STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

FOR COMPLIANCE WITH THE SPDES GENERAL PERMIT FOR CONSTRUCTION (GP-0-15-002)

JERICHO RISE WIND FARM
Towns of Chateaugay and Bellmont, NY

Franklin County, New York

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1) "JERICHO RISE WIND PROJECT" Civil Design Plans, Prepared by Fisher Associates PE, LS, LA, DPC, dated November 2015.

I. Introduction

The following Storm Water Pollution Prevention Plan (SWPPP) addresses the proposed storm water mitigation measures and pollution prevention devices in conjunction with the proposed Jericho Rise Wind Farm Project located in the Towns of Chateaugay and Bellmont, Franklin County, New York.

According to Appendix B of the New York State Pollutant Discharge Elimination System (SPDES) General Permit GP-0-15-002, permanent access roads and substations surfaced with impervious cover that are constructed as part of a wind power project require a SWPPP that includes both Erosion and Sediment Controls and Post Construction Stormwater Management Practices in order to be in compliance for storm water discharges associated with construction activity.

The SWPPP includes the following:

a. Stormwater Management Plans and Details
b. Erosion and Sedimentation Control Plans and Details
c. Notice of Intent
d. General Permit
e. Notice of Termination
f. All records of inspections and activities which are created during the course of the project
g. Other documents as may be included by reference to this SWPPP.

Changes, modifications, revisions, additions, or deletions shall become part of the SWPPP as they occur.

This SWPPP was created with the guidance of the New York State Storm Water Management Design Manual, January 2015 and documents the ability of the pollution prevention devices to comply with the SPDES requirements. The SWPPP will terminate when all disturbed areas are stabilized, permanent erosion and sedimentation controls installed, temporary erosion and sedimentation controls removed, all construction activities have ceased, and a completed Notice of Termination has been filed.

The general contractor and all sub-contractors involved in construction activities that disturb soil or implement pollution prevention controls must sign the Contractor Certification Forms. The certification forms are included in *Exhibit 5*.

II. Background Information

A. Project Contact Information

Owner/Operator: Bryan Lyssy
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B. Project Description

The project area is located in the Towns of Chateaugay and Bellmont, in Franklin County, NY. A location map of the project area is included in Exhibit 1. The project consists of the installation of 37 wind turbines, a meteorological tower, an electrical substation, and graveled surfaced access roads within leased areas on privately owned properties. The turbines will be connected by a system of underground electric cables. The proposed gravel access roads consist of a 16 ft wide permanent travel way. Roads that will be traversed by wind turbine assembly cranes will also have 18 feet of compacted earth adjacent to the roadway to accommodate the width of the crane. The additional 18 ft wide compacted earth areas will be decompacted following construction. The 16 ft wide permanent gravel access roads will experience minimal traffic from occasional maintenance vehicles once the wind farm is operational.

New stormwater management practices will be installed to provide the required runoff reduction, water quality, and water quantity volumes for the substation site. Access roads will be treated by combination of filter strips and naturally occurring buffers. The temporary laydown yard will include erosion and sediment controls that will remain in place for the duration of the construction and turbine erection. These features will capture and treat stormwater runoff and discharge prior to leaving the project site.

III. Stormwater Management Planning

As noted in Chapter 3 of the 2015 NYS SMDM, planners and designers must use the following six-step process in stormwater management planning:

1. Site planning,
2. Determine Water Quality Treatment Volume (WQv),
3. Apply Runoff Reduction Techniques and Standard Stormwater Management Practices (SMPs) with Runoff Reduction Volume (RRv) Capacity to Reduce Total WQv,
4. Determine the minimum RRv required,
5. Apply Standard SMPs to Address Remaining WQv
6. Apply Volume and Peak Rate Control Practices if Still Needed to Meet Requirements.

According to Chapter 4 of the NYS SMMDM, the SWPPP must demonstrate that all green infrastructure planning and design options are evaluated to meet the runoff reduction requirement and provide documentation if any components of the approach are not technically feasible. Thus, the following sections of this report address the above requirements with respect to site constraints and requirements for development of the project.

A. Step 1: Site Planning

In accordance with Chapter 3 of the SMDM, wetlands, waterways, buffers, floodplains, forested, critical areas, topography, soils, and bedrock or significant geology features have been mapped on the Civil Design Plans developed by Fisher Associates as referenced in this document.

1. Preservation of Natural Resources

- Preservation of Undisturbed Areas – Delineate and place into permanent conservation easement undisturbed forests, native vegetated areas, riparian corridors, wetlands, and natural terrain.

  - The majority of the project is located on land that has been previously disturbed. Access roads, electrical collection lines, turbines, substation, and temporary laydown yards have been located to avoid the maximum amount of forested areas as practicable. In order to allow for the delivery of turbine components and construction of access roads and electrical collection lines, it is not feasible to avoid tree clearing entirely.

- Preservation of Buffers – Define, delineate and place in permanent conservation easement naturally vegetated buffers along perennial streams, rivers, shorelines and wetlands.

  - The existing trees along streams will be preserved in their current condition where practicable. In some instances it may be necessary to cross perennial streams and/or wetlands in order to access the turbine sites. Appropriate erosion and sediment control measures will be in place prior to the crossings. Temporary culverts or timber mats will be utilized at the crossings to minimize permanent impacts. Because of the multiple property

owners involved with wind projects and because of the linear nature of the project, it is not feasible to place perennial streams, rivers, shorelines and wetlands within a permanent conservation easement.

- Reduction of Clearing and Grading – Limit clearing and grading to the minimum amount needed for roads, driveways, foundation, utilities and stormwater management facilities.

  - The limit of disturbance is clearly shown on the construction documents and has been limited to include the minimum area necessary for the construction of the project. No work outside of these limits shall take place.

- Locating Development in Less Sensitive Areas – Avoid sensitive resource areas such as floodplain, steep slopes, erodible soils, wetlands, mature forests and critical habitats by locating development to fit the terrain in areas that will create the least impact.

  - Slope – The project has been planned to avoid existing steep slopes as much as practicable. In areas where it is not feasible to avoid steep slopes, appropriate erosion and sediment control measures will be utilized to stabilize the disturbed areas.

  - Soil Erodibility - There are soils that are susceptible to erosion within the project limits. Appropriate erosion and sediment control measures will be used to minimalize the effects of construction.

  - Sinkholes/Karst – According to the U.S. Geological Survey Open-File Report 2004-1352, Caves and Karst in the U.S. National Park Service, AGI Karst Map of the U.S., this project is not located within a Karst Area.

  - Depth to Bedrock – According to the Natural Resources Conservation Service (NRCS) Web Soil Survey 3.0, the depth to bedrock ranges from 1.5’ deep to greater than 6.5’ deep. A detailed geotechnical report will be completed for this project that will determine the depth to bedrock throughout the project area. Bedrock may be encountered during foundation construction, but it is not anticipated that this will affect the stormwater design.

  - Water Table - According to the NRCS Web Soil Survey 3.0, the depth to the groundwater table ranges from being close to the surface to greater than 6.5’ deep. A detailed geotechnical report will be completed for this project that will measure the actual groundwater table at the project location. In the event that groundwater is encountered, proper dewatering practices will be utilized.

  - Historic and Archeological Resources – A Phase 1 Environmental Site Assessment is ongoing and being coordinated with the New York State Historic Preservation Office (SHPO). The potential environmental impacts of the proposed project are being reviewed under the State Environmental Quality Review Act (SEQRA).

- Watershed - This project is located within the English-Salmon Watershed (USGS Cataloging Unit: 04150307), as shown on the watershed profile included as part of *Exhibit 10*.

- Impaired Waters - The project does not directly discharge to a watercourse listed as a 303(d) stream according to Appendix E of the General Permit.

- Total Maximum Daily Load Water bodies - The project does not involve a watercourse that is on Appendix E list of the General Permit having TMDL limits within the English-Salmon Watershed.

- Municipal Separate Storm Sewer System (MS4) - The project is not located within a regulated MS4.

- Aquifers – The project is not located within an EPA Sole Source Aquifer. In addition, the project is not located over a Primary Aquifer according to the NYS Primary Aquifers Map.

- Wetlands – There are freshwater emergent and freshwater forested/shrub federal wetlands within the limit of disturbance or adjacent to the project, according to the National Wetland Inventory (NWI) map included as part of *Exhibit 10.* In addition, there are also NYSDEC regulated wetlands located within the limits of disturbance. A copy of the NYSDEC Environmental Resource Map is also included as part of *Exhibit 10.* Both the federal and the NYSDEC wetlands have been field delineated by Environmental Design & Research (EDR). The wetlands have been avoided as much as practicable.

- Floodplain - The majority of the project is not within a 100-year flood plain, as determined from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), Town of Bellmont, New York, Franklin County, Community Number 361392A, There are no published FIRM maps for the Town of Chateaugay. The floodplain maps are included as part of *Exhibit 10*.

- Stormwater Hotspot - This project is not classified as a Stormwater Hotspot, as it does not involve any land uses or activities listed in Table 4.3 of the SMDM.

- Open Space Design - Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources.

  - The project has been planned to use and improve as many existing roads as possible. The amount of new impervious surfaces has been kept to the minimal amount necessary to accommodate the construction and delivery traffic to and from the project.

- Soil Restoration – Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of practices such as downspout disconnection, grass channels, filter strips, and tree clusters.

- All disturbed areas that are to be permanently vegetated shall have soil restoration applied in accordance with Table 5.3 of the NYSDEC SMDM and the NYSDEC Deep-Ripping and Decompaction Manual.

2. Reduction of Impervious Cover

- Roadway Reduction – Minimize roadway widths and lengths to reduce site impervious area.
  - All proposed 34' wide roads are temporary and will be reduced to 16' wide permanent roads after construction. The area between the temporary width and permanent width of these roads will undergo soil restoration and will be allowed to revegetate.
- Sidewalk Reduction – Minimize sidewalk lengths and widths to reduce site impervious area.
  - There are no sidewalks as part of this project.
- Driveway Reduction – Minimize driveway lengths and widths to reduce site impervious area.
  - Driveways for the substation and temporary laydown yard have been designed to minimize driveway length and width to the minimum extent practicable.
- Cul-de-sac Reduction - Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious area.
  - There are no cul-de-sacs as a part of this project.
- Building Footprint Reduction – Reduce the impervious footprint of residences and commercial buildings by using alternate or taller buildings while maintaining the same floor to area ratio.
  - Buildings or structures associated with the substation site are designed according to requirements of their intended functions. Their footprint is the minimum necessary to accommodate the proposed functions.
- Parking Reduction – Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, minimizing stall dimension, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate.
  - The proposed parking area for the substation site will occur on the pad near the proposed electrical equipment. The minimum amount necessary to accommodate operation and maintenance during the life of the project will be provided. The use of multi-story parking decks or porous pavement is not feasible for this project.

B. Step 2: Determine Water Quality Treatment Volume (WQv)

1. Soils

Based on The National Cooperative Soil Survey (NCSS) Web Soil Survey 3.1 (WSS), the site contains Hydrologic Soil Groups "HSG" A, C, and D soils. A copy of the soils map is included as part of *Exhibit 10*.

2. Proposed Surface Drainage & Covers

The project includes the installation of 37 wind turbine generators (WTGs) that are located throughout the project limits. In addition to the WTGs, the project will also include a temporary laydown yard, a substation, access roads, culverts, wind turbine generator pads, temporary turnarounds, crane pads, an underground electrical system, an overhead electrical system, crane walk routing, and meteorological tower(MET). The following describes the proposed project components and the stormwater management practice utilized at each location:

- Temporary Laydown Yard - During the construction phase of the project, dedicated staging areas will be required. The staging areas are used for storing and moving necessary project components upon arrival to the project site and as emergency safety areas. These areas will consist of a gravel surface and are graded as close to the existing ground surface as possible while maintaining positive drainage across the site. Permanent stormwater management practices will not be utilized at these locations. Instead, temporary erosion and sediment control measures will be installed to capture any sediment from the disturbed area prior to runoff leaving the site.

- Substation - One substation will be constructed to collect the power generated from the turbines and then transmit to an existing interconnect site that connects to the electric grid for distribution. The substation consists of electrical equipment and/or buildings that are necessary for the wind generated electricity. The substation site will consist of open graded stone surrounding the electrical equipment and buildings that will allow stormwater runoff to infiltrate into the underlying soils. Runoff from impervious areas such as the access road around the equipment and buildings will be treated by a bioretention area prior to discharge from the site.

- Access Roads and Culverts - Approximately, 21.4 miles of access road and 35 temporary or permanent culverts, including, a portion of existing farm lanes to be modified for use, are required for installation and maintenance of the WTGs. The access roads consist of a permanent 16-foot wide road to accommodate turbine component delivery trucks and operation and maintenance activities during the life of the project. An additional 18 feet of compacted earth adjacent to the access roads will be utilized in areas that the wind turbine assembly crane will traverse. After completion of the wind turbine assembly stage of the project, the additional compacted earth areas will be decompacted and allowed to revegetate for use as a filter strip.

The 16-foot wide gravel access roads will remain after construction and will only have minimal truck traffic for operation and maintenance of the wind turbines. The intent is to grade access road at existing grade level to the greatest extent practicable in order to minimize disturbances. Culverts will be installed at existing ditch and stream crossings to maintain the existing drainage conditions of the site. Runoff from permanent access roads will be treated by filter strips, naturally occurring riparian buffers, and/or open stormwater channels when necessary. In areas where stormwater channels are needed, check dams will be utilized to provide stormwater quality and quantity treatment and volume. In accordance with NYSDEC guidance, the filter strip will provide complete runoff reduction and water quality volumes for the access road as long as the filter strip is at least the width of the impervious area draining to it. In this case, the impervious area is a maximum of 16' and the filter strip is 18'.

- Wind Turbine Generator (WTG) Pads - There are 37 proposed Wind Turbine Generators on the project. The turbine foundation is anticipated to be a spread footer that will predominately be underground. An 18 ft diameter concrete pedestal will remain above ground that will be surrounded by a 60'x65' gravel pad. The turbine components, including tower sections, nacelle and blades, are to be delivered by truck along access roads built for this project. Cranes will be used to assemble these components at each WTG location. Stormwater runoff from the WTG sites will be treated utilizing filter strips and/or naturally occurring buffer areas that are a minimum width equal to the impervious area width draining to the filter strip. No additional stormwater management practices will be utilized at the WTG sites in order to minimize disturbances to the adjacent property and agricultural uses.

- Crane Pads - A crane pad designed with a maximum slope of 1 percent in all directions will be constructed at each WTG location to provide an area for the assembly crane. The crane pad areas measure approximately 65 feet by 100 feet in size. Upon completion of the foundation and backfilling the area, the heavy cranes will pick up the turbine components and install them over the foundation. These gravel pads will remain on-site after construction for future operation and maintenance of the WTGs. It is expected that minimal truck traffic will utilize the pad during operation and maintenance of the turbines. Stormwater runoff from the crane pad areas will be treated by filter strips and/or naturally occurring buffer areas that are a minimum width equal to the impervious area width draining to the filter strip.

- Underground Electrical Collection System - Typically, the location of the collection system for electric power is grubbed prior to trenching, resulting in a 50 foot wide strip per cable. Depending on the electrical design there may be more than 1 cable trench per strip with a 10-foot separation between them. In areas where the underground cable is crossing a delineated wetland, the collection lines will either be installed by an open trench or bore to avoid impacts. Disturbed areas will remain vegetated after construction and erosion and sediment controls will only be utilized at critical environmental areas, such as wetlands and stream crossings.

- Temporary Crane Path - There will be additional crane walk routes located between access roads consisting of 34 ft wide compacted earth or gravel. In most cases, the crane walk will be located along the cross country underground collection system. After completion of the project, the crane paths are to be decompacted and allowed to revegetate or return to their pre-construction use in agricultural areas.

- Meteorological Towers- One meteorological tower(MET) will be installed within the project boundary during the construction and operations phases to monitor wind resources. The met. tower will be surrounded by a 42 foot by 42 foot gravel pad. Stormwater runoff will be treated by a filter strip or naturally occurring buffer surrounding the pad that is a minimum width equal to the width of the impervious area draining to the filter strip.

Refer to the project drawings, referenced in the Table of Contents of this report, for further information.

3. Stormwater Quality

According to the guidance from the NYSDEC, runoff reduction and water quality volume for the linear access roads, WTG sites, met. tower site can be achieved by the use of a filter strip or naturally occurring buffer area as long as the filter strip width is equal to or greater in width than the impervious area draining to it. No other runoff reduction or water quality practice is proposed for these areas. For the substation site, the minimum runoff reduction and water quality volume of the increased impervious area will be treated in accordance with the NYSDEC SMDM.

The following table quantifies the existing and proposed conditions at the individual site locations:

Estimated Project Areas		
Individual Project Component	**Project Area (acres)**	**Proposed Impervious Area (acres)**
Substation	1.14	0.29

To accommodate the required water quality volume, a bioretention basin is proposed for the substation site. The calculations that were used to determine the required WQ_v are included as part of *Exhibit 8*. The following is a summary of the required water quality volume for the substation site:

Required Water Quality Summary		
Individual Project Component	**Required Water Quality Volume Prior To Runoff Reduction (cf)**	**Proposed Stormwater Management Practice**
Substation	**1144**	**Bioretention**

C. Step 3: Runoff Reduction by Applying Green Infrastructure Techniques and Standard SMPs with Runoff Reduction Volume (RRv) Capacity

According to Chapter 4 of the New York State Department of Environmental Conservation (NYSDEC) Stormwater Management Design Manual (SMDM) January 2015, Runoff reduction shall be achieved by infiltration, groundwater recharge, reuse, recycle, evaporation/evapotranspiration of 100% of the post-development Water Quality Volumes to replicate pre-development hydrology. This requirement can be accomplished by application of on-site green infrastructure practices, standard stormwater management practices with runoff reduction capacity, and good operation and maintenance.

1. Conservation of Natural Areas

   There are no forests, native vegetated areas, riparian corridors, wetlands, or other natural terrain within the project area that can be placed within a permanent conservation easement.

2. Sheetflow to Riparian Buffers or Filter Strips

   The 18 ft of decompacted soil along the access roads will be allowed to revegetate act as filter strips. In accordance with NYSDEC guidance, the filter strips will provide runoff reduction and water quality volume as long as the filter strip width is at least the width of the impervious area draining to it. The filter strips will not be located on steep slopes. The access roads and WTG sites will be graded in a manner that will allow sheet flow to adjacent naturally vegetated areas where possible. Point discharges from access roads and WTG and Meteorological Sites will be minimized as much as practicable.

3. Vegetated Open Swales

   Existing drainage conveyance swales will remain as much as practicable. In areas that the access roads are in a cut situation, swales will be utilized to convey stormwater to the nearest outlet point or culvert. Check dams will be utilized within the swales to provide runoff reduction and water quality benefits.

4. Tree Planting/Tree Box

   Tree plantings are not proposed as a part of this project. The existing trees on the site will remain to the best extent as practicable. In addition, tree protection will be utilized throughout the project to protect existing trees that are to remain.

5. Disconnection of Rooftop Runoff

   Although all of the buildings constructed as a part of this project will have disconnected rooftops, there is not adequate space to provide a vegetated filter strip outlet for water quality or runoff reduction.

6. Stream Daylighting

   There are no existing enclosed streams that can be daylighted within the project limits.

7. Rain Garden

   Rain gardens are not feasible for this project because the contributing drainage areas are greater than the maximum allowed in the SMDM.

8. Green Roof

   Green roof practices are not feasible for any building or structure in this project.

9. Stormwater Planters

   There are no locations throughout the project where stormwater planters can be utilized.

10. Rain Tanks/Cisterns

    Because there is not a planned use for collected rainwater at this site, rain tanks/cisterns are not technically feasible.

11. Porous Pavement

    Porous pavement was not utilized on the site because the proposed paved surfaces are being treated by other practices to meet runoff reduction and water quality requirements.

12. Standard SMPs with RRv Capacity

    Standard stormwater management practices that have runoff reduction capacity are infiltration practices, bioretention practices and open channel practices. A percentage of the water quality volume provided by these practices, in accordance with the NYSDEC SMDM Table 3.5, can be applied towards meeting the required runoff reduction volume for the project.

    As discussed previously, the substation uses a bioretention basin to provide water quality. This practice also provides runoff reduction capacity. Because 100% reduction of the Water Quality Volume was obtained, the requirement to provide a minimum reduction of the runoff from impervious areas to be constructed on the site based on the underlying soil conditions is achieved. The underlying soils are HSG “D” soils and therefore the Specific Reduction Factor (S) is 0.20. The detailed calculations for the required runoff reduction volume are included as part of *Exhibit 8*. The following table summarizes the runoff reduction volume provided for the site:

Runoff Reduction Volume Summary - Table 4			
Location	**Practice**	**Required Runoff Reduction Volume (cf)**	**Provided Runoff Reduction Volume (cf)**
Substation	Bioretention	198	1144

D. Step 4: Apply Standard Stormwater Management Practices to Address Remaining Water Quality Volume

Because the majority of the project is linear in nature, stormwater runoff will be spread over a large area. The intent of the project is to provide stormwater quantity practices for the individual sites where it is more practical to control stormwater, such as the substation. The access roads, WTG sites, and MET sites will not have permanent stormwater quantity practices installed other than filter strips as previously mentioned. A downstream analysis has been performed for these areas as described in Step 5, item number 3.

As stated previously, a bioretention basin is proposed to capture and treat the required water quality volume for the substation site.

Remaining Water Quality Volume Summary - Table 5			
Location	**Practice**	**Remaining Required Water Quality Volume**	**Water Quality Volume Provided (cf)**
Substation	Bioretention	0	1144

The proposed stormwater management practices provide 100% of the required runoff reduction and water quality volume for the substation sites.

E. Step 5: Apply Volume and Peak Rate Control Practices if Still Needed to Meet Requirements

1. Existing Runoff

HydroCAD version 10.00, which utilizes the Soil Conservation Service (SCS) method, was used to model the existing conditions for the individual sites under the National Weather Service (NWS) 24-hour 1-year, 10-year, and 100-year frequency peak flow, in accordance with the standards set forth in the NYS SMDM. The resulting flow information is included as part of *Exhibit 8*. The following is a summary of the results:

Existing Stormwater Quantity Results - Table 6			
Location	**1-Year Peak Flow (cfs)**	**10-Year Peak Flow (cfs)**	**100-Year Peak Flow (cfs)**
Substation	0.94	2.58	5.83

2. Proposed Runoff

HydroCAD version 10.00, which utilizes the SCS method, was used to model the proposed conditions under the National Weather Service (NWS) 24-hour 1-year, 10-year, and 100-year frequency peak flow, in accordance with the standards set forth in the NYS SMDM. Because there is an increase in imperviousness, water quantity will be controlled to reduce the resulting runoff to pre-construction conditions. The resulting flow information is included as part of *Exhibit 8*. The following is a summary of the results:

Proposed Stormwater Quantity Results - Table 8

Location	Practice	1-Year Peak Flow (cfs)	10-Year Peak Flow (cfs)	100-Year Peak Flow (cfs)
Substation	Bioretention	0.00	1.56	5.47
	Change From Existing	*-0.94*	*-1.02*	*-0.36*

There is a reduction in the stormwater runoff from the pre-construction conditions to the post-construction conditions in all of the scenarios. No other stormwater quantity control facility is required for the substation site.

3. Downstream Analysis

Within the turbine and access road areas, the channel protection (1-year), overbank flood (10-year), and extreme storm (100-year) volumes need to be controlled to protect the downstream channels from erosion and flooding, according to the NYSDEC SMDM. However, the linear nature of the project and the limited land control make volume control practices not feasible. As discussed with the NYSDEC, volume controls for the 1-year, 10-year, and 100-year are not necessary if it can be shown that there is less than 2.5% increase of the peak flow during the 1-year event and less than 5% during the 10-year and 100-year events by comparing the existing conditions to the proposed conditions in these areas. This extensive analysis was performed to determine if the project fits these criteria.

The drainage areas utilized for the downstream analyses are identified on the Downstream Analysis Map is part of *Exhibit 8*. As described previously, the alterations to land cover within the drainage areas will consist of the conversion of vegetated areas to wind turbine pads and associated access roads. Other disturbed areas outside of the proposed impervious will be seeded as grass areas. Temporary improvements and the collection line are not included in the analysis because its drainage characteristics will remain essentially unchanged following construction.

The analyses of the post-construction conditions depict negligible increases in the runoff rate from the pre-construction conditions during the 1-year, 10-year, and 100-year storm events. The average results from the detailed downstream analysis in *Exhibit 8* are shown in the following table:

Downstream Stormwater Quantity Analysis Results	
Storm Event	**Average Increase in Peak Flow (%)**
1-Year	0.81
10-Year	0.56
100-Year	0.41

In accordance with guidance from the NYSDEC, because these storm events do not result in more than the maximum percentage increase of the peak flow from the pre-construction conditions to the post-construction conditions in the turbine and access road areas, no further stormwater management practice is necessary to control the required water quantity volumes. Although it is apparent that the project will negligibly impact stormwater runoff, this method of analysis is not in accordance with the requirements of the NYSDEC SMDM, thus a 60 day review will be necessary.

IV. Pollution Prevention Measures

The primary goal of pollution prevention efforts during project construction is to control soil and pollutants that originate on the site and prevent them from flowing to surface waters. The purpose of this SWPPP is to provide guidelines for achieving that goal. A successful pollution prevention program also relies upon careful inspection and adjustments during the construction process in order to enhance its effectiveness. Prior to the commencement of construction of the development, a Notice of Intent (NOI) shall be filed with the NYSDEC to obtain coverage under SPDES General Permit GP-0-15-002 for storm water discharges from construction activity. The NOI shall be signed by the owner/operator and SWPPP Preparer and submitted to the NYSDEC.

Note that temporary stabilization of the project shall be employed to the fullest extent practical prior to freezing conditions. This shall include temporary seeding and establishment of vegetation wherever possible or other methods approved by the Qualified Professional, such as rolled erosion control products. If this is achieved, winter shutdown observations can be limited to one time per 30 calendar days.

A. Erosion and Sedimentation Control

The areas of disturbance are to be minimized as much as practical and limited to the areas depicted on the project drawings. Permission from the Regional NYSDEC Office is required if it is deemed necessary to disturb more than 5 acres at any one time. The erosion and sediment control plan is included within the referenced construction plans.

A summary of the construction sequencing for erosion control features is as follows:

a. Evaluate, mark and protect, with appropriate erosion control measures, important trees, associated rooting zones, and other existing site features designated to remain.

b. Construct stabilized construction entrances as depicted on the plans to capture mud and debris from construction vehicles before they enter the public highway.
- Stabilize bare areas (entrances, construction routes, equipment areas) immediately as work takes place. Top these areas with gravel or maintain vegetative cover.
- Sediment tracked onto public streets shall be removed or cleaned on a daily basis and as necessary throughout the day.

c. Construct temporary erosion and sediment control measures (silt fencing, tree protection, etc.).
- Silt fence and tree protection material and installation must comply with the standard drawing and specifications.
- Install silt fence based on appropriate spacing intervals. Decrease this interval as the slope increases. The area below the silt fence should be undisturbed ground.

d. Remove and stockpile topsoil and vegetation from areas to be impacted by the construction activities. No organic debris shall be buried on site. The topsoil stockpile should be stabilized by seed, mulch, or other appropriate measures as soon as possible.

e. Commence construction activities.

f. Stabilize all disturbed areas as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
This requirement does not apply in the following instances:

- When the initiation of the stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions. The stabilization measures shall be initiated as soon as practical.
- When construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, initiation of temporary stabilization measures is not required on that portion of the site.

h. All erosion and sediment control features shall be maintained until establishment of a substantial stand of grass on all green areas, in accordance with the maintenance procedure. On acceptance of restoration by the owner, remove all temporary features.

B. Other Pollution Prevention Controls

1. Dust and Mud Control

Construction traffic must enter and exit the site at the stabilized construction entrances as depicted on the plan sheets and in accordance with the New York State Department of Environmental Conservation (NYSDEC) Standards and Specifications for Erosion and Sediment Control (SSESC). The purpose is to trap dust and mud that would otherwise be carried off-site by construction traffic. Water trucks or other dust control agents may be used as needed during construction to reduce dust generated on the site. After construction, the site will be stabilized (as described elsewhere), which will reduce the potential for dust generation.

2. Solid Waste Disposal

No solid materials, including building materials, are allowed to be discharged from the site with storm water. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied as necessary by a contract trash disposal service and hauled away from the site. Containers shall remain closed at all times. Substances that have the potential for pollution of surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site.

3. Sanitary Facilities

All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities shall be provided at the site throughout the construction phase. They must be utilized by all construction personnel and shall be serviced by a commercial operator.

4. Water Source

   Non-storm water components of site discharge must be clean water. Water used for construction, which discharges from the site must originate from a public water supply or private well approved by the State Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site.

5. Concrete Batch Plant

   Stormwater from a temporary concrete batch plant will discharge to designated areas prepared to prevent runoff from discharging from the site. The location of the concrete batch plant is to be determined during final design. The cured residue from the diked areas shall be disposed in accordance with applicable state and federal regulations.

6. Concrete Waste from Concrete Ready-Mix Trucks

   Discharge of excess or waste concrete and/or wash water from concrete trucks will be allowed on the construction site, but only in specifically designated diked areas prepared to prevent contact between the concrete and/or wash water and storm water that will be discharged from the site. Alternatively, waste concrete can be placed into forms to make riprap or other useful concrete products. The cured residue from the concrete washout diked areas shall be disposed in accordance with applicable state and federal regulations.

7. Fuel Tanks

   Temporary on-site fuel tanks for construction vehicles shall meet all state and federal regulations. Tanks shall have approved spill containment with the capacity required by the applicable regulations. The tank shall be in sound condition free of rust or other damage, which might compromise containment. Hoses, valves, fittings, caps, filler nozzles, and associated hardware shall be maintained in proper working condition at all times. Refueling shall take place 100 ft minimum outside of natural resources areas.

8. Hazardous Waste Management and Spill Reporting

   Any hazardous or potentially hazardous waste that is brought onto the construction site will be handled properly in order to reduce the potential for storm water pollution. All materials used on this construction site will be properly stored, handled and dispensed following any applicable label directions. Material Safety Data Sheets (MSDS) information will be kept on site for any and all applicable materials.

- In the event of an accidental spill immediate action shall be taken by the General Contractor to contain and remove the spilled material. All hazardous materials shall be disposed of by the Contractor in the manner specified by local, state, and federal regulations and by the manufacturer of such products. As soon as possible, the spill shall be reported to the appropriate state and local agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering the waters of the United States shall be properly reported.

  Any spills of hazardous materials in quantities in excess of Reportable Quantities as defined by EPA or the State Agency regulations, shall be immediately reported to the EPA National Response Center (1-800-424-8802) and the NYSDEC Division of Environmental Remediation (NYS Spill Hotline, 1-800-457-7362). The reportable quantity for petroleum products is 5-gal. Refer to Exhibit 1.1-1 of the NYSDEC Division of Environmental Remediation Technical Field Guidance Spill Reporting and Initial Notification Requirements for hazardous materials spill reportable quantities and procedures.

  In order to minimize the potential for a spill of hazardous materials to come in contact with storm water, the following steps will be implemented:

  a. All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) shall be stored in a secure location, under cover, when not in use.
  b. The minimum practical quantity of all such materials shall be kept on the job site and scheduled for delivery as close to time of use as practical.
  c. A spill control and containment kit (containing for example, absorbents, such as kitty litter or sawdust, acid neutralizing agents, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) shall be provided at the storage site.
  d. All of the product in a container shall be used before the container is disposed of. All such containers shall be triple rinsed, with water prior to disposal. The rinse water used in these containers shall be disposed of in a manner in compliance with state and federal regulations and shall not be allowed to mix with storm water discharges.
  e. All products shall be stored in and used from the original container with the original product label.
  f. All products shall be used in strict compliance with instructions on the product label.
  g. The disposal of excess or used products shall be in strict compliance with instructions on the product label.

9. Allowable Non-Stormwater Discharges

The following non-stormwater discharges are allowed as indicated in this SWPPP:

- Vehicle wash water if no detergents are used
- Firefighting activities
- Fire hydrant flushing, with chlorine residuals of 0.2-ppm or less
- Potable water sources including water line flushing, with chlorine residuals of 0.2-ppm or less

- Uncontaminated groundwater or spring water (with geotechnical evaluation only)
- Building wash water if no detergents are used
- Water used to control dust
- Uncontaminated excavation dewatering (with geotechnical evaluation only)

V. Construction Phasing and Sequence of Activities

A. Phasing

In accordance with the GP-0-15-002, the Owner/Operator shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or MS4 as applicable.

It is anticipated that more than 5 acres will be disturbed at one time. The NYSDEC shall be contacted to obtain written authorization. Note that the GP-0-15-002 requires construction observations to occur 2 times per week if the 5 acre threshold is exceeded.

B. Sequence of Construction Activities

Construction of the project is scheduled to take place between the months of February of 2016 and December of 2017. In general, the proposed construction sequence shall consist of installation of all perimeter E&S Control and Green Practices prior to starting the tasks listed below, unless indicated otherwise on the construction documents. In addition, all disturbed areas are to be vegetated prior to commencement of subsequent tasks.

1. Prepare Temporary Staging Areas;
2. Box out, Compact Subgrade, and Install Access Roads;
3. Set up Concrete Batch Plant, if required;
4. Excavate for WTG Foundations;
5. Pour WTG Foundations
6. Construct Crane Pads;
7. Erect WTGs;
8. Install Substations;
9. Install Underground Electrical Collection System;
10. Dismantle Temporary Structures;
11. Remove Temporary E&S devices after final stabilization of each area is declared by the Qualified Professional;
12. Restore any disturbed area due to removal of temporary measures.

After construction is completed, the construction access roads will be reduced from 34 to 16 feet wide by converting the compacted earth to filter strips. Furthermore, all cleared areas are to be reclaimed and allowed to re-vegetate, while agricultural activities are to be permitted to resume to the limits of the permanent 16 foot wide access road and WTG pads. The crane pads near the turbines are to remain in place, while all other areas not used for maintenance equipment are to be decompacted and allowed to revegetate or return to their previous agricultural use. Areas adjacent to impervious areas will remain as permanent filter strips to provide runoff reduction and water quality volume. Refer to the information listed below for a detailed description of the proposed construction sequencing for each of the various project components.

1. Temporary Staging Area- The items below provide a generalized construction sequence for the control of erosion and sedimentation during construction of the staging area.
   - Install erosion and sediment controls along perimeter of disturbance.
   - Install sediment basin
   - Rough grade site and stockpile topsoil. Install silt fence, straw bales around soil stockpile.
   - Place gravel and geotextile (as determined by design) over the area.
   - After use of the area, restore site to pre-construction contours and stabilize according to specifications.
   - After site has been stabilized, remove erosion and sediment controls.

2. Access Roads (Not Crossing Wetlands or Streams)- The items below provide a generalized construction sequence for the control of erosion and sedimentation during the construction of the access roadways.
   - Install stabilized construction entrance at all intersection locations with County or Town roads.
   - Install erosion and sediment controls at the locations shown on the construction drawings.
   - Complete clearing and grubbing.
   - In agricultural areas, remove topsoil for the width of the access roadways.
   - Place geotextile (as determined by design) and place gravel over the geotextile.
   - Use the roadways to deliver equipment and materials to the WTG sites.
   - Stabilize according to temporary/permanent stabilization methods.
   - After the access roadways have been stabilized, remove all erosion and sediment control structures.

3. Access Roads (Crossing Wetlands or Streams)- The items below provide a generalized construction sequence for the control of erosion and sedimentation during the construction of the access roadways crossing wetlands or streams.
   - Install erosion and sediment controls at the locations identified on the construction drawings.
   - Limit clearing to minimum width necessary.
   - Install culverts, as identified on the construction drawings, and as described in the following paragraph, to maintain wetland/stream hydrology.
   - Construct the roadway as described above.
   - Stabilize the disturbed areas and restore wetland or stream to pre-construction contours.
   - After the site has been stabilized, remove all erosion and sediment control structures.

4. Culverts- The items below provide a generalized construction sequence for the control of erosion and sedimentation during culvert installation.

   - Install the erosion and sediment controls as identified on the construction drawings.
   - Complete the excavation required for the culvert installation.
   - Install the culvert and complete the backfill and compaction operations.
   - Finish slopes around the culvert. Install erosion control blankets on the slopes.
   - Complete final grading and stabilize.
   - After the site has been stabilized, remove all erosion and sediment control structures.

5. WTG Pads- The items below provide a generalized construction sequence for the control of erosion and sediment during WTG construction:
   - Install erosion and sediment controls along perimeter of WTG site area.
   - Complete site clearing and grubbing; stockpile topsoil where required.
   - Rough grade site and stockpile soil. Install silt fencing or straw hay bales around soil stockpiles as required.
   - Finish-grade the slopes around the WTG site.
   - Install erosion control blankets, where applicable, and apply mulch and seeding. All seeding and erosion matting (if required) shall be performed upon completion of the foundations and erection, while construction is still in progress.
   - Excavate and construct the WTG foundations, Crane Pads, and assemble the WTG components.
   - Decompact permanent pervious areas, complete the final grading of the site, replace topsoil, and stabilize according to specifications.
   - After site has been stabilized, remove erosion and sediment controls.

6. Underground Electric Collection System and Overhead Collection Line- The following provides a generalized construction sequence of the construction and implementation of the erosion and sediment controls during construction of the collection system:
   - Install the erosion and sediment controls around perimeter of areas to be disturbed.
   - Complete clearing along the cable route.
   - Install and backfill trench in one operation.
   - Replace topsoil and place seed and mulch.
   - After the site is stabilized remove erosion and sediment controls.

7. Substation- The items below provide a generalized construction sequence for the control of erosion and sedimentation during construction of the substation site.
   - Install the erosion and sediment controls around perimeter of disturbance.
   - Complete site clearing and grubbing.
   - Install stabilized construction entrance.
   - Rough grade site and stockpile soil for reuse. Install silt fencing or straw hay bales around the soil stockpile.
   - Finish the slopes around the substation. Install erosion control blankets, where applicable, and apply mulching and seeding.
   - Install all the substation components.
   - Complete the final grading of the site and install gravels within the substation area. Stabilize the outside areas.
   - After the site has been stabilized, construct bio-rentention facility and remove erosion and sediment controls.

VI. Construction Observation & Maintenance Procedures

A. Inspection Schedule

The Owner/Operator shall have a Qualified Professional conduct an assessment of the site prior to the commencement of any non-erosion and sediment control construction work and report that the appropriate erosion and sediment controls described herein have been installed adequately for construction of the project to begin.

Construction observations shall be completed upon commencement of disturbance at least 1 time every 7 days or 2 times every 7 days in the event that disturbances are 5 acres or more at any one time until final stabilization of the site is achieved. Construction observation reports shall be performed by the Qualified Inspector after each observation and filed with the SWPPP. A digital photograph, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions shall be included with the inspection report. In addition, the Qualified Inspector shall take a digital photograph, with date stamp, that clearly shows the condition of the practice after the corrective action has been completed. A copy of each required report form is included as part of *Exhibit 6*.

B. Observation and Maintenance Practices

The following observation and maintenance practices shall be used to maintain the proposed erosion and sediment controls and all post construction stormwater management practices identified herein throughout construction:

1. Construction Entrances are to be inspected for evidence of off-site sediment tracking where vehicles exit the project area. Each contractor and subcontractor is responsible for maintaining the construction entrance and other controls as previously described.
2. Material storage areas that are exposed to precipitation are to be inspected. Offsite storage areas for materials used exclusively for the project are to be included in the inspections and inspections reports are to be completed.
3. Swales shall be observed for breaches and they shall be repaired when found.
4. Check Dams shall be inspected for depth of sediment and built-up sediment shall be removed prior to it exceeding a depth of one-third the height of the dam.
5. Sediment Traps, if required, shall be inspected for depth of sediment and built-up sediment shall be removed prior to it exceeding a depth greater than 50-percent of the basin, as measured at the outlet of the structure. Vegetation within the structure shall be limited to a maximum height of 18-inches. The outlet device shall be cleaned when drawdown time exceeds 36 hours and repaired as necessary. Note that these devices shall be used for snow storage, if required, during construction.
6. All sediment and debris removed from a practice shall be disposed of in accordance with all applicable waste disposal regulations.
7. Temporary and Permanent Seeding, as well as Plantings shall be inspected for washouts, bare spots, and healthy growth. Washout areas shall be stabilized by jute-mesh, sod, or other approved energy dissipation means. Bare spots and unhealthy growth areas shall be re-established, as required.
8. All measures shall be maintained in good working order and in accordance with the latest edition of the NYSSESC. If a repair is necessary, it shall be initiated within 24 hours of report and completed within 48-hours thereafter.

C. Inspection Reporting

Construction observation reports shall be performed by a Qualified Inspector and review by a Qualified Professional after each observation and filed with the SWPPP.

Additional forms, which can be found on the NYS DEC webpage, such as the "NYS DEC Inspection Checklist", should be reviewed by the Owner/Operator or a duly authorized representative, prior to allowing commencement of construction. Note that a duly authorized representative must have written authorization from the Owner/Operator to sign documents and that a copy of the authorization must be submitted to the NYS DEC. The forms shall be posted on-site in a publicly-accessible location.

D. Site Stabilization Inspections

The site shall be cleaned of all construction debris prior to demobilization. Temporary erosion and sediment control practices shall be removed when soils are stabilized, as determined by the Qualified Professional. After the Qualified Professional declares final stabilization of the site and reports that all temporary controls have been removed, the NOT shall be signed by the Owner/Operator and filed with the NYS DEC. Note that all permanent stormwater management structures, including required structures due to modifications of the SWPPP, shall be listed on the NOT.

E. Modifications/Revisions

Any necessary modifications to this SWPPP shall be implemented within 7 calendar days of an inspection. Modifications are necessary if a control measure or procedure does not provide adequate pollutant control. All revisions are to be recorded in the Construction Log Book, included in *Exhibit 7* within 7 calendar days of an inspection.

VII. Post-Construction Operation & Maintenance Procedures

In accordance with the SPDES GP, the SWPPP shall include a maintenance schedule to achieve continuous and effective operation of each post-construction erosion and sediment control practice and stormwater control practice. In addition, the Owner/Operator shall at all times properly operate and maintain, which includes adequate laboratory controls and appropriate quality assurance procedures, all facilities, systems of treatment, systems of control, and related appurtenances that were installed as a requirement of the SWPPP. Thus, the following post-construction operation and maintenance plan, which also includes the maintenance requirements included in the SMDM for the proposed facilities, has been prepared to fulfill the above referenced provisions:

1. Inspect the proposed erosion and sediment control practices at the end of each spring and during dry times of the year, as summarized below:

    a. Lawn- Observe areas for bare spots, washouts, and healthy growth. Apply topsoil, seed, and mulch to areas, as necessary. Water as required to reestablish lawn as quick as possible. In highly erodible areas, install sod or an approved energy dissipating device until re-establishment is achieved.
    b. Plantings- Observe for weak and unhealthy species. Prune and replace as necessary.
    c. Mulch- Observe areas for bare and thin spots. Re-apply mulch, as necessary, to obtain a minimum depth of 4-inches over the entire area.

2. Inspect the proposed stormwater control practices at least one time per month during the spring, summer, and fall and after each 6-inch snow-melt event, as summarized below:

    a. Bioretention Basins
        - Inspect the proposed stormwater control practices as indicated in the Bioretention Operation, Maintenance and Management Inspection Checklist that is included as part of *Exhibit 7.*
            - Inspect for breaches and bare spots and repair as necessary.
            - Remove built-up sediment prior to it exceeding a depth greater than 6 inches and dispose of in accordance with all applicable waste disposal regulations.
            - Limit vegetation growth to a maximum height of 18-inches.
            - Remove all trash and debris as necessary and dispose of in accordance with all applicable regulations.
            - Note that these devices can be used for snow storage.

    b. Detention Basin
        - Inspect the proposed stormwater control practice as indicated in the Stormwater Pond Operation and Maintenance and Management Inspection Checklist that is included as part of *Exhibit 7.*
        - Maintain all practices in good working order. If a repair is necessary, it should be initiated within 24 hours of report and completed within 48-hours thereafter.

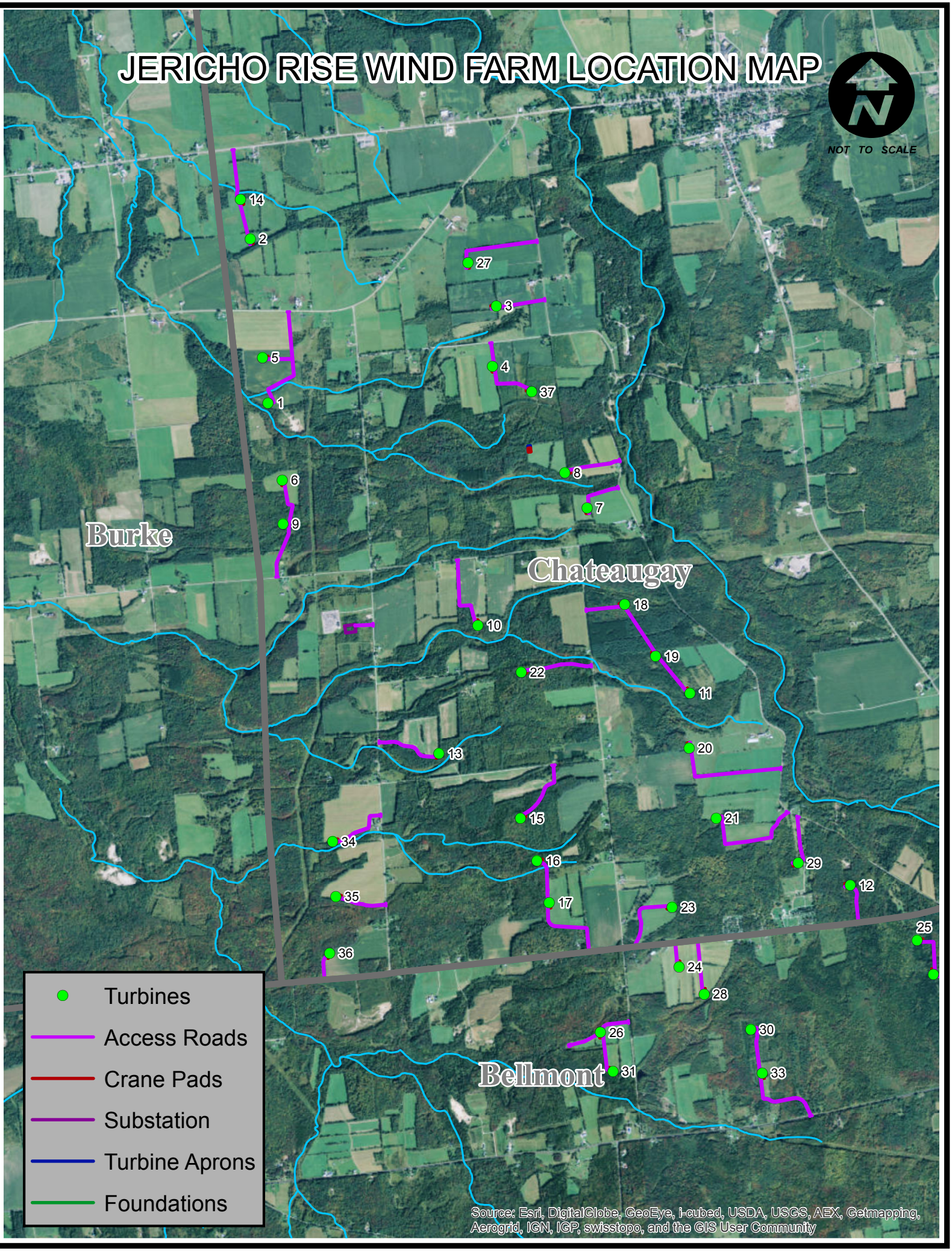
c. Infiltration Sand Filter
   - Inspect the proposed stormwater control practice as indicated in the Sand/Organic Filter Operation, Maintenance and Management Inspection Checklist that is included as part of *Exhibit 7*.

Operation, maintenance, and management reports should be made by the Owner/Operator after each inspection and filed with the SWPPP. Copies of each suggested report form to be used for the proposed practices are included in this report.

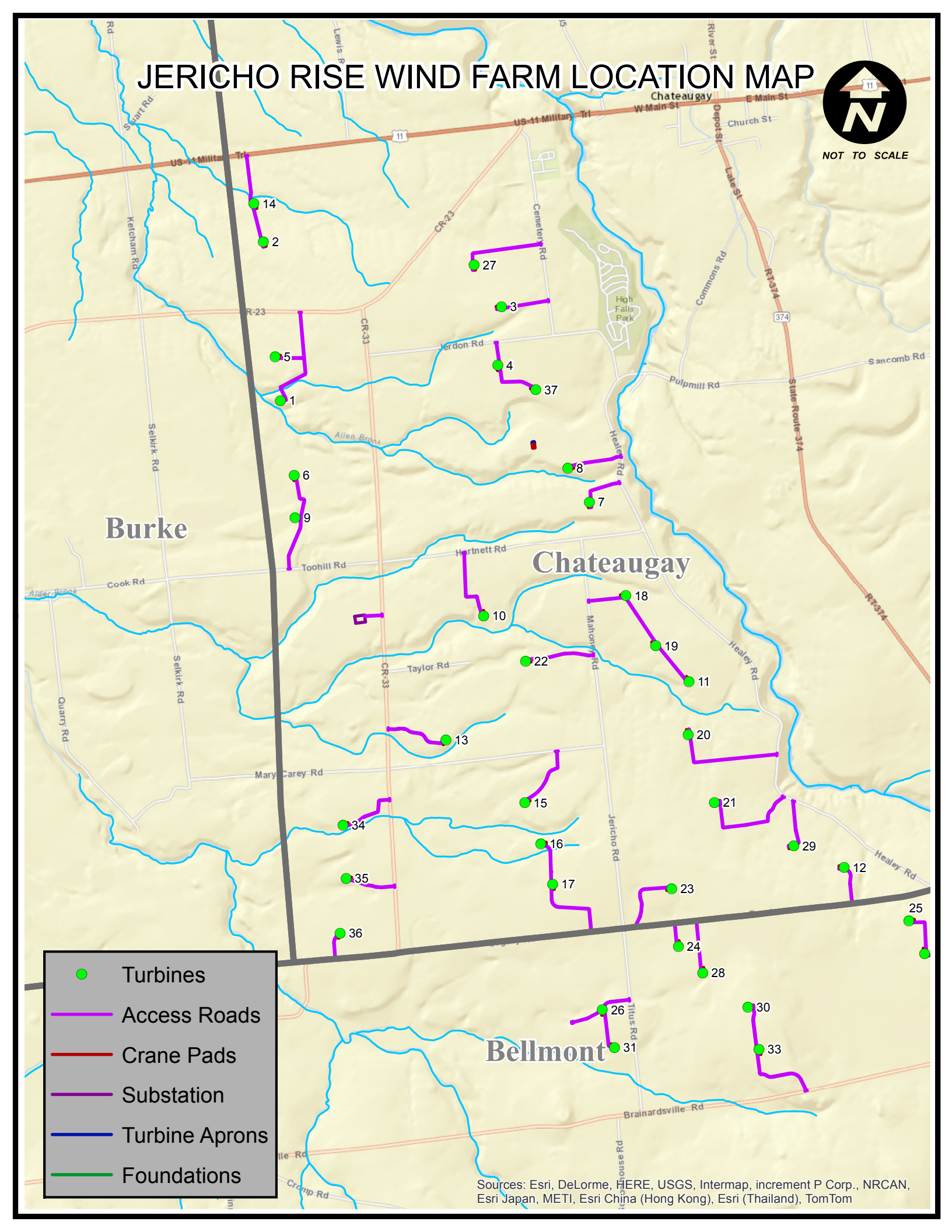
Note that this plan shall be updated, as necessary, to include all permanent stormwater management structures listed on the NOT and that the plan shall include the operation and maintenance procedures necessary for the structures to function as designed after final stabilization, as described in the SPDES GP.

APPENDIX A

Exhibit 1: Project Location Maps


JERICHO RISE WIND FARM LOCATION MAP
NOT TO SCALE
Burke
Chateaugay
Bellmont
14
2
27
3
5
4
37
1
6
8
9
7
10
18
19
22
11
13
20
15
21
34
16
29
12
35
17
23
25
36
24
28
26
30
31
33
Turbines
Access Roads
Crane Pads
Substation
Turbine Aprons
Foundations
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

JERICHO RISE WIND FARM LOCATION MAP



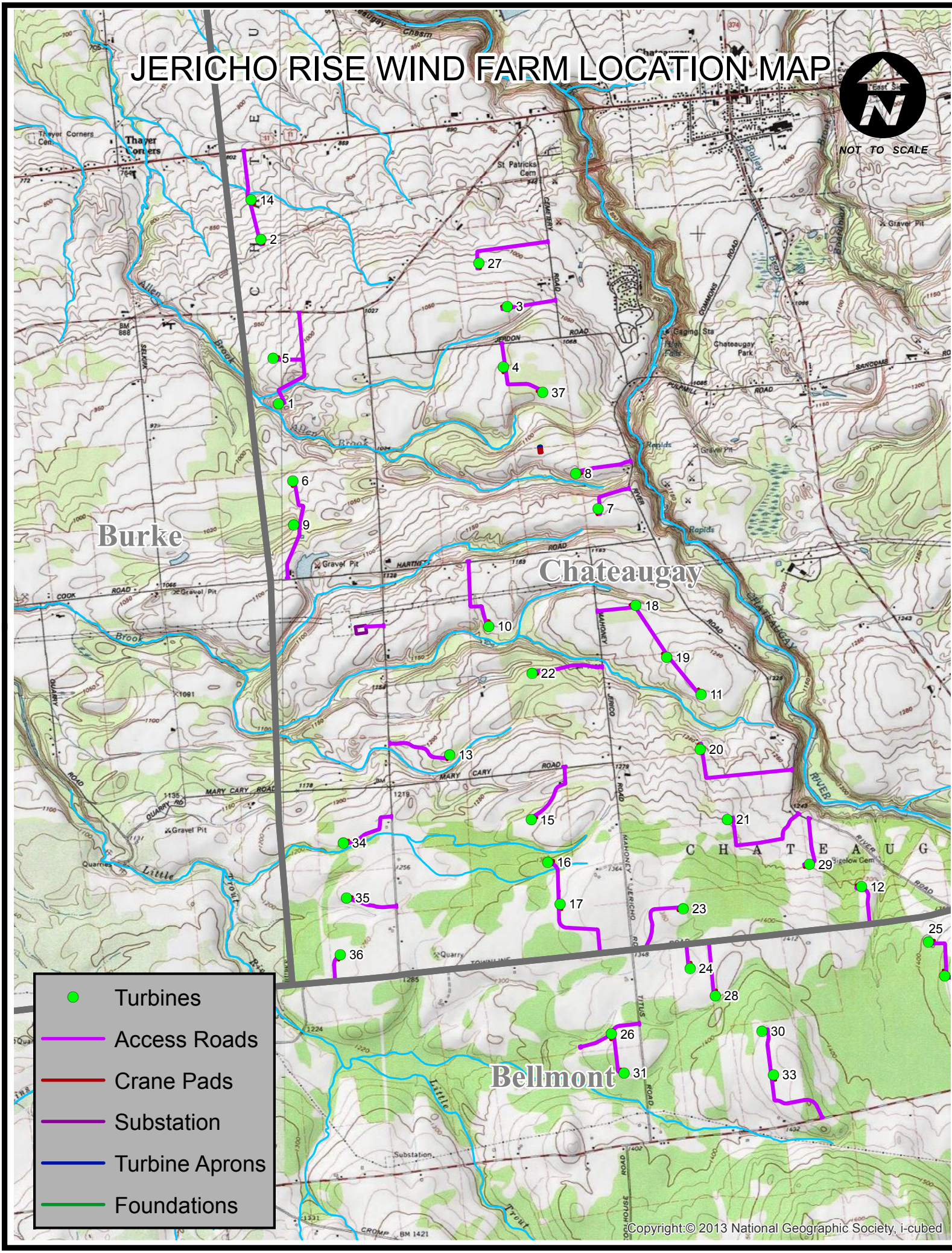

JERICHO RISE WIND FARM LOCATION MAP
NOT TO SCALE
Burke
Chateaugay
Bellmont
Turbines
Access Roads
Crane Pads
Substation
Turbine Aprons
Foundations
Copyright:© 2013 National Geographic Society, i-cubed

Exhibit 2: Notice of Intent (NOI) Application

Submission History

Total records: 1 Showing 1 (filtered from total records)

Submission #	Submitted	Submission Name	Status	Locked
2BB-YANY-YEDY	11/25/2015 10:21 AM	NOI for coverage under Stormwater General Permit for Construction Activity	Submitted	No

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-15-002)

Project/Site Name: Jericho Rise Wind Farm

eNOI Submission Number: 2BB-YANY-YEDY

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

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name M.I. Last Name

_____

Signature

23 November 2015

Date

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-15-002)

Project Site Information

Project/Site Name

Jericho Rise Wind Farm

Owner/Operator Information

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

Jericho Rise Wind Farm, LLC

Certification Statement – SWPPP Preparer

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-0-15-002. 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.

Steven	D	Wilkinson
First name	MI	Last Name

Signature

November 24, 2015

Date

Revised: April 2015

4364234792

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-0-10-001

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)
JERICHO RISE WIND FARM, LLC

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

Owner/Operator Contact Person First Name
BRYAN

Owner/Operator Mailing Address
808 TRAVIS ST., SUITE 700

City
HOUSTON

State
TX

Zip
77002-____

Phone (Owner/Operator)
713-265-0257

Fax (Owner/Operator)
___-___-____

Email (Owner/Operator)
Bryan.Lyssy@edpr.com

FED TAX ID
20-3172505 (not required for individuals)

Project Site Information

Project/Site Name
JERICHO RISE WIND FARM

Street Address (NOT P.O. BOX)
STATE ROUTE 11

Side of Street
○ **North** ● **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
TOWN OF CHATEAUGAY AND BELLMONT

State: NY
Zip: 12920-
County: FRANKLIN
DEC Region: 6

Name of Nearest Cross Street
COUNTY ROUTE 33

Distance to Nearest Cross Street (Feet)
0

Project In Relation to Cross Street
○ **North** ○ **South** ● **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting): 569756

Y Coordinates (Northing): 4

2. What is the nature of this construction project?

● **New Construction**

○ **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

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

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ 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: WIND FARM

***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
4113.4	200.0	0.0	30.7

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.

A	B	C	D
4 %	0 %	4 %	92 %

7. Is this a phased project? ○ **Yes** ● **No**

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

Start Date	End Date
02/01/2016	12/31/2017

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

Name

ALLEN BROOK, ALDER BROOK, LITTLE TROUT RIVER, FEDERAL & STATE WETLANDS

9a. Type of waterbody identified in Question 9?

- (●) Wetland / State Jurisdiction On Site (Answer 9b)
- ( ) Wetland / State Jurisdiction Off Site
- (●) Wetland / Federal Jurisdiction On Site (Answer 9b)
- ( ) Wetland / Federal Jurisdiction Off Site
- (●) Stream / Creek On Site
- (●) Stream / Creek Off Site
- ( ) River On Site
- (●) River Off Site
- ( ) Lake On Site
- ( ) Lake Off Site
- ( ) Other Type On Site
- ( ) Other Type Off Site

9b. How was the wetland identified?

- ( ) Regulatory Map
- (●) Delineated by Consultant
- ( ) Delineated by Army Corps of Engineers
- ( ) Other (identify)

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

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-10-001? ( ) **Yes** (●) **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ( ) **Yes** (●) **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ( ) **Yes** ( ) **No**
If Yes, what is the acreage to be disturbed?

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

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?

TOWN OF CHATEAUGAY AND BELLMONT

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

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- (●) **Professional Engineer (P.E.)**
- ( ) **Soil and Water Conservation District (SWCD)**
- ( ) **Registered Landscape Architect (R.L.A)**
- ( ) **Certified Professional in Erosion and Sediment Control (CPESC)**
- ( ) **Owner/Operator**
- ( ) **Other**

SWPPP Preparer
FISHER ASSOCIATES

Contact Name (Last, Space, First)
WILKINSON STEVE

Mailing Address
135 CALKINS ROAD

City
ROCHESTER

State NY Zip 14623-

Phone 585-334-1310

Fax 585-334-1361

Email
SWILKINSON@FISHERASSOC.COM

SWPPP Preparer 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-0-10-001. 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.

First Name STEVE **MI**

Last Name WILKINSON

Signature

Date / /

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

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

Temporary Structural

- ● Check Dams
- ○ Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ● Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ● Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ● Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ● Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ● Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ● Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ● Rock Outlet Protection
- ○ Streambank Protection

Other

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

0.026 **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)

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
● Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	29.565
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
○ Infiltration Basin (I-2)			
○ Dry Well (I-3)			
○ Underground Infiltration System (I-4)			
● Bioretention (F-5)			1.135
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
○ Pocket Pond (P-5)			
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ Hydrodynamic	
○ Wet Vault	
○ Media Filter	
○ Other _____	

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

Name

Manufacturer

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

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

Total RRv provided

0.026 **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

● **Yes** ○ **No**

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

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. **acre-feet**

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

○ **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

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

[ ][ ][ ].[ ][ ][ ] **acre-feet**

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

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

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ○ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

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

CPv Required

[ ][ ][ ].[ ][ ][ ] **acre-feet**

CPv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

● Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

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

Total Overbank Flood Control Criteria (Qp)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ● Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● Yes ○ No

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

JERICHO RISE WIND FARM, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

We are utilizing a filter strips to account for runoff reduction and water quality volume for the areas adjacent to the proposed access roads and wind turbine generator sites. The width of the filter strips are equivalent to the length of the impervious area draining to it, which does not meet the requirements of the Stormwater Management Design Manual (SMDM). According to the manual, filter strips shall be at least 50 feet for slopes 0-8% and 75 feet for slopes 8-12%. Because of the existing agricultural uses of the disturbed areas, smaller, less obtrusive, filter strips are proposed that will allow the maximum area possible to return to agricultural uses.

Downstream analysis has been performed for the project for the 10-year and 100-year storm events that show less than 5% increases in the peak flow for the drainage areas. In addition the downstream analysis shows that for the 1-year (CPv) storm event the increase in peak flow is less than 2.5%. No water quantity practices are proposed for the access roads and wind turbine generator sites because of the minimal increase in the peak flow resulting from the project. Although the 10-year and 100-year analysis is in accordance with the SMDM, downstream analysis for the 1-year storm is not. This approach has been discussed with local NYSDEC regions and was agreed upon for linear features of the wind turbine projects.

Open graded stone will be utilized at the Substation site. Although gravel is considered impervious according to the General Permit, the open graded stone areas at this site was not. In addition, water quantity volume and runoff reduction benefits at this site was accounted for in the void spaces of the open graded stone areas. This design does not conform to the SMDM. Water quality will be provided at the substation site utilizing a standard practice in accordance with the SMDM.

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

- ● Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ● Navigable Waters Protection / Article 15
- ● Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ● Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ● Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ○ None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ● **Yes** ○ **No**
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][ ].[ ]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ **Yes** ● **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N][Y][R][ ][ ][ ][ ][ ][ ]

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name

BRYAN

MI

Print Last Name

LYSSY

Owner/Operator Signature

Date

/ /

Exhibit 3: SPDES GP-0-15-002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

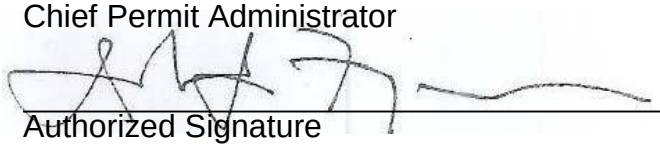
CONSTRUCTION ACTIVITY

Permit No. GP-0-15-002

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

Effective Date: January 29, 2015 Expiration Date: January 28, 2020

John J. Ferguson
Chief Permit Administrator



1 / 12 / 15

Authorized Signature Date

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

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York's *State Pollutant Discharge Elimination System ("SPDES")* is a NPDES-approved program with permits issued in accordance with the *Environmental Conservation Law ("ECL").*

This general permit ("permit") is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An *owner or operator* may obtain coverage under this permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this permit and the NOI for New York are available by calling (518) 402-8109 or at any New York State Department of Environmental Conservation ("the Department") regional office (see Appendix G).They are also available on the Department's website at:

http://www.dec.ny.gov/

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 Article 17-0505 of the ECL, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. They 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 I. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

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

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

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

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

B. Effluent Limitations Applicable to Discharges from Construction Activities

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

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the Stormwater Pollution Prevention Plan (“SWPPP”) the reason(s) for the deviation or alternative design and provide information

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

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

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

   (ii) Control stormwater *discharge*s to *minimize* channel and streambank erosion and scour in the immediate vicinity of the *discharge* points;

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

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

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

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

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and

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

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from dewatering activities, including *discharge*s

from dewatering of trenches and excavations, must be managed by appropriate control measures.

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

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

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste 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 *Discharge*s.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

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

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

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

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

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion

at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

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

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

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

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

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

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

that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:

(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or

(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

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

(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or

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

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

(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or

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

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

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or

standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

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

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:

(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or

(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

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

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

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

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

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

(Part I.C.2.c.i)

(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.

(Part I.C.2.c.iv)

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

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

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

D. Maintaining Water Quality

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

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

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

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

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

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or

if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

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

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater *discharges* may be authorized by this permit: *discharge*s from firefighting activities; fire hydrant flushings; waters to which cleansers or other components have not been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated *groundwater* or spring water; uncontaminated *discharge*s from construction site de-watering operations; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this permit, and who *discharge* as noted in this paragraph, and with the exception of flows from firefighting activities, these *discharge*s 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:

(Part I.F)

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

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

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

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an endangered or threatened species unless the *owner or operator* has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.C.2 of this permit.

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

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

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

   b. Which disturb one or more acres of land with no existing *impervious cover*; and

   c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.

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

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

   b. Which disturb two or more acres of land with no existing *impervious cover*; and

   c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the USDA Soil Survey for the County where the disturbance will occur.

(Part I.F.8)

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.C.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

(Part I.F.8.c.iii)

(iii) Executed Memorandum of Agreement, or

d. Documentation that:

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

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

II. Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

1. An *owner or operator* of a *construction activity* that is <u>not</u> 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 NOI form to the Department in order to be authorized to *discharge* under this permit. 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. 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 its 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. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI.

The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the address in Part II.A.1.

(Part II.A.2)

The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *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.E. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*.

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.

B. 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) 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.B.2 above

(Part II.B.3)

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. The Department may suspend or deny an *owner's or operator's* coverage

(Part II.B.4)

under this permit if the Department determines that the SWPPP does not meet the permit requirements. In accordance with statute, regulation, and the terms and conditions of this permit, the Department may deny coverage under this permit and require submittal of an application for an individual SPDES permit based on a review of the NOI or other information pursuant to Part II.

5. 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.B. of this permit.

C. 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-0-15-002), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, 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

(Part II.C.3.a)

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 August 2005.

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. 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*.

5. 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

(Part II.D)

D. Permit Coverage for Discharges Authorized Under GP-0-10-001

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-10-001), an *owner or operator* of *a construction activity* with coverage under GP-0-10-001, as of the effective date of GP-0-15-002, shall be authorized to *discharge* in accordance with GP-0-15-002, 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-0-15-002.

E. Change of *Owner or Operator*

2. 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. 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.A.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.

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)

III. 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:

   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*; and

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

5. The Department may notify the *owner or operator* at any time that the

(Part III.A.5)

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.C.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

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

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

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

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

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

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005. 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 August 2005, 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 August 2005;

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 August 2005. 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)

IV. 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

(Part IV.C)

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),
- 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.C.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.A.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;

(Part IV.C.4.i)

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

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

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

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

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.C.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

V. 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.A.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.

(Part V.A.2)

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.E. 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.

(Part V.A.5)

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.

VI. Part VI. REPORTING AND RETENTION OF 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.A.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)

VII. 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

(Part VII.H.2.b)

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 *discharge*r authorized by a general permit to apply for an individual SPDES permit, it shall notify the *discharge*r 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.

(Part VII.N)

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.

VIII. **APPENDIX A**

Definitions

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.

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.

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).

New Development – means any land disturbance that does meet the definition of Redevelopment Activity included in this appendix.

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*.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

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.

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, 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 required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

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,
- Stream bank restoration projects (does not include the placement of spoil material),
- 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 makes 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 with a Soil Slope Phase that is identified as an E or F, or

the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.

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, 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.

IX. APPENDIX B

Required SWPPP Components by Project Type

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

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

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other agricultural building, silo, stock yard or pen.

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

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Bike paths and trails
- Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), 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 less than five acres and construction activities that include the construction or reconstruction of impervious area

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

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

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 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 townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- 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, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- 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
- 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

X. **APPENDIX C**

Watersheds Where Enhanced Phosphorus Removal Standards Are Required

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

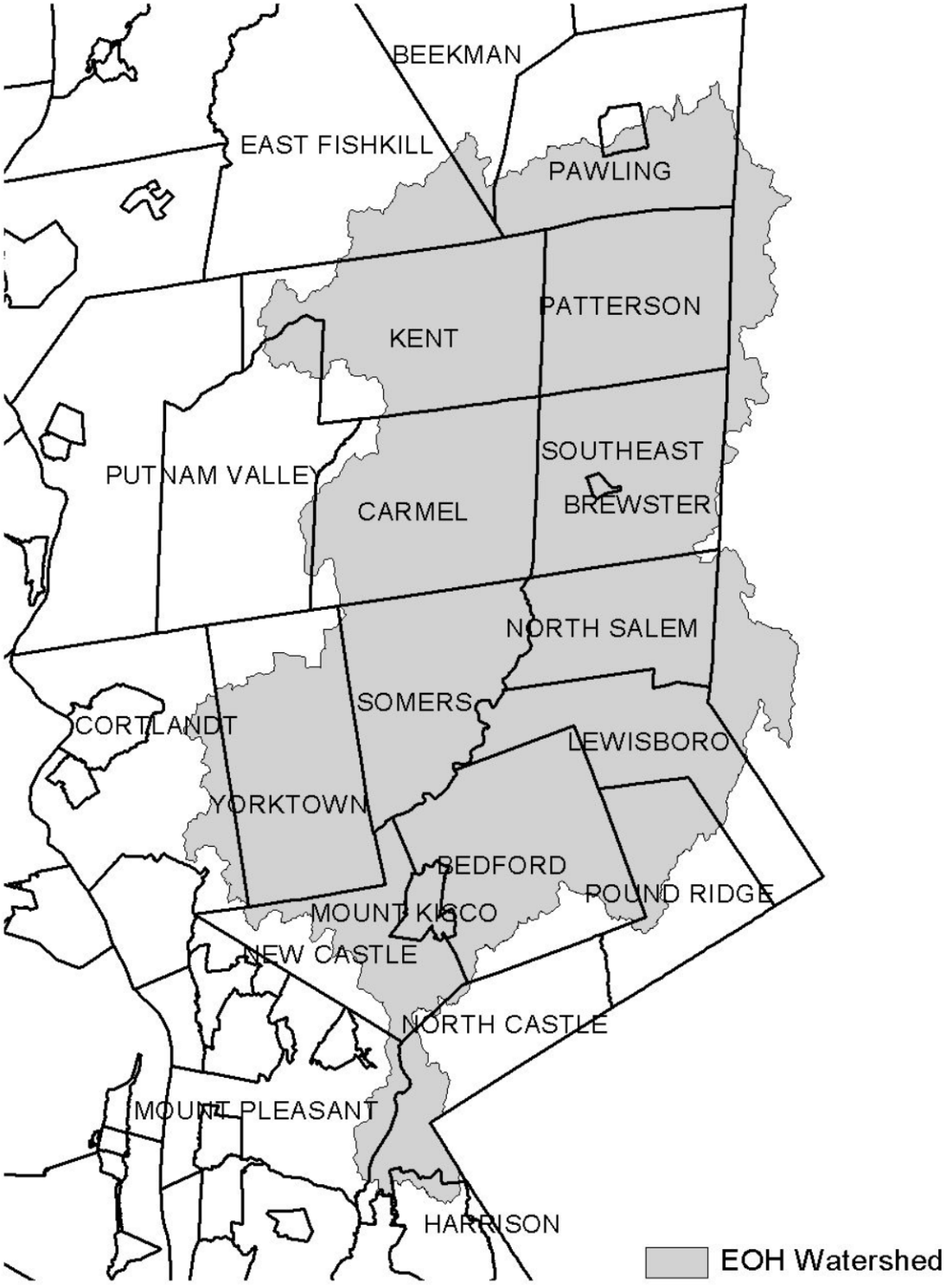


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

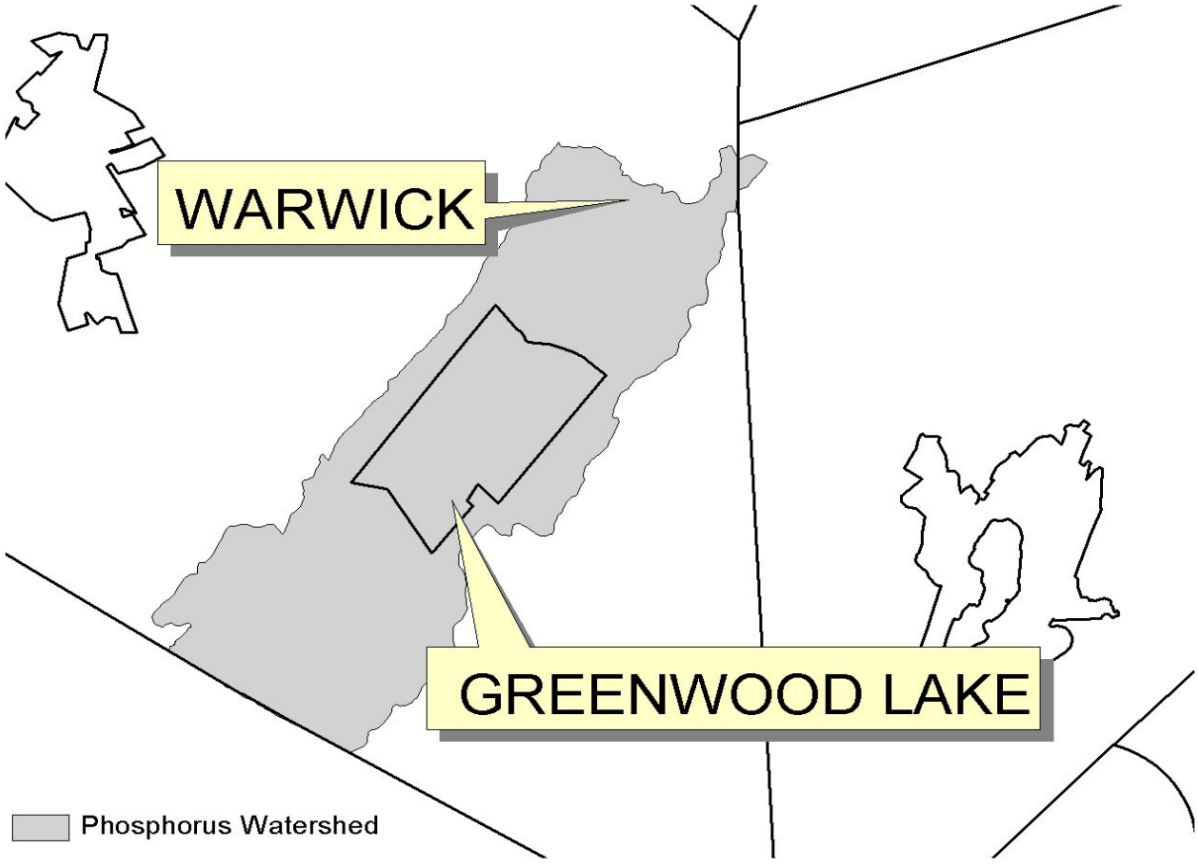


Figure 4 - Oscawana Lake Watershed

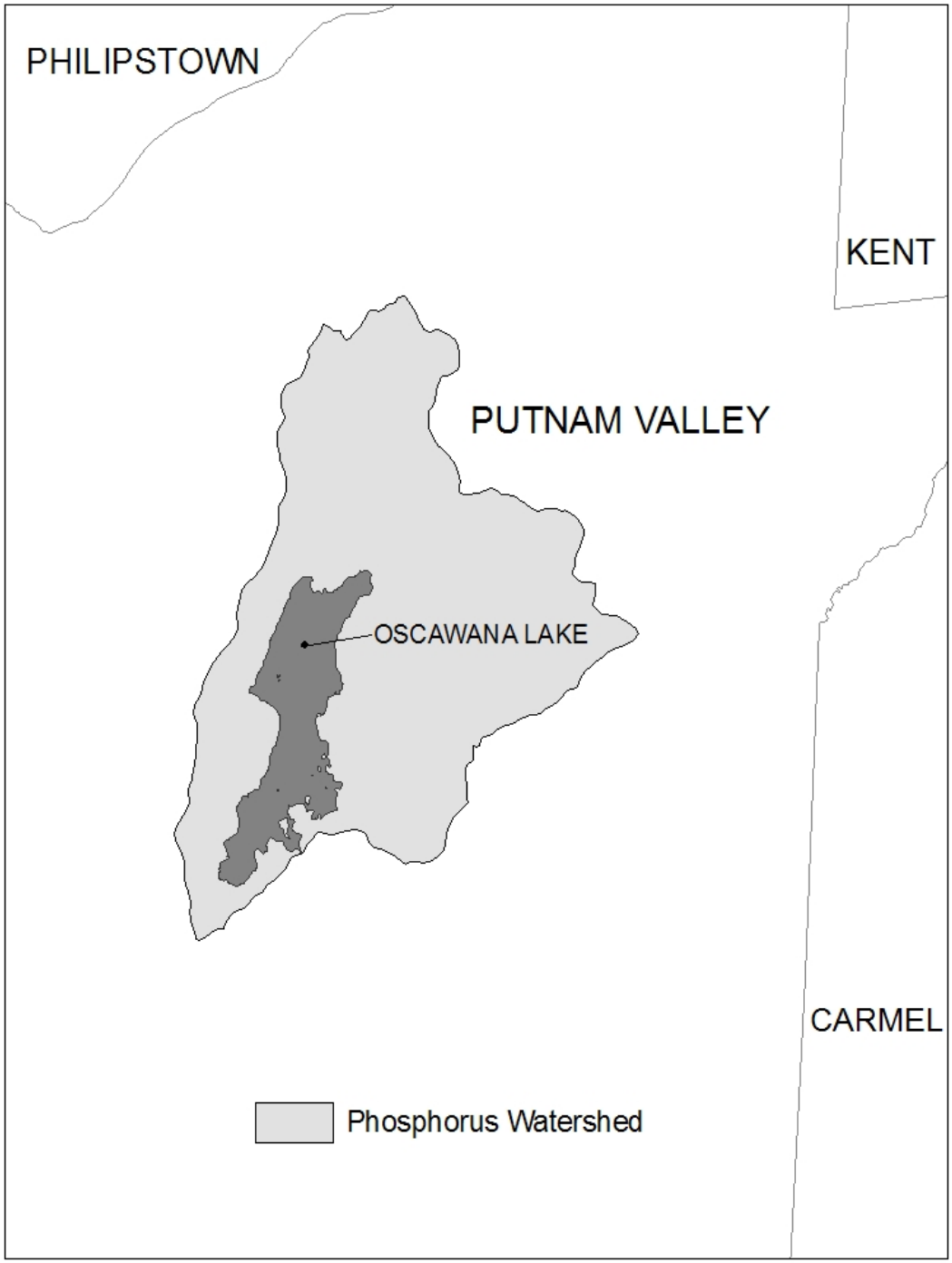
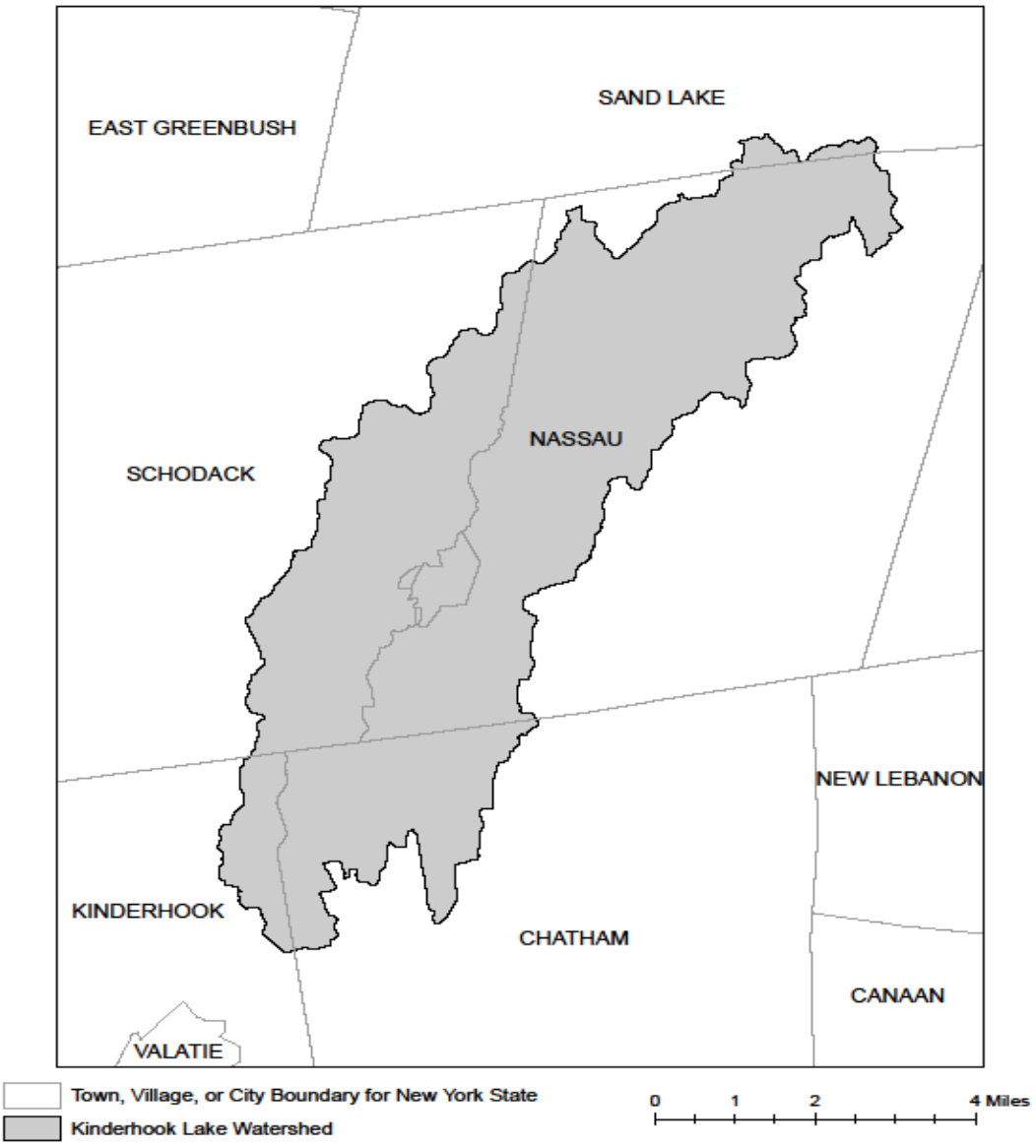


Figure 5: Kinderhook Lake Watershed



XI. APPENDIX D

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

XII. APPENDIX E

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). *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
Albany	Ann Lee (Shakers) Pond, Stump Pond
Albany	Basic Creek Reservoir
Allegheny	Amity Lake, Saunders Pond
Bronx	Van Cortlandt Lake
Broome	Whitney Point Lake/Reservoir
Broome	Fly Pond, Deer Lake
Broome	Minor Tribs to Lower Susquehanna (north)
Cattaraugus	Allegheny River/Reservoir
Cattaraugus	Case Lake
Cattaraugus	Linlyco/Club Pond
Cayuga	Duck Lake
Chautauqua	Chautauqua Lake, North
Chautauqua	Chautauqua Lake, South
Chautauqua	Bear Lake
Chautauqua	Chadakoin River and tribs
Chautauqua	Lower Cassadaga Lake
Chautauqua	Middle Cassadaga Lake
Chautauqua	Findley Lake
Clinton	Great Chazy River, Lower, Main Stem
Columbia	Kinderhook Lake
Columbia	Robinson Pond
Dutchess	Hillside Lake
Dutchess	Wappinger Lakes
Dutchess	Fall Kill and tribs
Erie	Green Lake
Erie	Scajaquada Creek, Lower, and tribs
Erie	Scajaquada Creek, Middle, and tribs
Erie	Scajaquada Creek, Upper, and tribs
Erie	Rush Creek and tribs
Erie	Ellicott Creek, Lower, and tribs
Erie	Beeman Creek and tribs
Erie	Murder Creek, Lower, and tribs
Erie	South Branch Smoke Cr, Lower, and tribs
Erie	Little Sister Creek, Lower, and tribs
Essex	Lake George (primary county: Warren)
Genesee	Black Creek, Upper, and minor tribs
Genesee	Tonawanda Creek, Middle, Main Stem
Genesee	Oak Orchard Creek, Upper, and tribs
Genesee	Bowen Brook and tribs
Genesee	Bigelow Creek and tribs
Genesee	Black Creek, Middle, and minor tribs
Genesee	LeRoy Reservoir
Greene	Schoharie Reservoir
Greene	Sleepy Hollow Lake
Herkimer	Steele Creek tribs
Kings	Hendrix Creek
Lewis	Mill Creek/South Branch and tribs
Livingston	Conesus Lake
Livingston	Jaycox Creek and tribs
Livingston	Mill Creek and minor tribs
Livingston	Bradner Creek and tribs
Livingston	Christie Creek and tribs
Monroe	Lake Ontario Shoreline, Western
Monroe	Mill Creek/Blue Pond Outlet and tribs
Monroe	Rochester Embayment - East
Monroe	Rochester Embayment - West
Monroe	Unnamed Trib to Honeoye Creek
Monroe	Genesee River, Lower, Main Stem
Monroe	Genesee River, Middle, Main Stem
Monroe	Black Creek, Lower, and minor tribs
Monroe	Buck Pond
Monroe	Long Pond
Monroe	Cranberry Pond
Monroe	Mill Creek and tribs
Monroe	Shipbuilders Creek and tribs
Monroe	Minor tribs to Irondequoit Bay
Monroe	Thomas Creek/White Brook and tribs
Nassau	Glen Cove Creek, Lower, and tribs
Nassau	LI Tribs (fresh) to East Bay
Nassau	East Meadow Brook, Upper, and tribs
Nassau	Hempstead Bay
Nassau	Hempstead Lake
Nassau	Grant Park Pond
Nassau	Beaver Lake
Nassau	Camaans Pond
Nassau	Halls Pond
Nassau	LI Tidal Tribs to Hempstead Bay
Nassau	Massapequa Creek and tribs
Nassau	Reynolds Channel, east
Nassau	Reynolds Channel, west
Nassau	Silver Lake, Lofts Pond
Nassau	Woodmere Channel
Niagara	Hyde Park Lake
Niagara	Lake Ontario Shoreline, Western
Niagara	Bergholtz Creek and tribs
Oneida	Ballou, Nail Creeks
Onondaga	Ley Creek and tribs
Onondaga	Onondaga Creek, Lower and tribs

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity, cont'd.

COUNTY	WATERBODY	COUNTY	WATERBODY
Onondaga	Onondaga Creek, Middle and tribs	Suffolk	Great South Bay, West
Onondaga	Onondaga Creek, Upp, and minor tribs	Suffolk	Mill and Seven Ponds
Onondaga	Harbor Brook, Lower, and tribs	Suffolk	Moriches Bay, East
Onondaga	Ninemile Creek, Lower, and tribs	Suffolk	Moriches Bay, West
Onondaga	Minor tribs to Onondaga Lake	Suffolk	Quantuck Bay
Onondaga	Onondaga Creek, Lower, and tribs	Suffolk	Shinnecock Bay (and Inlet)
Ontario	Honeoye Lake	Sullivan	Bodine, Montgomery Lakes
Ontario	Hemlock Lake Outlet and minor tribs	Sullivan	Davies Lake
Ontario	Great Brook and minor tribs	Sullivan	Pleasure Lake
Orange	Monhagen Brook and tribs	Sullivan	Swan Lake
Orange	Orange Lake	Tompkins	Cayuga Lake, Southern End
Orleans	Lake Ontario Shoreline, Western	Tompkins	Owasco Inlet, Upper, and tribs
Oswego	Pleasant Lake	Ulster	Ashokan Reservoir
Oswego	Lake Neatahwanta	Ulster	Esopus Creek, Upper, and minor tribs
Putnam	Oscawana Lake		
Putnam	Palmer Lake	Ulster	Esopus Creek, Lower, Main Stem
Putnam	Lake Carmel	Ulster	Esopus Creek, Middle, and minor tribs
Queens	Jamaica Bay, Eastern, and tribs (Queens)		
Queens	Bergen Basin	Warren	Lake George
Queens	Shellbank Basin	Warren	Tribs to L.George, Village of L George
Rensselaer	Nassau Lake		
Rensselaer	Snyders Lake	Warren	Huddle/Finkle Brooks and tribs
Richmond	Grasmere, Arbutus and Wolfes Lakes	Warren	Indian Brook and tribs
Rockland	Congers Lake, Swartout Lake	Warren	Hague Brook and tribs
Rockland	Rockland Lake	Washington	Tribs to L.George, East Shr Lk George
Saratoga	Ballston Lake		
Saratoga	Round Lake	Washington	Cossayuna Lake
Saratoga	Dwaas Kill and tribs	Washington	Wood Cr/Champlain Canal, minor tribs
Saratoga	Tribs to Lake Lonely		
Saratoga	Lake Lonely	Wayne	Port Bay
Schenectady	Collins Lake	Wayne	Marbletown Creek and tribs
Schenectady	Duane Lake	Westchester	Lake Katonah
Schenectady	Mariaville Lake	Westchester	Lake Mohegan
Schoharie	Engleville Pond	Westchester	Lake Shenorock
Schoharie	Summit Lake	Westchester	Reservoir No.1 (Lake Isle)
Schuyler	Cayuta Lake	Westchester	Saw Mill River, Middle, and tribs
St. Lawrence	Fish Creek and minor tribs	Westchester	Silver Lake
St. Lawrence	Black Lake Outlet/Black Lake	Westchester	Teatown Lake
Steuben	Lake Salubria	Westchester	Truesdale Lake
Steuben	Smith Pond	Westchester	Wallace Pond
Suffolk	Millers Pond	Westchester	Peach Lake
Suffolk	Mattituck (Marratooka) Pond	Westchester	Mamaroneck River, Lower
Suffolk	Tidal tribs to West Moriches Bay	Westchester	Mamaroneck River, Upp, and tribs
Suffolk	Canaan Lake	Westchester	Sheldrake River and tribs
Suffolk	Lake Ronkonkoma	Westchester	Blind Brook, Lower
Suffolk	Beaverdam Creek and tribs	Westchester	Blind Brook, Upper, and tribs
Suffolk	Big/Little Fresh Ponds	Westchester	Lake Lincolndale
Suffolk	Fresh Pond	Westchester	Lake Meahaugh
Suffolk	Great South Bay, East	Wyoming	Java Lake
Suffolk	Great South Bay, Middle	Wyoming	Silver Lake

Note: The list above identifies those waters from the final New York State "2014 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy", dated January 2015, that are impaired by silt, sediment or nutrients.

XIII. APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

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

Exhibit 4: Notice of Termination (NOT) Form

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

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

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

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

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

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

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

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

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

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

_____

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

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

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

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

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

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

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

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

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

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

V. Additional Information/Explanation:

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

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

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

Printed Name:	
Title/Position:	
Signature:	Date:

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

VII. Qualified Inspector Certification - Final Stabilization:

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

Printed Name:	
Title/Position:	
Signature:	Date:

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

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

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

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

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

Exhibit 5: Contractor Certification(s)

CONTRACTOR & SUBCONTRACTOR

CERTIFICATION(S)

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge stormwater. I also understand that the Owner/Operator must comply with the terms and conditions of the New York State Pollution Discharge Elimination System (SPDES) General Permit # GP-0-15-002 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."

General Contractor

Company Name: _____ Phone No: _____

Company Address: _____

Signature: _____ Date: _____

Print Name & Title

Subcontractor

Company Name: _____ Phone No: _____

Company Address: _____

Company Address: _____

Signature: _____ Date: _____

Print Name & Title

Subcontractor

Company Name: _____ Phone No: _____

Company Address: _____

Signature: _____ Date: _____

Print Name & Title

Subcontractor

Company Name: _____ Phone No: _____

Company Address: _____

Signature: _____ Date: _____

Print Name & Title

Subcontractor

Company Name: _____ Phone No: _____

Company Address: _____

Signature: _____ Date: _____

Print Name & Title

Signature-

a. For a corporation: by (1) president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person authorized to and who performs similar policy or decisions making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $250,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency: by either a principal executive office or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive office or the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA)

Exhibit 6: Construction Inspection Reports

MURK 6 (04/09) ○ Metric ◉ English

SPDES STORMWATER INSPECTION REPORT

Clear Form

JOB STAMP

Date: _____

Day of Week: S M T W T F S

Sheet No. ____ of ____

	AM		PM	
Weather				
Temperature		° F		° F
Soil Condition				

This inspection and maintenance form is to be used on contracts covered by SPDES General Permit for Construction Activity (GP-0-08-001). The completed inspection form must be filed in the Engineer's Field Office.

Reason for this Inspection:

☐ Standard 7 calendar day inspection

☐ Subsequent inspection in 7 calendar day period due to soil disturbance exceeding 5 acres

☐ Received 0.5 in or more of rain in a 24 hour period

Codes for erosion and sediment control measures to be inspected: [Use the following codes in the table below] (1) mulch, (2) seed and mulch, (3) check dams, (4) strawbales, (5) silt fence, (6) sediment trap, (7) turbidity curtains, (8) pipe slope drains, (9) drainage structure inlet protection, (10) rolled erosion control products, (11) soil stabilizers, (12) construction entrances, (13) pipe inlet/outlet protection, (14) water diversion structures, (15) sedimentation basins, (16) cofferdams, (17) Other _____

List ONLY those erosion & sediment control and/or stormwater management practices that require repair, maintenance, reinstallation or replacement.

ID	Location of Practice (Use stations or descriptions)	Practice		Describe Specific Maintenance Required (Including sediment removal, replacement or installation of practice)	Remarks
		Code #	Temp or Perm? (T,P or NA)		
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Print Form

MURK 6 REVERSE
(04/09)

Clear Form

ID	Location of Practice (Use stations or descriptions)	Practice		Describe Specific Maintenance Required (Including sediment removal, replacement or installation of practice)	Remarks
		Code #	Temp or Perm? (T,P or NA)		
11					
12					
13					
14					
15					

Have areas been disturbed or stabilized since the last inspection? ☐ Yes ☐ No
If YES, attach a location map showing all disturbed areas and areas stabilized since the last inspection.

Identify outlet points of stormwater from the project site to Waters of the US (e.g. streams, rivers, lakes, wetlands, etc.) and describe the condition of the stormwater (add additional pages as necessary to include all outlets points to Waters of the US):

	Location of Outlet (STA / OFFSET)	**Type of Outlet** (e.g. pipe, ditch, overland flow,etc.)	**Is Runoff from Site Outletting to Water of the US?**	**Describe Runoff** (if any) (e.g. clear, turbid)
1				
2				
3				

Are more than 5 acres of soil disturbed at this site at any one time? _____
If YES, was a notification form sent to NYSDEC? _____

Describe Existing Deficiencies in the SWPPP. Specify for each location using row ID number, if applicable.

_____

_____

_____

_____

_____

_____

Qualified Inspector Name/Title
(w/ Firm Name, If Consultant) _____

Qualified Inspector Signature: _____ Prepared: _____ (Date) Copy to Contractor: _____ (Date)

☐ Engineer-in-Charge
☐ Resident Engineer

Reviewed By: _____ Date Reviewed: _____ (Date)

☐ MURK 6-1 SPDES Stormwater Inspection Report - Continuation attached

Print Form

MURK 6-1
(04/09)

SPDES STORMWATER INSPECTION REPORT - CONTINUATION

Clear Form

JOB STAMP

Date: _____ Sheet No. ____ of ____

Codes for erosion and sediment control measures to be inspected: [Use the following codes in the table below] (1) mulch, (2) seed and mulch, (3) check dams, (4) strawbales, (5) silt fence, (6) sediment trap, (7) turbidity curtains, (8) pipe slope drains, (9) drainage structure inlet protection, (10) rolled erosion control products, (11) soil stabilizers, (12) construction entrances, (13) pipe inlet/outlet protection, (14) water diversion structures, (15) sedimentation basins, (16) cofferdams, (17) Other _____

List ONLY those erosion & sediment control and/or stormwater management practices that require repair, maintenance, reinstallation or replacement.

ID	Location of Practice (Use stations or descriptions)	Practice		Describe Specific Maintenance Required (Including sediment removal, replacement or installation of practice)	Remarks
		Code #	Temp or Perm? (T,P or NA)		
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Print Form

MURK 6-1 REVERSE
(04/09)

Clear Form

ID	Location of Practice (Use stations or descriptions)	Practice		Describe Specific Maintenance Required (Including sediment removal, replacement or installation of practice)	Remarks
		Code #	Temp or Perm? (T,P or NA)		
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					

Qualified Inspector Initials:: _____

Print Form

Bioretention Operation, Maintenance and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Bioretention and contributing areas clean of debris		
No dumping of yard wastes into practice		
Litter (branches, etc.) have been removed		
2. Vegetation (Monthly)		
Plant height not less than design water depth		
Fertilized per specifications		
Plant composition according to approved plans		
No placement of inappropriate plants		
Grass height not greater than 6 inches		
No evidence of erosion		
3. Check Dams/Energy Dissipaters/Sumps (Annual, After Major Storms)		
No evidence of sediment buildup		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Sumps should not be more than 50% full of sediment		
No evidence of erosion at downstream toe of drop structure		
4. Dewatering (Monthly)		
Dewaters between storms		
No evidence of standing water		
5. Sediment Deposition (Annual)		
Swale clean of sediments		
Sediments should not be > 20% of swale design depth		
6. Outlet/Overflow Spillway (Annual, After Major Storms)		
Good condition, no need for repair		
No evidence of erosion		
No evidence of any blockages		
7. Integrity of Filter Bed (Annual)		
Filter bed has not been blocked or filled inappropriately		

Comments:

Actions to be Taken:

Exhibit 7: Permanent SMP Maintenance Checklists and Agreement

Permanent SMP Maintenance Agreement

I accept responsibility for ownership and proper maintenance of each permanent Stormwater Management Practice (SMP) located at (Address) _____ and I will update the maintenance plan, as required by the Stormwater Pollution Prevention Plan (SWPPP) upon final stabilization of the site.

I will complete any necessary repairs and, or preventative maintenance procedures in a timely manner to achieve proper functioning of each SMP, as recommended by the SWPPP.

It is my understanding that the maintenance plan may be amended/revised at any time by the New York State Department of Environmental Conservation (DEC) and I will abide by any reasonable prescribed changes.

> I will continue to own and maintain the stormwater practice until the New York State DEC is notified in writing of a transfer in ownership and maintenance responsibility. The notification will include a date for the transfer of responsibility and a letter of acceptance from the new owner.

_____
Signature

_____
Printed Name

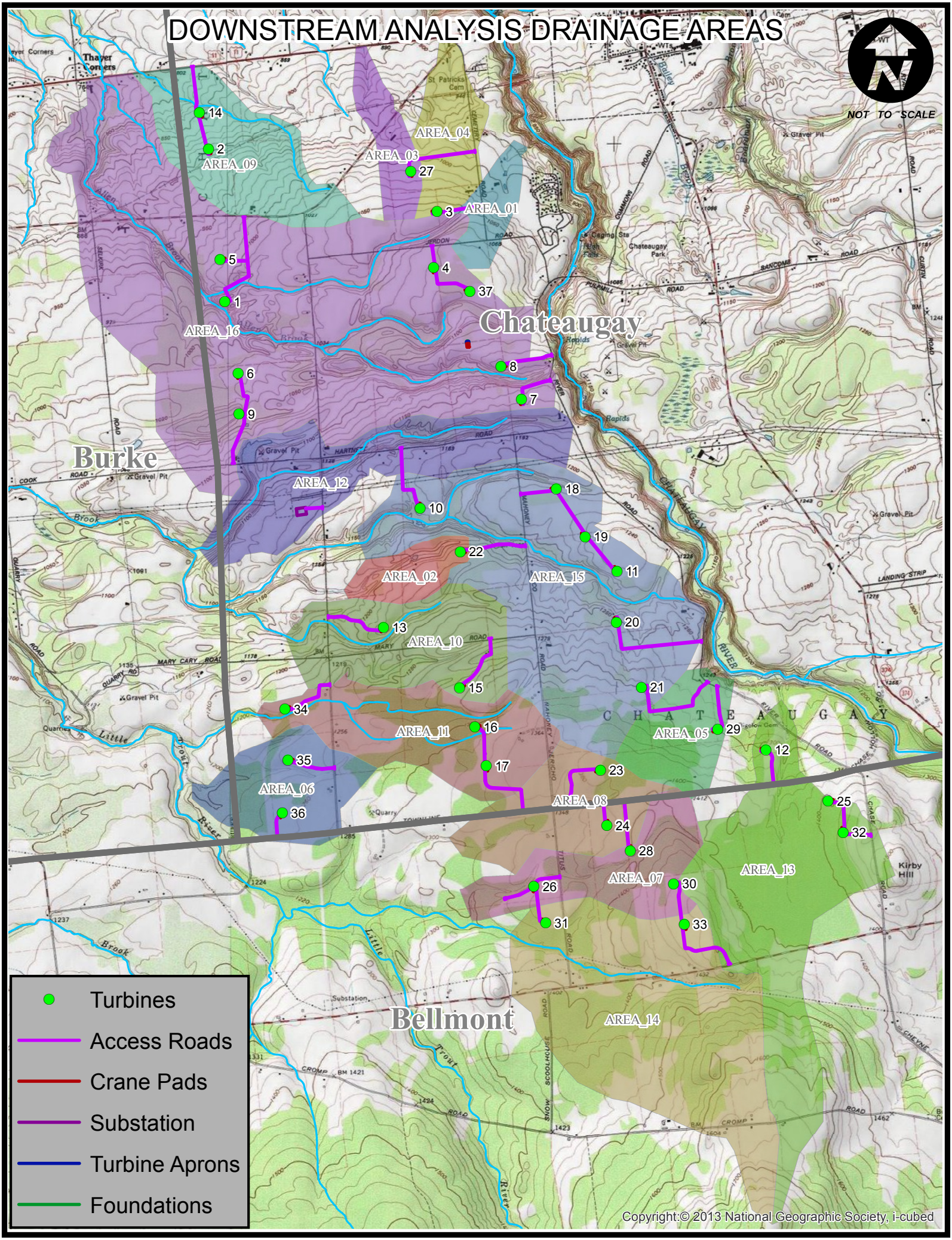
_____
Address

_____
Phone Number

_____
Date

Exhibit 8: Stormwater Calculations

- Downstream Analysis Map
- 1-Year Storm Downstream Analysis
- 10-Year Storm Downstream Analysis
- 100-Year Storm Downstream Analysis
- Substation HydroCAD 10.00 Runoff Results
- Substation Green Infrastructure Worksheets


DOWNSTREAM ANALYSIS DRAINAGE AREAS
NOT TO SCALE
Chateaugay
Burke
Bellmont
CHATEAUGAY
AREA_01
AREA_02
AREA_03
AREA_04
AREA_05
AREA_06
AREA_07
AREA_08
AREA_09
AREA_10
AREA_11
AREA_12
AREA_13
AREA_14
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28
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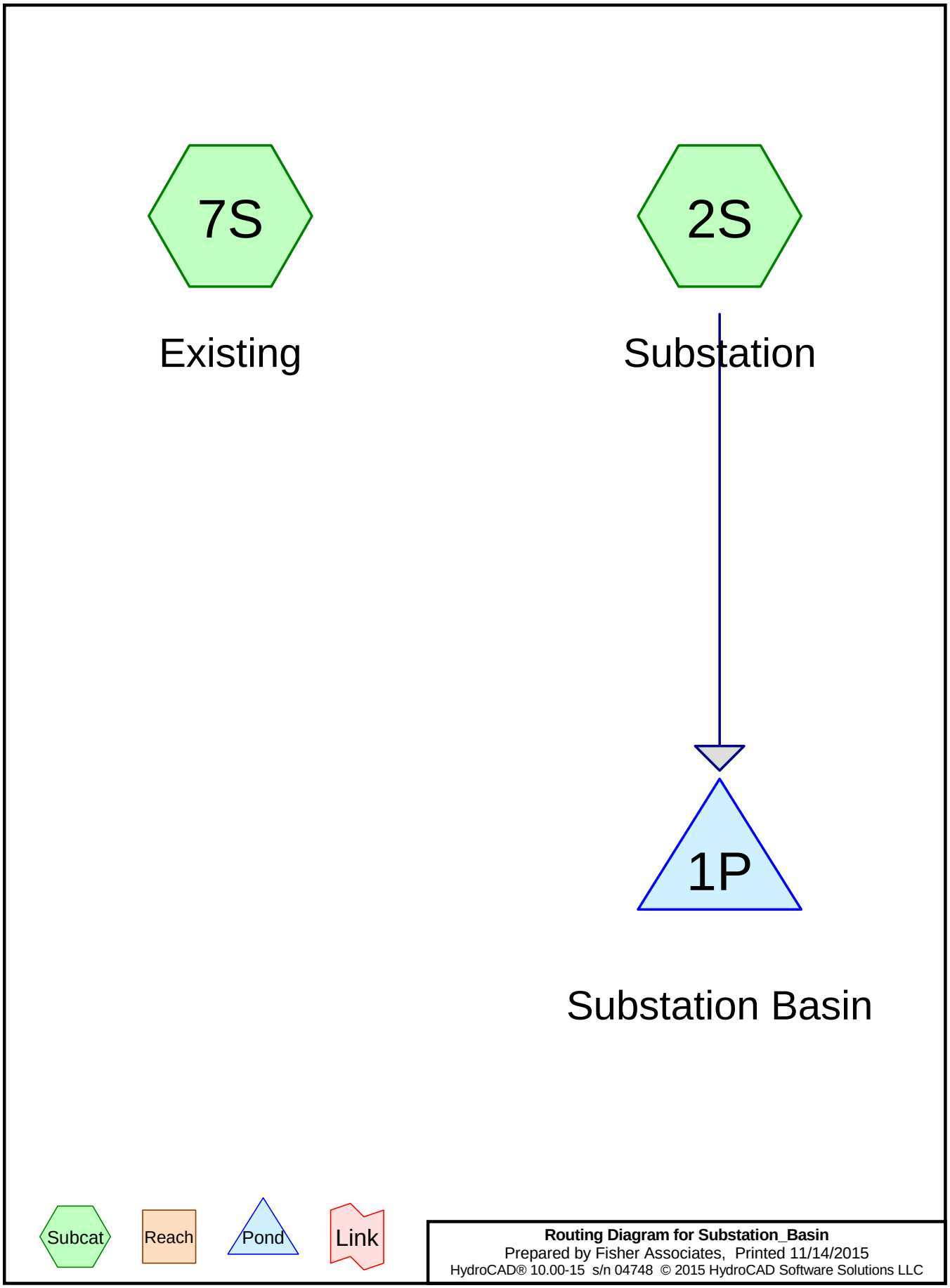
31
32
33
34
35
36
37
Turbines
Access Roads
Crane Pads
Substation
Turbine Aprons
Foundations
Copyright:© 2013 National Geographic Society, i-cubed

JERICHO RISE WIND FARM 1-YEAR STORM EVENT DOWNSTREAM ANALYSIS					
Downstream Analysis ID	**Drainage Area (ac)**	**Drainage Area (sq mi)**	**Existing 1-Year Peak Flow (cfs)**	**Proposed 1-Year Peak Flow (cfs)**	**Increase in Peak Flow (%)**
AREA_01	87.12	0.14	14.89	14.99	0.67%
AREA_02	95.30	0.15	37.89	38.07	0.46%
AREA_03	107.53	0.17	33.34	33.56	0.68%
AREA_04	161.32	0.25	21.05	21.35	1.44%
AREA_05	171.41	0.27	56.50	57.24	1.31%
AREA_06	238.93	0.37	55.76	56.25	0.87%
AREA_07	263.55	0.41	53.91	54.54	1.16%
AREA_08	270.67	0.42	61.38	62.08	1.15%
AREA_09	331.63	0.52	102.63	103.30	0.66%
AREA_10	344.28	0.54	89.80	90.57	0.86%
AREA_11	376.97	0.59	62.21	62.82	0.98%
AREA_12	435.07	0.68	132.47	133.10	0.47%
AREA_13	693.34	1.08	100.64	101.13	0.49%
AREA_14	841.48	1.31	113.02	113.25	0.21%
AREA_15	904.58	1.41	167.53	169.00	0.88%
AREA_16	1801.83	2.82	169.00	170.27	0.75%

JERICHO RISE WIND FARM 10-YEAR STORM EVENT DOWNSTREAM ANALYSIS					
Downstream Analysis ID	**Drainage Area (ac)**	**Drainage Area (sq mi)**	**Existing 10-Year Peak Flow (cfs)**	**Proposed 10-Year Peak Flow (cfs)**	**Increase in Peak Flow (%)**
AREA_01	87.12	0.14	52.36	52.59	0.43%
AREA_02	95.30	0.15	99.62	99.94	0.32%
AREA_03	107.53	0.17	96.35	96.79	0.46%
AREA_04	161.32	0.25	71.85	72.52	0.93%
AREA_05	171.41	0.27	149.46	150.81	0.91%
AREA_06	238.93	0.37	153.37	154.30	0.60%
AREA_07	263.55	0.41	148.63	149.83	0.80%
AREA_08	270.67	0.42	163.09	164.41	0.81%
AREA_09	331.63	0.52	269.80	271.05	0.46%
AREA_10	344.28	0.54	240.65	242.09	0.60%
AREA_11	376.97	0.59	173.36	174.54	0.68%
AREA_12	435.07	0.68	352.60	353.77	0.33%
AREA_13	693.34	1.08	271.95	272.88	0.34%
AREA_14	841.48	1.31	339.56	340.03	0.14%
AREA_15	904.58	1.41	450.25	453.04	0.62%
AREA_16	1801.83	2.82	531.13	533.84	0.51%

JERICHO RISE WIND FARM 100-YEAR STORM EVENT DOWNSTREAM ANALYSIS					
Downstream Analysis ID	**Drainage Area (ac)**	**Drainage Area (sq mi)**	**Existing 100-Year Peak Flow (cfs)**	**Proposed 100-Year Peak Flow (cfs)**	**Increase in Peak Flow (%)**
AREA_01	87.12	0.14	141.44	141.87	0.30%
AREA_02	95.30	0.15	227.44	227.96	0.23%
AREA_03	107.53	0.17	233.07	233.85	0.33%
AREA_04	161.32	0.25	191.05	192.30	0.65%
AREA_05	171.41	0.27	342.53	344.79	0.66%
AREA_06	238.93	0.37	360.08	361.68	0.44%
AREA_07	263.55	0.41	349.47	351.52	0.59%
AREA_08	270.67	0.42	374.82	377.06	0.60%
AREA_09	331.63	0.52	615.96	618.06	0.34%
AREA_10	344.28	0.54	556.01	558.45	0.44%
AREA_11	376.97	0.59	410.26	412.31	0.50%
AREA_12	435.07	0.68	811.23	813.20	0.24%
AREA_13	693.34	1.08	631.57	633.17	0.25%
AREA_14	841.48	1.31	840.46	841.33	0.10%
AREA_15	904.58	1.41	1042.14	1046.92	0.46%
AREA_16	1801.83	2.82	1349.12	1354.16	0.37%



Routing Diagram for Substation_Basin
Prepared by Fisher Associates, Printed 11/14/2015

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.287	96	Gravel surface, HSG D (2S)
0.848	100	Open Graded Gravel (2S)
1.135	82	Woods/grass comb., Fair, HSG D (7S)
2.270	**90**	**TOTAL AREA**

Summary for Subcatchment 2S: Substation

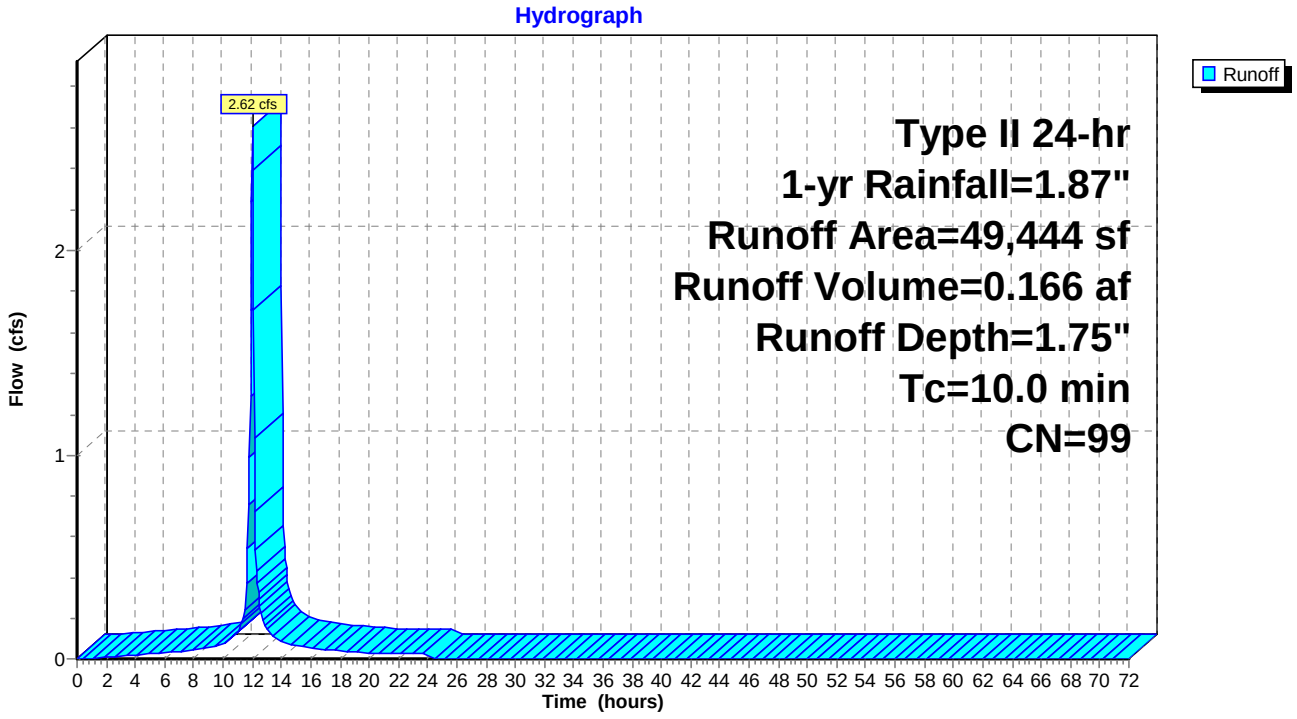
Runoff = 2.62 cfs @ 12.01 hrs, Volume= 0.166 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=1.87"

	Area (sf)	CN	Description
*	36,937	100	Open Graded Gravel
	12,507	96	Gravel surface, HSG D
	49,444	99	Weighted Average
	12,507		25.30% Pervious Area
	36,937		74.70% Impervious Area

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

Subcatchment 2S: Substation



Summary for Subcatchment 7S: Existing

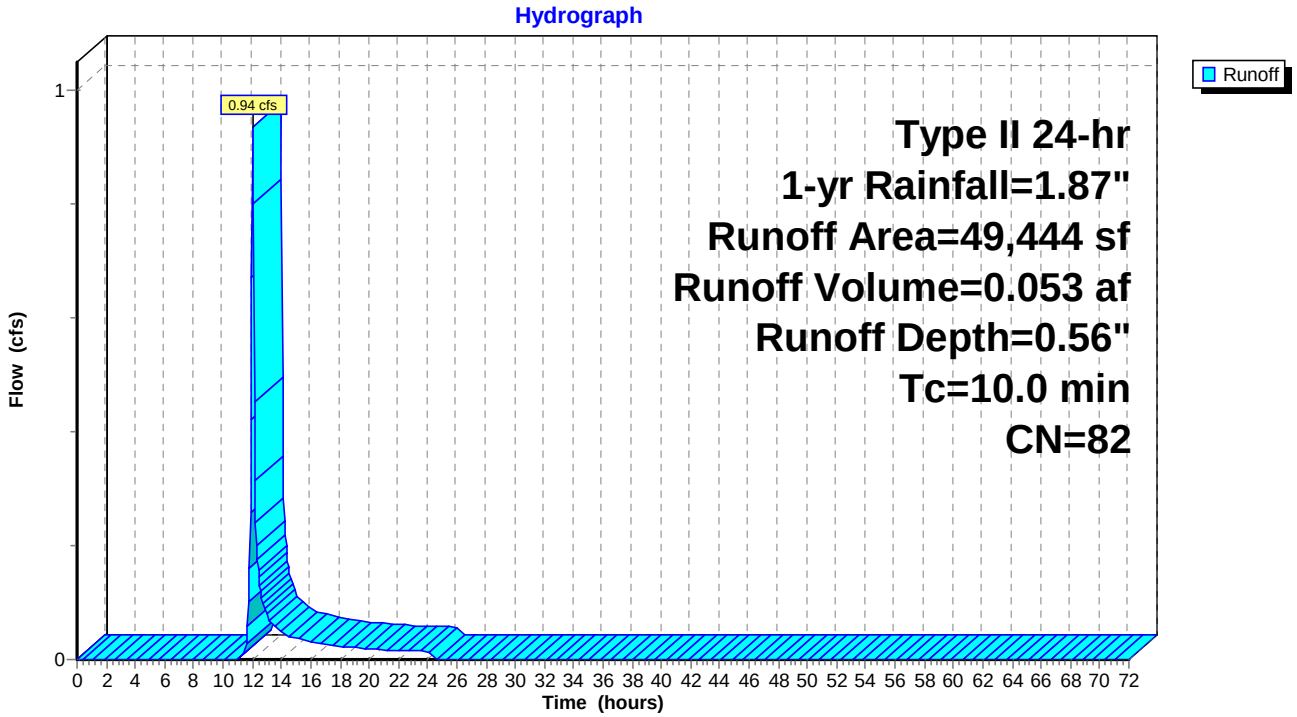
Runoff = 0.94 cfs @ 12.03 hrs, Volume= 0.053 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=1.87"

Area (sf)	CN	Description
49,444	82	Woods/grass comb., Fair, HSG D
49,444		100.00% Pervious Area

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

Subcatchment 7S: Existing



Summary for Pond 1P: Substation Basin

Inflow Area = 1.135 ac, 74.70% Impervious, Inflow Depth = 1.75" for 1-yr event
Inflow = 2.62 cfs @ 12.01 hrs, Volume= 0.166 af
Outflow = 0.07 cfs @ 14.55 hrs, Volume= 0.348 af, Atten= 97%, Lag= 152.9 min
Discarded = 0.07 cfs @ 14.55 hrs, Volume= 0.348 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 1,140.00' Surf.Area= 5,648 sf Storage= 7,907 cf
Peak Elev= 1,140.41' @ 14.55 hrs Surf.Area= 6,283 sf Storage= 10,365 cf (2,458 cf above start)

Plug-Flow detention time= 2,098.7 min calculated for 0.166 af (100% of inflow)
Center-of-Mass det. time= 1,117.1 min (1,869.8 - 752.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,137.00'	22,411 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

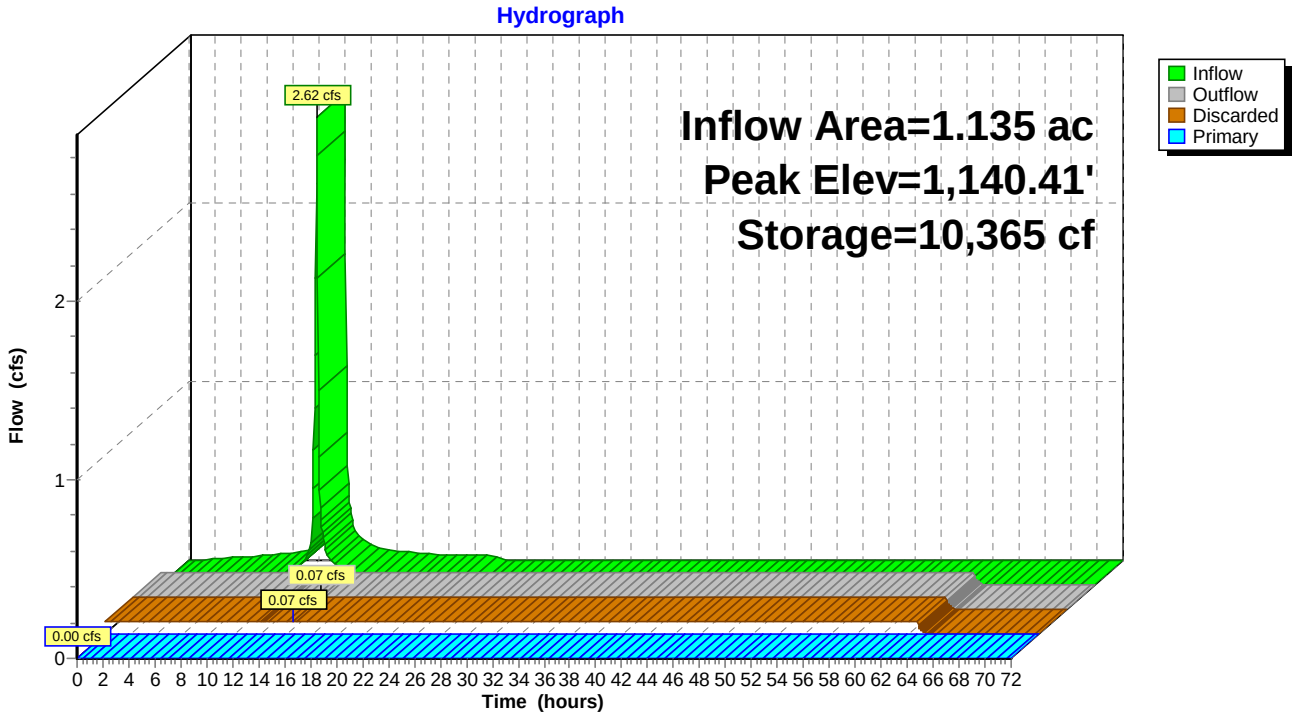
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,137.00	5,648	527.0	0.0	0	0	5,648
1,138.00	5,648	527.0	20.0	1,130	1,130	6,175
1,139.00	5,648	527.0	20.0	1,130	2,259	6,702
1,140.00	5,648	527.0	100.0	5,648	7,907	7,229
1,141.00	7,248	546.0	100.0	6,431	14,339	8,938
1,142.00	8,925	565.0	100.0	8,072	22,411	10,707

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,137.00'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'
#2	Primary	1,137.00'	**12.0" Round Culvert** L= 38.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,137.00' / 1,136.81' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,140.50'	**18.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.07 cfs @ 14.55 hrs HW=1,140.41' (Free Discharge)
└**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,140.00' (Free Discharge)
└**2=Culvert** (Passes 0.00 cfs of 4.72 cfs potential flow)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Substation Basin



Summary for Subcatchment 2S: Substation

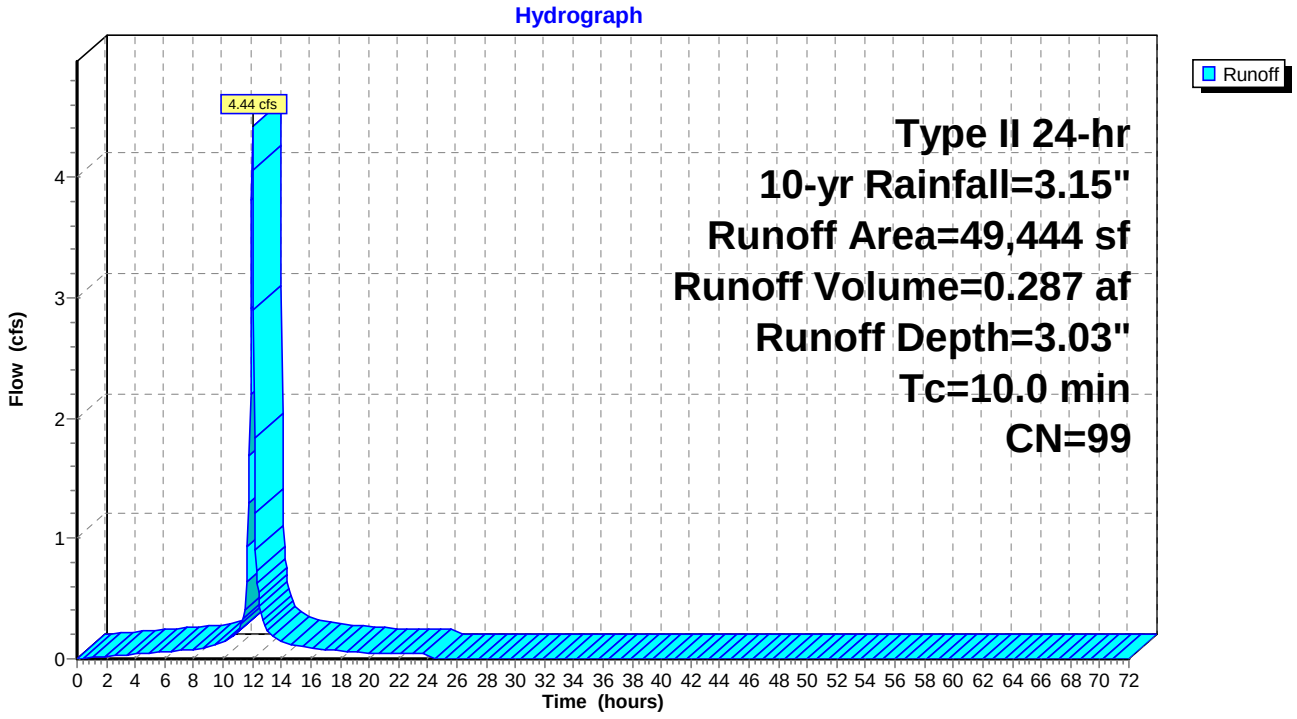
Runoff = 4.44 cfs @ 12.01 hrs, Volume= 0.287 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.15"

	Area (sf)	CN	Description
*	36,937	100	Open Graded Gravel
	12,507	96	Gravel surface, HSG D
	49,444	99	Weighted Average
	12,507		25.30% Pervious Area
	36,937		74.70% Impervious Area

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

Subcatchment 2S: Substation



Summary for Subcatchment 7S: Existing

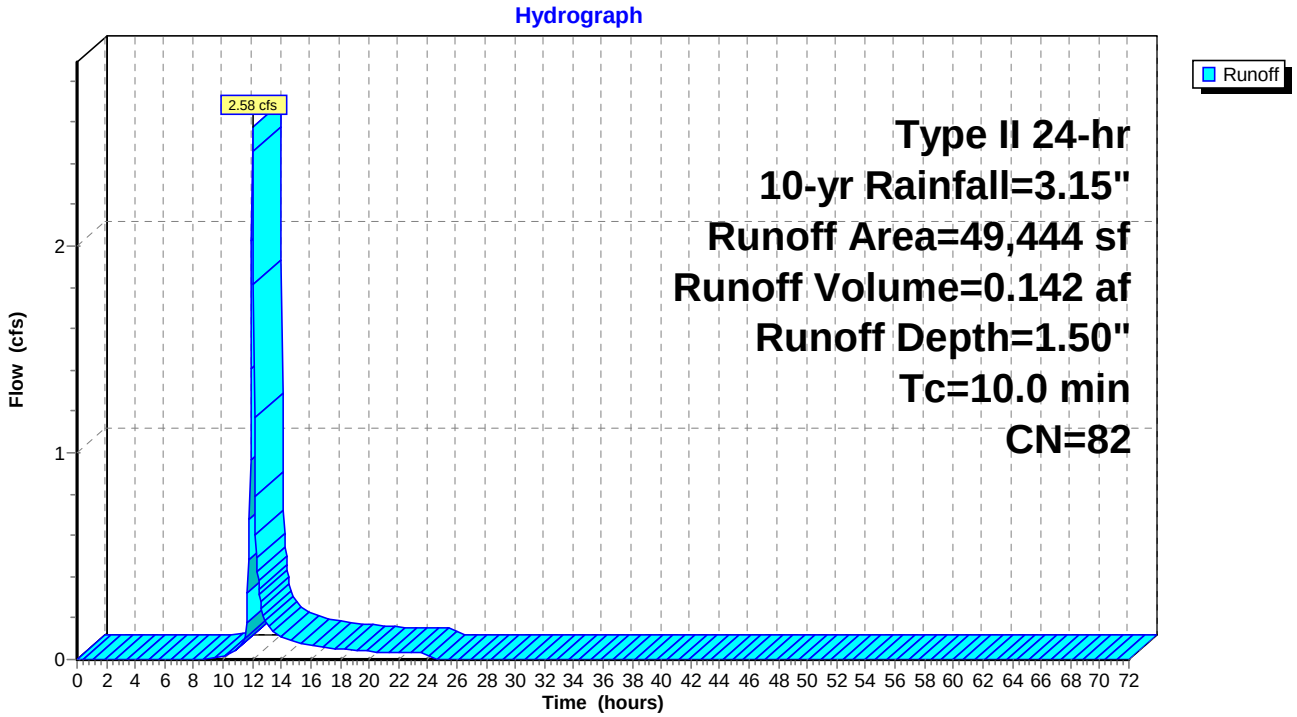
Runoff = 2.58 cfs @ 12.02 hrs, Volume= 0.142 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.15"

Area (sf)	CN	Description
49,444	82	Woods/grass comb., Fair, HSG D
49,444		100.00% Pervious Area

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

Subcatchment 7S: Existing



Summary for Pond 1P: Substation Basin

Inflow Area = 1.135 ac, 74.70% Impervious, Inflow Depth = 3.03" for 10-yr event
Inflow = 4.44 cfs @ 12.01 hrs, Volume= 0.287 af
Outflow = 1.64 cfs @ 12.17 hrs, Volume= 0.468 af, Atten= 63%, Lag= 9.9 min
Discarded = 0.08 cfs @ 12.17 hrs, Volume= 0.377 af
Primary = 1.56 cfs @ 12.17 hrs, Volume= 0.091 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 1,140.00' Surf.Area= 5,648 sf Storage= 7,907 cf
Peak Elev= 1,140.72' @ 12.17 hrs Surf.Area= 6,775 sf Storage= 12,354 cf (4,447 cf above start)

Plug-Flow detention time= 1,725.8 min calculated for 0.287 af (100% of inflow)
Center-of-Mass det. time= 1,014.9 min (1,758.8 - 743.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,137.00'	22,411 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

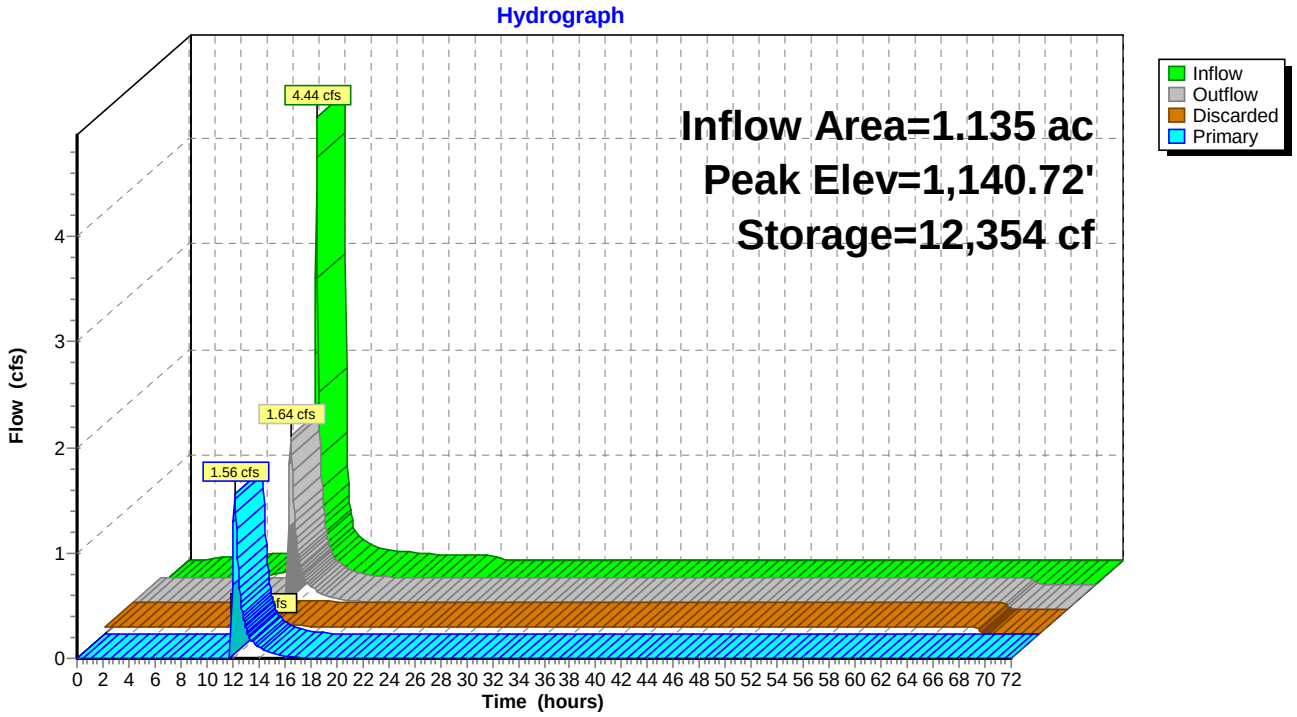
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,137.00	5,648	527.0	0.0	0	0	5,648
1,138.00	5,648	527.0	20.0	1,130	1,130	6,175
1,139.00	5,648	527.0	20.0	1,130	2,259	6,702
1,140.00	5,648	527.0	100.0	5,648	7,907	7,229
1,141.00	7,248	546.0	100.0	6,431	14,339	8,938
1,142.00	8,925	565.0	100.0	8,072	22,411	10,707

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,137.00'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'
#2	Primary	1,137.00'	**12.0" Round Culvert** L= 38.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,137.00' / 1,136.81' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,140.50'	**18.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.08 cfs @ 12.17 hrs HW=1,140.71' (Free Discharge)
└**1=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=1.52 cfs @ 12.17 hrs HW=1,140.71' (Free Discharge)
└**2=Culvert** (Passes 1.52 cfs of 5.35 cfs potential flow)
└**3=Orifice/Grate** (Weir Controls 1.52 cfs @ 1.51 fps)

Pond 1P: Substation Basin



Summary for Subcatchment 2S: Substation

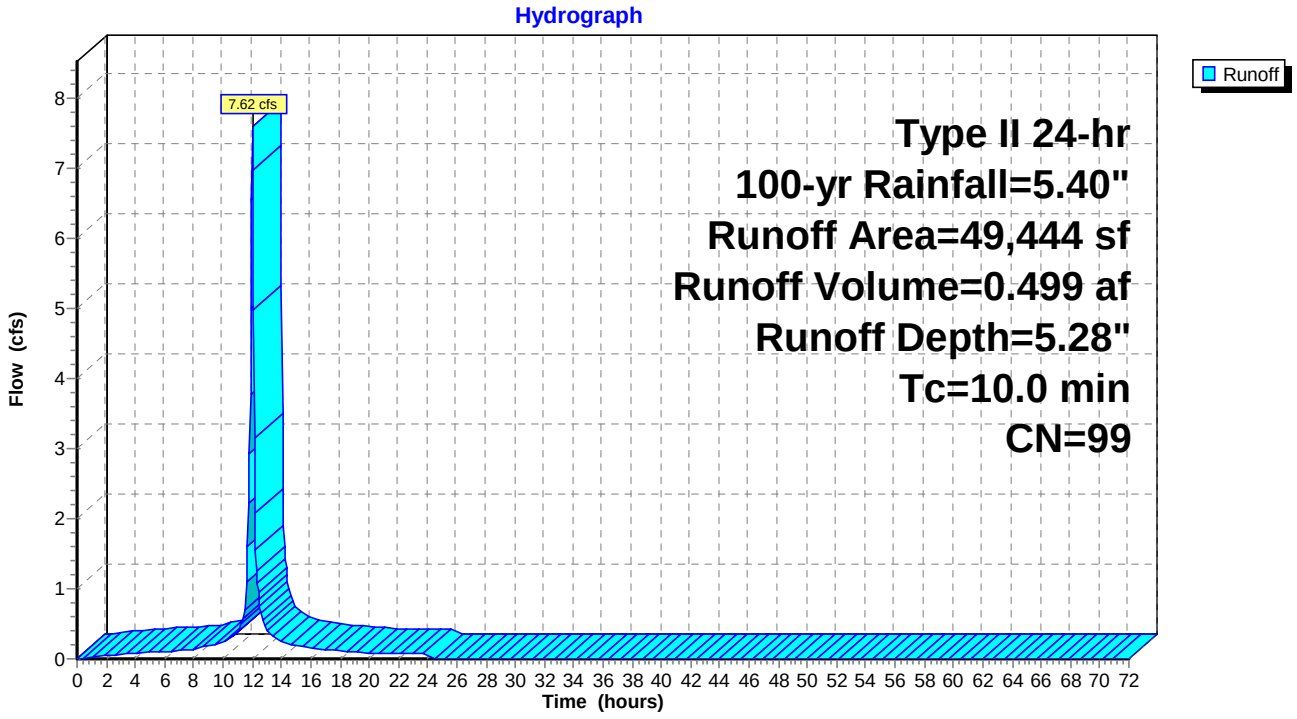
Runoff = 7.62 cfs @ 12.01 hrs, Volume= 0.499 af, Depth= 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.40"

	Area (sf)	CN	Description
*	36,937	100	Open Graded Gravel
	12,507	96	Gravel surface, HSG D
	49,444	99	Weighted Average
	12,507		25.30% Pervious Area
	36,937		74.70% Impervious Area

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

Subcatchment 2S: Substation



Summary for Subcatchment 7S: Existing

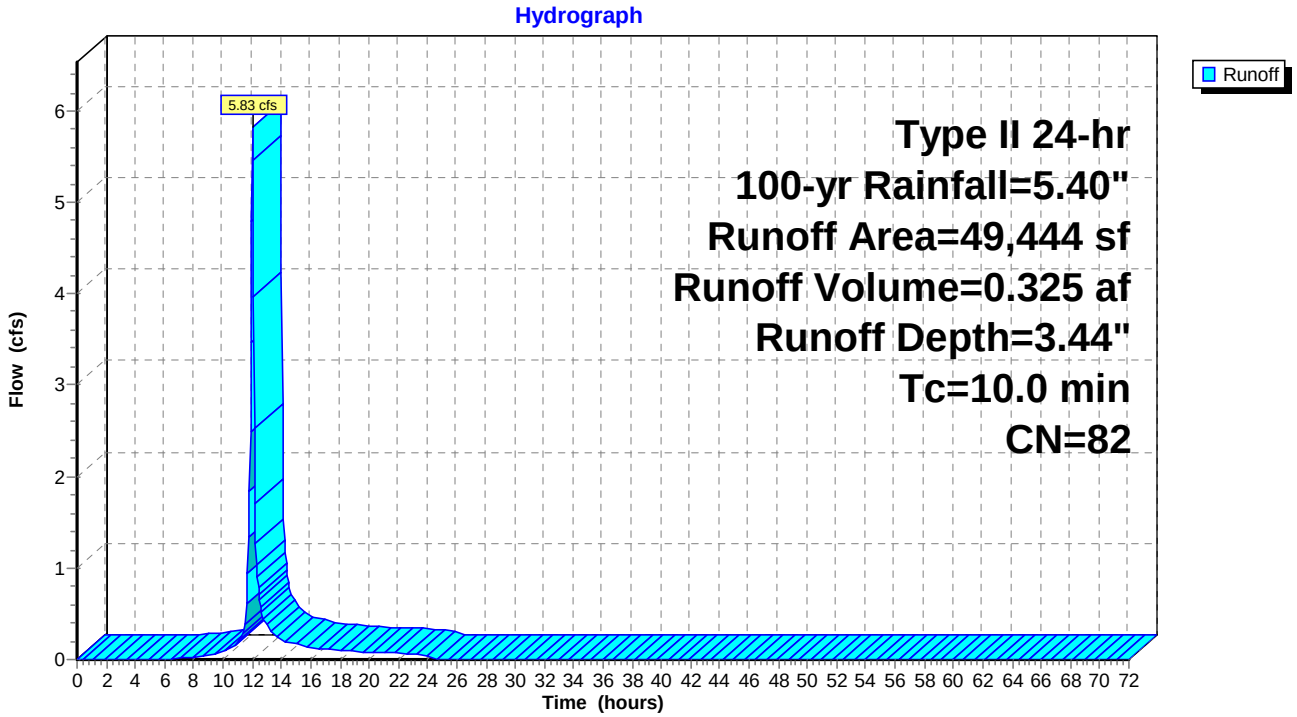
Runoff = 5.83 cfs @ 12.01 hrs, Volume= 0.325 af, Depth= 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.40"

Area (sf)	CN	Description
49,444	82	Woods/grass comb., Fair, HSG D
49,444		100.00% Pervious Area

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

Subcatchment 7S: Existing



Summary for Pond 1P: Substation Basin

Inflow Area = 1.135 ac, 74.70% Impervious, Inflow Depth = 5.28" for 100-yr event
Inflow = 7.62 cfs @ 12.01 hrs, Volume= 0.499 af
Outflow = 5.56 cfs @ 12.09 hrs, Volume= 0.681 af, Atten= 27%, Lag= 5.0 min
Discarded = 0.08 cfs @ 12.09 hrs, Volume= 0.392 af
Primary = 5.47 cfs @ 12.09 hrs, Volume= 0.289 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 1,140.00' Surf.Area= 5,648 sf Storage= 7,907 cf
Peak Elev= 1,141.00' @ 12.09 hrs Surf.Area= 7,253 sf Storage= 14,361 cf (6,454 cf above start)

Plug-Flow detention time= 1,104.4 min calculated for 0.499 af (100% of inflow)
Center-of-Mass det. time= 772.0 min (1,509.2 - 737.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,137.00'	22,411 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

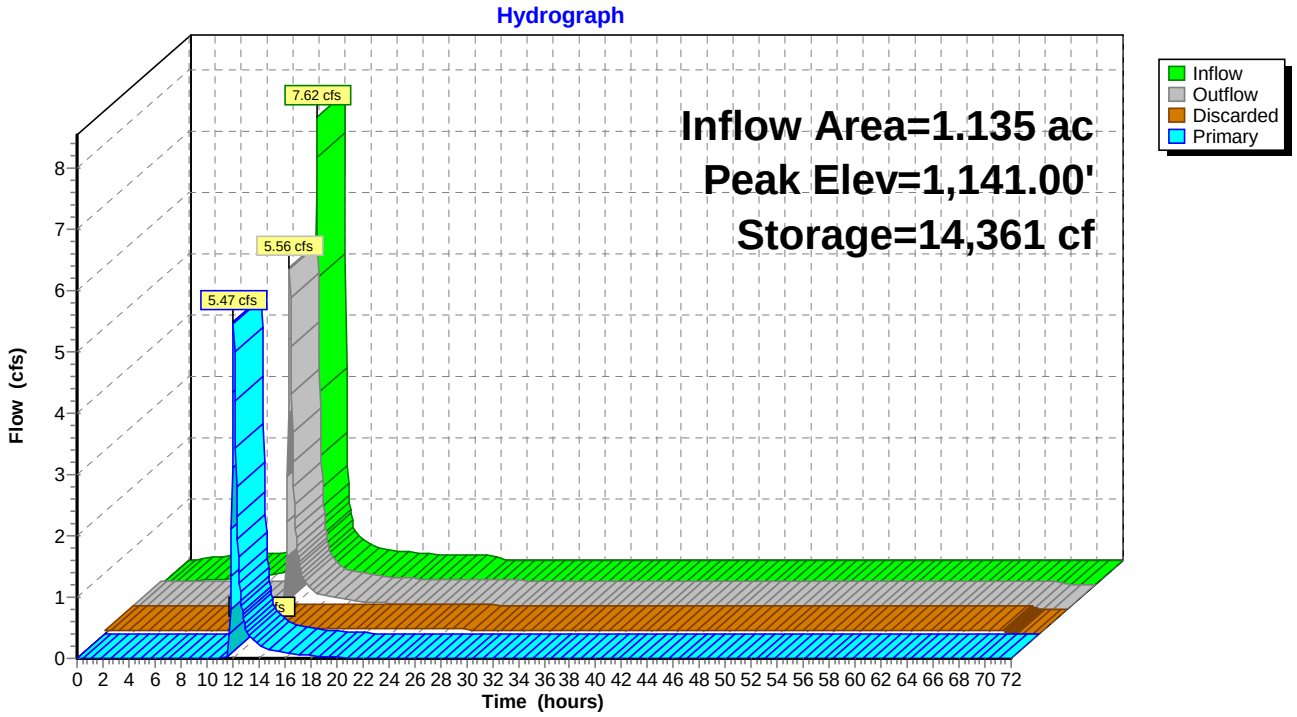
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,137.00	5,648	527.0	0.0	0	0	5,648
1,138.00	5,648	527.0	20.0	1,130	1,130	6,175
1,139.00	5,648	527.0	20.0	1,130	2,259	6,702
1,140.00	5,648	527.0	100.0	5,648	7,907	7,229
1,141.00	7,248	546.0	100.0	6,431	14,339	8,938
1,142.00	8,925	565.0	100.0	8,072	22,411	10,707

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,137.00'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'
#2	Primary	1,137.00'	**12.0" Round Culvert** L= 38.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,137.00' / 1,136.81' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,140.50'	**18.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.08 cfs @ 12.09 hrs HW=1,141.00' (Free Discharge)
└**1=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=5.44 cfs @ 12.09 hrs HW=1,141.00' (Free Discharge)
└**2=Culvert** (Passes 5.44 cfs of 5.58 cfs potential flow)
└**3=Orifice/Grate** (Weir Controls 5.44 cfs @ 2.31 fps)

Pond 1P: Substation Basin



Version 1.6
Last Updated: 03/28/2014

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

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....		
Design Point:		
P=	1.00	*inch*

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	1.14	0.29	25%	0.28	1,144	
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	1.14	0.29	25%	0.28	**1,144**	**Subtotal 1**
Total	1.14	0.29	25%	0.28	**1,144**	**Initial WQv**	**0.03**	**af**

Identify Runoff Reduction Techniques By Area

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

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*		
"<<Initial WQv"	1.14	0.29	25%	0.28	1,144		
Subtract Area	0.00	0.00					
WQv adjusted after Area Reductions	**1.14**	**0.29**	25%	0.28	1,144		
Disconnection of Rooftops		0.00					
Adjusted WQv after Area Reduction and Rooftop Disconnect	1.14	0.29	25%	0.28	**1,144**	**0.03**	**af**
WQv reduced by Area Reduction techniques					0	**0.00**	**af**

Total Water Quality Volume Calculation

WQv(acre-feet) = [(P)(Rv)(A)] /12

All Subcatchments						
Catchment	**Total Area** *(Acres)*	**Impervious Cover** *(Acres)*	**Percent Impervious** *%*	**Runoff Coefficient** *Rv*	**WQv** *(ft^3)*	**Description**
1	1.14	0.29	0.25	0.28	1143.63	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**cf**	**cf**
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4	0.00			
	Bioretention & Infiltration Bioretention	F-5	1.14	0.29	1144	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			0.00	0.00	0	
Totals by Volume Reduction →			0.00	0.00	0	
Totals by Standard SMP w/RRV →			1.14	0.29	1144	0
Totals by Standard SMP →			0.00	0.00		0
Totals (Area + Volume + all SMPs) →			1.14	0.29	1,144	0
	Impervious Cover √	okay				
	Total Area √	okay				

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**1.14**	20%
Total Area	1.135	

Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	0.29	*acre*
Precipitation	1	*in*
Rv	0.95	
Minimum RRv	**198**	***ft3***
	0.00	af

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	1144	*0.026*
30	Total RRV Provided	1144	*0.026*
31	Is RRv Provided ≥WQv Required?	Yes	
32	Minimum RRv	198	*0.005*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated	0	*0.000*
34	Sum of Volume Reduced & Treated	1144	*0.026*
34	Sum of Volume Reduced and Treated	1144	*0.026*
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?	Yes	

100.00%

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

Planning

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

Bioretention Worksheet

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

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

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

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

Design Point:

Enter Site Data For Drainage Area to be Treated by Practice

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Precipitation *(in)*	Description
1	1.14	0.29	0.25	0.28	1143.63	1.00	
Enter Impervious Area Reduced by Disconnection of Rooftops			25%	0.28	1,144	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information

Soil Group	D		
Soil Infiltration Rate	0.45	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area

		Value	Units	Notes
WQv		1,144	*ft^3*	
Enter Depth of Soil Media	*df*	3	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**980**	***ft^2***	

Determine Actual Bio-Retention Area

Filter Width	23	*ft*	
Filter Length	250	*ft*	
Filter Area	5750	*ft^2*	
Actual Volume Provided	6708	*ft^3*	

Determine Runoff Reduction

Is the Bioretention contributing flow to another practice?	No	Select Practice	
RRv	2,683		
RRv applied	**1,144**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***
Volume Treated	0	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*
Volume Directed	0	*ft^3*	This volume is directed another practice
Sizing √	OK		*Check to be sure Area provided ≥ Af*

TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET

Computed by B. ANTERLINE Date 10/26/15 Checked by _____ Date _____

Project JERICHO RISE W.F. Basin # NORTH

Location LAYDOWN YARD Total Area draining to basin (271000 SF) 6.22 Acres

BASIN SIZE DESIGN

1. Minimum sediment storage volume = 134 cu. yds. x 6.22 acres of drainage area = 834 cu.yds.
2. a. Cleanout at 50 percent of minimum required volume = 417 cu. yds. (11259 CF)
   b. Elevation corresponding to scheduled time to clean out 1139
   c. Distance below top of riser 0.5 feet
3. Minimum surface area is larger of 0.01 $Q_{(1)}$ 0.04 or, 0.015 DA = 0.09 use 0.09 acres
   .01(4)

DESIGN OF SPILLWAYS & ELEVATIONS

Runoff

4. $Q_{p(10)}$ = 26.79 cfs
   (EFH, Ch. 2, TR-55, or Section 4; Attach runoff computation sheet)

Pipe Spillway (Q_{ps})

5. Min. pipe spillway cap., Q_{ps} = 0.2 x 6.22 ac. Drainage = 1.24 cfs
   Note: If there is no emergency spillway, then req'd Q_{ps} = $Q_{p(10)}$ = X cfs.
6. H = 3.5 ft. Barrel length = 40 ft
7. Barrel: Diam. 12 inches; Q_{ps} = (Q) 6 x (cor.fac.) 1.15 = 6.9 cfs.
8. Riser: Diam. 18 inches; Length 40 ft.; h = 0.5 ft. Crest Elev. 1139.5
9. Trash Rack: Diam. 27 inches; H = 8 inches

Emergency Spillway Design

10. Emergency Spillway Flow, Q_{es} = Q_p - Q_{ps} = 26.79 - 6.9 = 19.89 cfs.
11. Width 16 ft.; H_p .70 ft Crest elevation 1140; Design High Water Elev. 1140.7
    Entrance channel slope 3.3 - 17.3 % ; Top of Dam Elev. 1141
    Exit channel slope 3.3 - 17.3 %

ANTI-SEEP COLLAR/ SEEPAGE DIAPHRAGM DESIGN

$L_s = y(z+4)\left[\frac{1+m}{0.25-m}\right]$

$L_s = 1.5(3+4)\left[1+\frac{.05}{.25-.05}\right]$

$L_s = 13$ FT

Collars:

12. y = 1.5 ft.; z = 3 :1; pipe slope (m) = 5 %, L_s = 13 ft.
    Use 2 collars, 2' - 0" inches square; projection = 0.4 ft.

Diaphragms:

#_____ width_____ ft. height_____ ft.

$A_o = \frac{(22418.4)(2(1))^{1/2}}{122568}$

$A_o = 0.259$

DEWATERING ORIFICE SIZING

13. $A_o = \frac{A_s \times (2h)^{0.5}}{122{,}568}$ = 22418 (@design) sq. ft.; h = 1 ft.; therefore use, 8" Ø

$D = \left(\frac{A_o}{\pi}\right)^{1/2} \times 2 = \left(\frac{0.259}{3.14}\right)^{1/2} \times 2 = 0.57 \approx 7"$

TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET

Computed by B. ANTERLINE Date 10/26/15 Checked by _____ Date _____

Project JERICHO RISE W.F. Basin # SOUTH

Location LAYDOWN YARD Total Area draining to basin (503655SF) 11.56 Acres

BASIN SIZE DESIGN

1. Minimum sediment storage volume = 134 cu. yds. x 11.56 acres of drainage area = 1550 cu.yds.
2. a. Cleanout at 50 percent of minimum required volume = 775 cu. yds. (20925CF)
   b. Elevation corresponding to scheduled time to clean out 1137
   c. Distance below top of riser 1.5 feet
3. Minimum surface area is larger of 0.01 $Q_{(1)}$ .0075 or, 0.015 DA = .1734 use 0.17 acres

DESIGN OF SPILLWAYS & ELEVATIONS

Runoff

4. $Q_{p(10)}$ = 34.13 cfs
   (EFH, Ch. 2, TR-55, or Section 4; Attach runoff computation sheet)

Pipe Spillway (Q_{ps})

5. Min. pipe spillway cap., Q_{ps} = 0.2 x 11.56 ac. Drainage = 2.31 cfs
   Note: If there is no emergency spillway, then req'd Q_{ps} = $Q_{p(10)}$ = X cfs.
6. H = 4.5 ft. Barrel length = 50 ft
7. Barrel: Diam. 12 inches; Q_{ps} = (Q) 7.19 x (cor.fac.) 1.09 = 7.84 cfs.
8. Riser: Diam. 18 inches; Length 50 ft.; h = 1.5 ft. Crest Elev. 1138.5
9. Trash Rack: Diam. 27 inches; H = 8 inches

Emergency Spillway Design

10. Emergency Spillway Flow, Q_{es} = Q_p - Q_{ps} = 34.13 - 2.31 = 31.82 cfs.
11. Width 20 ft.; H_p 0.78 ft Crest elevation 1140; Design High Water Elev. 1140.78
    Entrance channel slope 13.8 - 20 % ; Top of Dam Elev. 1141
    Exit channel slope 13.8 - 20 %

ANTI-SEEP COLLAR/
SEEPAGE DIAPHRAGM DESIGN

Collars:

12. y = 2.5 ft.; z = 3 :1; pipe slope = 2 %, L_s = 19 ft.
    Use 2 collars, 2 ' - 6" inches square; projection = 0.67 ft.

$$L_s = y(z+4)\left[1 + \frac{.02}{(.25-.02)}\right]$$

L_s = 19

Diaphragms:

_____ width _____ ft. height _____ ft.

$$A_o = \frac{(32237_{SF})(2(3))^{1/2}}{122568}$$

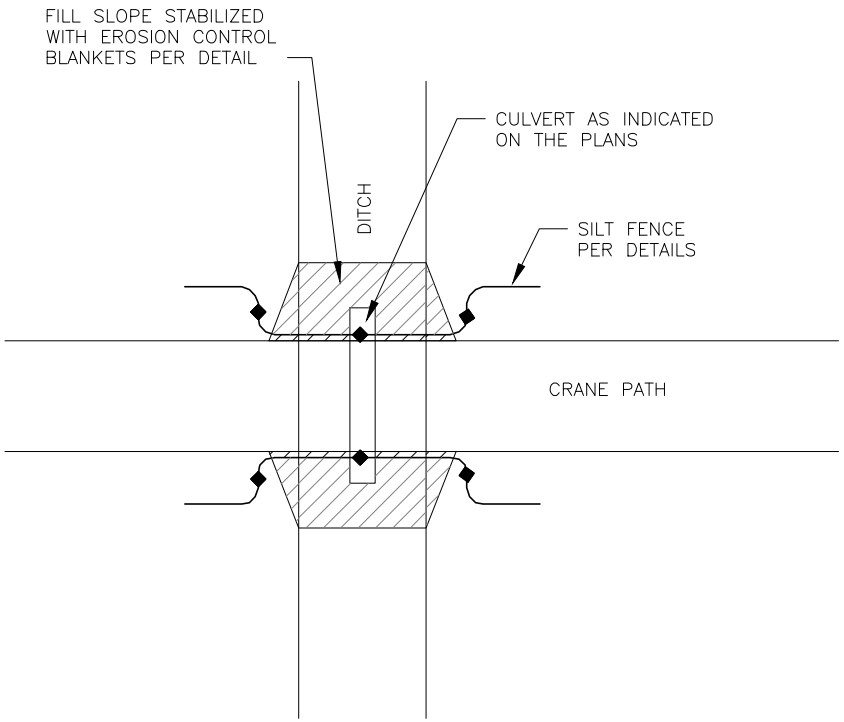
A_o = 0.644 SF

DEWATERING ORIFICE SIZING

13. $A_o = \frac{A_s \times (2h)^{0.5}}{122{,}568}$ = 32237 sq. ft.; h = 3 ft.; therefore use, 12" Ø (@design)

$$D = \left(\frac{A_o}{\pi}\right)^{1/2} \times 2 = \left(\frac{.644}{3.14}\right)^{1/2} \times 2 = 0.91 FT \approx 1 FT$$

Exhibit 9: Erosion and Sediment Control Details

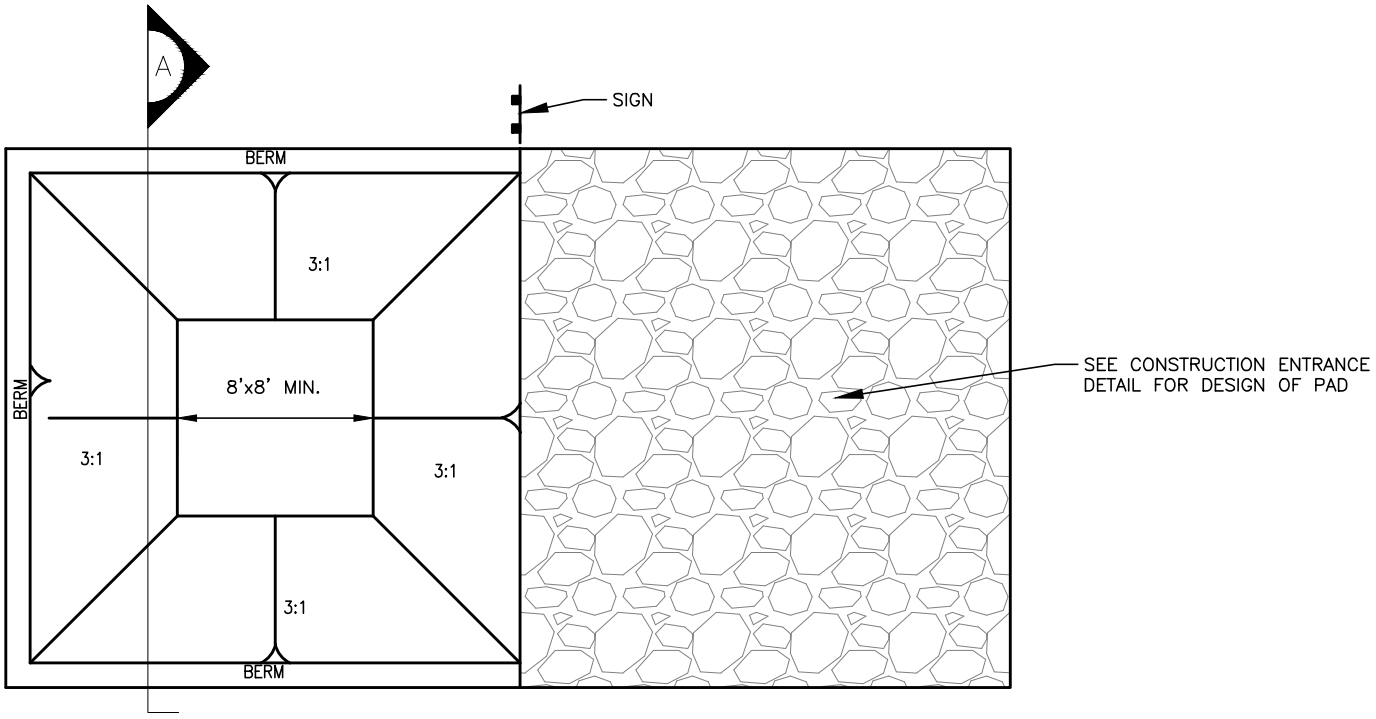


NOTES:

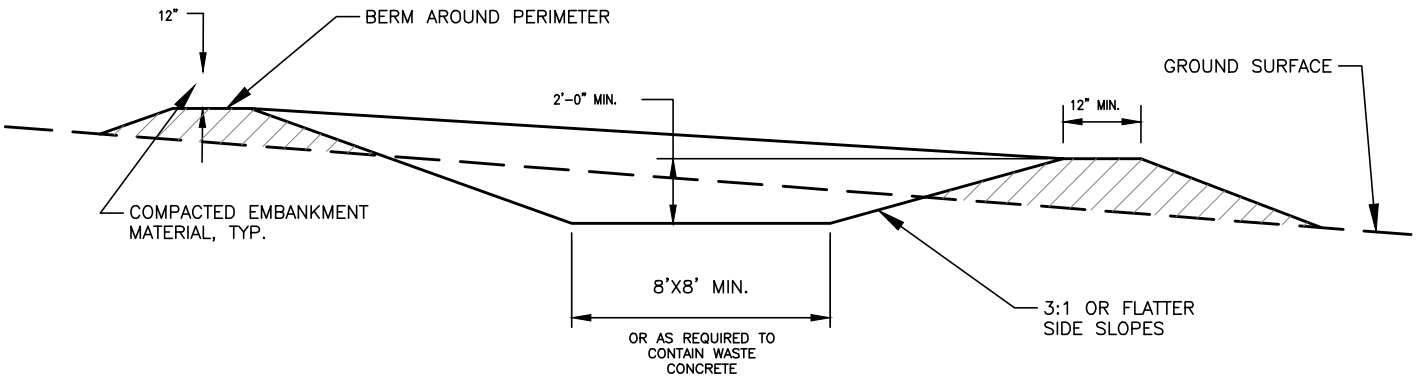
1. CULVERT INSTALLATION SHALL CONFORM WITH THE MANUFACTURERS RECOMMENDATION FOR THE INSTALLATION.
2. MINIMIZE DISTURBANCE TO THE STREAM/DITCH DURING CULVERT INSTALLATION.
3. RIP–RAP WITH GEOTEXTILE FABRIC MAY BE SUBSTITUTED FOR EROSION CONTROL BLANKETS WHERE NEEDED. IN STREAMS/DITCHES WITH HIGH EROSIVE VELOCITIES, RIP–RAP WITH GEOTEXTILE FABRIC SHALL BE SUBSTITUTED FOR EROSION CONTROL BLANKETS.
4. ALL DISTURBED AREAS SHALL BE PERMANENTLY RESTORED.

PERMANENT ACCESS ROAD AND TEMPORARY CRANE WALK DITCH CROSSING

NOT TO SCALE



PLAN VIEW



SECTION A

CONCRETE WASHOUT AREA INSTALLATION NOTES:

1. CONCRETE WASHOUT AREAS ARE TO BE INSTALLED AT EACH WTG PAD LOCATION, O & M BUILDING SITE, SUBSTATION SITE, LAYDOWN AREA AND WHEREVER ELSE CONCRETE IS USED FOR THE PROJECT.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON THE SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

CONCRETE WASHOUT AREA MAINTENANCE NOTES:

1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOPSOIL, DRILL SEED AND CRIMP MULCH OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

CONCRETE WASHOUT AREA

N.T.S.

STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ENTRANCE

Definition

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area.

Purpose

The purpose of stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction entrance shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 5A.35 on page 5A.76 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile

The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties[3]	Light Duty[1] Roads Grade Subgrade	Heavy Duty[2] Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Brust Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 modified
Equivalent Opening Size	40-80	40-80	US Std Sieve CW-02215
Aggregate Depth	6	10	--

[1]Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

[2]Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

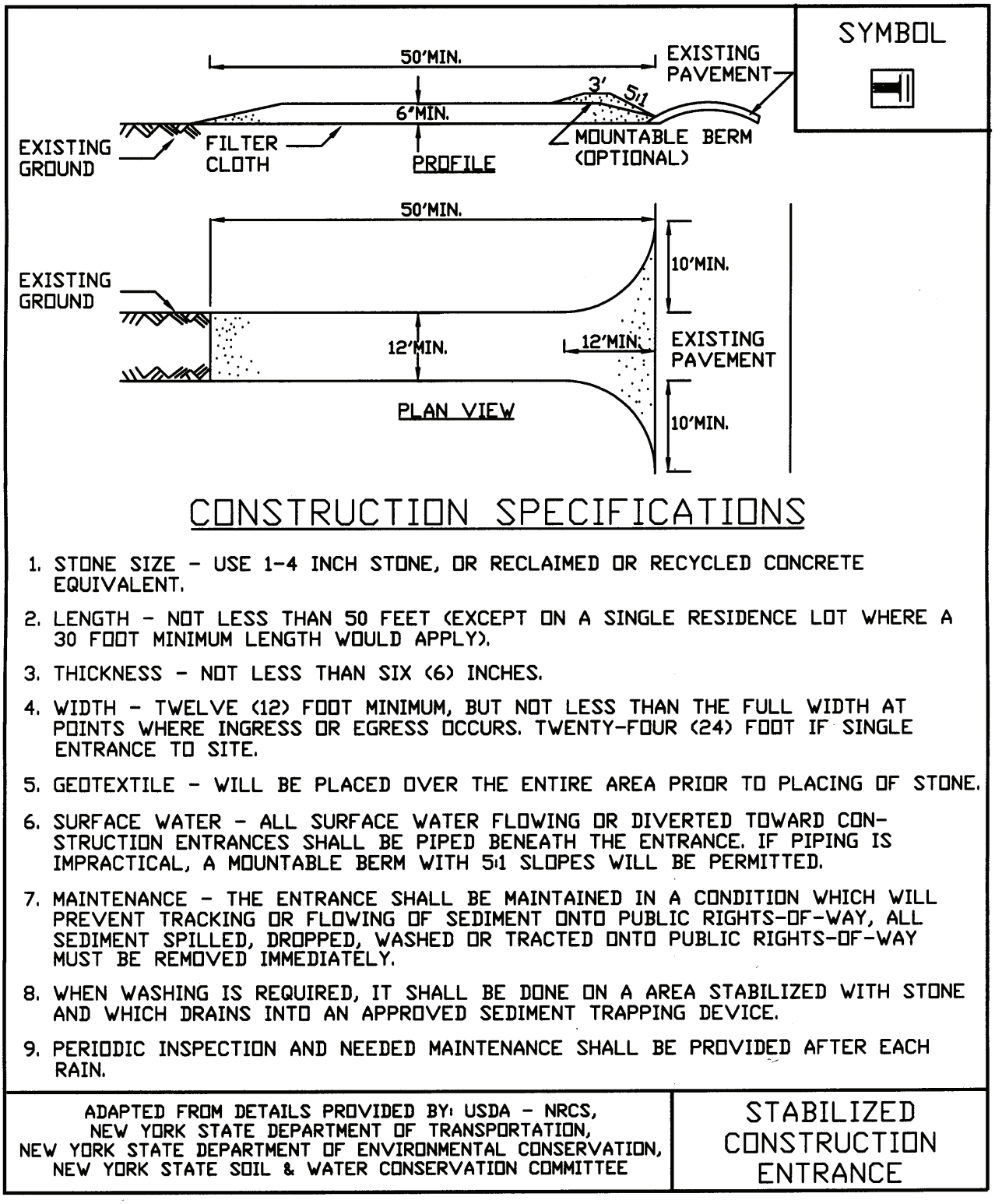
[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The entrance shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

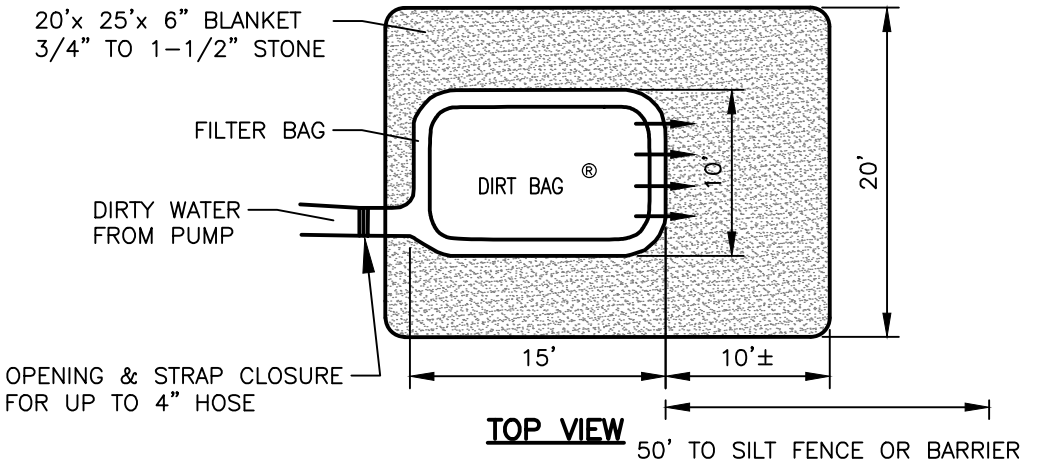
Figure 5A.35
Stabilized Construction Entrance



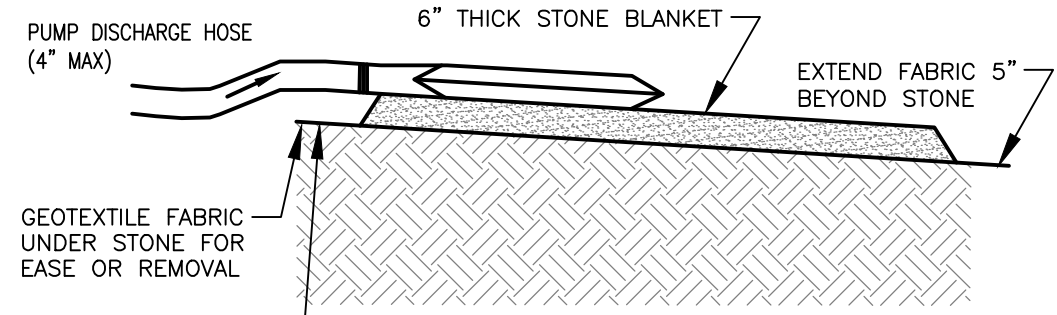
CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH 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. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH 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 TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A 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.

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	STABILIZED CONSTRUCTION ENTRANCE



TOP VIEW



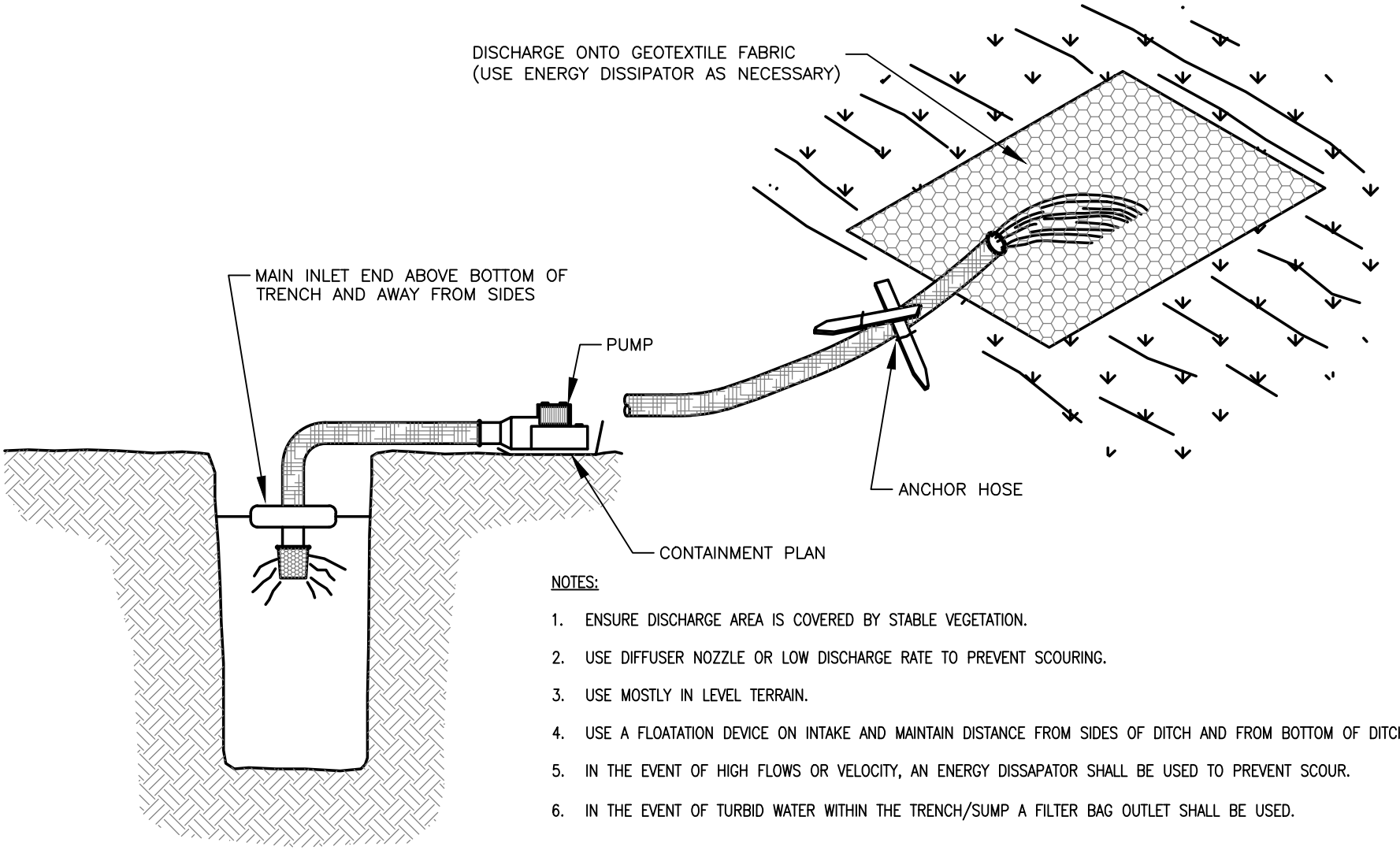
SIDE VIEW

NOTES:

1. DIRT BAG MATERIAL BASED ON PARTICLE SIZE IN DIRTY WATER, I.E. FOR COARSE PARTICLES A WOVEN MATERIAL; FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
2. DO NOT OVER PRESSURIZE DIRT BAG OR USE BEYOND CAPACITY.
3. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
4. DOWN GRADIENT RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION. E.G. FOREST FLOOR OR COARSE GRAVEL/STONE.
5. DISCHARGE NOT PERMITTED WITHIN 25' OF A STREAM OR WETLAND. CONSULT DEP IF STRUCTURE MUST BE WITHIN 75' OF STREAM OR WATER BODY. SECONDARY CONTAINMENT MAY BE NECESSARY.

PUMPED DISCHARGE SEDIMENT CONTROL DEVICE ("DIRT BAG")

N.T.S.

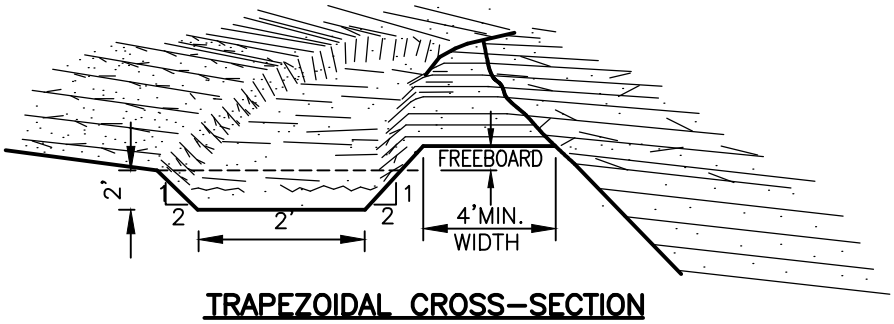


NOTES:

1. ENSURE DISCHARGE AREA IS COVERED BY STABLE VEGETATION.
2. USE DIFFUSER NOZZLE OR LOW DISCHARGE RATE TO PREVENT SCOURING.
3. USE MOSTLY IN LEVEL TERRAIN.
4. USE A FLOATATION DEVICE ON INTAKE AND MAINTAIN DISTANCE FROM SIDES OF DITCH AND FROM BOTTOM OF DITCH.
5. IN THE EVENT OF HIGH FLOWS OR VELOCITY, AN ENERGY DISSAPATOR SHALL BE USED TO PREVENT SCOUR.
6. IN THE EVENT OF TURBID WATER WITHIN THE TRENCH/SUMP A FILTER BAG OUTLET SHALL BE USED.

DEWATERING OPERATION WITH SURFACE STABILIZED OUTLET OPTION

N.T.S.



TRAPEZOIDAL CROSS-SECTION

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 DIVERSION.

2. THE DIVERSION 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 IMPEDE NORMAL FLOW.

3. FILLS SHALL BE COMPACTED AS NEEDED TO PREVENT UNEQUAL SETTLEMENT THAT WOULD CAUSE DAMAGE IN THE COMPLETE DIVERSION.

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 DIVERSION.

5. STABILIZATION SHALL BE DONE ACCORDING TO THE APPROPRIATE STANDARD AND SPECIFICATIONS FOR VEGETATIVE PRACTICES.

   5.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 DIVERSIONS OR OTHER MEANS SHOULD BE USED TO PREVENT WATER FROM ENTERING THE DIVERSION DURING THE ESTABLISHMENT OF THE VEGETATION.

   5.B. FOR DESIGN VELOCITIES OF MORE THAN 3.5 FT. PER. SEC., THE DIVERSION SHALL BE STABILIZED WITH SOD, WITH SEEDING PROTECTED BY JUTE OR EXCELSIOR MATTING OR WITH SEEDING AND MULCHING INCLUDING TEMPORARY DIVERSION OF THE WATER UNTIL THE VEGETATION IS ESTABLISHED.

DIVERSION SWALE DETAIL

N.T.S.

STANDARD AND SPECIFICATIONS FOR DUST CONTROL

Definition

The control of dust resulting from land-disturbing activities.

Purpose

To prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the local permitting authority.

Construction Specifications

A. Non-driving Areas – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

B. Driving Areas – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Sprinkling – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access routes.

Polymer Additives – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

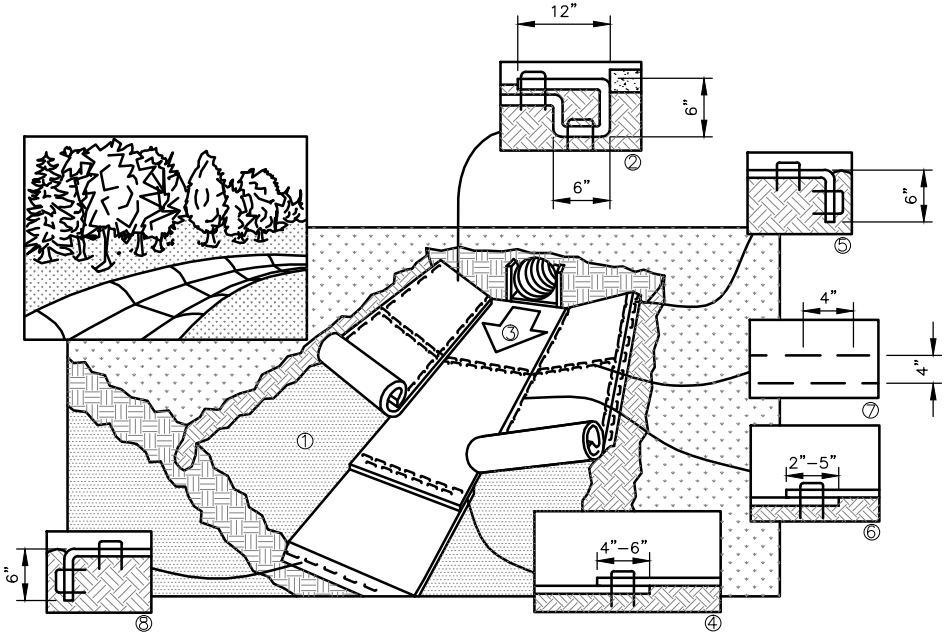
Barriers – Woven geotextiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

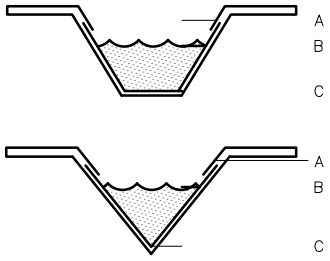
Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

All Stormwater Pollution Prevention Plans must contain the NYS DEC issued “Conditions for Use” and “Application Instructions” for any polymers used on the site. This information can be obtained from the NYS DEC website.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.





CRITICAL POINTS

A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

NOTES

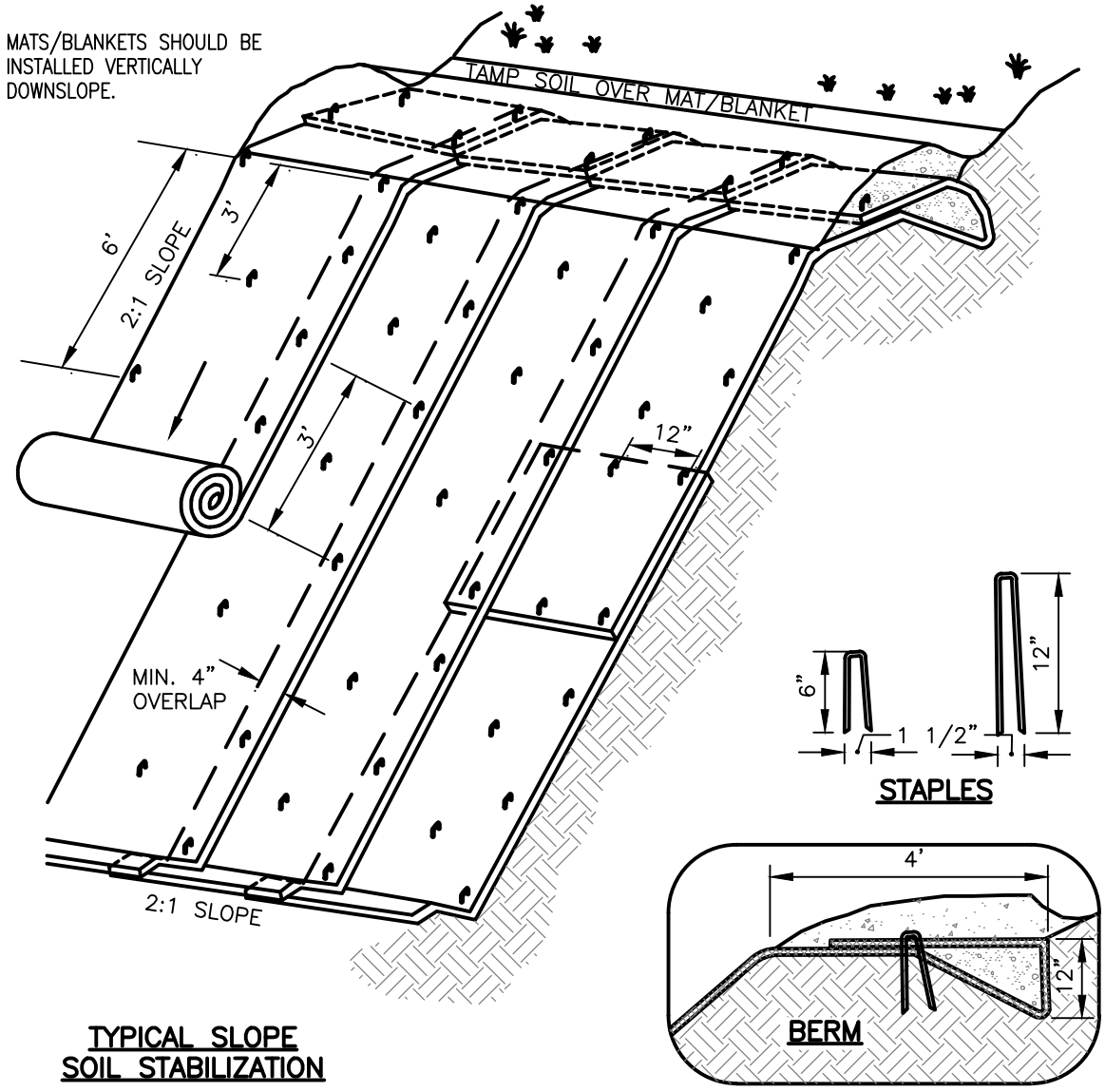
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.

CHANNEL INSTALLATION SPECIFICATIONS

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED, DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH THE PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (DEPENDING ON BLANKET TYPE) AND STAPLED. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30' TO 40' INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
9. EROSION CONTROL BLANKETS INSTALLED WITHIN CHANNELS/SWALES/DITCHES SHALL BE NORTH AMERICAN GREEN SC-250 OR APPROVED EQUAL.

EROSION CONTROL BLANKET – CHANNEL INSTALLATION

N.T.S.



TYPICAL SLOPE SOIL STABILIZATION

STAPLES

BERM

NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION BLANKETS SLOPE INSTALLATION

N.T.S.

STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION

Definition

A temporary, somewhat permeable barrier, installed around inlets in the form of a fence, berm or excavation around an opening, trapping water and thereby reducing the sediment content of sediment laden water by settling.

Purpose

To prevent heavily sediment laden water from entering a storm drain system through inlets.

Conditions Where Practice Applies

This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a trapping device, and watertight blocking of inlets is not advisable. **It is not to be used in place of sediment trapping devices.** This may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with low slope angle.

Types of Storm Drain Inlet Practices

There are four (4) specific types of storm drain inlet protection practices that vary according to their function, location, drainage area, and availability of materials:

I. Excavated Drop Inlet Protection
II. Fabric Drop Inlet Protection
III. Stone & Block Drop Inlet Protection
IV. Curb Drop Inlet Protection

Design Criteria

Drainage Area – The drainage area for storm drain inlets shall not exceed one acre. The crest elevations of these practices shall provide storage and minimize bypass flow.

Type I – Excavated Drop Inlet Protection

See details for Excavated Drop Inlet Protection in Figure 5A.11 on page 5A.29.

Limit the drainage area to the inlet device to 1 acre. Excavated side slopes shall be no steeper than 2:1. The minimum depth shall be 1 foot and the maximum depth 2 feet as measured from the crest of the inlet structure. Shape the excavated basin to fit conditions with the longest dimension oriented toward the longest inflow area to provide maximum trap efficiency. The capacity of the excavated basin should be established to contain 900 cubic feet per acre of disturbed area. Weep holes, protected by fabric and stone, should be provided for draining the temporary pool.

Inspect and clean the excavated basin after every storm. Sediment should be removed when 50 percent of the storage volume is achieved This material should be incorporated into the site in a stabilized manner.

Type II – Fabric Drop Inlet Protection

See Figure 5A.12 for details on Filter Fabric Drop Inlet Protection on page 5A.30.

Limit the drainage area to 1 acre per inlet device. Land area slope immediately surrounding this device should not exceed 1 percent. The maximum height of the fabric above the inlet crest shall not exceed 1.5 feet unless reinforced.

The top of the barrier should be maintained to allow overflow to drop into the drop inlet and not bypass the inlet to unprotected lower areas. Support stakes for fabric shall be a minimum of 3 feet long, spaced a maximum 3 feet apart. They should be driven close to the inlet so any overflow drops into the inlet and not on the unprotected soil. Improved performance and sediment storage volume can be obtained by excavating the area.

Inspect the fabric barrier after each rain event and make repairs as needed. Remove sediment from the pool area as

necessary with care not to undercut or damage the filter fabric. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the adjacent area of the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

If straw bales are used in lieu of filter fabric, they should be placed tight with the cut edge adhering to the ground at least 3 inches below the elevation of the drop inlet. Two anchor stakes per bale shall be driven flush to bale surface. Straw bales will be replaced every 4 months until the area is stabilized.

Type III – Stone and Block Drop Inlet Protection

See Figure 5A.13 for details on Stone and Block Drop Inlet Protection on page 5A.31.

Limit the drainage area to 1 acre at the drop inlet. The stone barrier should have a minimum height of 1 foot and a maximum height of 2 feet. Do not use mortar. The height should be limited to prevent excess ponding and bypass flow.

Recess the first course of blocks at least 2 inches below the crest opening of the storm drain for lateral support. Subsequent courses can be supported laterally if needed by placing a 2x4 inch wood stud through the block openings perpendicular to the course. The bottom row should have a few blocks oriented so flow can drain through the block to dewater the basin area.

The stone should be placed just below the top of the blocks on slopes of 2:1 or flatter. Place hardware cloth of wire mesh with ½ inch openings over all block openings to hold stone in place.

As an optional design, the concrete blocks may be omitted and the entire structure constructed of stone, ringing the outlet ("doughnut"). The stone should be kept at a 3:1 slope toward the inlet to keep it from being washed into the inlet. A level area 1 foot wide and four inches below the crest will further prevent wash. Stone on the slope toward the inlet should be at least 3 inches in size for stability and 1 inch or smaller away from the inlet to control flow rate. The elevation of the top of the stone crest must be maintained 6 inches lower than the ground elevation down slope from the inlet to ensure that all storm flows pass over the stone into the storm drain and not past the structure. Temporary diking should be used as necessary to prevent bypass flow.

The barrier should be inspected after each rain event and repairs made where needed. Remove sediment as necessary to provide for accurate storage volume for subsequent rains. Upon stabilization of contributing drainage area, remove all materials and any unstable soil and dispose of properly.

Bring the disturbed area to proper grade, smooth, compact and stabilized in a manner appropriate to the site.

Type IV – Curb Drop Inlet Protection

See Figure 5A. 14 for details on Curb Drop Inlet Protection on page 5A.32.

The drainage area should be limited to 1 acre at the drop inlet. The wire mesh must be of sufficient strength to support the filter fabric and stone with the water fully impounded against it. Stone is to be 2 inches in size and clean. The filter fabric must be of a type approved for this purpose with an equivalent opening size (EOS) of 40-85. The protective structure will be constructed to extend beyond the inlet 2 feet in both directions. Assure that storm flow does not bypass the inlet by installing temporary dikes (such as sand bags) directing flow into the inlet. Make sure that the overflow weir is stable. Traffic safety shall be integrated with the use of this practice.

The structure should be inspected after every storm event. Any sediment should be removed and disposed of on the site. Any stone missing should be replaced. Check materials for proper anchorage and secure as necessary.

Figure 5A.11
Excavated Drop Inlet Protection

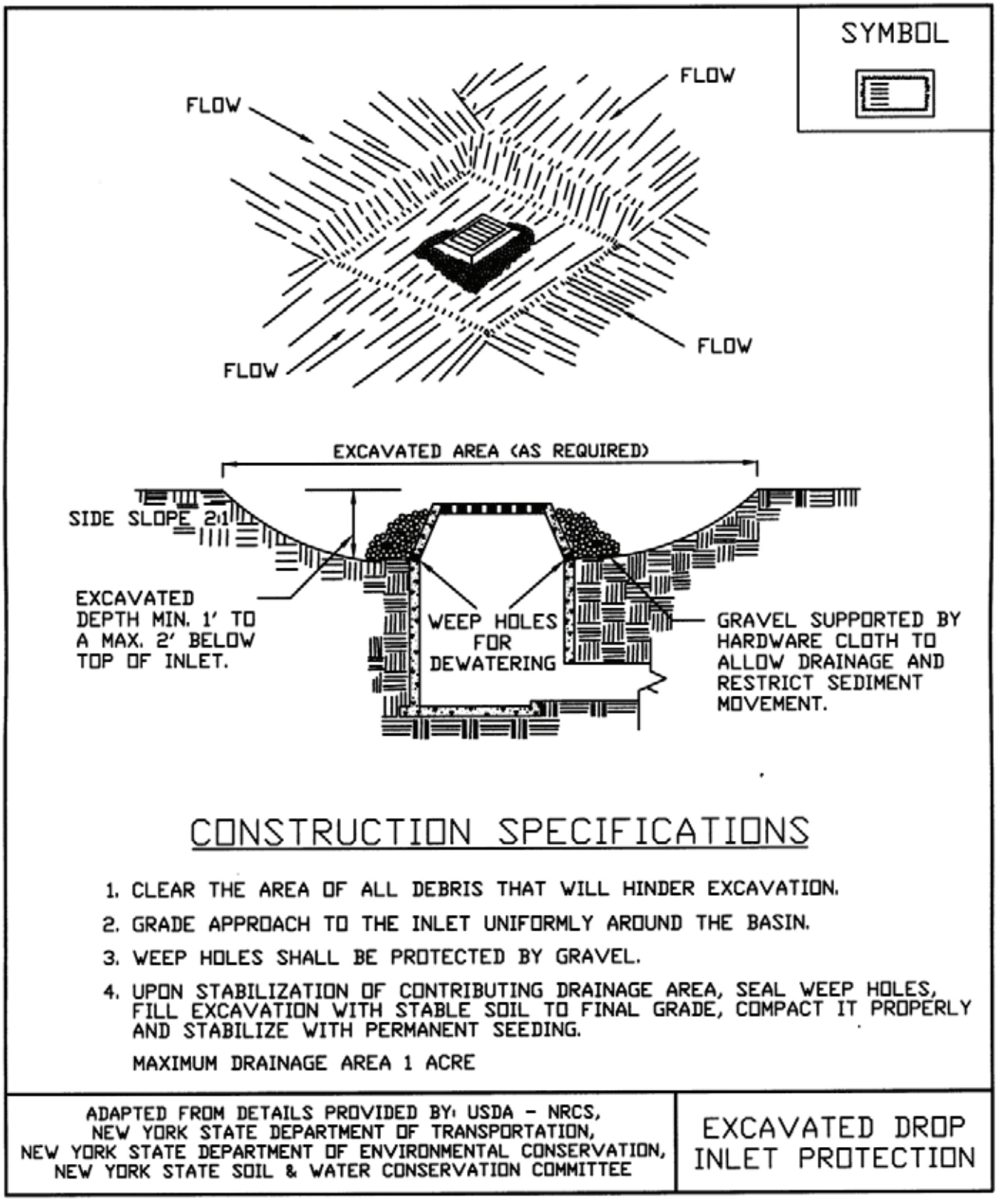
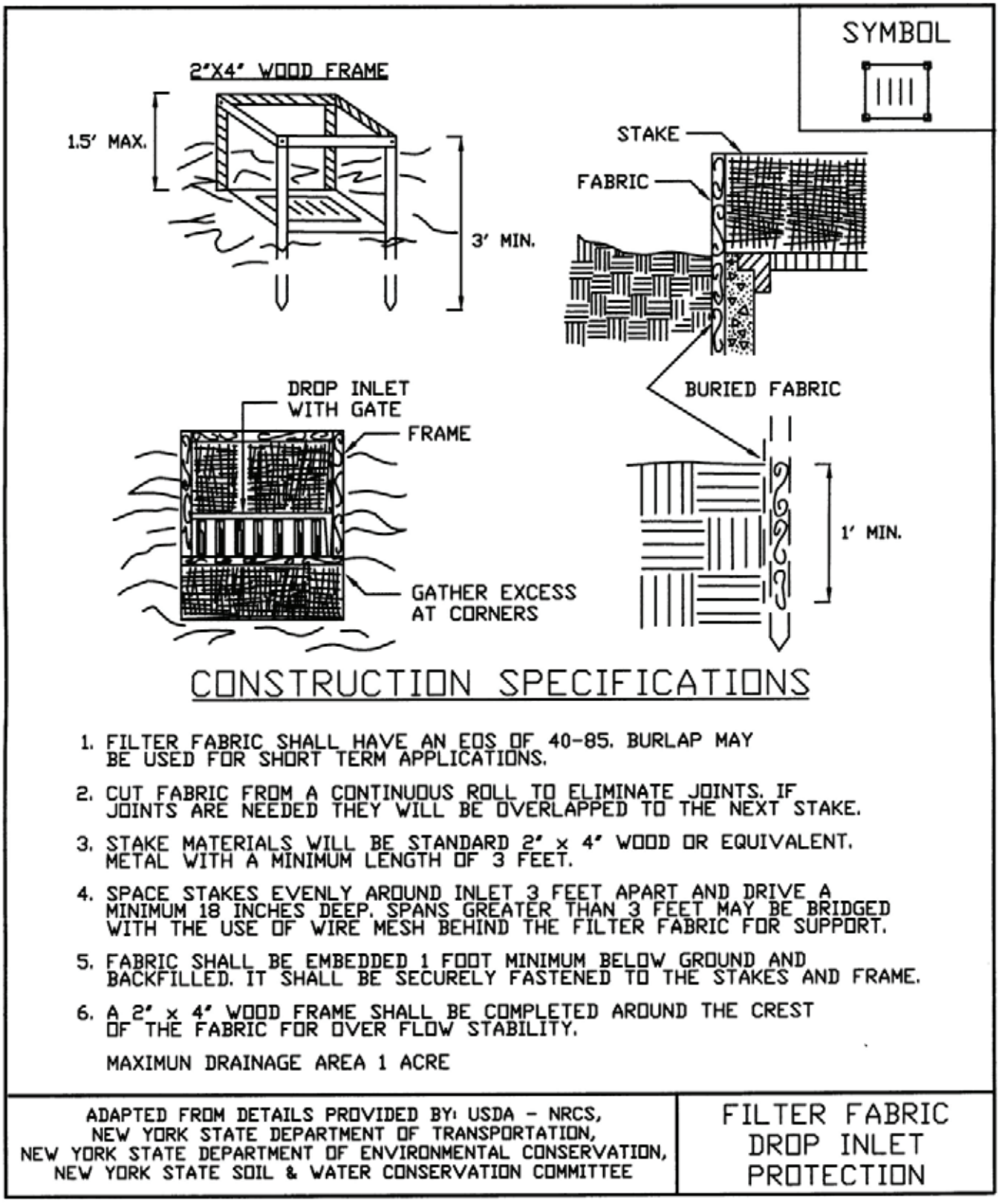


Figure 5A.12
Filter Fabric Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

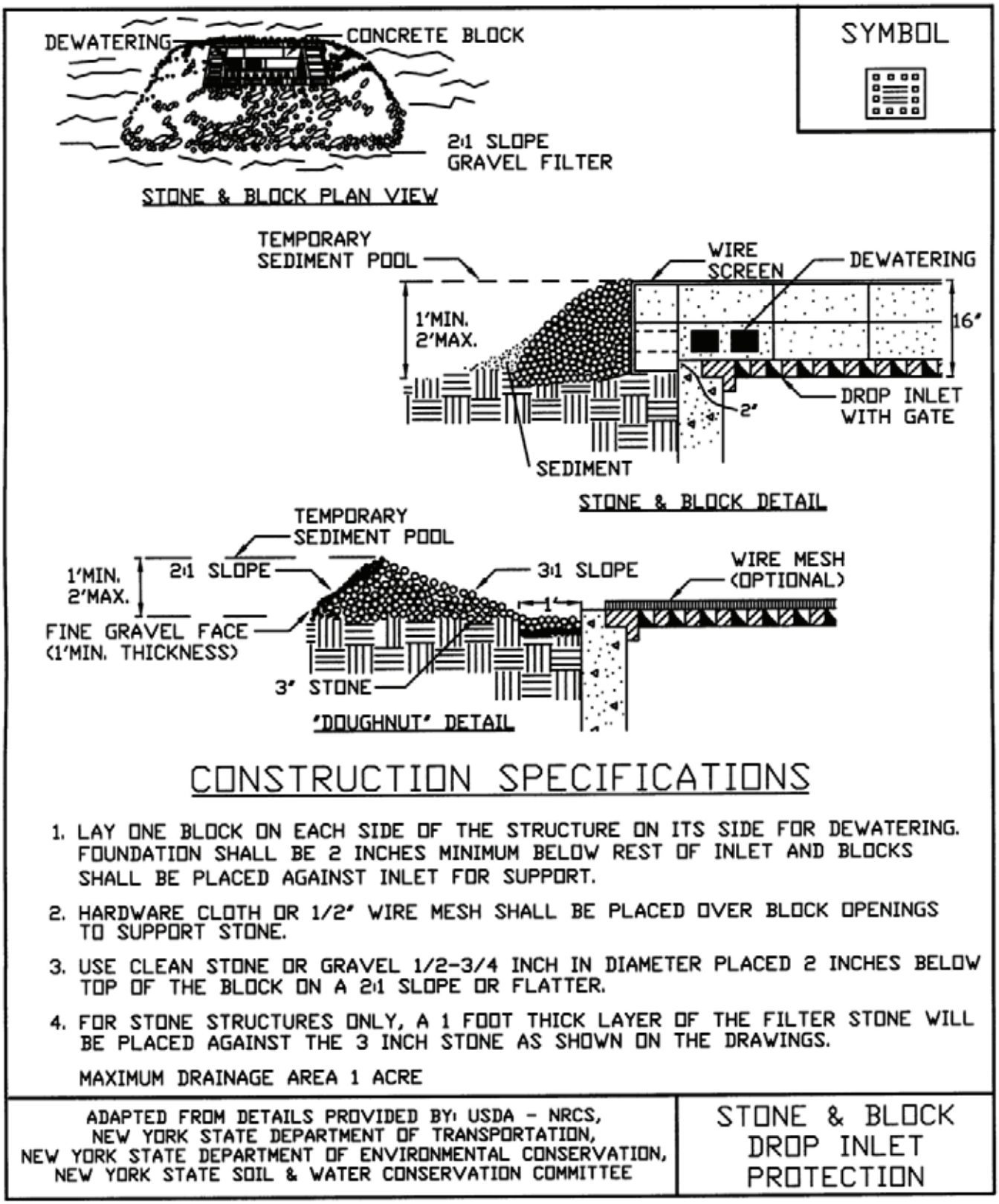
1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

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

FILTER FABRIC DROP INLET PROTECTION

Figure 5A.13
Stone & Block Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

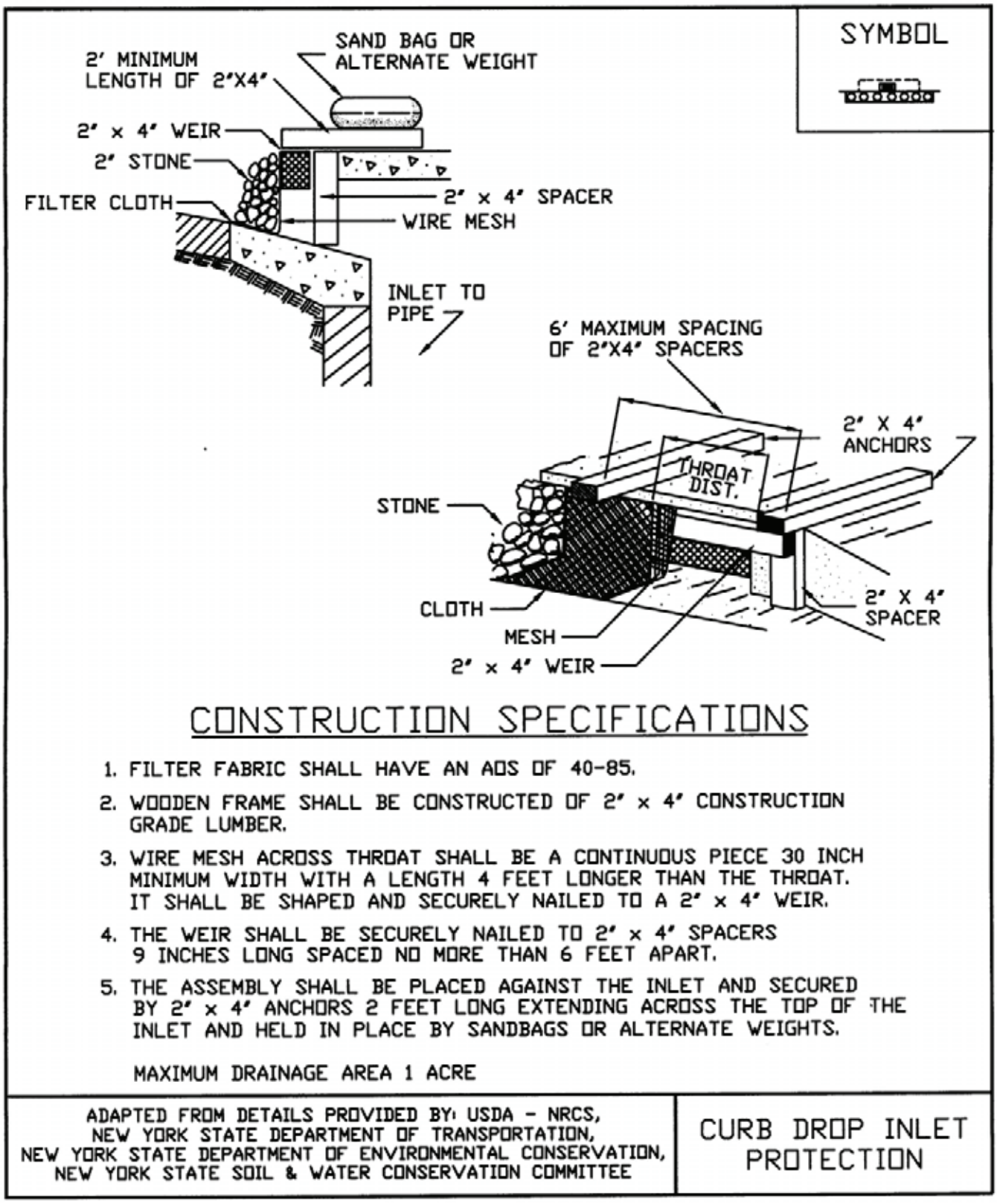
1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

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

STONE & BLOCK DROP INLET PROTECTION

Figure 5A.14
Curb Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN AOS OF 40-85.
2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" x 4" CONSTRUCTION GRADE LUMBER.
3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30 INCH MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2" x 4" WEIR.
4. THE WEIR SHALL BE SECURELY NAILED TO 2" x 4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.
5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2" x 4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHTS.

MAXIMUM DRAINAGE AREA 1 ACRE

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

CURB DROP INLET PROTECTION

STANDARD AND SPECIFICATIONS FOR MULCHING

Definition

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface.

Purpose

The primary purpose is to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control. Mulch is also used alone for temporary stabilization in non-growing months.

Conditions Where Practice Applies

On soils subject to erosion and on new seedings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Determine local availability.

Select appropriate mulch anchoring material.

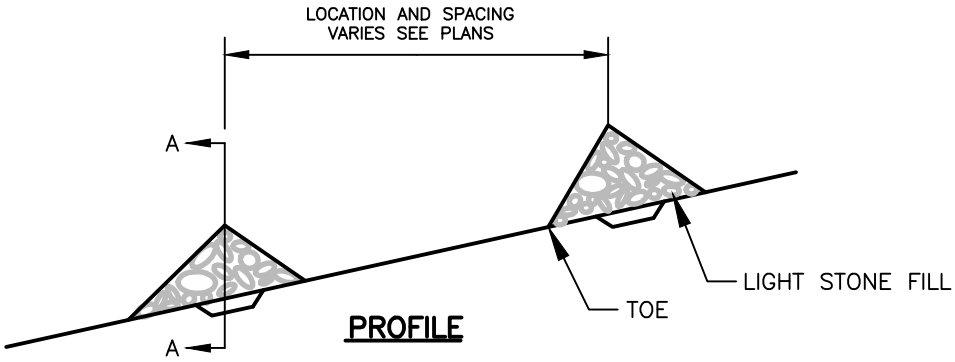
NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/ acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydromulch) at 500 – 750 lbs./acre (11 – 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.

Table 3.7
Guide to Mulch Materials, Rates, and Uses

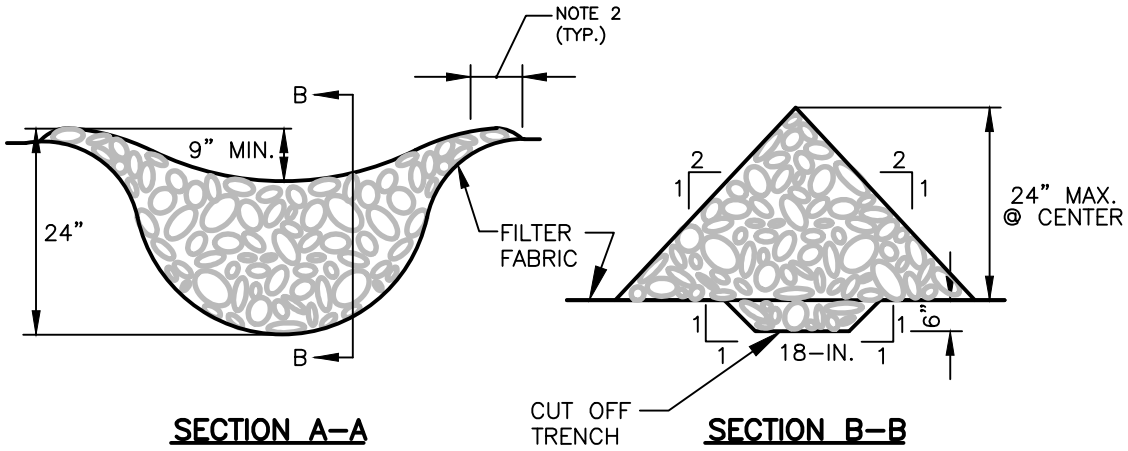
Mulch Material	Quality Standards	per 1000 Sq. Ft.	per Acre	Depth of Application	Remarks
Wood chips or shavings	Air-dried. Free of objectionable coarse material	500-900 lbs.	10-20 tons	2-7"	Used primarily around shrub and tree plantings and recreation trails to inhibit weed competition. Resistant to wind blowing. Decomposes slowly.
Wood fiber cellulose (partly digested wood fibers)	Made from natural wood usually with green dye and dispersing agent	50 lbs.	2,000 lbs.	—	Apply with hydromulcher. No tie down required. Less erosion control provided than 2 tons of hay or straw.
Gravel, Crushed Stone or Slag	Washed; Size 2B or 3A—1 1/2"	9 cu. yds.	405 cu. yds.	3"	Excellent mulch for short slopes and around plants and ornamentals. Use 2B where subject to traffic. (Approximately 2,000 lbs./cu. yd.). Frequently used over filter fabric for better weed control.
Hay or Straw	Air-dried; free of undesirable seeds & coarse materials	90-100 lbs. 2-3 bales	2 tons (100-120 bales)	cover about 90% surface	Use small grain straw where mulch is maintained for more than three months. Subject to wind blowing unless anchored. Most commonly used mulching material. Provides the best micro-environment for germinating seeds.
Jute twisted yarn	Undyed, unbleached plain weave. Warp 78 ends/yd., Weft 41 ends/ yd. 60-90 lbs./roll	48" x 50 yds. or 48" x 75 yds.	—	—	Use without additional mulch. Tie down as per manufacturers specifications. Good for center line of concentrated water flow.
Excelsior wood fiber mats	Interlocking web of excelsior fibers with photodegradable plastic netting	8" x 100" 2-sided plastic, 48" x 180" 1-sided plastic	—	—	Use without additional mulch. Excellent for seeding establishment. Tie down as per manufacturers specifications. Approximately 72 lbs./roll for excelsior with plastic on both sides. Use two sided plastic for centerline of waterways.
Compost	Up to 3" pieces, moderately to highly stable	3-9 cu. yds.	134-402 cu. yds.	1-3"	Coarser textured mulches may be more effective in reducing weed growth and wind erosion.
Straw or coconut fiber, or combination	Photodegradable plastic net on one or two sides	Most are 6.5 ft. x 3.5 ft.	81 rolls	—	Designed to tolerate higher velocity water flow, centerlines of waterways, 60 sq. yds. per roll.

Table 3.8
Mulch Anchoring Guide

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
1. Peg and Twine	Hay or straw	After mulching, divide areas into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2" to 3" of soil surface. Secure mulch to surface by stretching twine between pegs in criss-cross pattern on each block. Secure twine around each peg with 2 or more tight turns. Drive pegs flush with soil. Driving stakes into ground tightens the twine.
2. Mulch netting	Hay or straw	Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer's recommendations. Should be biodegradable. Most products are not suitable for foot traffic.
3. Wood cellulose fiber	Hay or straw	Apply with hydroseeder immediately after mulching. Use 500 lbs. wood fiber per acre. Some products contain an adhesive material ("tackifier"), possibly advantageous.
4. Mulch anchoring tool	Hay or straw	Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be "tucked" into soil surface about 3".
5. Tackifier	Hay or straw	Mix and apply polymeric and gum tackifiers according to manufacturer's instructions. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45^0 Fahrenheit are required.



PROFILE



SECTION A–A **SECTION B–B**

APPLICATION NOTES:

1. CHECK DAMS SHALL BE USED TO REDUCE EROSION IN DRAINAGE CHANNEL BY RESTRICTING THE VELOCITY OF FLOW IN THE CHANNEL.
2. MAXIMUM DRAINAGE AREA ABOVE THE CHECK DAM SHALL NOT EXCEED 2–ACRES.

CONSTRUCTION SPECIFICATIONS:

1. STONE SHALL BE PLACED ON FILTER FABRIC FOUNDATION.
2. EXTEND THE STONE A MINIMUM OF 1.5–FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
3. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
4. ENSURE THAT CHANNEL APPUTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

MAINTENANCE NOTES:

1. INSPECT CHECK DAMS ONCE A WEEK AND AFTER RAINFALLS. REMOVE SILT FROM BEHIND DAM AS NEEDED TO PERMIT FLOW THROUGH THE DAM AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM.
2. INSTALL STONE LINER IN CHANNEL UPSTREAM OF CHECK DAM IF SIGNIFICANT EROSION OCCURS.
3. REPLACE STONES AS NEEDED TO MAINTAIN THE DESIGN CROSS SECTION OF THE STRUCTURES.
4. UPON STABILIZATION OF THE SITE REMOVE CHECK DAMS SO AS NOT TO BLOCK STORM FLOW OR DRAINAGE.

CHECK DAM DETAIL

N.T.S.

STANDARD AND SPECIFICATIONS FOR ROCK OUTLET PROTECTION

Definition

A section of rock protection placed at the outlet end of the culverts, conduits, or channels.

Purpose

The purpose of the rock outlet protection is to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach.

Scope

This standard applies to the planning, design, and construction of rock riprap and gabions for protection of downstream areas. It does not apply to rock lining of channels or streams.

Conditions Where Practice Applies

This practice applies where discharge velocities and energies at the outlets of culverts, conduits, or channels are sufficient to erode the next downstream reach. This applies to:

1. Culvert outlets of all types.

2. Pipe conduits from all sediment basins, dry storm water ponds, and permanent type ponds.

3. New channels constructed as outlets for culverts and conduits.

Design Criteria

The design of rock outlet protection depends entirely on the location. Pipe outlet at the top of cuts or on slopes steeper than 10 percent, cannot be protected by rock aprons or riprap sections due to re-concentration of flows and high velocities encountered after the flow leaves the apron.

Many counties and state agencies have regulations and design procedures already established for dimensions, type and size of materials, and locations where outlet protection is required. Where these requirements exist, they shall be followed.

Tailwater Depth

The depth of tailwater immediately below the pipe outlet must be determined for the design capacity of the pipe. If the tailwater depth is less than half the diameter of the outlet pipe, and the receiving stream is wide enough to accept divergence of the flow, it shall be classified as a Minimum Tailwater Condition; see Figure 5B.12 on page 5B.25 as an example. If the tailwater depth is greater than half the pipe diameter and the receiving stream will continue to confine the flow, it shall be classified as a Maximum Tailwater Condition; see Figure 5B.13 on page 5B.26 as an example. Pipes which outlet onto flat areas with no defined channel may be assumed to have a Minimum Tailwater Condition; see Figure 5B.12 on page 5B.25 as an example.

Apron Size

The apron length and width shall be determined from the curves according to the tailwater conditions:

Minimum Tailwater – Use Figure 5B.12 on page 5B.25
Maximum Tailwater – Use Figure 5B.13 on page 5B.26

If the pipe discharges directly into a well defined channel, the apron shall extend across the channel bottom and up the channel banks to an elevation one foot above the maximum tailwater depth or to the top of the bank, whichever is less.

The upstream end of the apron, adjacent to the pipe, shall have a width two (2) times the diameter of the outlet pipe, or conform to pipe end section if used.

Bottom Grade

The outlet protection apron shall be constructed with no slope along its length. There shall be no overfall at the end of the apron. The elevation of the downstream end of the apron shall be equal to the elevation of the receiving channel or adjacent ground.

Alignment

The outlet protection apron shall be located so that there are no bends in the horizontal alignment.

Materials

The outlet protection may be done using rock riprap, grouted riprap, or gabions.

Riprap shall be composed of a well-graded mixture of stone size so that 50 percent of the pieces, by weight, shall be larger than the d_{50} size determined by using the charts. A well-graded mixture, as used herein, is defined as a mixture composed primarily of larger stone sizes, but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone size in such a mixture shall be 1.5 times the d_{50} size.

Thickness

The minimum thickness of the riprap layer shall be 1.5 times the maximum stone diameter for d_{50} of 15 inches or less; and 1.2 times the maximum stone size for d_{50} greater than 15 inches. The following chart lists some examples:

D_{50} (inches)	d_{max} (inches)	Minimum Blanket Thickness (inches)
4	6	9
6	9	14
9	14	20
12	18	27
15	22	32
18	27	32
21	32	38
24	36	43

Stone Quality

Stone for riprap shall consist of field stone or rough unhewn quarry stone. The stone shall be hard and angular and of a quality that will not disintegrate on exposure to water or weathering. The specific gravity of the individual stones shall be at least 2.5.

Recycled concrete equivalent may be used provided it has a density of at least 150 pounds per cubic foot, and does not have any exposed steel or reinforcing bars.

Filter

A filter is a layer of material placed between the riprap and the underlying soil surface to prevent soil movement into and through the riprap. Riprap shall have a filter placed under it in all cases.

A filter can be of two general forms: a gravel layer or a plastic filter cloth. The plastic filter cloth can be woven or non-woven monofilament yarns, and shall meet these base requirements: thickness 20-60 mils, grab strength 90-120 lbs; and shall conform to ASTM D-1777 and ASTM D-1682.

Gravel filter blanket, when used, shall be designed by comparing particle sizes of the overlying material and the base material. Design criteria are available in Standard and Specification for Riprap Slope Protection on page 5B.57.

Gabions

Gabions shall be made of hexagonal triple twist mesh with heavily galvanized steel wire. The maximum linear dimension of the mesh opening shall not exceed 4 ½ inches and the area of the mesh opening shall not exceed 10 square inches.

Gabions shall be fabricated in such a manner that the sides, ends, and lid can be assembled at the construction site into a rectangular basket of the specified sizes. Gabions shall be of single unit construction and shall be installed according to manufacturers recommendations.

The area on which the gabion is to be installed shall be graded as shown on the drawings. Foundation conditions shall be the same as for placing rock riprap, and filter cloth shall be placed under all gabions. Where necessary, key, or tie, the structure into the bank to prevent undermining of the main gabion structure.

Maintenance

Once a riprap outlet has been installed, the maintenance needs are very low. It should be inspected after high flows for evidence of scour beneath the riprap or for dislodged stones. Repairs should be made immediately.

Design Procedure

1. Investigate the downstream channel to assure that nonerosive velocities can be maintained.

2. Determine the tailwater condition at the outlet to establish which curve to use.
3. Enter the appropriate chart with the design discharge to

determine the riprap size and apron length required. It is noted that references to pipe diameters in the charts are based on full flow. For other than full pipe flow, the parameters of depth of flow and velocity must be used to adjust the design discharges.

4. Calculate apron width at the downstream end if a flare section is to be employed.

Examples

Example 1: Pipe Flow (full) with discharge to unconfined section.

Given: A circular conduit flowing full.

Q = 280 cfs, diam. = 66 in., tailwater (surface) is 2 ft. above pipe invert (minimum tailwater condition).

Find: Read d_{50} = 1.2 and apron length (L_a) = 38 ft.

Apron width = diam. + L_a = 5.5 + 38 = 43.5 ft.

Use: d_{50} = 15", d_{max} = 22", blanket thickness = 32"

Example 2: Box Flow (partial) with high tailwater

Given: A box conduit discharging under partial flow conditions. A concrete box 5.5 ft. x 10 ft. flowing 5.0 ft. deep,

Q = 600 cfs and tailwater surface is 5 ft. above invert (max. tailwater condition).

Since this is not full pipe and does not directly fit the nomograph assumptions of Figure 7B.13 substitute depth as the diameter, to find a discharge equal to full pipe flow for that diameter, in this case 60 inches.

Since, $Q = AV$ and $A = \frac{\pi D^2}{4}$

First, compute velocity:

V = (Q/A) = (600/(5) (10)) = 12 fps

Then substituting:

$$Q = \frac{\pi D^2}{4} \times V = \frac{3.14\ (5\ ft)^2}{4} \times 12\ fps = 236\ cfs$$

At the intersection of the curve d = 60 in. and Q = 236 cfs, read d_{50} = 0.4 ft.

Then reading the d = 60 in. curve, read apron length (L_a) = 40 ft.

Apron width, W = conduit width + (6.4)(L_a) = 10 + (0.4) (40) = 26 ft.

Example 3: Open Channel Flow with Discharge to Unconfined Section

Given: A trapezoidal concrete channel 5 ft. wide with 2:1 side slopes is flowing 2 ft. deep, Q = 180 cfs (velocity = 10 fps) and the tailwater surface downstream is 0.8 ft. (minimum tailwater condition).

Find: Using similar principles as Example 2, compute equivalent discharge for a 2 foot, using depth as a diameter, circular pipe flowing full at 10 feet per second.

Velocity:

$$Q = \frac{\pi\ (2ft)^2}{4} \times 10\ fps = 31.4\ cfs$$

At intersection of the curve, d = 24 in. and Q = 32 cfs, read d_{50} = 0.6 ft.

Then reading the d = 24 in. curve, read apron length (L_a) = 20 ft.

Apron width, W = bottom width of channel + L_a = 5 + 20 = 25 ft.

Example 4: Pipe flow (partial) with discharge to a confined section

Given: A 48 in. pipe is discharging with a depth of 3 ft. Q = 100 cfs, and discharge velocity of 10 fps (established from partial flow analysis) to a confined trapezoidal channel with a 2 ft. bottom, 2:1 side slopes, n = .04, and grade of 0.6%.

Calculation of the downstream channel (by Manning's Equation) indicates a normal depth of 3.1 ft. and normal velocity of 3.9 fps.

Since the receiving channel is confined, the maximum tailwater condition controls.

Find: discharge using previous principles:

$$Q = \frac{\pi\ (3ft)^2}{4} \times 10\ fps = 71\ cfs$$

At the intersection of d = 36 in. and Q = 71 cfs, read d_{50} = 0.3 ft.

Reading the d = 36" curve, read apron length (L_a) = 30 ft.

Since the maximum flow depth in this reach is 3.1 ft., that is the minimum depth of riprap to be maintained for the entire length.

Construction Specifications

1. The subgrade for the filter, riprap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.

3. Filter cloth shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps, whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.

4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

Figure 5B.12
Outlet Protection Design—Minimum Tailwater Condition
(Design of Outlet Protection from a Round Pipe Flowing Full, Minimum Tailwater Condition: $T_w < 0.5D_o$) (USDA - NRCS)

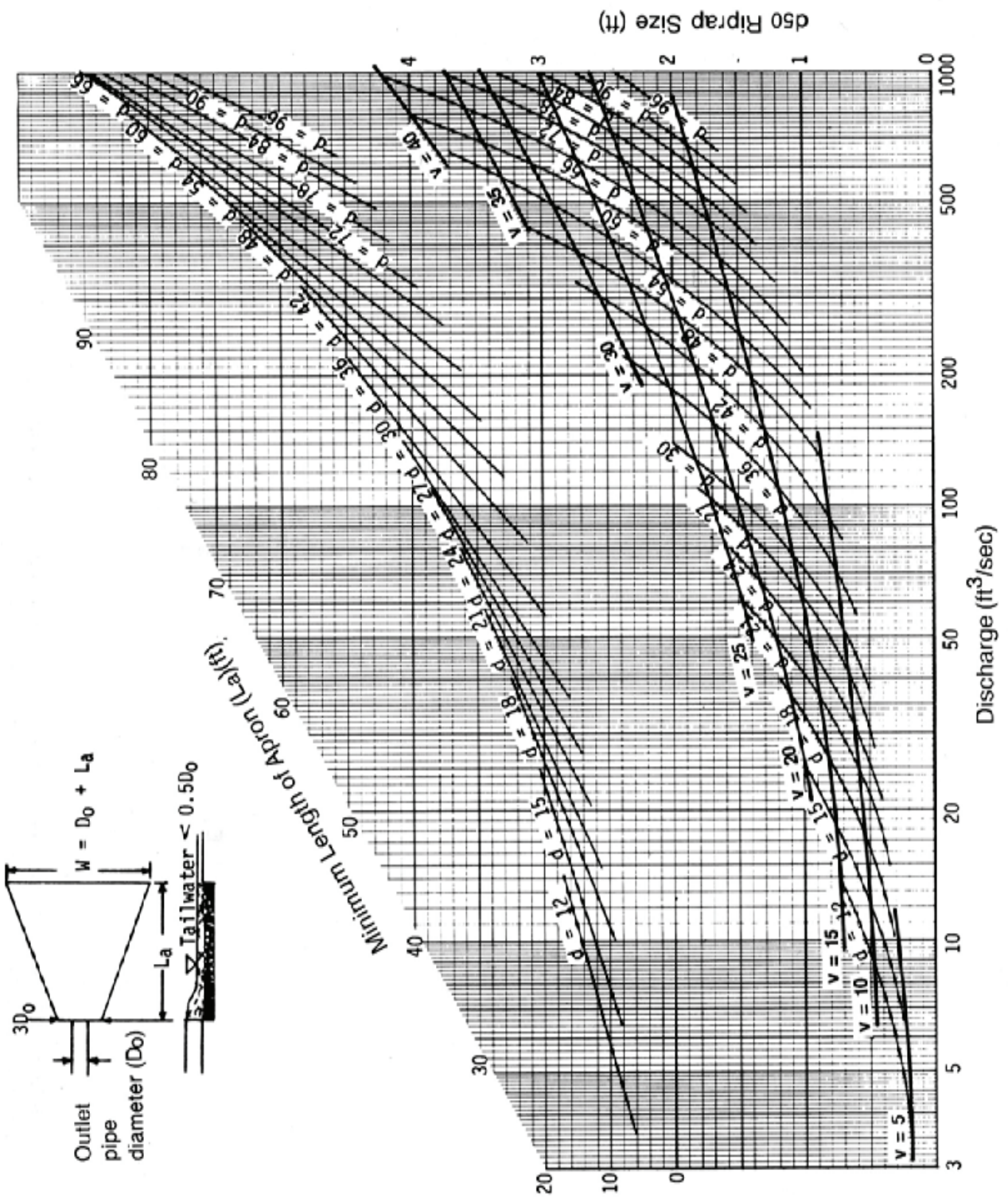


Figure 5B.13
Outlet Protection Design—Maximum Tailwater Condition
(Design of Outlet Protection from a Round Pipe Flowing Full, Maximum Tailwater Condition: $T_w \geq 0.5D_o$) (USDA - NRCS)

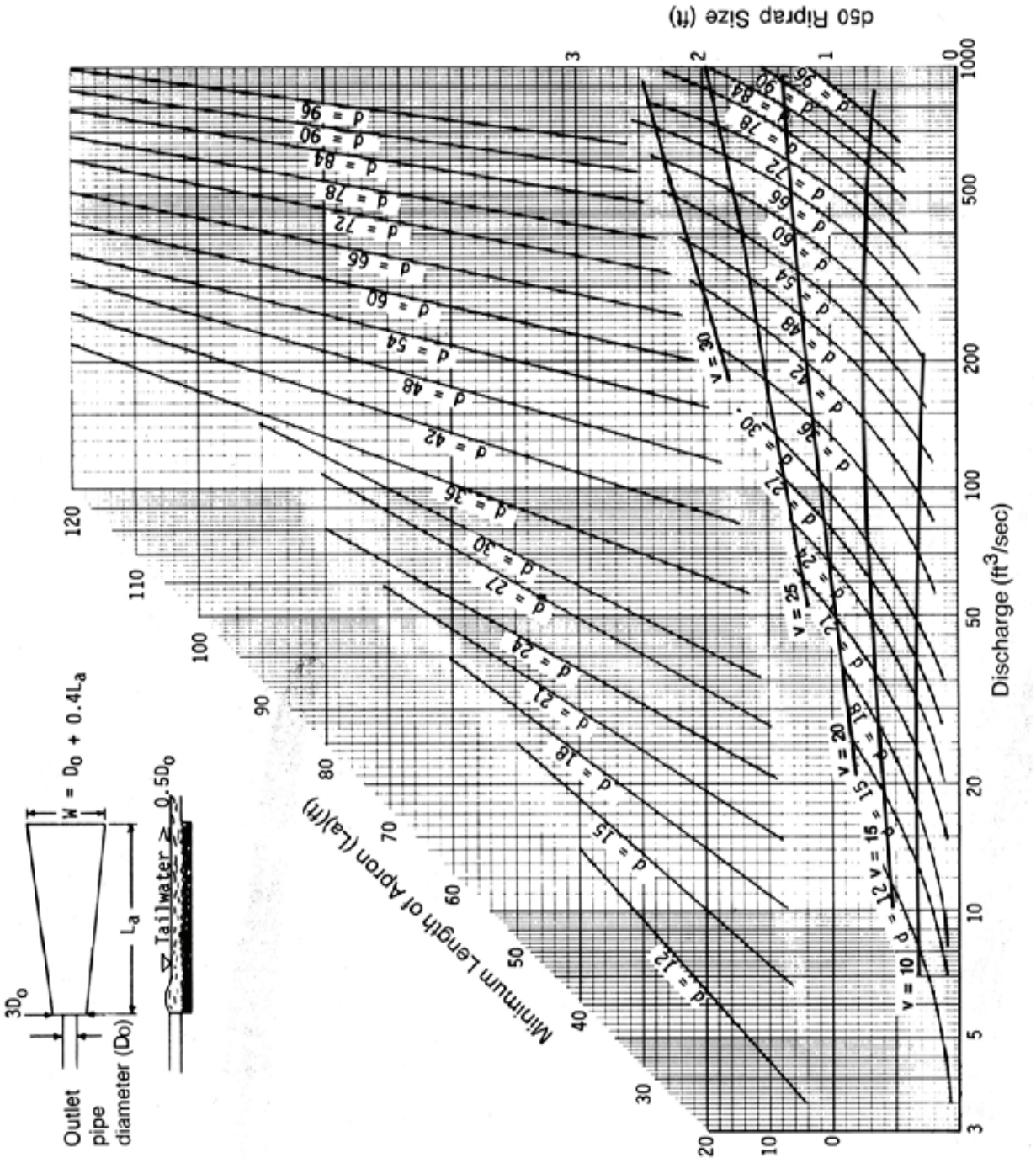


Figure 5B.14
Riprap Outlet Protection Detail (1)

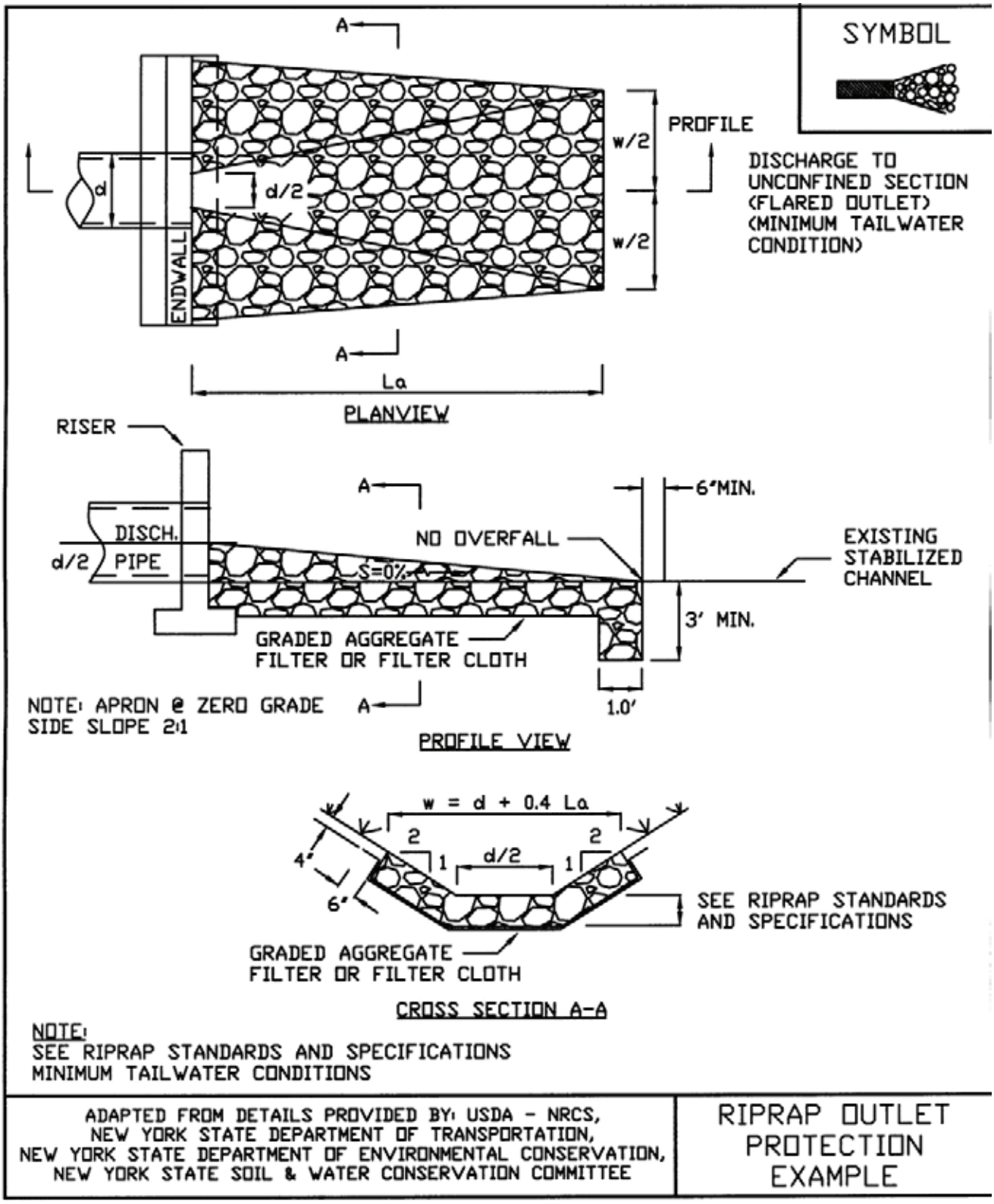


Figure 5B.15
Riprap Outlet Protection Detail (2)

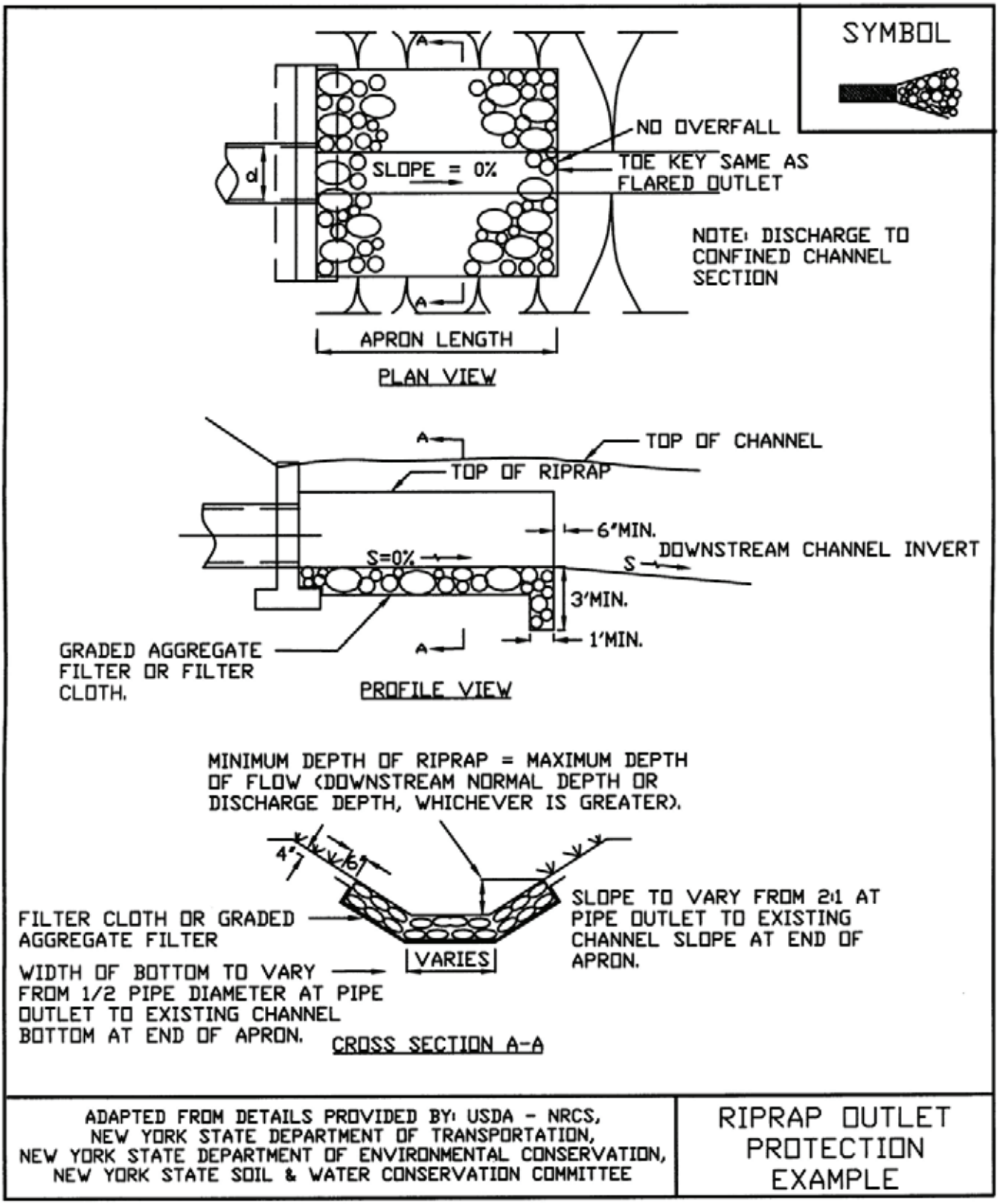
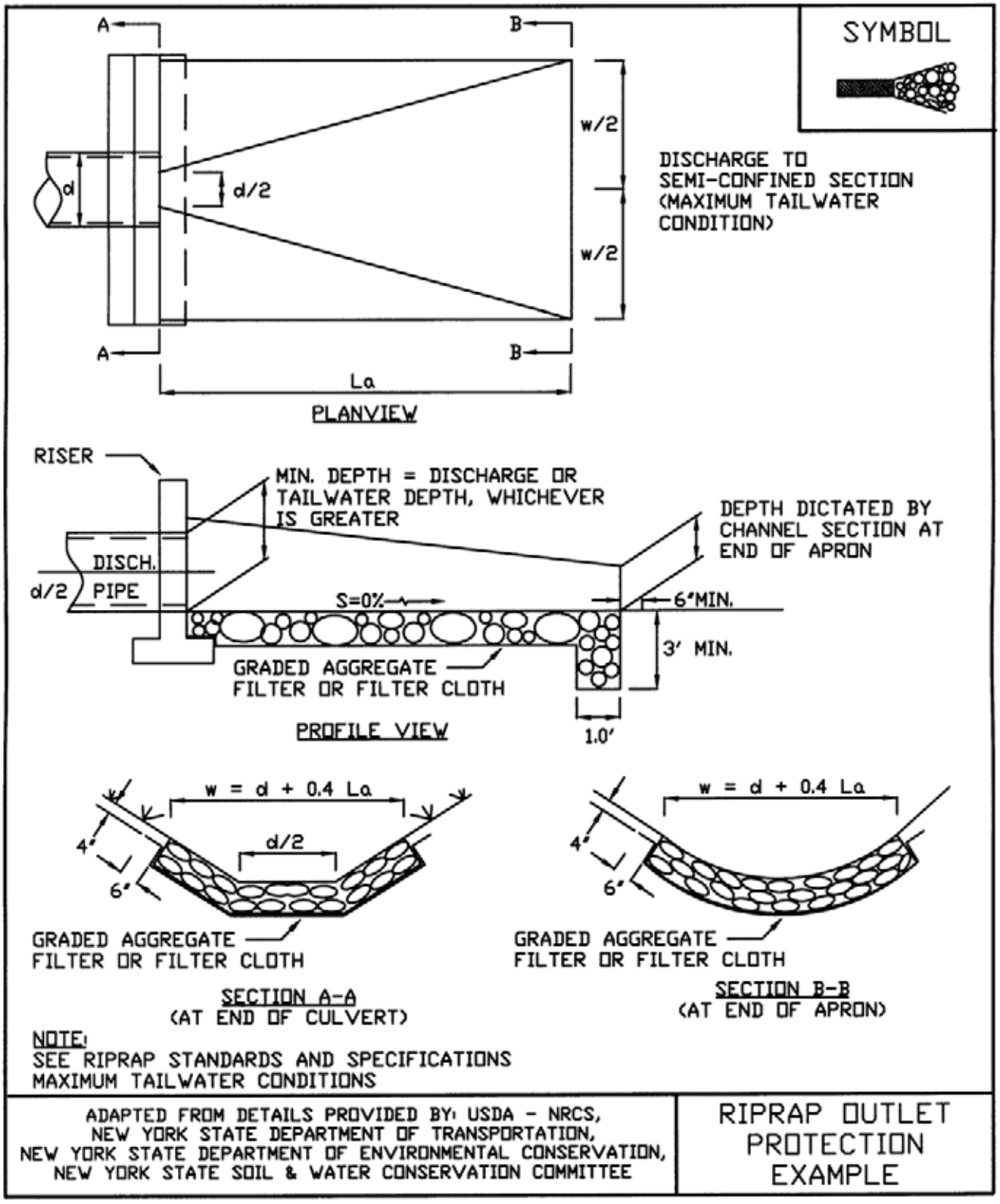


Figure 5B.16
Riprap Outlet Protection Detail (3)



STANDARD AND SPECIFICATIONS FOR SILT FENCE

Definition

A temporary barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Purpose

The purpose of a silt fence is to reduce runoff velocity and effect deposition of transported sediment load. Limits imposed by ultraviolet stability of the fabric will dictate the maximum period the silt fence may be used (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope lengths contributing runoff to a silt fence placed on a slope are:

Slope Steepness	Maximum Length (ft.)
2:1	25
3:1	50
4:1	75
5:1 or flatter	100

2. Maximum drainage area for overland flow to a silt fence shall not exceed ¼ acre per 100 feet of fence, with maximum ponding depth of 1.5 feet behind the fence; and

3. Erosion would occur in the form of sheet erosion; and

4. There is no concentration of water flowing to the barrier.

Design Criteria

Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff. All silt fences shall be placed as close to the areas as possible, but at least 10 feet from the toe of a slope to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.

Sensitive areas to be protected by silt fence may need to be reinforced by using heavy wire fencing for added support to prevent collapse.

Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. A detail of the silt fence shall be shown on the plan. See Figure 5A.8 on page 5A.21 for details.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682

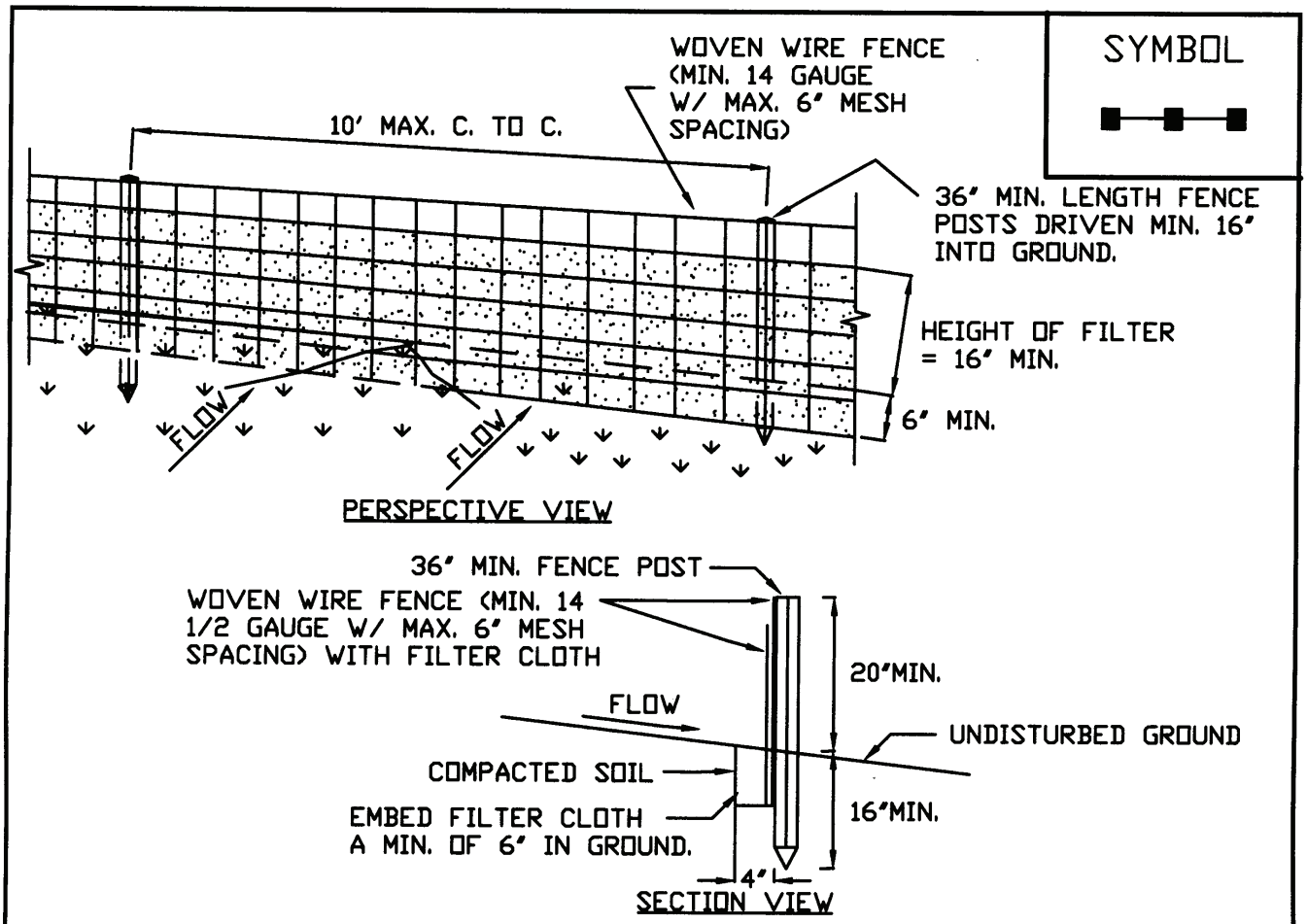
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751 (modified)
Slurry Flow Rate (gal/min/sf)	0.3	
Equivalent Opening Size	40-80	US Std Sieve CW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.0 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot.

3. Wire Fence (for fabricated units): Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated Units: Envirofence, Geofab, or approved equal, may be used in lieu of the above method providing the unit is installed per details shown in Figure 5A.8.

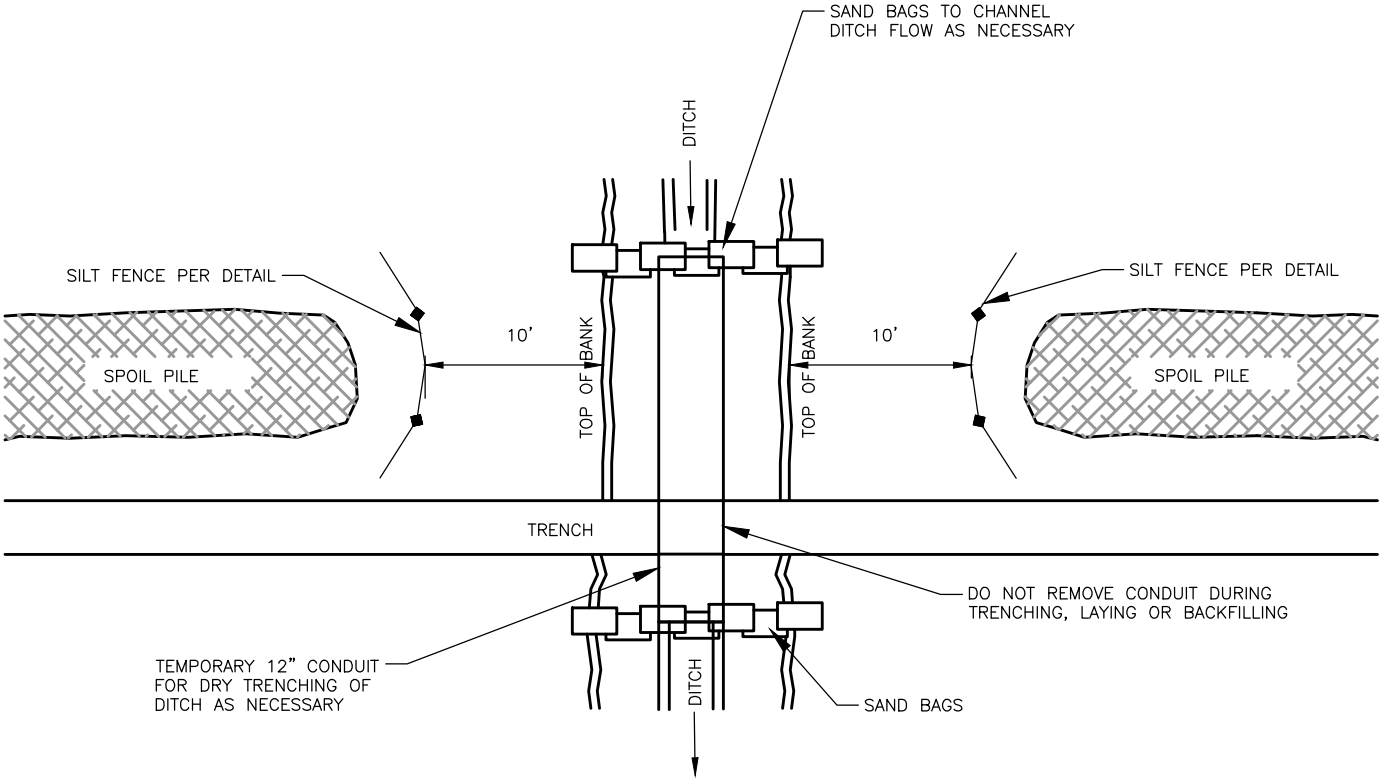
Figure 5A.8
Silt Fence



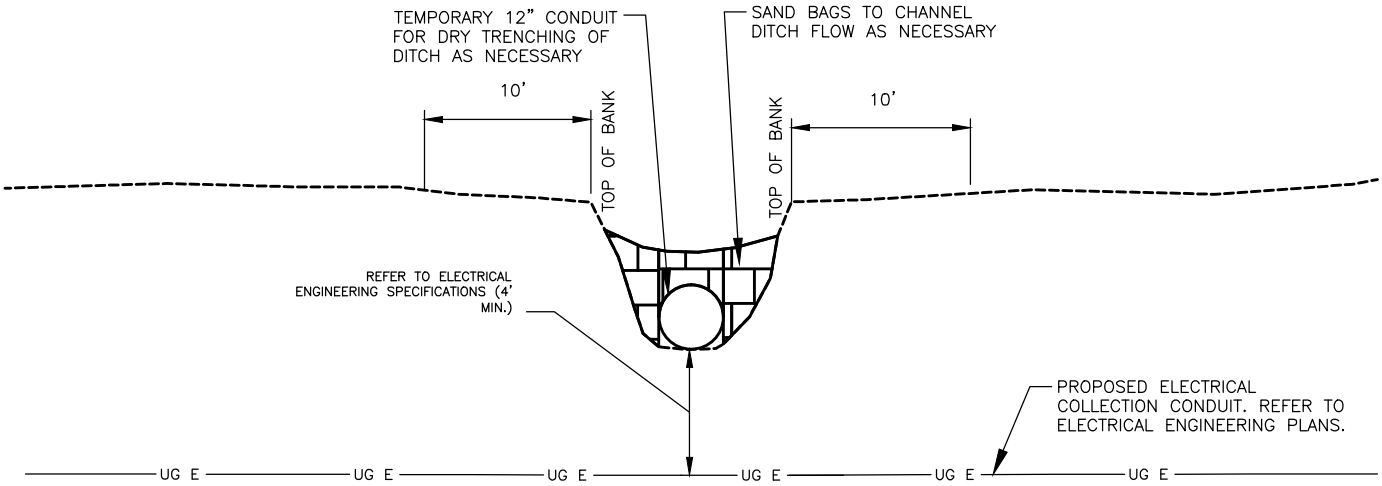
CONSTRUCTION SPECIFICATIONS

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

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	SILT FENCE



PLAN VIEW



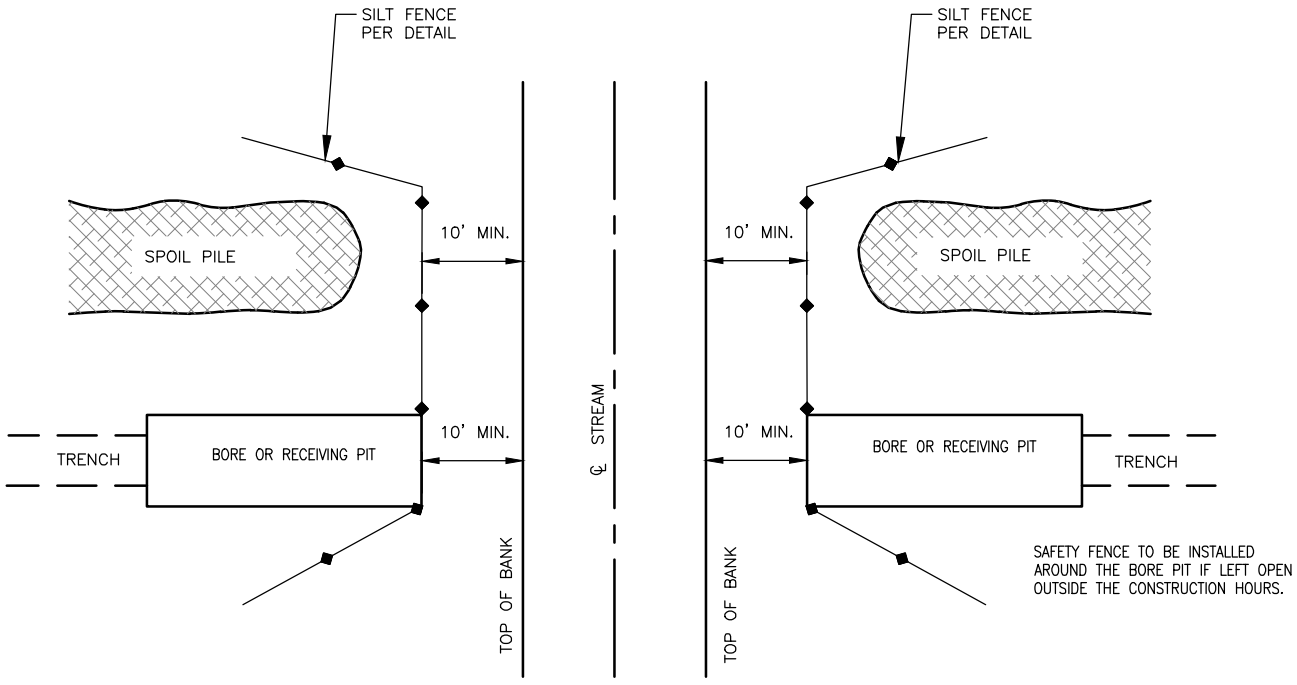
SECTION VIEW

NOTES:

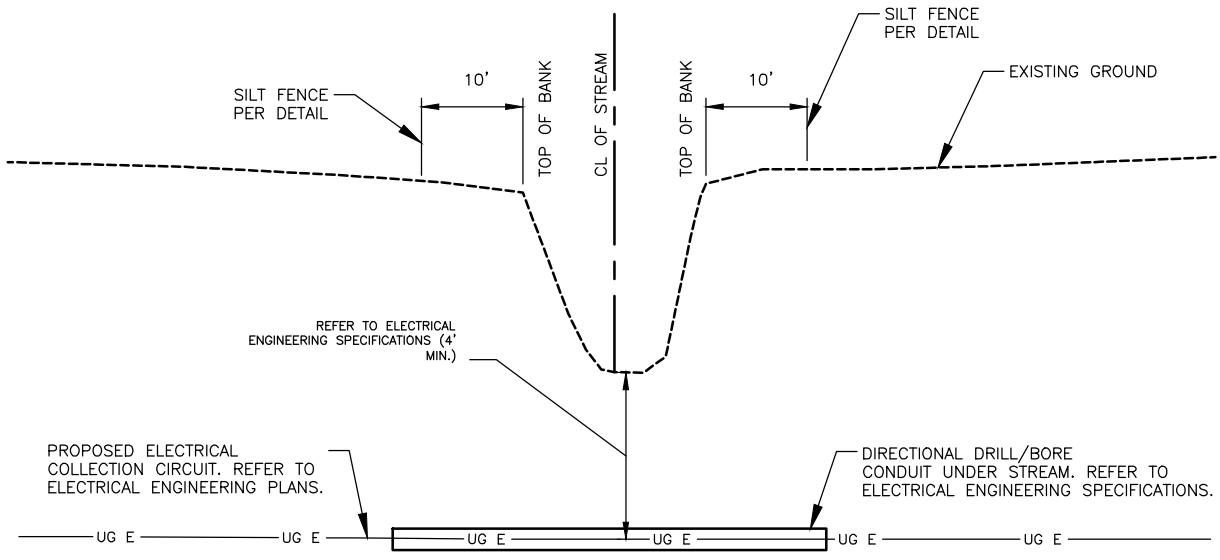
1. TEMPORARY SAND BAGS AND CONDUIT ARE TO BE INSTALLED PRIOR TO ANY CONSTRUCTION WITHIN THE LIMITS OF THE DITCH. IN THE EVENT THAT THE DITCH IS DRYING DURING CONSTRUCTION, SAND BAGS AND CONDUIT ARE NOT NECESSARY.
2. EXCAVATED TRENCH MATERIAL SHALL BE STOCKPILED ADJACENT TO THE TRENCH, NO CLOSER THAN 25' FROM THE TOP OF BANK OF THE DITCH.
3. SILT FENCE SHALL BE INSTALLED BETWEEN THE STOCKPILED MATERIAL AND THE TOP OF BANK OF THE DITCH.
4. IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE, PERMANENT STABILIZATION MEASURES SHALL BE APPLIED.
5. REFER TO ELECTRICAL DESIGN FOR CONDUIT DEPTH AND TRENCH DETAILS.

TYPICAL EROSION CONTROL & CLEARANCE DETAIL FOR COLLECTION LINE OPEN CUT DITCH/TILE CROSSING

N.T.S.



PLAN VIEW



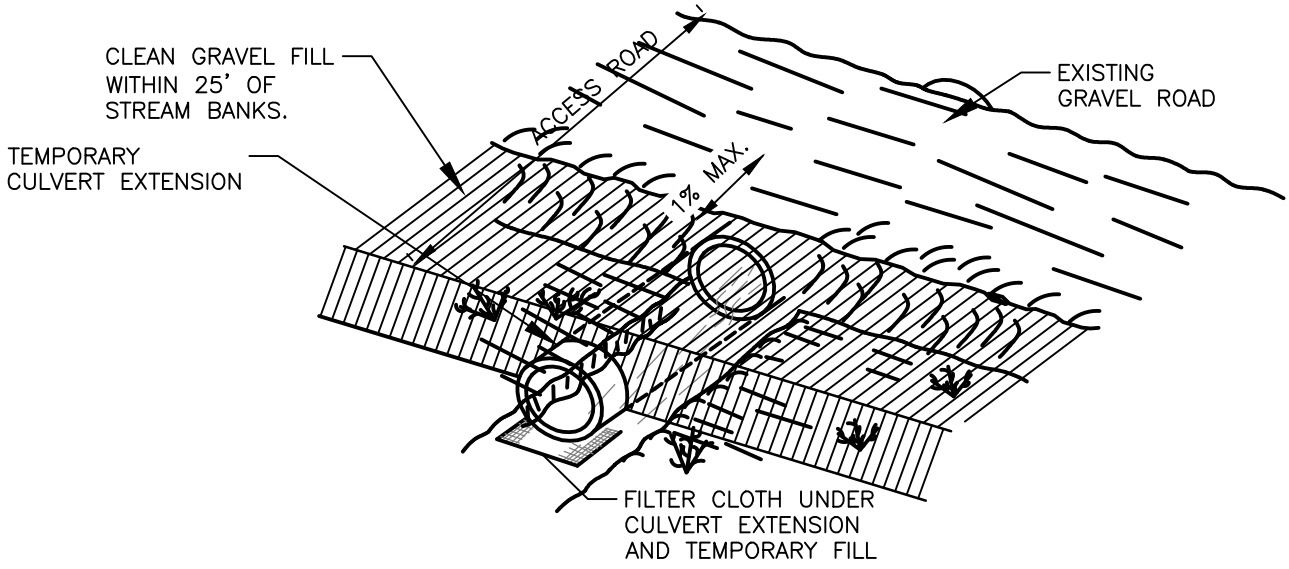
SECTION VIEW

NOTES:

1. EXCAVATED TRENCH AND BORE/RECIEVING PIT MATERIAL SHALL BE STOCKPILED ADJACENT TO THE TRENCH, NO CLOSER THAN 10' FROM THE TOP OF BANK OF THE DITCH.
2. SILT FENCE SHALL BE INSTALLED BETWEEN THE STOCKPILED MATERIAL AND BORE/RECIEVEING PIT AND THE TOP OF BANK ON BOTH SIDES OF THE STREAM.
3. IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE, PERMANENT STABILIZATION MEASURES SHALL BE APPLIED.
4. THERE SHALL BE NO DISTURBANCE TO THE STREAM DURING CONSTRUCTION.
5. REFER TO ELECTRICAL DESIGN FOR CONDUIT DEPTH AND TRENCH DETAILS.

TYPICAL EROSION CONTROL & CLEARANCE DETAIL FOR COLLECTION LINE TRENCHLESS STREAM CROSSING

N.T.S.



NOTES:

1. EXISTING CULVERT SHALL BE EXTENDED ON THE SIDE OF ROAD RESULTING IN THE LEAST AMOUNT OF WETLAND AND/OR STREAM IMPACTS.

2. TEMPORARY CULVERT SHALL BE INSTALLED NO SOONER THAN 4 WEEKS PRIOR TO THE CRANE CROSSING AND SHALL BE REMOVED WITHIN 5 MONTHS AFTER THE CROSSING.

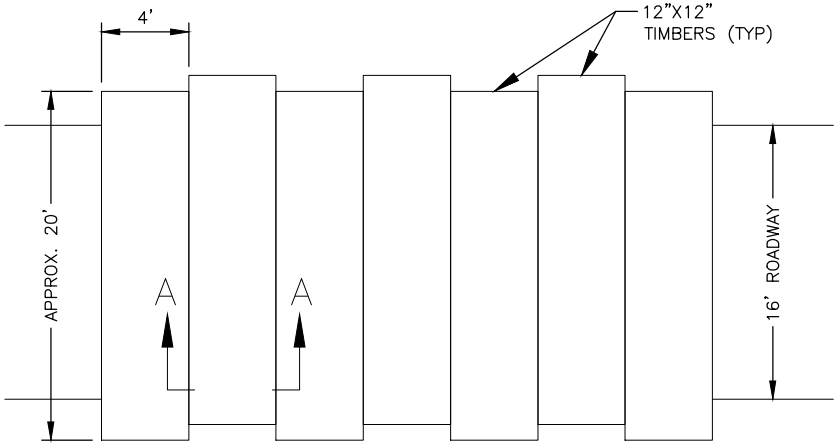
3. THE CULVERT SHALL EXTEND A MINIMUM OF 1' BEYOND THE TOE OF SLOPE.

4. IN AREAS THAT HAVE LESS THAN 1' OF COVER OVER THE EXISTING CULVERT, A STEEL PLATE MAY BE UTILIZED IN CONJUNCTION WITH THE TEMPORARY CULVERT EXTENSIONS TO SPAN THE CULVERT AND PROVIDE FOR CONSTRUCTION LOADING.

5. THE MINIMUM DIAMETER OF THE TEMPORARY CULVERT SHALL EQUAL THE SIZE OF THE EXISTING CULVERT.

TEMPORARY CULVERT EXTENSION

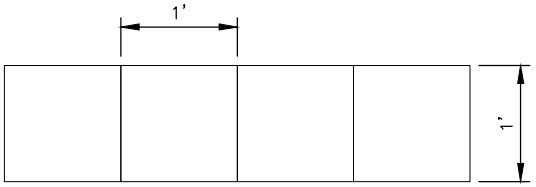
N.T.S.



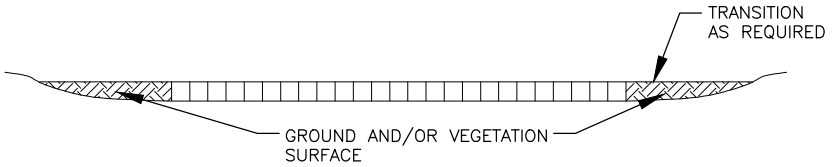
TYPICAL PLAN VIEW

NOTES:

1. TO BE INSTALLED IF NECESSARY TO PREVENT RUTTING, TO ACCESS STRUCTURES.
2. THIS DETAIL SHOWS TYPICAL DIMENSIONS. SOME CONTRACTORS SWAMP MATS ARE DIMENSIONALLY DIFFERENT FROM WHAT IS SHOWN HERE.
3. DEPENDENT ON SITE CONDITIONS, MULTIPLE LAYERS OF SWAMP MATS MAT BE INSTALLED.



SECTION A–A
TYPICAL MAT SECTION



TYPICAL SECTION VIEW

TYPICAL SWAMP MAT DETAIL

N.T.S.

STANDARD AND SPECIFICATIONS FOR TOPSOILING

Definition

Spreading a specified quality and quantity of topsoil materials on graded or constructed subsoil areas.

Purpose

To provide acceptable plant cover growing conditions, thereby reducing erosion; to reduce irrigation water needs; and to reduce the need for nitrogen fertilizer application.

Conditions Where Practice Applies

Topsoil is applied to subsoils that are droughty (low available moisture for plants), stony, slowly permeable, salty or extremely acid. It is also used to backfill around shrub and tree transplants. This standard does not apply to wetland soils.

Design Criteria

1. Preserve existing topsoil in place where possible, thereby reducing the need for added topsoil.

2. Conserve by stockpiling topsoil and friable fine textured subsoils that must be stripped from the excavated site and applied after final grading where vegetation will be established.

3. Refer to USDA Soil Conservation Service (presently Natural Resource Conservation Service) soil surveys or soil interpretation record sheets for further soil texture information for selecting appropriate design topsoil depths.

Site Preparation

1. As needed, install erosion control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.

2. Complete rough grading and final grade, allowing for depth of topsoil to be added.

3. Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be decompacted to a minimum depth of 12 inches with a deep ripper or chisel plow prior to topsoiling.

4. Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

Topsoil Materials

1. Topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.

2. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.

3. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.

4. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.

5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.

Application and Grading

1. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.

2. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by “tracking” with suitable equipment.

3. Apply topsoil in the following amounts:

Site Conditions	Intended Use	Minimum Topsoil Depth
1. Deep sand or loamy sand	Mowed lawn	6 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	1 in.
2. Deep sandy loam	Mowed lawn	5 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	none
3. Six inches or more: silt loam, loam, or silt	Mowed lawn	4 in.
	Tall legumes, unmowed	1 in.
	Tall grass, unmowed	1 in.

STANDARD AND SPECIFICATIONS FOR PROTECTING VEGETATION DURING CONSTRUCTION

Definition

The protection of trees, shrubs, ground cover and other vegetation from damage by construction equipment.

Purpose

To preserve existing vegetation determined to be important for soil erosion control, water quality protection, shade, screening, buffers, wildlife habitat, wetland protection, and other values.

Condition Where Practice Applies

On planned construction sites where valued vegetation exists and needs to be preserved.

Design Criteria

1. Planning Considerations

   A. Inventory:

      1) Property boundaries, topography, vegetation and soils information should be gathered. Identify potentially high erosion areas, areas with tree windthrow potential, etc. A vegetative cover type map should be made on a copy of a topographic map which shows other natural and manmade features. Vegetation that is desirable to preserve because of its value for screening, shade, critical erosion control, endangered species, aesthetics, etc., should be identified and marked on the map.

      2) Based upon this data, general statements should be prepared about the present condition, potential problem areas, and unique features of the property.

   B. Planning:

      1) After engineering plans (plot maps) are prepared, another field review should take place and recommendations made for the vegetation to be saved. Minor adjustments in location of roads, dwellings, and utilities may be needed. Construction on steep slopes, erodible soils, wetlands, and streams should be avoided. Clearing limits should be delineated (See Section 2).

      2) Areas to be seeded and planted should be identified. Remaining vegetation should blend with their surroundings and/or provide special function such as a filter strip, buffer zone, or screen.

      3) Trees and shrubs of special seasonal interest, such as flowering dogwood, red maple, striped maple, serviceberry, or shadbush, and valuable potential shade trees should be identified and marked for special protective treatment as appropriate.

      4) Trees to be cut should be marked on the plans. If timber can be removed for salable products, a forester should be consulted for marketing advice.

      5) Trees that may become a hazard to people, personal property, or utilities should be removed. These include trees that are weak-wooded, disease-prone, subject to windthrow, or those that have severely damaged root systems.

      6) The vigor of remaining trees may be improved by a selective thinning. A forester should be consulted for implementing this practice.

2. Measures to Protect Vegetation

   A. Limit soil placement over existing tree and shrub roots to a maximum of 3 inches. Soils with loamy texture and good structure should be used.

   B. Use retaining walls and terraces to protect roots of trees and shrubs when grades are lowered. Lowered grades should start no closer than the dripline of the tree. For narrow-canopied trees and shrubs, the stem diameter in inches is converted to feet and doubled, such that a 10 inch tree should be protected to 20 feet.

C. Trenching across tree root systems should be the same minimum distance from the trunk, as in “B”. Tunnels under root systems for underground utilities should start 18 inches or deeper below the normal grounds surface. Tree roots which must be severed should be cut clean. Backfill material that will be in contact with the roots should be topsoil or a prepared planting soil mixture.

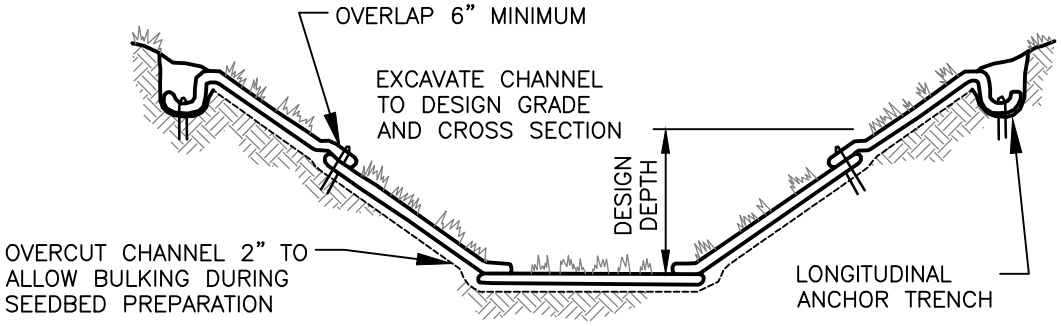
D. Construct sturdy fences, or barriers, of wood, steel, or other protective material around valuable vegetation for protection from construction equipment. Place barriers far enough away from trees, but not less than the specifications in "B", so that tall equipment such as backhoes and dump trucks do not contact tree branches.

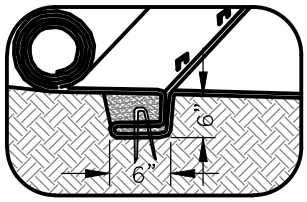
E. Construction limits should be identified and clearly marked to exclude equipment.

F. Avoid spills of oil/gas and other contaminants.

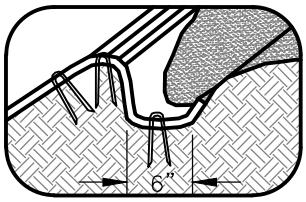
G. Obstructive and broken branches should be pruned properly. The branch collar on all branches whether living or dead should not be damaged. The 3 or 4 cut method should be used on all branches larger than two inches at the cut. First cut about one-third the way through the underside of the limb (about 6-12 inches from the tree trunk). Then (approximately an inch further out) make a second cut through the limb from the upper side. When the branch is removed, there is no splintering of the main tree trunk. Remove the stub. If the branch is larger than 5-6 inches in diameter, use the four cut system. Cuts 1 and 2 remain the same and cut 3 should be from the underside of the limb, on the outside of the branch collar. Cut 4 should be from the top and in alignment with the 3rd cut. Cut 3 should be 1/4 to 1/3 the way through the limb. This will prevent the bark from peeling down the trunk. Do not paint the cut surface.

H. Penalties for damage to valuable trees, shrubs, and herbaceous plants should be clearly spelled out in the contract.

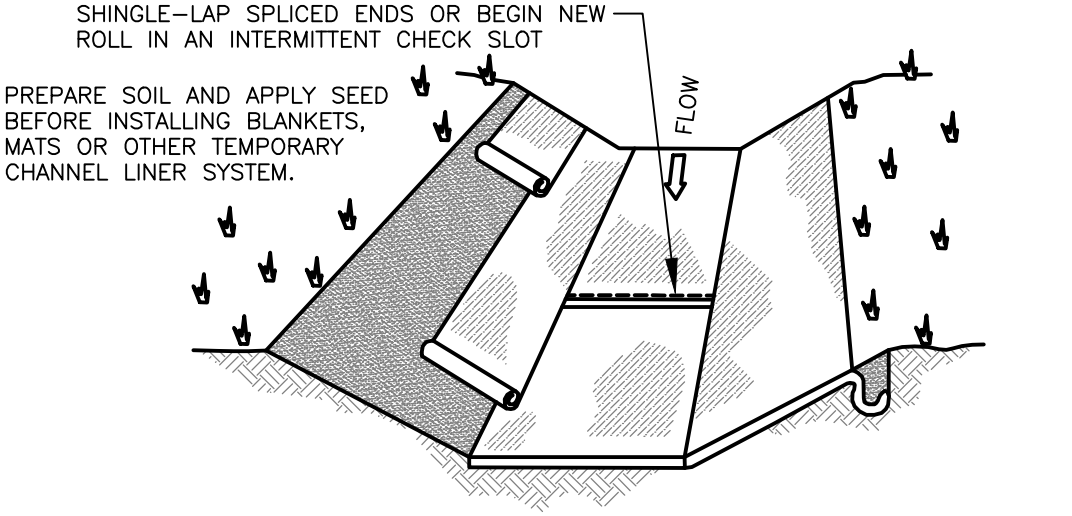




TYPICAL INSTALLATION WITH EROSION CONTROL BLANKETS OR TURF REINFORCEMENT MATS



INTERMITTENT CHECK SLOT **LONGITUDINAL ANCHOR TRENCH**



NOTES:

1. DESIGN VELOCITIES EXCEEDING 2 FT/SEC REQUIRE TEMPORARY BLANKETS, MATS OR SIMILAR LINERS TO PROTECT SEED AND SOIL UNTIL VEGETATION BECOMES ESTABLISHED.

2. GRASS–LINED CHANNELS WITH DESIGN VELOCITIES EXCEEDING 6 FT/SEC SHOULD INCLUDE TURF REINFORCEMENT MATS.

GRASS–LINED CHANNEL TYPICAL INSTALLATION

N.TS.

Exhibit 10: Miscellaneous Mapping and Documentation

- EPA Designated Sole Source Aquifer Map and Information
- New York State Primary Aquifer Map
- National Wetland Inventory Maps
- NYSDEC Environmental Resource Map
- SHPO CRIS Map
- NYSDEC Stormwater Resource Map
- NRCS Web Soil Survey Soil Maps
- Watershed Maps and Information
- FEMA Flood Maps

Region 2 Water

Sole Source Aquifers

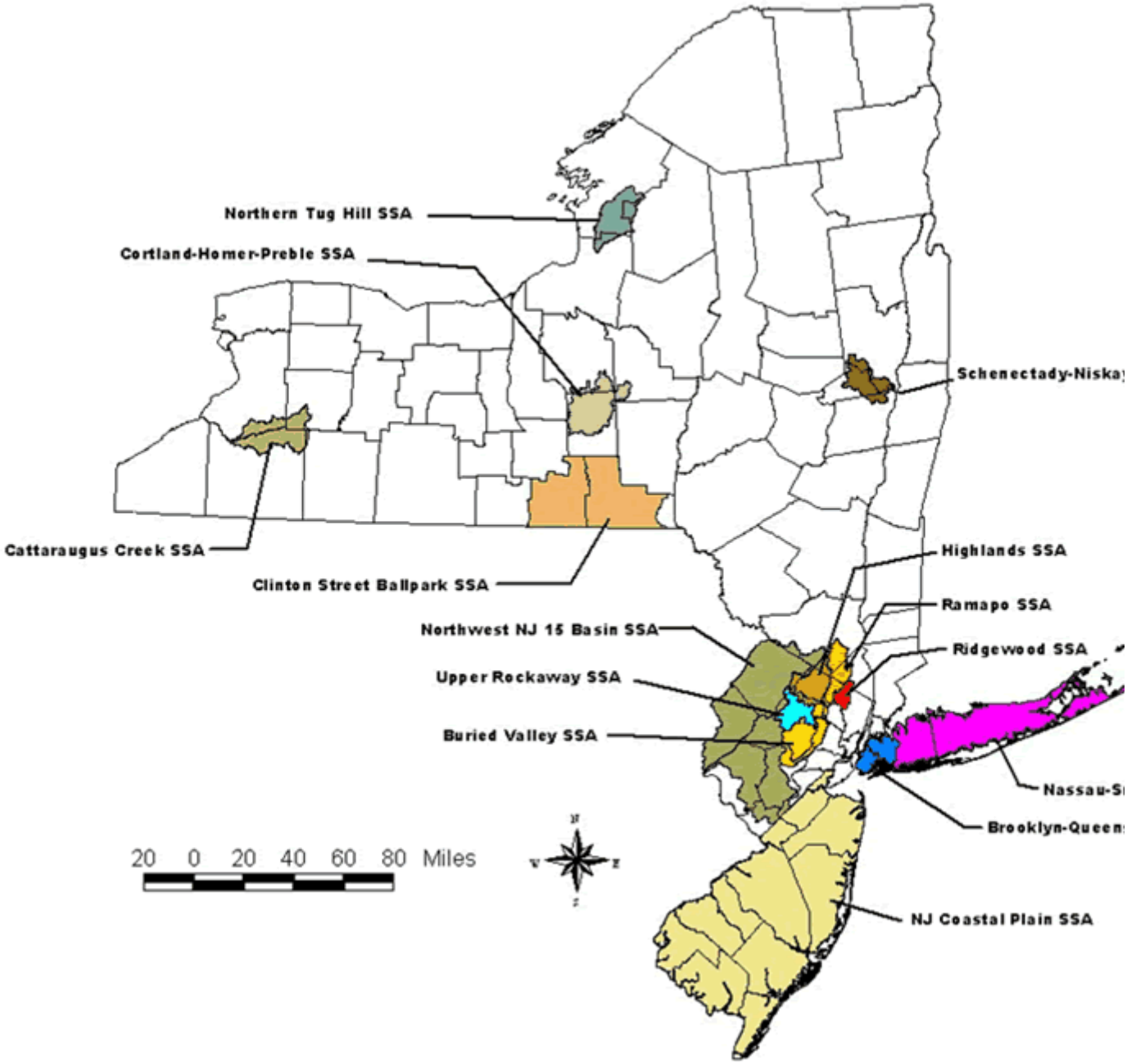
Relat

- Sole So Prograı
- Petitior
- FAQs [
- 40 CFR
- Sectior

Sole Source Aquifer designation is one tool to protect drinking water supplies in areas with few or no alternative sources to the ground water resource, and where if contamination occurred, using an alternative source would be extremely expensive. The designation protects an area's ground water resource by requiring EPA to review all proposed projects within the designated area that will receive federal financial assistance. All proposed projects receiving federal funds are subject to review to ensure they do not endanger the ground water source.

EPA defines a sole or principal source aquifer as one which supplies at least fifty percent (50%) of the drinking w the area overlying the aquifer. These areas can have no alternative drinking water source(s) which could physica economically supply all those who depend upon the aquifer for drinking water. For convenience, all designated so source aquifers are referred to as "sole source aquifers" (SSA).

If you are interested in petitioning the EPA to make a designation, please consult the Sole Source Aquifer Prograı Guidance or contact EPA for assistance.

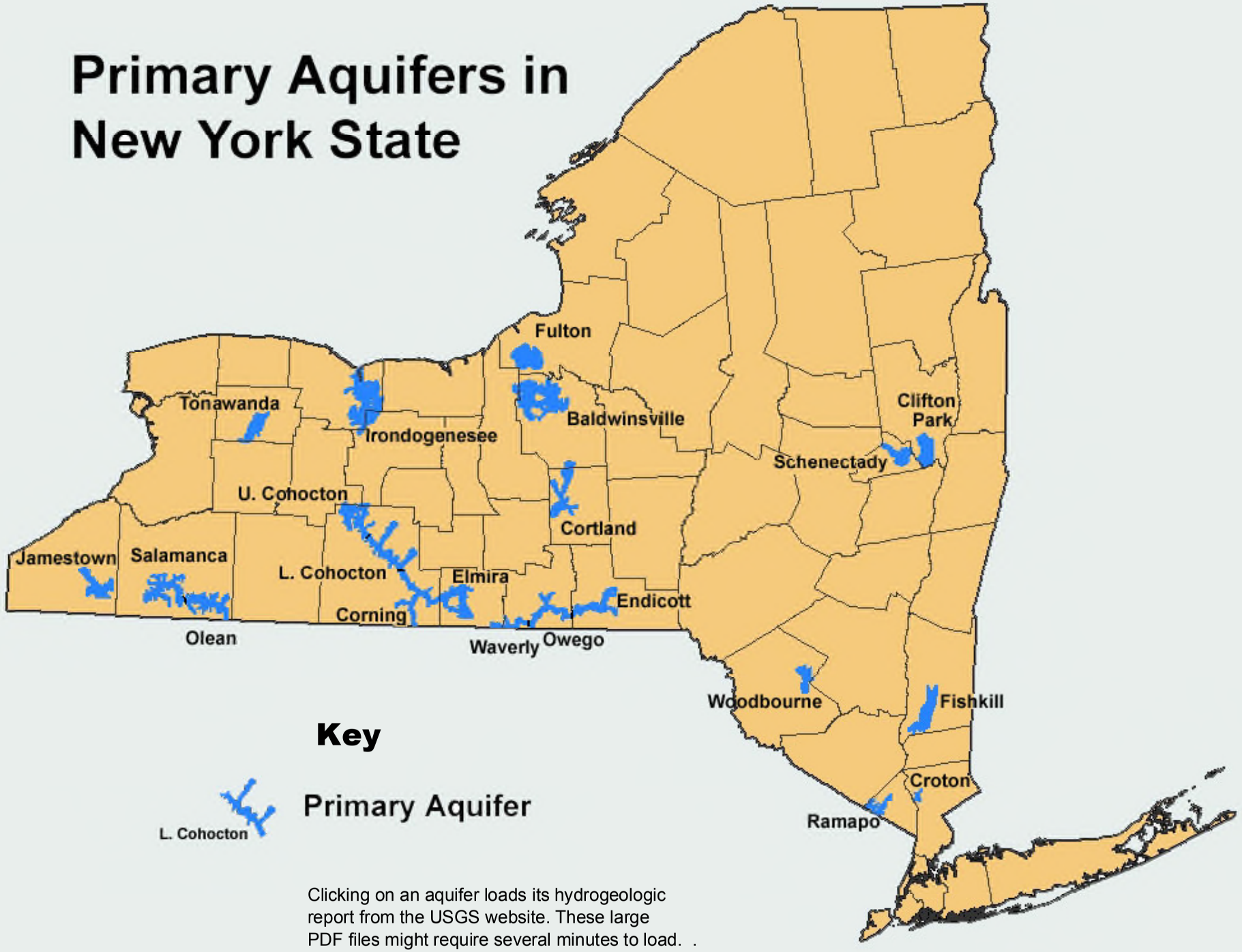


DESIGNATED SOLE SOURCE AQUIFERS

State	Name	Federal Register	Date	GI Ma
NJ	Buried Valley Aquifers, Central Basin, Essex and Morris Counties	45 FR 30537	05/08/80	Ye
NJ	Upper Rockaway River Basin	49 FR 2946	01/24/84	Ye
NJ	Ridgewood Area Aquifers	49 FR 2943	01/24/84	Ye
NJ/NY	Highlands Aquifer System Passaic,Morris & Essex Co's NJ; Orange Co. NY	52 FR 37213	10/05/87	Ye
NJ/DE/PA	New Jersey Coastal Plain Aquifer System	53 FR 23791	06/24/88	Ye
NJ/NY	New Jersey Fifteen Basin Aquifers	53 FR 23685	06/23/88	Ye
NJ/NY	Ramapo River Basin Aquifer Systems	57 FR 39201	O8/28/92	Ye
		43 FR		

NY	Nassau/Suffolk Co., Long Island	26611	06/21/78	Ye
NY	Kings/Queens Counties	49 FR 2950	01/24/84	Ye
NY	Schenectady/Niskayuna	50 FR 2022	01/14/85	Ye
NY	Clinton Street-Ballpark Valley Aquifer System, Broome and Tioga Co's	50 FR 2025	01/14/85	Ye
NY	Cattaraugus Creek Basin Aquifer, WY & Allegany Cos.	52 FR 36100	09/25/87	Ye
NY	Cortland-Homer-Preble Aquifer System	53 FR 22045	06/13/88	Ye
NY	Northern Tug Hill Glacial Aquifer	71 FR 64524	11/02/06	Ye

Primary Aquifers in New York State



Key

Primary Aquifer

Clicking on an aquifer loads its hydrogeologic report from the USGS website. These large PDF files might require several minutes to load. .

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands Map

Apr 27, 2015

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

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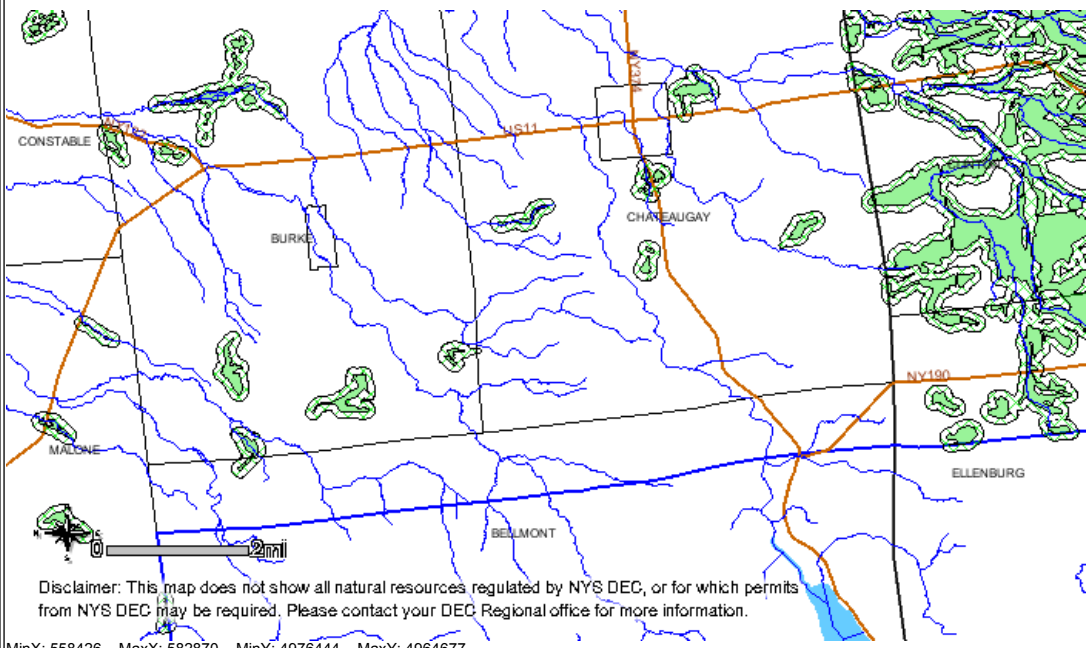
Please set your printer orientation to "Landscape".

NYSDEC Environmental Resource Map



MinX: 558426, MaxX: 582870, MinY: 4976444, MaxY: 4964677

Visible Layers

- Classified Streams
- Classified Ponds
- State-Regulated Freshwater Wetlands
- Wetland Checkzone
- State-Regulated Freshwater Wetlands
- Rare Plants and Rare Animals
- Significant Natural Communities Buffered
- Natural Communities Nearby
- Significant Natural Communities
- Interstate Highways
- Adirondack Park Boundary
- Counties

CRIS Cultural Resource Information System

HOME SUBMIT SEARCH COMMUNICATE

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Version 1.0.15, April 14, 2015

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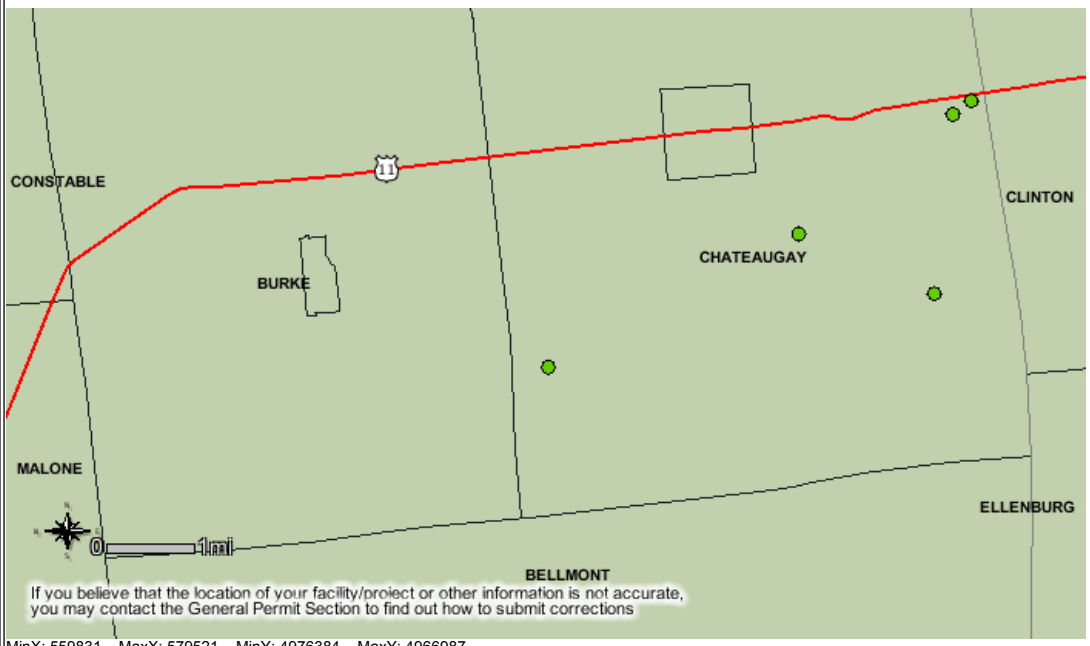
Please set your printer orientation to "Landscape".

NYSDEC Stormwater Map



MinX: 559831, MaxX: 579521, MinY: 4976384, MaxY: 4966987

Visible Layers

- Permits
- Combined Sewer Overflow
- Watershed Improvement Strategy Area
- 27 Long Island Shellfish Watersheds
- Greenwood Lake
- NYC EOH Watershed
- Onondaga Lake
- Oscawana Lake
- Oyster Bay
- Peconic Nitrogen
- Peconic Pathogen
- Regulated MS4s
- Automatic
- Designation 2003
- Designation 2008
- Designation 2010
- 303D Streams Construction
- 303D Estuary Construction
- 303D Lake Construction
- 1-Year 24-Hour Rainfall
- 90 Percentile Rainfall
- Class AA AAS Watersheds
- Regions
- DEC Region 1
- DEC Region 2
- DEC Region 3
- DEC Region 4
- DEC Region 5
- DEC Region 6

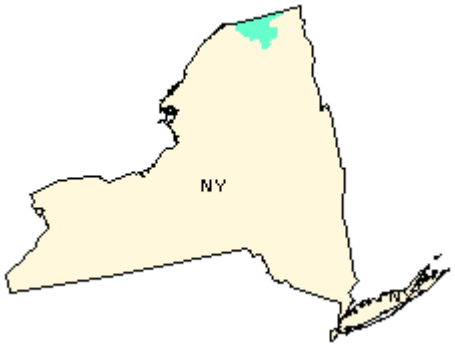
http://cfpub.epa.gov/surf/huc.cfm?huc_code=04150307
Last updated on Monday, April 27, 2015

Surf Your Watershed

English-Salmon Watershed -- 04150307

English-Salmon

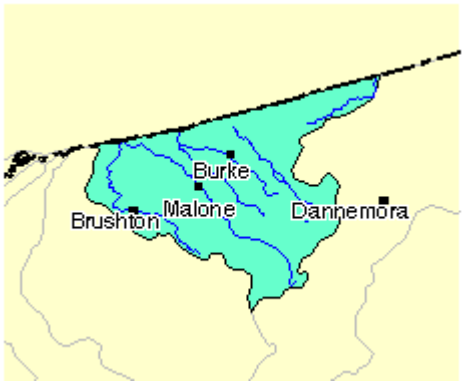
Watershed Profile



Watershed Name: English-Salmon
USGS Cataloging Unit: 04150307
NY 23th Congressional District

Citizen-based Groups at work in this watershed (Provided by Adopt your Watershed)

Water quality monitoring data from this watershed (Provided by STORET)



Environmental Websites Involving this Watershed

Assessments of Watershed Health

- Impaired Water for this watershed
- *Assessed Waters by Watershed*
  - New York

Information provided by the United States Geological Survey (USGS) EXIT Disclaimer

- Stream Flow (Source: USGS)
- Science in Your Watershed
- Water use data (1985-2000): Information about the amount of water used and how it is used.
- Selected USGS Abstracts

Places Involving this Watershed

Counties:
- Clinton
- St. Lawrence
- Franklin

National Estuary Programs:
- None

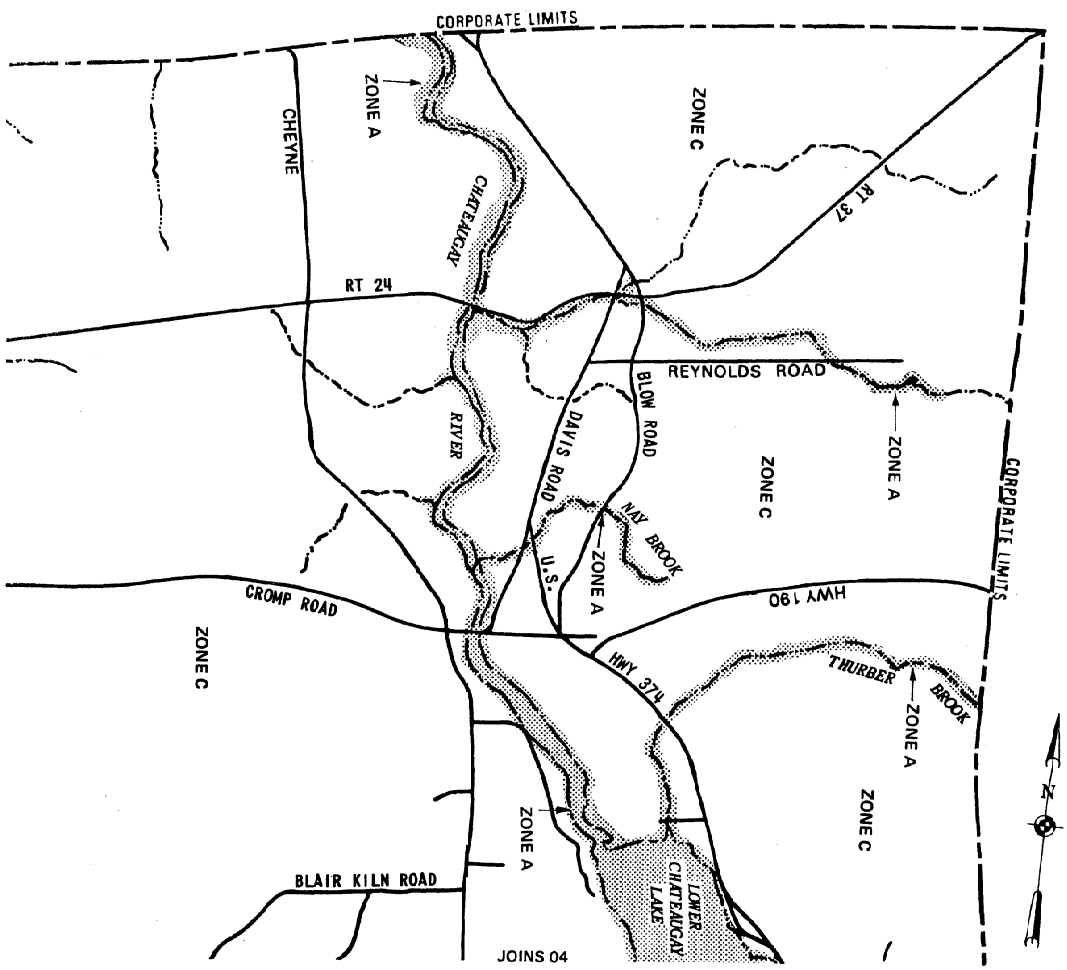
States:
- New York

Other Watersheds Upstream:
- None

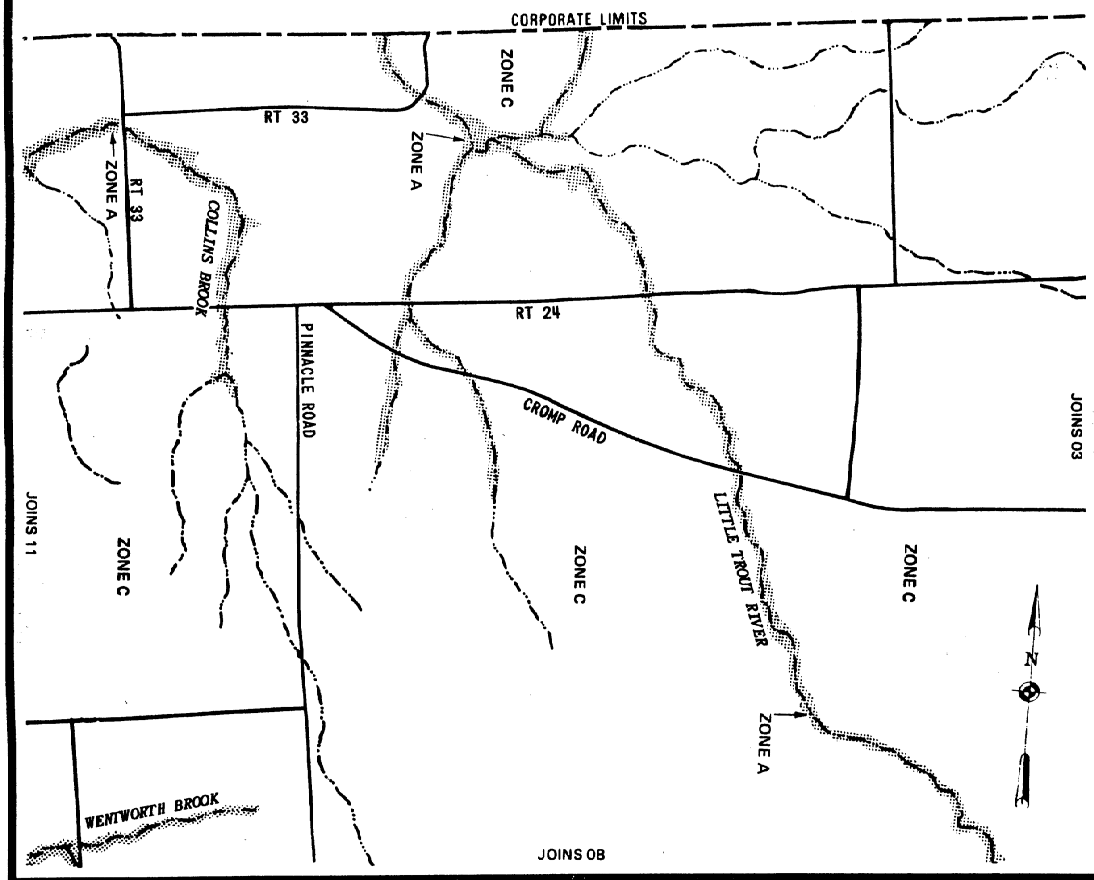
Other Watersheds Downstream:
- None

Visit the Envirofacts Warehouse to retrieve environmental information from EPA databases on Air, Community Water Sources, Water Dischargers, Toxic Releases, Hazardous Waste, and Superfund Sites
Geographic searches include zip code, city, EPA Region, or county.

Disclaimer | Comments



03	federal emergency management agency **TOWN OF BELLMONT, NY** (FRANKLIN COUNTY)	APPROXIMATE SCALE 1000 0 1000 2000 3000 FEET **FLOOD INSURANCE RATE MAP** **COMMUNITY NUMBER 361392 A**	EFFECTIVE DATE AUGUST 5, 1985



07

federal emergency management agency

TOWN OF BELLMONT, NY

(FRANKLIN COUNTY)

APPROXIMATE SCALE

1000 0 1000 2000 3000 FEET

FLOOD INSURANCE RATE MAP

COMMUNITY NUMBER 361392 A

EFFECTIVE DATE

AUGUST 5, 1985

Exhibit 11: SWPPP Amendments

CONR 8
(06/08)

SPEDES STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REVISION

Clear Form

JOB STAMP

Date of Revision: _____

Sheet No. _____ of _____ Sheets

This form is to be used when revisions to the current Stormwater Pollution Prevention Plan (SWPPP) are required by SPDES General Permit for Construction Activity [GP-0-10-001]. The completed form must be filed in the Engineer's Field Office

Reason for the Revision(s): Revision(s) were requested by NYSDEC: ☐ Yes ☐ No

Describe the Revision(s) to the SWPPP:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature: _____

Date Prepared: _____ Date Submitted: _____ Date Copy Sent to Contractor: _____

Engineer-in-Charge Name/Title
(w/Firm Name, If Consultant): _____

Print Form


FISHER
ASSOCIATES