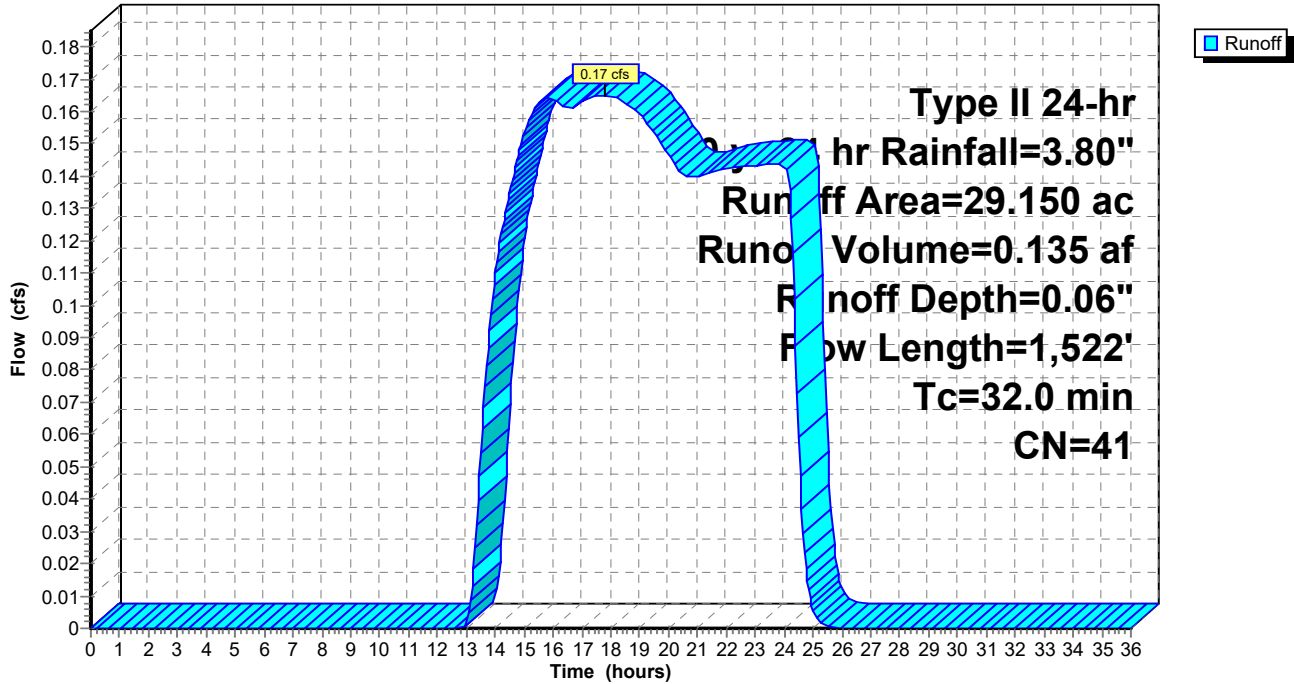
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10 yr 24 hr Rainfall=3.80"

Area (ac)	CN	Description
1.080	96	Gravel surface, HSG A
28.070	39	Pasture/grassland/range, Good, HSG A
29.150	41	Weighted Average
29.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	135	0.0889	0.20		Sheet Flow, Sheet Flow - Subcat A Grass: Dense n= 0.240 P2= 2.47"
3.5	318	0.0472	1.52		Shallow Concentrated Flow, SCF LINE 1 Short Grass Pasture Kv= 7.0 fps
3.5	278	0.0359	1.33		Shallow Concentrated Flow, SCF LINE 2 Short Grass Pasture Kv= 7.0 fps
10.3	455	0.0110	0.73		Shallow Concentrated Flow, SCF LINE 3 Short Grass Pasture Kv= 7.0 fps
1.8	179	0.0559	1.66		Shallow Concentrated Flow, SCF LINE 4 Short Grass Pasture Kv= 7.0 fps
1.5	157	0.0637	1.77		Shallow Concentrated Flow, SCF LINE 5 Short Grass Pasture Kv= 7.0 fps
32.0	1,522	Total			

Subcatchment 2S: Subcatchment A

Hydrograph



Morris Road - Post construction 04.10.24

Type II 24-hr 100 yr 24 hr Rainfall=5.90"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SubcatchmentB

Runoff Area=1.770 ac 0.00% Impervious Runoff Depth=0.42"
Flow Length=198' Tc=15.6 min CN=39 Runoff=0.31 cfs 0.062 af

Subcatchment2S: SubcatchmentA

Runoff Area=29.150 ac 0.00% Impervious Runoff Depth=0.52"
Flow Length=1,522' Tc=32.0 min CN=41 Runoff=5.59 cfs 1.274 af

Total Runoff Area = 30.920 ac Runoff Volume = 1.336 af Average Runoff Depth = 0.52"
100.00% Pervious = 30.920 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Subcatchment B

Runoff = 0.31 cfs @ 12.17 hrs, Volume= 0.062 af, Depth= 0.42"

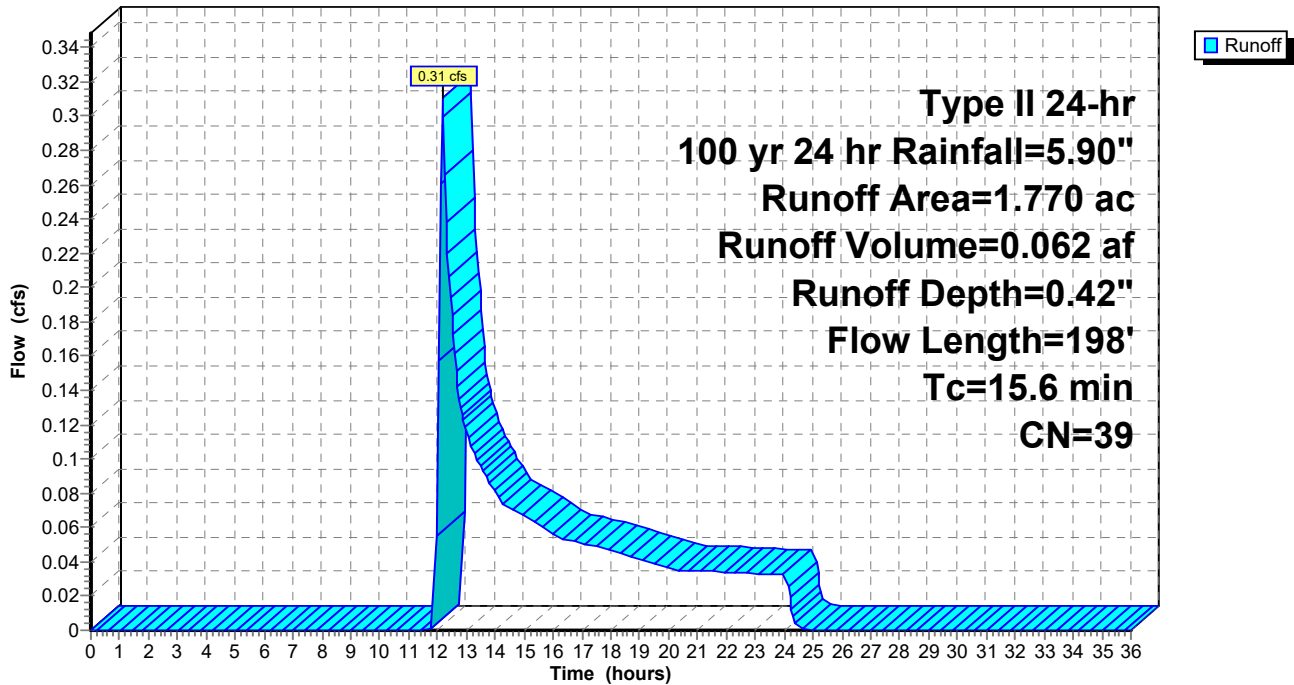
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100 yr 24 hr Rainfall=5.90"

Area (ac)	CN	Description
1.770	39	Pasture/grassland/range, Good, HSG A
1.770		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0533	0.16		Sheet Flow, Sheet Flow - Subcat A Grass: Dense n= 0.240 P2= 2.47"
0.4	48	0.1042	2.26		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.6	198	Total			

Subcatchment 1S: Subcatchment B

Hydrograph



Summary for Subcatchment 2S: Subcatchment A

Runoff = 5.59 cfs @ 12.42 hrs, Volume= 1.274 af, Depth= 0.52"

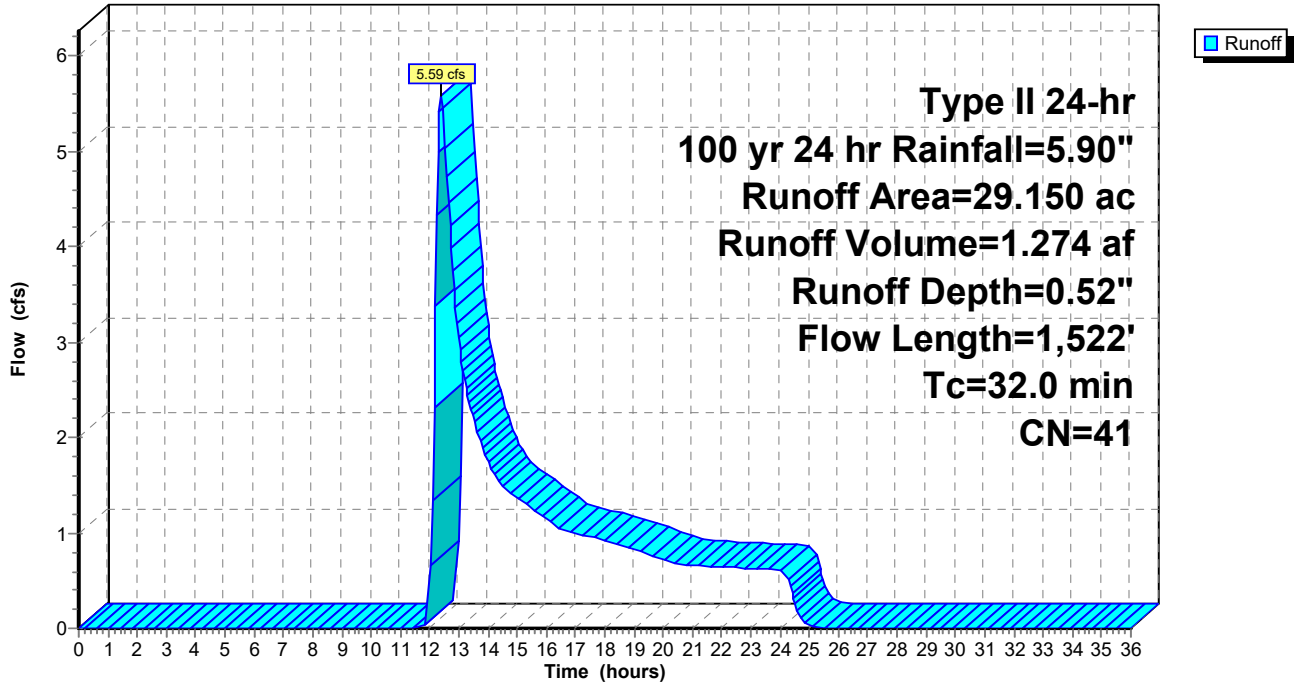
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100 yr 24 hr Rainfall=5.90"

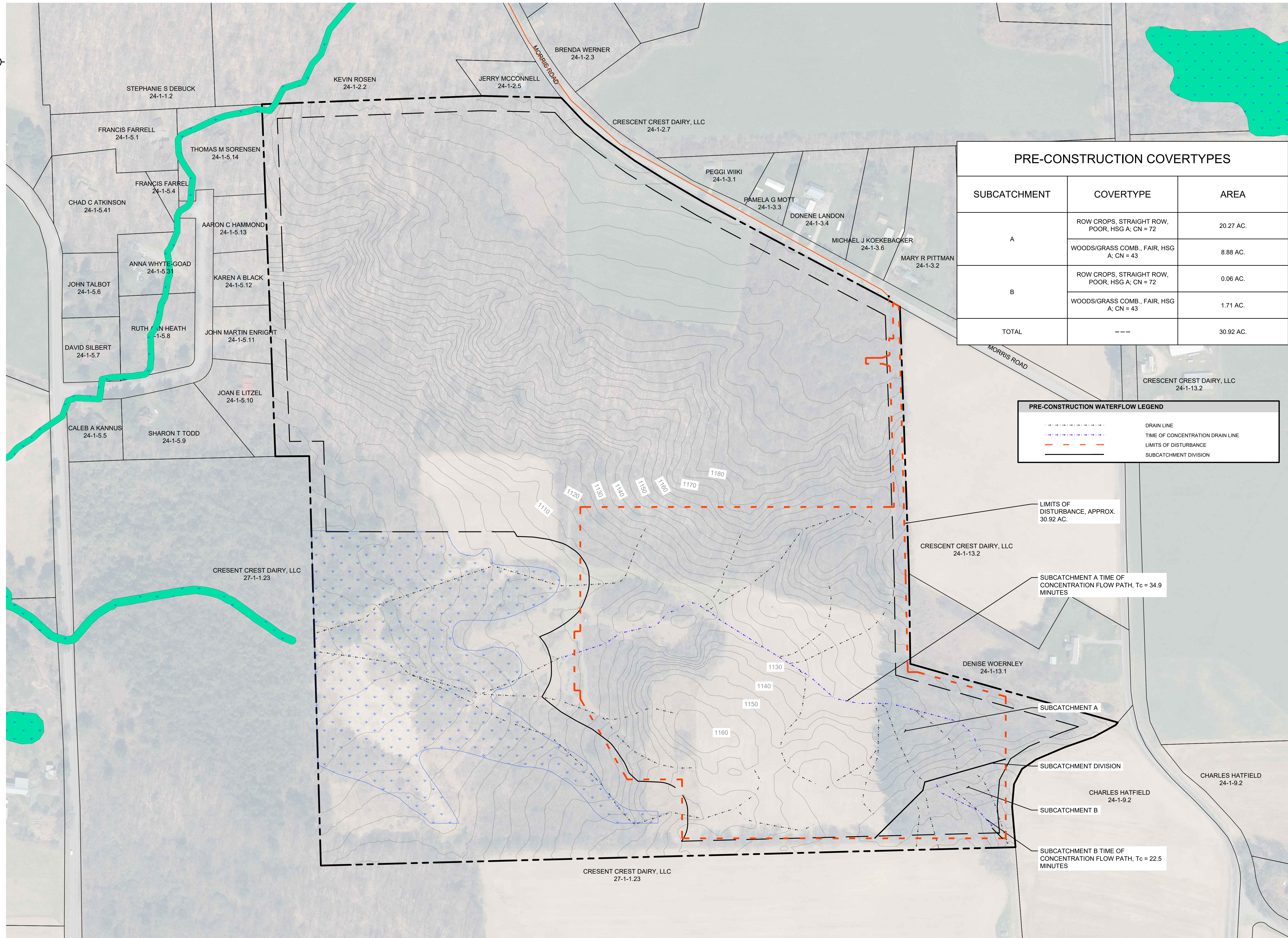
Area (ac)	CN	Description
1.080	96	Gravel surface, HSG A
28.070	39	Pasture/grassland/range, Good, HSG A
29.150	41	Weighted Average
29.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	135	0.0889	0.20		Sheet Flow, Sheet Flow - Subcat A Grass: Dense n= 0.240 P2= 2.47"
3.5	318	0.0472	1.52		Shallow Concentrated Flow, SCF LINE 1 Short Grass Pasture Kv= 7.0 fps
3.5	278	0.0359	1.33		Shallow Concentrated Flow, SCF LINE 2 Short Grass Pasture Kv= 7.0 fps
10.3	455	0.0110	0.73		Shallow Concentrated Flow, SCF LINE 3 Short Grass Pasture Kv= 7.0 fps
1.8	179	0.0559	1.66		Shallow Concentrated Flow, SCF LINE 4 Short Grass Pasture Kv= 7.0 fps
1.5	157	0.0637	1.77		Shallow Concentrated Flow, SCF LINE 5 Short Grass Pasture Kv= 7.0 fps
32.0	1,522	Total			

Subcatchment 2S: Subcatchment A

Hydrograph





PRE-CONSTRUCTION COVERTYPES		
SUBCATCHMENT	COVERTYPE	AREA
A	ROW CROPS, STRAIGHT ROW, POOR, HSG A; CN = 72	20.27 AC.
	WOODS/GRASS COMB., FAIR, HSG A; CN = 43	8.88 AC.
B	ROW CROPS, STRAIGHT ROW, POOR, HSG A; CN = 72	0.06 AC.
	WOODS/GRASS COMB., FAIR, HSG A; CN = 43	1.71 AC.
TOTAL	---	30.92 AC.

PRE-CONSTRUCTION WATERFLOW LEGEND	
	DRAIN LINE
	TIME OF CONCENTRATION DRAIN LINE
	LIMITS OF DISTURBANCE
	SUBCATCHMENT DIVISION

LIMITS OF DISTURBANCE, APPROX. 30.92 AC.

SUBCATCHMENT A TIME OF CONCENTRATION FLOW PATH, T_c = 34.9 MINUTES

SUBCATCHMENT A

SUBCATCHMENT DIVISION

SUBCATCHMENT B

SUBCATCHMENT B TIME OF CONCENTRATION FLOW PATH, T_c = 22.5 MINUTES



630 Johnson Avenue, Suite 7
Bohemia, NY 11716-2618
Phone: (631) 589-6353 Fax: (631) 589-8705
E-mail: INFO@PWGCROSSER.COM

CONSULTANTS

Number	Revision Description	Revision Date
7		
6		
5		
4		
3	CLIENT REVIEW	04/11/2024
2	TOWN SUBMISSION	03/29/2024
1	CLIENT REVIEW	03/01/2024

FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

Designed By		Date Submitted	
Drawn By	RPV	Date Created	03/27/24
Approved By	MTS	Scale	1" = 150'

Client:
NY DRYDEN III, LLC
P.O. BOX 384
CALLICOON, NY 12783

Project:
MORRIS ROAD SOLAR FARM CONCEPTUAL PLAN

Project Address:
30 MORRIS ROAD
TOWN OF DRYDEN
TOMPKINS COUNTY, NEW YORK

County Tax Map Number: 24-1-4 Contract Number: ---
Regulatory Reference Number: ---

Title of Drawing:

PRECONSTRUCTION WATERFLOW CONDITIONS

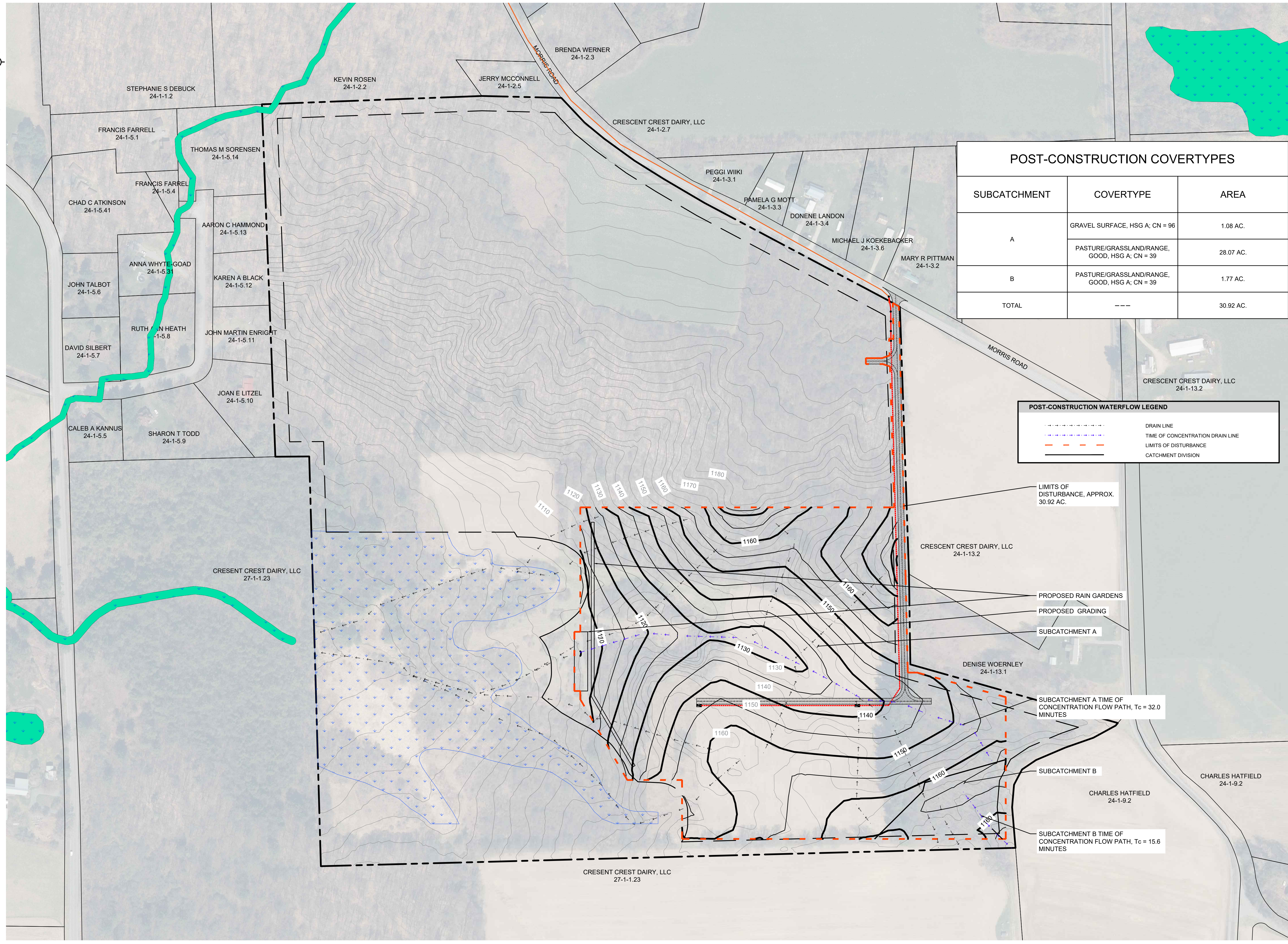
State of New York Professional Engineer Seal for Michael Scanlon, License No. 103321.

Drawing Number: **C-502**

Sheet 5 of 10

PWGC Project Number: **DRS2322**

Unauthorized alteration or addition to this drawing and related documents is a violation of Section 7209 of the New York State Education Law.



POST-CONSTRUCTION COVERTYPES		
SUBCATCHMENT	COVERTYPE	AREA
A	GRAVEL SURFACE, HSG A; CN = 96	1.08 AC.
	PASTURE/GRASSLAND/RANGE, GOOD, HSG A; CN = 39	28.07 AC.
B	PASTURE/GRASSLAND/RANGE, GOOD, HSG A; CN = 39	1.77 AC.
TOTAL	---	30.92 AC.

POST-CONSTRUCTION WATERFLOW LEGEND	
	DRAIN LINE
	TIME OF CONCENTRATION DRAIN LINE
	LIMITS OF DISTURBANCE
	CATCHMENT DIVISION

LIMITS OF DISTURBANCE, APPROX. 30.92 AC.

PROPOSED RAIN GARDENS
PROPOSED GRADING
SUBCATCHMENT A

SUBCATCHMENT A TIME OF CONCENTRATION FLOW PATH, T_c = 32.0 MINUTES

SUBCATCHMENT B

SUBCATCHMENT B TIME OF CONCENTRATION FLOW PATH, T_c = 15.6 MINUTES



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E-mail: INFO@PWGROSSER.COM

CONSULTANTS

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NOT FOR CONSTRUCTION**

7		
6		
5		
4		
3	CLIENT REVIEW	04/11/2024
2	TOWN SUBMISSION	03/29/2024
1	CLIENT REVIEW	03/01/2024

Designed By: _____ Date Submitted: _____
Drawn By: **RPV** Date Created: **03/27/24**
Approved By: **MTS** Scale: **1" = 150'**

Client:
NY DRYDEN III, LLC
P.O. BOX 384
CALLICOON, NY 12783
Project:
MORRIS ROAD SOLAR FARM CONCEPTUAL PLAN

Project Address:
30 MORRIS ROAD
TOWN OF DRYDEN
TOMPKINS COUNTY, NEW YORK

County Tax Map Number: **24-1-4** Contract Number: _____
Regulatory Reference Number: _____

POST CONSTRUCTION WATERFLOW CONDITIONS

STATE OF NEW YORK
MICHAEL SCANLON
LICENSED PROFESSIONAL ENGINEER
103321
Drawing Number: **C-503**
Sheet **5** of **10**
PWGC Project Number: _____

DRS2322

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APPENDIX H

NOAA Atlas 14, Volume 10, Version 3 Point Precipitation Frequency Estimates Online Tool





NOAA Atlas 14, Volume 10, Version 3
Location name: Freeville, New York, USA*
Latitude: 42.5382°, Longitude: -76.3274°
Elevation: 1142 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerials](#)

PF tabular

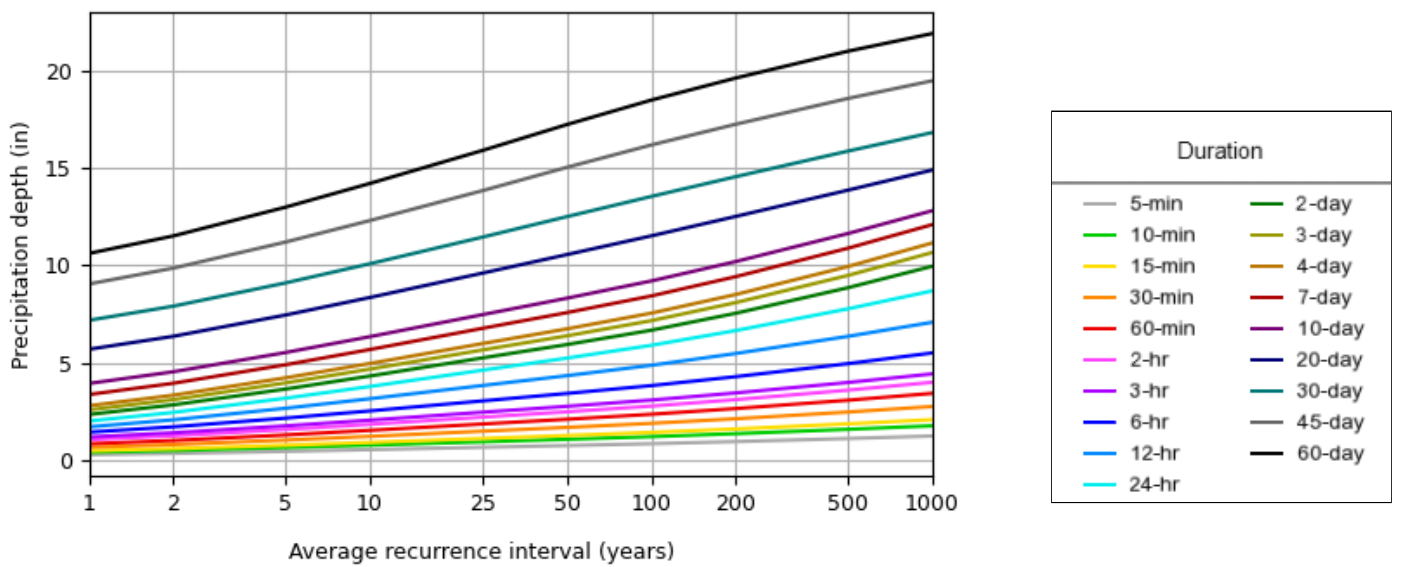
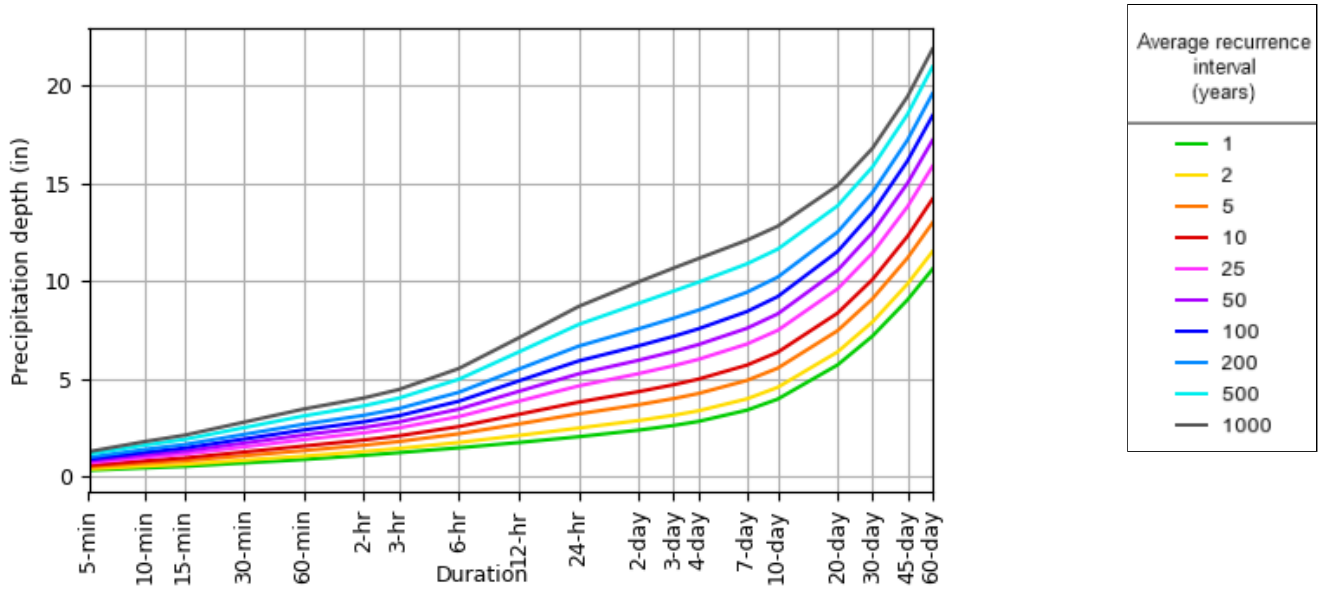
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.300 (0.235-0.379)	0.365 (0.285-0.461)	0.471 (0.367-0.598)	0.559 (0.432-0.713)	0.679 (0.509-0.904)	0.769 (0.565-1.05)	0.864 (0.617-1.22)	0.972 (0.656-1.40)	1.13 (0.732-1.68)	1.26 (0.796-1.91)
10-min	0.425 (0.333-0.537)	0.517 (0.404-0.653)	0.667 (0.519-0.846)	0.790 (0.612-1.01)	0.961 (0.721-1.28)	1.09 (0.801-1.48)	1.22 (0.873-1.73)	1.38 (0.930-1.98)	1.60 (1.04-2.38)	1.78 (1.13-2.70)
15-min	0.500 (0.392-0.632)	0.608 (0.475-0.769)	0.784 (0.611-0.995)	0.930 (0.720-1.19)	1.13 (0.848-1.51)	1.28 (0.941-1.74)	1.44 (1.03-2.03)	1.62 (1.09-2.33)	1.88 (1.22-2.80)	2.10 (1.33-3.18)
30-min	0.678 (0.531-0.856)	0.819 (0.640-1.04)	1.05 (0.818-1.33)	1.24 (0.961-1.58)	1.50 (1.13-2.00)	1.70 (1.25-2.31)	1.91 (1.36-2.69)	2.14 (1.44-3.08)	2.49 (1.61-3.70)	2.77 (1.75-4.20)
60-min	0.856 (0.670-1.08)	1.03 (0.804-1.30)	1.31 (1.02-1.66)	1.55 (1.20-1.98)	1.87 (1.40-2.49)	2.12 (1.55-2.88)	2.37 (1.69-3.35)	2.66 (1.80-3.83)	3.09 (2.00-4.60)	3.44 (2.18-5.22)
2-hr	1.07 (0.843-1.34)	1.27 (0.996-1.59)	1.59 (1.25-2.00)	1.86 (1.45-2.35)	2.22 (1.68-2.94)	2.50 (1.84-3.37)	2.79 (2.00-3.91)	3.12 (2.11-4.46)	3.61 (2.35-5.33)	4.01 (2.55-6.04)
3-hr	1.21 (0.953-1.51)	1.42 (1.12-1.78)	1.78 (1.40-2.23)	2.07 (1.62-2.61)	2.48 (1.87-3.26)	2.78 (2.06-3.74)	3.10 (2.23-4.32)	3.47 (2.35-4.93)	4.00 (2.61-5.88)	4.44 (2.82-6.66)
6-hr	1.46 (1.16-1.81)	1.73 (1.37-2.15)	2.17 (1.72-2.71)	2.54 (2.00-3.19)	3.05 (2.32-4.00)	3.44 (2.56-4.59)	3.84 (2.77-5.32)	4.30 (2.93-6.08)	4.97 (3.25-7.26)	5.52 (3.52-8.22)
12-hr	1.73 (1.38-2.13)	2.09 (1.67-2.58)	2.68 (2.13-3.32)	3.17 (2.51-3.95)	3.84 (2.94-5.00)	4.35 (3.26-5.77)	4.88 (3.54-6.72)	5.49 (3.75-7.70)	6.36 (4.18-9.24)	7.09 (4.54-10.5)
24-hr	2.02 (1.63-2.48)	2.47 (1.99-3.03)	3.19 (2.56-3.93)	3.80 (3.03-4.70)	4.63 (3.56-5.98)	5.25 (3.95-6.93)	5.90 (4.31-8.10)	6.66 (4.57-9.30)	7.77 (5.12-11.2)	8.70 (5.58-12.8)
2-day	2.36 (1.92-2.87)	2.85 (2.31-3.48)	3.66 (2.96-4.48)	4.33 (3.48-5.32)	5.26 (4.08-6.76)	5.94 (4.51-7.81)	6.68 (4.92-9.13)	7.55 (5.20-10.5)	8.86 (5.85-12.7)	9.96 (6.41-14.5)
3-day	2.60 (2.12-3.15)	3.12 (2.54-3.79)	3.98 (3.22-4.84)	4.69 (3.78-5.74)	5.66 (4.41-7.25)	6.39 (4.86-8.37)	7.17 (5.30-9.76)	8.10 (5.59-11.2)	9.49 (6.28-13.5)	10.7 (6.88-15.5)
4-day	2.81 (2.29-3.39)	3.35 (2.74-4.05)	4.24 (3.45-5.15)	4.98 (4.02-6.07)	5.99 (4.67-7.65)	6.74 (5.15-8.80)	7.55 (5.59-10.2)	8.51 (5.89-11.7)	9.94 (6.59-14.1)	11.2 (7.20-16.2)
7-day	3.38 (2.78-4.07)	3.96 (3.25-4.77)	4.91 (4.01-5.92)	5.69 (4.62-6.91)	6.77 (5.30-8.58)	7.58 (5.80-9.81)	8.44 (6.24-11.3)	9.43 (6.55-12.9)	10.9 (7.24-15.4)	12.1 (7.83-17.4)
10-day	3.95 (3.26-4.73)	4.55 (3.75-5.46)	5.53 (4.54-6.66)	6.35 (5.17-7.68)	7.47 (5.87-9.41)	8.32 (6.37-10.7)	9.20 (6.81-12.3)	10.2 (7.11-13.9)	11.6 (7.76-16.4)	12.8 (8.30-18.4)
20-day	5.70 (4.73-6.78)	6.37 (5.28-7.58)	7.46 (6.16-8.91)	8.36 (6.86-10.0)	9.60 (7.57-11.9)	10.6 (8.10-13.4)	11.5 (8.50-15.1)	12.5 (8.78-16.9)	13.9 (9.29-19.4)	14.9 (9.69-21.3)
30-day	7.19 (5.99-8.51)	7.91 (6.59-9.38)	9.10 (7.54-10.8)	10.1 (8.31-12.1)	11.4 (9.05-14.1)	12.5 (9.62-15.7)	13.5 (9.98-17.5)	14.6 (10.2-19.6)	15.9 (10.7-22.1)	16.8 (11.0-23.9)
45-day	9.05 (7.57-10.7)	9.86 (8.24-11.6)	11.2 (9.32-13.3)	12.3 (10.2-14.7)	13.8 (11.0-17.0)	15.0 (11.6-18.8)	16.2 (11.9-20.8)	17.2 (12.2-23.1)	18.6 (12.5-25.7)	19.5 (12.7-27.6)
60-day	10.6 (8.91-12.5)	11.5 (9.65-13.6)	13.0 (10.8-15.3)	14.2 (11.8-16.9)	15.9 (12.6-19.4)	17.2 (13.3-21.4)	18.5 (13.6-23.6)	19.6 (13.9-26.1)	21.0 (14.2-28.9)	21.9 (14.3-30.9)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

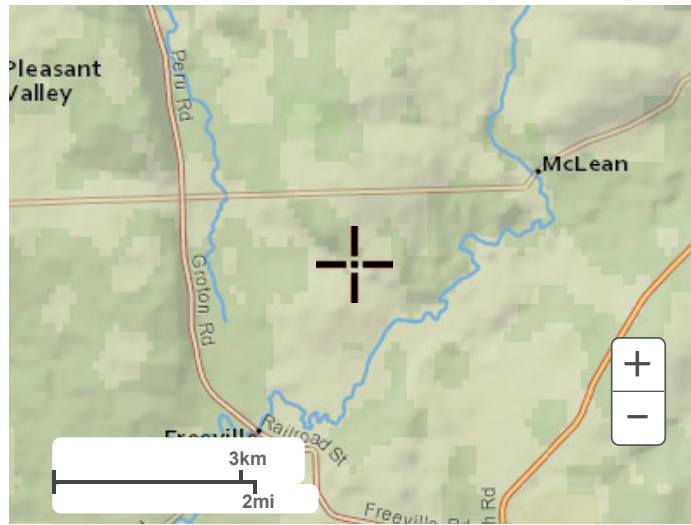
PDS-based depth-duration-frequency (DDF) curves
 Latitude: 42.5382°, Longitude: -76.3274°



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Maps & aerials

Small scale terrain



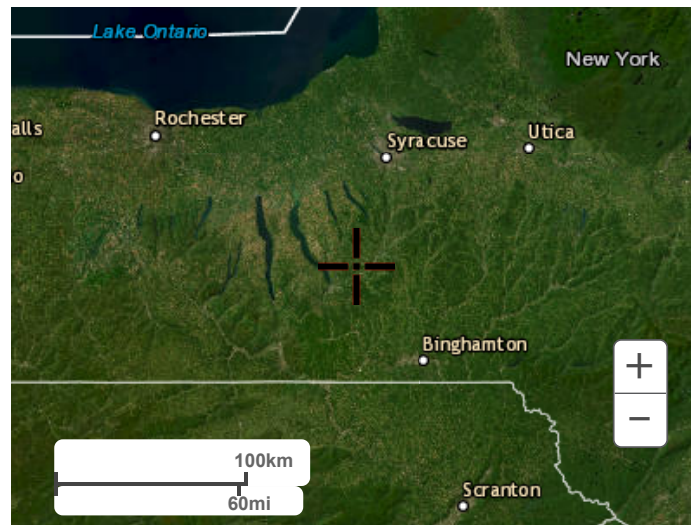
Large scale terrain



Large scale map



Large scale aerial



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[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

APPENDIX I

Drainage System Operation, Maintenance and Management Inspection Checklist



**Drainage Landscape
Operation, Maintenance and Management Inspection Checklist**

Project: _____
 Location: _____
 Site Status: _____
 Date: _____
 Time: _____
 Inspector: _____

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Site Condition (Bi-weekly)		
Routine mowing, vegetation care and upkeep.		
Trash and sediment removal		
Minor regrading and soil surface repair		
2. Drainage Structure Attention (Monthly)		
Inspect for ponding, remove sediment and debris		
3. Sediment Cleanout (Monthly)		
No evidence of sedimentation build up		
Sediment accumulation does not yet require cleanout		

Comments:

Actions to be Taken:

**Detention Pond and Culvert
Operation, Maintenance and Management Inspection Checklist**

Project: _____
 Location: _____
 Site Status: _____
 Date: _____
 Time: _____
 Inspector: _____

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Surrounding area clear of debris		
Inlet and Outlet area clean of debris		
No sign of illegal dumping		
2. Landscape Maintenance (Monthly)		
Landscape is properly maintained via mowing or weeding		
3. Sediment Cleanout (Monthly)		
No evidence of sedimentation in pond		
Sediment accumulation does not yet require cleanout		

Comments:

Actions to be Taken:
