



STORMWATER POLLUTION PREVENTION PLAN (SWPPP) For Construction Activity

LOCKWOOD ASH DISPOSAL SITE

Prepared on behalf of:

Lockwood Hills LLC
590 Plant Road
P.O. Box 187
Dresden, New York 14441

Prepared by:



2620 Grand Island Blvd.
Grand Island, New York 14072-2131

June 2019

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Lockwood Hills LLC

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1 GENERAL SITE DESCRIPTION

1.1 BACKGROUND

The Lockwood Ash Disposal Site is owned and operated by Lockwood Hills LLC. The operation of the Landfill has been carried out in accordance with the requirements of 6 NYCRR Part 360 Solid Waste Management Facility Permit No. 8-5736-00005/00003. Leachate discharge from the site is managed in accordance with the requirements of State Pollutant Discharge Elimination System (SPDES) Permit No. NY-0107069. The Site is identified on the map in Figure 1-1.

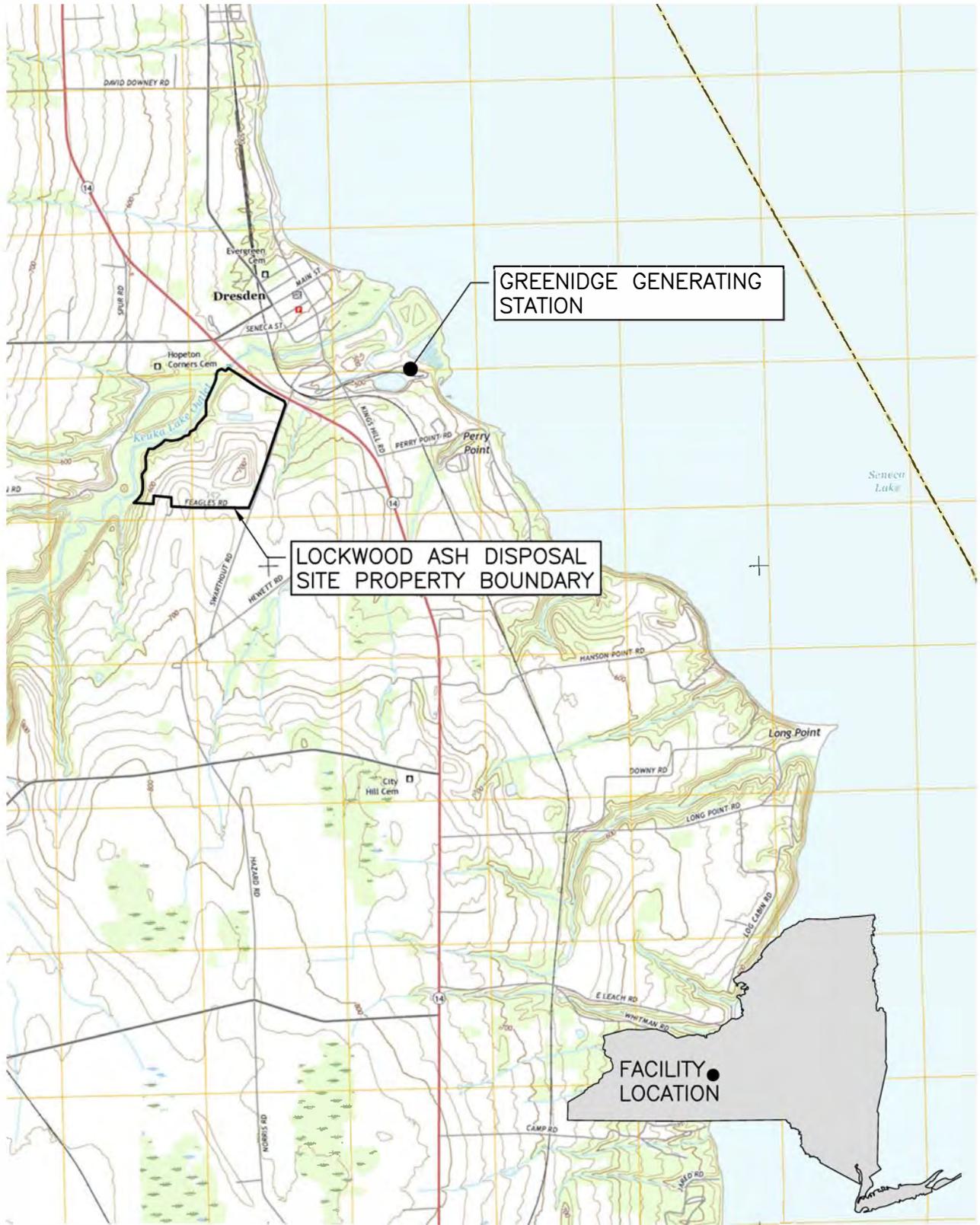
Lockwood Hills agreed to execute a Consent Order (Case No. R8-20140710-47) with the New York State Department of Environmental Conservation (NYSDEC) to separate stormwater from the leachate management system, remove and dispose of sediment in the existing leachate pond, and treat and dispose of leachate in an approved leachate management system.

Consistent with the Project Manual drafted for this work, the construction efforts covered by this Stormwater Pollution Prevention Plan (SWPPP) include the following:

- Stormwater Erosion and Sediment Controls
- Construction of the Leachate Storage and Transfer Area;
- Construction of the Sediment Drying and Disposal Area;
- Settling Pond sediment removal and regrading;
- Sediment drying and disposal;
- Construction of a Leachate Sewer and Stepped Cascade Aerator;
- Construction of Settling Pond Discharge Structures
- Installation of Settling Pond containment liner system;
- Project Site restoration; and,
- Other miscellaneous work.

A staging area is also being constructed as part of this effort.

Q:\Lockwood Hills LLC\ACAD\PDF\SITE LOCATION MAP.dwg 5/2/2018 1:25 PM



GREENIDGE GENERATING STATION

LOCKWOOD ASH DISPOSAL SITE PROPERTY BOUNDARY

FACILITY LOCATION

SITE LOCATION MAP

LOCKWOOD HILLS LLC

TOWN OF TORREY

YATES COUNTY

NEW YORK

May 2018

SCALE: NOT TO SCALE

REVISION # 0

**FIGURE
1-1**

1.2 SWPPP REQUIREMENTS

Construction activity will require Lockwood Hills to file a Notice of Intent (NOI) for coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-15-002). This permit will cover the facility's stormwater discharges to surface waters of the State during construction. A copy of the permit is provided in Attachment 1 and a copy of the NOI in Attachment 2. The construction activity is expected to have about a four-month duration. Once the Notice of Termination (NOT) of coverage under the permit is submitted, a copy shall be retained in Attachment 2.

Prior to submittal of the NOI, this SWPPP was prepared to address the construction activities at the site and identify the appropriate best management practices (BMPs). Post-construction operations at this facility will be covered under the site's modified individual SPDES permit.

1.3 PHASED CONSTRUCTION SEQUENCE

Attachment 3 contains a full set of construction drawings prepared for this project. A soil management and erosion control plan consistent with the construction drawings was prepared by the selected contractor and is provided in Attachment 4. Stormwater runoff flow pathways, outfalls, and Phase areas were added to the soil management and erosion control plan, as seen in Attachment 4. The following summarizes the proposed construction approach and sequence. Maximum areas of disturbance for each Phase are as indicated in parentheses. As the construction schedule provided by the contractor indicates, these three phases do not overlap. Therefore, the maximum of 5-acres of disturbance at any given time is not expected not be exceeded.

1.3.1 Phase 1 – Preconstruction (2.46 acres)

Phase 1 begins with contractor mobilization. The installation of erosion and sediment controls including the temporary construction fencing, silt fence, and stabilized construction entrances, and construction of the staging or laydown area are the main construction activities occurring during this phase. This phase will be considered complete when the laydown area is observed to be stabilized with one foot of 10-inch crushed gravel and two inches of No. 2 crushed, washed

stone and the surrounding area is observed to be sufficiently vegetated. No excessive turbidity should be visible in the adjacent swale.

1.3.2 Phase 2- Leachate Storage and Transfer Area (2.25 acres)

Phase 2 begins with clearing and grubbing of the area designated for the Leachate Storage and Transfer Area. This phase includes excavation and soil stockpiling, installation of groundwater drains, the secondary containment basin liner system, leachate sewer piping with pipe bridge and gate valve, and three temporary, fixed-axle, V-bottomed tanks. By the end of Phase 2 leachate flow will be diverted with a temporary plug in the outlet from the Common MH-1 to the temporary storage tanks. The phase will be considered complete when hydroseeding activity is complete and the surrounding vegetation is well established.

1.3.3 Phase 3 – Settling Pond (4.85 acres)

Phase 3 includes restoration of the existing Leachate Pond and construction of the settling pond. After the Leachate Pond is completely drained, accumulated sediments within the Leachate Pond will be moved to a sediment disposal area constructed within the landfill footprint. Once sediment removal is complete, construction of the settling pond will commence. Construction activities will include excavation and shaping of the settling pond, compacted fill placement, subgrade preparation, liner system installation, and installation of infrastructure (cascade aerator, outlet control structures, valves, and pipes). Once Phase 3 construction is completed, the leachate will be redirected from the temporary leachate storage tanks and the new leachate management system, including the cascade aerator and settling pond, will begin operating. For the purpose of this SWPPP and SPDES Construction Stormwater General Permit coverage, Phase 3 will be considered complete following restoration of the work area and access roads including placement of fresh stone and establishment of vegetation.

1.4 ONSITE SOIL AND RECEIVING WATERS

Utilizing Web Soil Survey (WSS) provided by the National Resource Conservation Service (NRCS), a description of the soil possibly disturbed as a result of construction was obtained. The Hydrogeological Soil Group (HSG) of the onsite soil is mainly Udorthents soils comprised of refuse and fill material within the footprint of the existing landfill and leachate pond and areas immediately to the east. Howard Soils including Howard gravelly loam can be found north of the

existing leachate pond. Grades not within the footprint of the landfill range from 0-25 percent. A map of the area of interest including limits of each HSG is included in Attachment 5.

Stormwater associated with construction of the sediment disposal area and the Leachate Pond improvements will discharge into an existing sediment trap before entering a channel directed towards Keuka outlet, eventually draining into Seneca Lake. Stormwater associated with construction of the leachate transfer and storage area will be largely retained. Once the secondary containment discharge pipe and valve is installed, discharge from the area will be directed to a low point on the north side of the access road and will make its way through an undefined channel to a culvert that passes under Route 14 in the northeast corner of the Site. Stormwater associated with the staging area or the construction laydown area will drain the east and be collected by the roadside channel along Swarthout Road. Stormwater flows and pathways for this construction activity are indicated by the arrows on the soil management and erosion control plan in Attachment 4.

2 POLLUTION PREVENTION

2.1 POLLUTION PREVENTION TEAM

Coordinating a team of individuals involved in pollution prevention will be the main pollution prevention measure to control litter, construction chemicals, and construction debris from becoming a pollutant source in stormwater discharges. This is in addition to the erosion and sediment controls (ESCs) described in Section 3.4. This will fall under the responsibility of Contracting Manager for maintaining the integrity of all pollution prevention measures and the Construction Quality Assurance (CQA) Manager for inspecting the pollution prevention measures and sources. The team assists the CQA Manager in implementing, maintaining, and revising the SWPPP if needed. Table 1 lists the individuals and their responsibilities in pollution prevention. Section 2.2 describes the onsite activities and associated pollutants related to each.

Table 1: Pollution Prevention Team

Title	Responsibilities
Daigler Engineering CQA Management	<ul style="list-style-type: none">• Enforce the SWPPP• Educate Contracting Manager of pollution sources• Conduct routine visual inspections of all potential pollution sources and pollution prevention measures at least once a week• Bring any issues identified to the Contracting Manager's attention
Head of Construction – Contracting Manager	<ul style="list-style-type: none">• Educate Construction Staff on BMPs• Conduct routine visual inspections of all potential construction pollution sources• Coordinate construction team for immediate response to any issues identified by the CQA manager's inspections
Construction Staff.	<ul style="list-style-type: none">• Ensure BMP are adhered to and practiced at all times• Assist in identification of potential pollution issues

The CQA Manager onsite is responsible for educating the Contracting Manager on all construction pollution sources and activities related to each. Routine inspections of all pollution sources and management measures will be completed by a qualified inspector with the appropriate qualifications as listed in Part IV.C of the SPDES General Permit for Construction

Activities. The inspection schedule can be found in Section 4. If any issues regarding pollution sources are identified, the contractor shall begin implementing corrective actions within one business day and have the issue completely resolved within one week.

The Contracting Manager is responsible for the management of each potential pollutant source related to construction activities, and for the education of the construction staff on the construction activities that may cause a pollutant release to surface water. Through this, an increased number of individuals will be able to identify an issue regarding potential pollutant sources. The Contracting Manager also coordinates with the CQA Manager and reports any issues that may cause a rise for concern.

The construction staff will be informed on the potential pollution sources and will use BMPs to help limit the possibility for a release. Constant communication with the Contracting Manager will be established to shorten resolution response time.

2.2 POLLUTION SOURCES

The following table contains a list of industrial activities present at the site during construction. For each location identified, potential pollutants associated with that activity or material have been described. The soil management and erosion controls plan in Attachment 4 shows the locations of each activity described. Earth/soil moving and vehicle operation activities will occur throughout the site.

Table 2: Summary of Potential Pollutants and Pollutant Sources

Industrial Activity	Potential Pollutants
Temporary Soil/Aggregate Stockpiles	Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Turbidity
Earth/Soil Moving	TSS, TDS, Turbidity
Vehicle Operation	Diesel Fuel, Gasoline, Oils, Greases, Metals
Stabilized Construction Entrance and Construction Roads	TSS, TDS, Turbidity, Oils, Greases

3 STORMWATER CONTROLS

3.1 GOOD HOUSEKEEPING

The implementation of good housekeeping practices not only aims to prevent accidental and unwanted discharges, but will promote a safe working environment. To prevent the potential for stormwater pollution and to keep exposed areas clean, good housekeeping practices shall be implemented throughout the site.

Regular visual inspections of all BMPs shall be conducted and documented by a qualified inspector at least once every seven calendar days. The goal of these inspections is to evaluate the performance, condition, and possible maintenance needs of existing stormwater BMPs to avoid situations that may result in the practice becoming a source of pollutants.

Regular visual inspections of all ESCs shall also be conducted at least once every seven calendar days by a qualified inspector. When disturbance of more than five acres of soil at any one time occurs at the site, two site inspections every seven calendar days will be conducted, separated by a minimum of two full calendar days. It is anticipated that the required construction will result in greater than five acres of disturbance for the majority of the four-month project duration.

If stormwater impacts are identified, appropriate action will be taken to alleviate the problem. When possible, corrective actions shall begin being implemented within one business day and be fully implemented within seven calendar days of the inspection.

Routine inspections of all BMPs (other than erosion and sediment controls, see Section 3.4) shall include the following:

- Vehicle and equipment staging areas;
- Areas used for storage of soil that are exposed to precipitation;
- Locations where equipment and construction vehicles enter and exit the site;
- Litter and garbage;
- All stormwater discharge points; and
- Other potential sources of pollution.

A blank SWPPP inspection form is provided in Attachment 6 of this SWPPP. Copies of completed forms should be inserted into Attachment 6 immediately following each inspection and maintained for five years from the termination of this permit. Additionally, color digital photographs shall be printed within seven calendar days of the inspection and maintained along with the inspection form. If corrective action is taken, photographs after the remedy is employed should also be appended to the inspection form.

3.2 PREVENTATIVE MAINTENANCE PLAN

Preventative maintenance programs are important at any construction site in order to avoid stormwater pollution. Inspecting, maintaining, and repairing construction equipment and BMPs, as well as documenting any maintenance performed on a regular basis will allow for the continued operation of such systems and the minimization of stormwater contamination. Regular inspections will aid in identifying required maintenance on ineffectively operating BMPs. Routine maintenance of all construction equipment and ESCs will be handled by the contractor. Preventative maintenance should be completed prior to the next anticipated storm event to maintain the effectiveness of stormwater controls. Attachment 7 provides a form to document all maintenance activities. An entry on this form should be filled out accordingly and maintained in the SWPPP.

3.3 SPILL PREVENTION AND RESPONSE

The presence of construction vehicles onsite leads to the possibility of fuel and/or oil leakage throughout the site. Routine visual inspections of the construction vehicles will limit the possibility of these petroleum products mixing with the surface waters onsite. This will be done before the startup of each construction vehicle used onsite by the operator. Inspection of all construction vehicles falls under the responsibility of the contractor.

If stormwater contamination or the potential for stormwater contamination by petroleum products is detected, proper cleanup methods to alleviate the problem shall be taken which include the use of spill kits, dry absorbents, wet vacuum, etc. The issue shall be documented on the form in Attachment 8 and reported to the CQA manager. Used spill kits and absorbents shall be properly disposed of and new materials restocked in their proper locations for future use.

3.4 EROSION AND SEDIMENT CONTROLS (ESCs)

The construction of ESCs prior to land disturbance is important to prevent potential discharges to surface waters due to eroded soils. As such, regular visual inspections of all ESCs shall be conducted and documented by a qualified inspector as discussed in Section 3.1. The routine inspection will aid in determining the effectiveness of the constructed ESCs.

During construction, erosion may result during the construction of roads, the staging or laydown area, the leachate storage and transport area, the confined disposal area, and the leachate treatment system. Prior to any soil disturbance occurring, ESCs will be constructed to minimize erosion. Erosion also may result from soil stockpile and grading areas.

The following sections describe some of the specific ESCs that will be employed at the site to minimize or prevent stormwater contamination in accordance with the NYS Standards and Specifications for Erosion and Sediment Control, November 2016. Construction details of each ESC are located in Attachment 10. The soil management and erosion control plan in Attachment 4 depicts the specific locations and types of controls that shall be employed before and during the construction operation. Should additional ESCs be constructed, the plan and this SWPPP shall be updated.

3.4.1 Orange Construction Fencing

The placement of orange (temporary) construction fencing at the limit of work will divert vehicles and equipment from disturbing a larger area than necessary. By not disturbing the soils, loose soils can be minimized reducing sediment loading. Additionally, areas of the site which are desirable to be preserved such in the immediate vicinity of monitoring wells and the leachate meter pit and associated control panel and solar power system, can be delineated via orange construction fencing to prevent unnecessary intrusion.

3.4.2 Silt Fencing

Silt fence is a temporary ESC used to prevent sediment laden water from leaving the site. These sediment-trapping devices utilize a geotextile fabric to reduce the ability of runoff to transport sediment by slowing down runoff flowrates, increasing the amount of sedimentation, and by filtering and redistributing the runoff as water passes through the geotextile.

Proper function of silt fence relies on the following four installation criteria: (1) installation on a contour; (2) trenching of the ground surface and burial of sufficient geotextile to anchor; (3) support on the downstream side by strong posts with the fence pulled taut; and, (4) backfill and compaction of the fence. Additionally, the ends of the fence shall be turned upslope to prevent water ponded by the silt fence from flowing around the control. Sewn seams and overlaps are to be located at support posts made of wood or steel. Backup support (e.g., wire attached to the posts behind the silt fence) is recommended where extra strength is needed such as at the toe of a steep slope or where equipment is likely to push excessive soils towards the silt fence. Where trenching is not feasible, alternate ECSs shall be considered (e.g., compost filter sock).

In general, silt fence will be installed along the downstream edge of each area of disturbance and around the base of each stockpile area to intercept sediment laden runoff. The extent of silt fence installed at the site is shown on the soil management and erosion control plan in Attachment 4.

3.4.3 Stabilized Construction Entrance

A stabilized construction entrance will be utilized to minimize the amount of sediment and soil being tracked onto the main road adjacent to the site. The entrance to the construction area off the main access road and the entrance to the staging or laydown area will both be stabilized. The stabilized construction entrance will consist of a geotextile overlain with a minimum twelve-inch layer of No. 3 stone. The length of the entrance will be at a minimum of 50 feet long, at which time the stabilized construction entrance will transition into a stabilized construction road.

3.4.4 Stabilized Construction Road

In order to reduce the erosion of the main construction routes necessary for facility construction, routes frequented by construction vehicles will be stabilized with Type 2 Stone aggregate. This will help provide surface drainage and prevent ponding and rivets in the existing topography due to the highly frequented path of construction vehicles.

3.4.5 Inlet/Outlet Protection

Stabilized outlets from culverts, channels, or stormwater detention facilities are important to reduce the depth, velocity, and energy of water both temporarily and/or permanently. Rock riprap or other material is used for an erosion resistant transition area where concentrated or high velocity flows are reduced to help prevent erosion of the receiving stream or area. The minimum

thickness of the riprap layer shall be 1.5 times the maximum stone size for D50 of 15 inches or less and 1.2 times the maximum stone size for D50 greater than 15 inches. The selected stone shall consist of a well graded distribution to obtain a solid, compact layer of riprap thereby preventing erosion of the underlying ground surface. Inlet protection is used in conjunction with outlet protection to safeguard the approach area to drainage structures from erosion and scouring.

The location and size of the outlet protection including the selected riprap type, length of apron, and thickness of apron are shown on the construction drawings in Attachment 3.

3.4.6 Sediment Traps

Sediment traps are formed by an excavation and/or embankment and are used to intercept sediment-laden runoff and temporarily trap the sediment in order to protect downstream drainageways. An existing sediment trap is in-place downstream of the Leachate Pond and will be maintained in functioning order throughout this construction project.

Sediment is to be removed when it has accumulated to half of the design depth (approximately elevation 546) to maintain the effectiveness of the trap. Once sediment is removed, the sediment trap shall be restored to its original dimensions.

3.4.7 Straw Bales

The purpose of straw bales is to prevent sediment laden runoff from entering downstream control structures. For this project, straw bales are to be used if excessive turbidity is noted in any downstream drainage channel during visual inspection. The straw bales shall be bedded into the ground and anchored with wood stakes. Straw bales shall be replaced upon subsequent inspection if they are determined to be ineffective, decaying, or falling apart.

3.4.8 Stabilization

Mulching and seeding can aid in stabilizing disturbed areas stripped of grass. As such, erosion and sediment transport will be reduced. Disturbed and completed construction areas will be vegetated as soon as is practicable to stabilize the soil and minimize erosion. This will happen after final grading is complete. The seed mixture specification and application rates and techniques will be in accordance with the project's technical specifications.

Areas will be fertilized and mulched following seeding to provide enhanced growth and erosive force protection. Mulch will consist of clean hay, straw, or cellulose wood-fiber to preserve moisture and soil temperatures. In areas where nutrient dense topsoil has been stripped due to construction activities, a new layer of topsoil will be laid down before seeding and mulching.

3.5 STORMWATER MANAGEMENT CONTROLS

No new permanent stormwater management control structures are required as part of this project.

4 INSPECTION

The routine visual inspections shall be completed by a qualified inspector as defined in Part IV.C. of the SPDES General Construction Permit. The following table is the schedule for conducting inspections and documentation resulting from inspections:

Table 3: Inspection Schedule

Activity	Frequency	Accompanying Documentation
Good Housekeeping	Regularly	NA
Routine Visual Inspections of ECSs and Pollution Prevention Measures	Once every seven (7) days*	<ul style="list-style-type: none"> • Routine Visual Inspection Form (Attachment 6) • Site sketch • Maintenance Activities Form (Attachment 7), if necessary • Digital and Color copies of photographs with date stamp

*Assumes total disturbed area is maintained below 5-acres as provided by the construction schedule.

Every inspection conducted by a qualified inspector must be documented using the Routine Visual Inspection Report Form provided in Attachment (6). At a minimum, the inspection shall include and/or address the following:

- the active phases of construction, weather and soil conditions, and other notable activities occurring at the time of inspection;
- all drainage pathways must be observed from area of active disturbance to the point of discharge offsite. Two outfalls (A and B) have been identified on the soil management and erosion control plan. The condition of both outfalls need to be documented in the space provided on page 3 of the Visual Inspection Report Form;
- the proper installation, current condition, and effectiveness of all erosion and sediment control practices and pollution prevention measures must be inspected and documented; and

- any ESCs that need repairs, maintenance, or corrective actions should be noted on the Visual Inspection Report Form and step to ensure such repairs, maintenance or corrective actions are completed (see below) should be taken.

Each Visual Inspection Report Form shall be accompanied by appropriate sketches and photographs. Sketches should include the locations 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. Any evidence of stormwater pollution, erosional features, or ESCs in need of repair should also be located on the sketches. The Form in Attachment 6 includes base figures to be used for this purpose. Digital photographs, with date stamp, must clearly show the condition of all ESCs and outfalls. ESCs that have been identified as needing corrective actions must be fully documented.

Within one business day of the completion of an inspection, the qualified inspector shall notify the owner and appropriate contractor or subcontractor identified of any repairs, maintenance, or 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 timeframe. Documentation of this activity should be recorded on the Maintenance Activities Form found in Attachment 7. Photographs of the completed repairs shall be taken.

All pages of the Visual Inspection Report Form must be initialed and dated. Once the inspection is complete (i.e., any noted repairs, maintenance, or corrective actions have been completed and documented using the Maintenance Activities Form), the first page of the Form must also be signed by the qualified inspector who performed the inspection.

Within seven days of the date of the inspection, the completed forms, sketches, and printed color copies of the photographs must be appended to Attachment 6 the paper copy of the SWPPP being maintained in the field office onsite (see Section 5.2). Completed Maintenance Activities Forms and printed color copies of the associated photographs must be appended to Attachment 7 the paper copy of the SWPPP being maintained in the field office onsite.

5 SWPPP CERTIFICATION, AVAILABILITY, AND AMENDMENTS

5.1 CERTIFICATION OF THE SWPPP

The following statement certifies that the information contained within this SWPPP is accurate. The following duly authorized representative of Lockwood Hills LLC and the document preparer of Daigler Engineering, P.C. acknowledge the content of the SWPPP, and understand the dynamic nature of the SWPPP.

Owner/Operator: Dale Irwin
Lockwood Hills LLC
P.O. Box 187
590 Plant Road
Dresden, New York 14441

Preparer: James Daigler, P.E.
Daigler Engineering, P.C.
2620 Grand Island Blvd.
Grand Island, New York
14072

"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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature: 
Dale Irwin, Lockwood Hills, LLC Owner/Operator

Date: 2/1/2014

Signature: 
James Daigler, Daigler Engineering, P.C. Engineer

Date: 7-2-19

5.2 AVAILABILITY OF THE SWPPP

A paper copy of the SWPPP shall be maintained onsite and at Greenidge Generation LLC, 590 Plant Road, Dresden, New York. Additionally, a digital copy will be maintained by Daigler Engineering, P.C. and Greenidge Generation. Should the NYSDEC or others require a copy of the document, one will be made available upon request. A copy of this SWPPP including all attachments, required signature pages, and completed inspections with printed photographs shall be maintained and available for a minimum of five years from the date of submittal of the NOT.

5.3 KEEPING THE SWPPP CURRENT

This SWPPP should be considered a dynamic document which may require amendments and changes. As the site is constructed, the SWPPP shall be amended to reflect changes in design and construction which may affect the potential for the discharge of pollutants. Although major changes may require reissuance of the SWPPP under the next sequential revision number as indicated in the footer, minor changes can be marked on the original document for incorporation at a later date. Changes may include modifications of maps, descriptions of industrial activities, stormwater controls, and additional inspections, monitoring, and/or analysis requirements. If the SWPPP is found to be ineffective, it shall be modified so that the BMPs continue to prevent stormwater discharges to waters of the State and maintain their effectiveness. Once amendments to the SWPPP are complete, the document will require a new signed and dated certification (see Section 5.1) by the responsible parties.

ATTACHMENT 1

**NYS Department of Environmental
Conservation SPDES General
Construction Permit**



Department of
Environmental
Conservation

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

Modification Date:

July 14, 2015 – Correction of typographical error in definition of “New Development”,
Appendix A

November 23, 2016 – Updated to require the use of the New York State Standards and
Specifications for Erosion and Sediment Control, dated November
2016. The use of this standard will be required as of February 1,
2017.

John J. Ferguson
Chief Permit Administrator


Authorized Signature

11.14.16
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)

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

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

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

(Part I.B.1)

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

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

- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
- (ii) Control stormwater *discharges* to *minimize* channel and streambank erosion and scour in the immediate vicinity of the *discharge* points;
- (iii) *Minimize* the amount of soil exposed during *construction activity*;
- (iv) *Minimize* the disturbance of *steep slopes*;
- (v) *Minimize* sediment *discharges* from the site;
- (vi) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
- (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; 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.** *Discharges* from dewatering activities, including *discharges*

(Part I.B.1.c)

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 Discharges.** The following *discharges* are prohibited:

- (i) Wastewater from washout of concrete;
- (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- (iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;
- (iv) Soaps or solvents used in vehicle and equipment washing; and
- (v) Toxic or hazardous substances from a spill or other release.

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

(Part I.B.1.f)

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

(Part I.C.2.a.ii)

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

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

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

- (i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be calculated in accordance with the criteria in Section 10.3 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or

(Part I.C.2.b.ii)

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

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

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

c. Sizing Criteria for Redevelopment Activity

(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 *discharges* necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

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

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

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

(Part I.D)

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

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity to surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges* from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater *discharges* may be authorized by this permit: *discharges* 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 *discharges* 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 *discharges* must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

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

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

(Part I.F)

1. *Discharges after construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges from construction activities* that may adversely affect an endangered or threatened species unless the *owner or operator* has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.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 *discharges* 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 *discharges* 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. *Discharges from construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed 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 November 2016.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements. 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*

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. 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)

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 *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

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

(Part III.A.6)

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

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

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:
 - a. Background information about the scope of the project, including the location, type and size of project;
 - b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge(s)*;
 - c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
 - d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other

(Part III.B.1.d)

activity at the site that results in soil disturbance;

- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;
- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;
- k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the construction site; and
- l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design

(Part III.B.1.I)

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

(Part III.B.2.c.iv)

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)

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

(Part IV.C.2.b)

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

(Part IV.C.2.e)

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.

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.

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)

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.

(Part VII.E)

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

(Part VII.H.1.a.i)

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 *discharger* authorized by a general permit to apply for an individual SPDES permit, it shall notify the *discharger* in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from *owner or operator* receipt of the notification letter, whereby the authorization to

(Part VII.K.1)

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.

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 not 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.

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

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

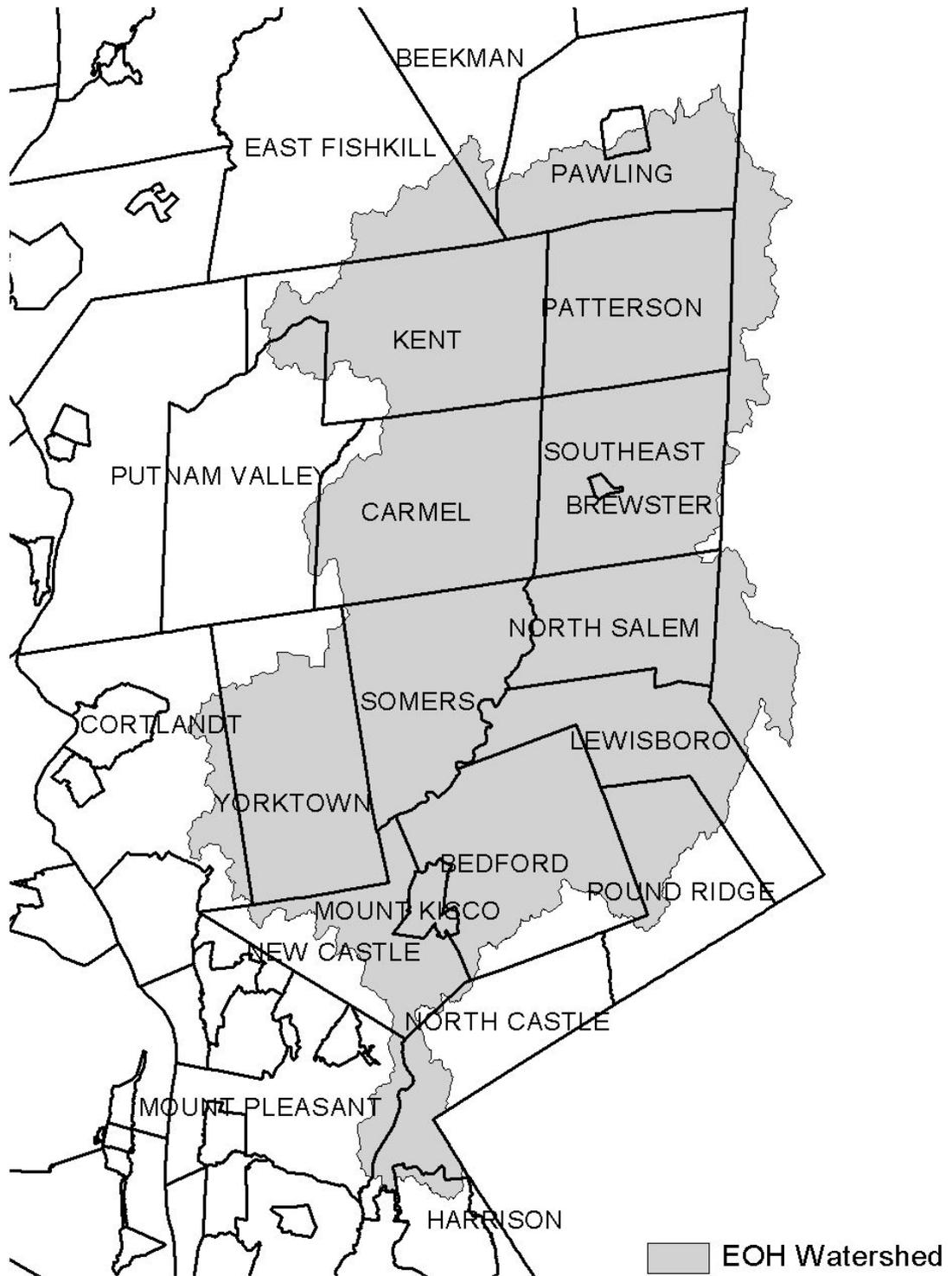


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

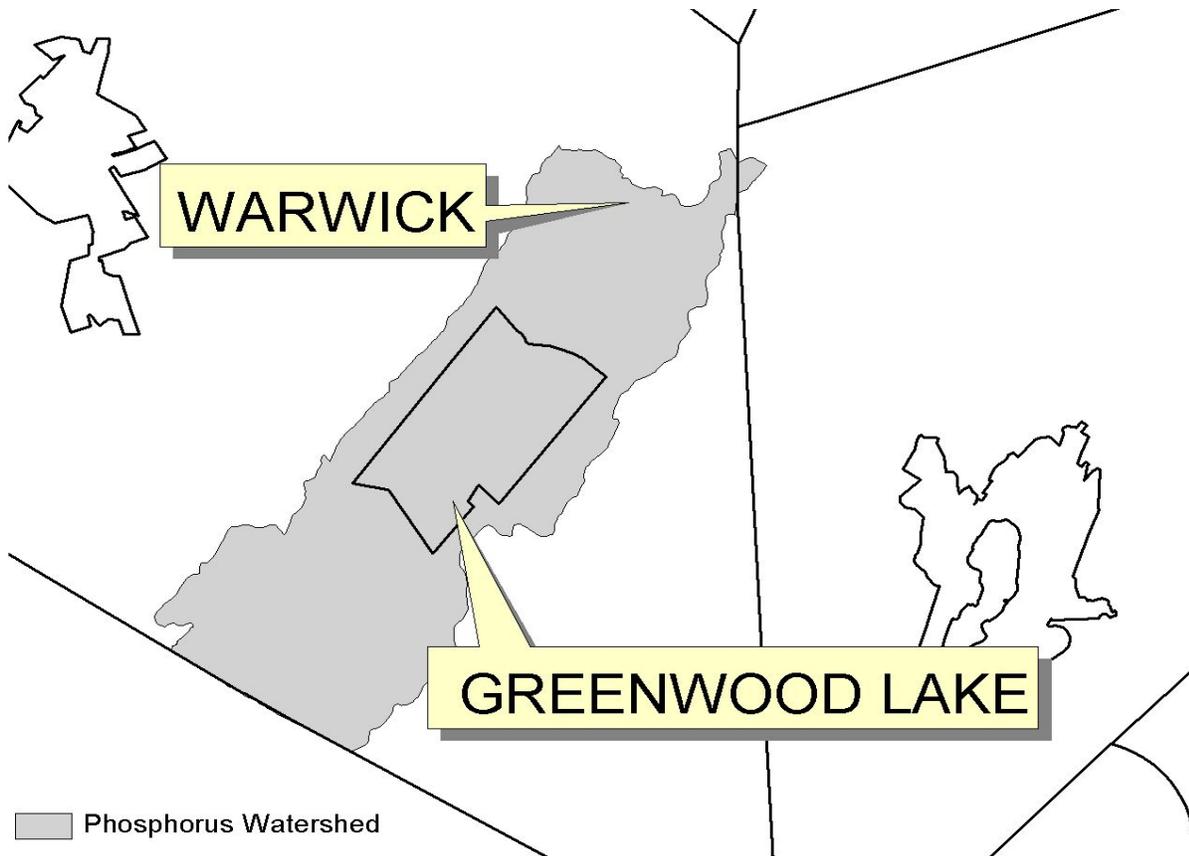


Figure 4 - Oscawana Lake Watershed

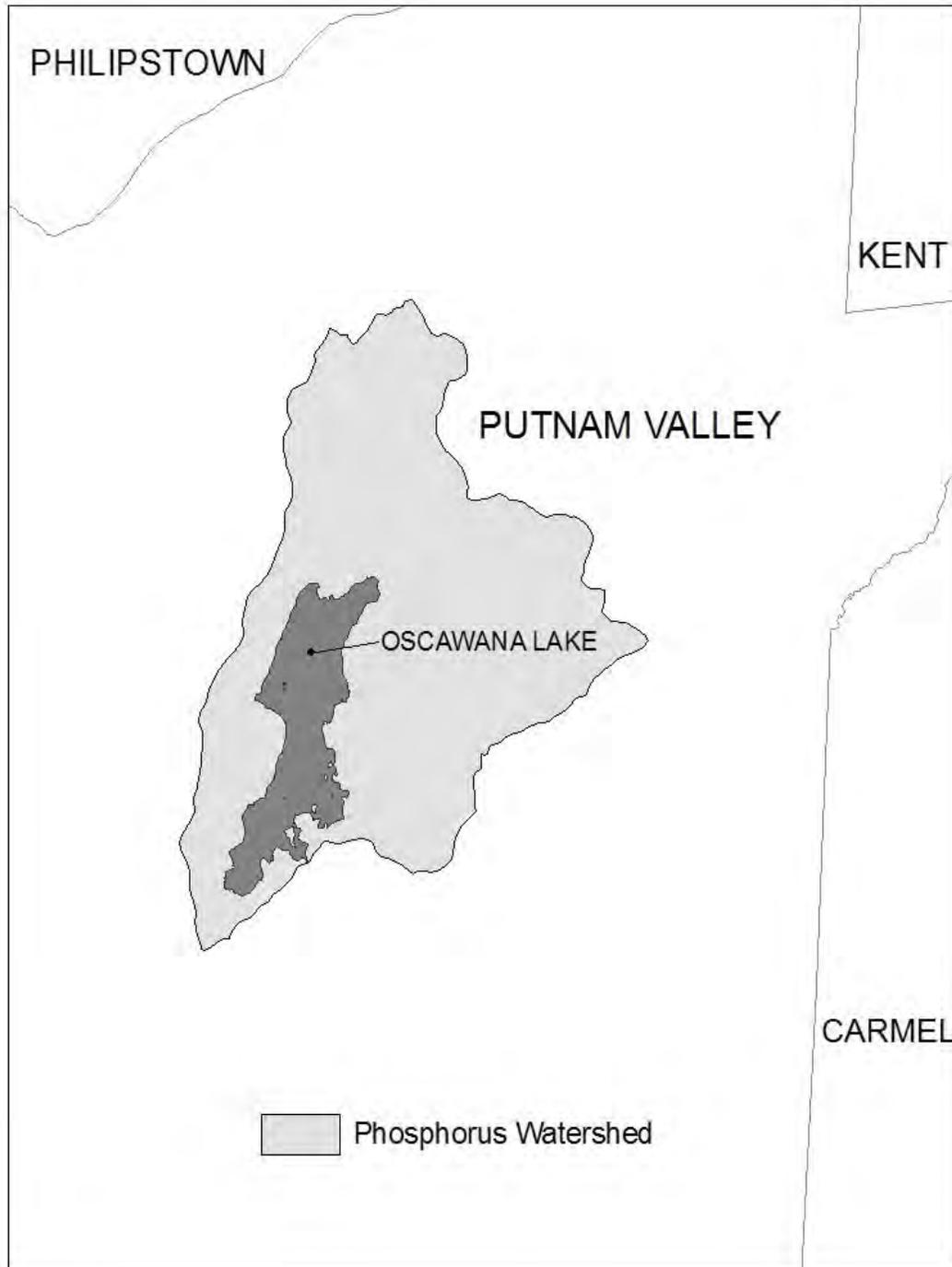
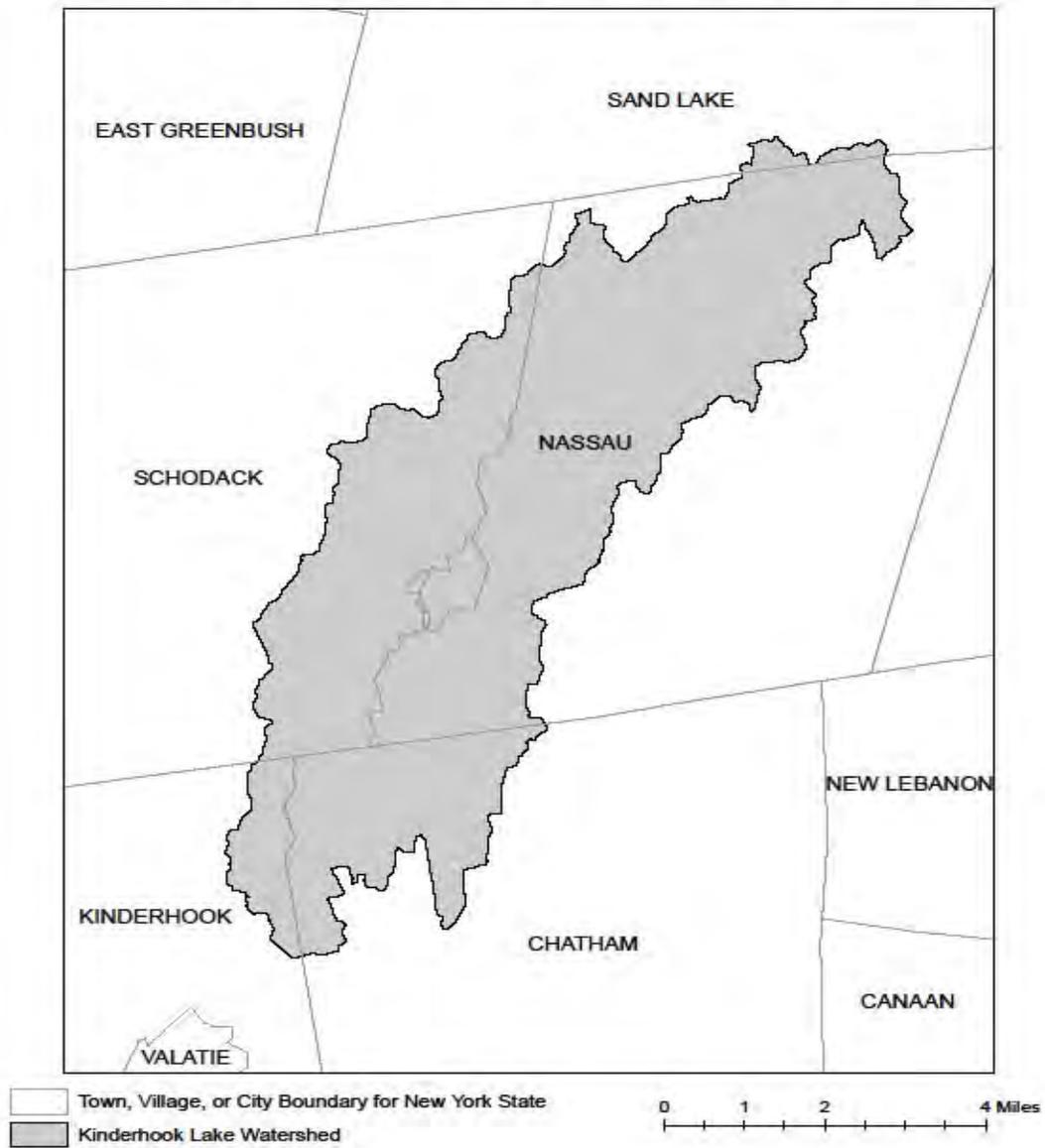


Figure 5: Kinderhook Lake Watershed



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

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	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Greene	Sleepy Hollow Lake
Albany	Basic Creek Reservoir	Herkimer	Steele Creek tribs
Allegheny	Amity Lake, Saunders Pond	Kings	Hendrix Creek
Bronx	Van Cortlandt Lake	Lewis	Mill Creek/South Branch and tribs
Broome	Whitney Point Lake/Reservoir	Livingston	Conesus Lake
Broome	Fly Pond, Deer Lake	Livingston	Jaycox Creek and tribs
Broome	Minor Tribs to Lower Susquehanna (north)	Livingston	Mill Creek and minor tribs
Cattaraugus	Allegheny River/Reservoir	Livingston	Bradner Creek and tribs
Cattaraugus	Case Lake	Livingston	Christie Creek and tribs
Cattaraugus	Linlyco/Club Pond	Monroe	Lake Ontario Shoreline, Western
Cayuga	Duck Lake	Monroe	Mill Creek/Blue Pond Outlet and tribs
Chautauqua	Chautauqua Lake, North	Monroe	Rochester Embayment - East
Chautauqua	Chautauqua Lake, South	Monroe	Rochester Embayment - West
Chautauqua	Bear Lake	Monroe	Unnamed Trib to Honeoye Creek
Chautauqua	Chadakoin River and tribs	Monroe	Genesee River, Lower, Main Stem
Chautauqua	Lower Cassadaga Lake	Monroe	Genesee River, Middle, Main Stem
Chautauqua	Middle Cassadaga Lake	Monroe	Black Creek, Lower, and minor tribs
Chautauqua	Findley Lake	Monroe	Buck Pond
Clinton	Great Chazy River, Lower, Main Stem	Monroe	Long Pond
Columbia	Kinderhook Lake	Monroe	Cranberry Pond
Columbia	Robinson Pond	Monroe	Mill Creek and tribs
Dutchess	Hillside Lake	Monroe	Shipbuilders Creek and tribs
Dutchess	Wappinger Lakes	Monroe	Minor tribs to Irondequoit Bay
Dutchess	Fall Kill and tribs	Monroe	Thomas Creek/White Brook and tribs
Erie	Green Lake	Nassau	Glen Cove Creek, Lower, and tribs
Erie	Scajaquada Creek, Lower, and tribs	Nassau	LI Tribs (fresh) to East Bay
Erie	Scajaquada Creek, Middle, and tribs	Nassau	East Meadow Brook, Upper, and tribs
Erie	Scajaquada Creek, Upper, and tribs	Nassau	Hempstead Bay
Erie	Rush Creek and tribs	Nassau	Hempstead Lake
Erie	Ellicott Creek, Lower, and tribs	Nassau	Grant Park Pond
Erie	Beeman Creek and tribs	Nassau	Beaver Lake
Erie	Murder Creek, Lower, and tribs	Nassau	Camaans Pond
Erie	South Branch Smoke Cr, Lower, and tribs	Nassau	Halls Pond
Erie	Little Sister Creek, Lower, and tribs	Nassau	LI Tidal Tribs to Hempstead Bay
Essex	Lake George (primary county: Warren)	Nassau	Massapequa Creek and tribs
Genesee	Black Creek, Upper, and minor tribs	Nassau	Reynolds Channel, east
Genesee	Tonawanda Creek, Middle, Main Stem	Nassau	Reynolds Channel, west
Genesee	Oak Orchard Creek, Upper, and tribs	Nassau	Silver Lake, Lofts Pond
Genesee	Bowen Brook and tribs	Nassau	Woodmere Channel
Genesee	Bigelow Creek and tribs	Niagara	Hyde Park Lake
Genesee	Black Creek, Middle, and minor tribs	Niagara	Lake Ontario Shoreline, Western
Genesee	LeRoy Reservoir	Niagara	Bergholtz Creek and tribs
Greene	Schoharie Reservoir	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	Ulster	Esopus Creek, Lower, Main Stem
Putnam	Palmer Lake	Ulster	Esopus Creek, Middle, and minor tribs
Putnam	Lake Carmel	Warren	Lake George
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Warren	Tribs to L.George, Village of L George
Queens	Bergen Basin	Warren	Huddle/Finkle Brooks and tribs
Queens	Shellbank Basin	Warren	Indian Brook and tribs
Rensselaer	Nassau Lake	Warren	Hague Brook and tribs
Rensselaer	Snyders Lake	Washington	Tribs to L.George, East Shr Lk George
Richmond	Grasmere, Arbutus and Wolfes Lakes	Washington	Cossayuna Lake
Rockland	Congers Lake, Swartout Lake	Washington	Wood Cr/Champlain Canal, minor tribs
Rockland	Rockland Lake	Wayne	Port Bay
Saratoga	Ballston Lake	Wayne	Marbletown Creek and tribs
Saratoga	Round Lake	Westchester	Lake Katonah
Saratoga	Dwaas Kill and tribs	Westchester	Lake Mohegan
Saratoga	Tribs to Lake Lonely	Westchester	Lake Shenorock
Saratoga	Lake Lonely	Westchester	Reservoir No.1 (Lake Isle)
Schenectady	Collins Lake	Westchester	Saw Mill River, Middle, and tribs
Schenectady	Duane Lake	Westchester	Silver Lake
Schenectady	Mariaville Lake	Westchester	Teatown Lake
Schoharie	Engleville Pond	Westchester	Truesdale Lake
Schoharie	Summit Lake	Westchester	Wallace Pond
Schuyler	Cayuta Lake	Westchester	Peach Lake
St. Lawrence	Fish Creek and minor tribs	Westchester	Mamaroneck River, Lower
St. Lawrence	Black Lake Outlet/Black Lake	Westchester	Mamaroneck River, Upp, and tribs
Steuben	Lake Salubria	Westchester	Sheldrake River and tribs
Steuben	Smith Pond	Westchester	Blind Brook, Lower
Suffolk	Millers Pond	Westchester	Blind Brook, Upper, and tribs
Suffolk	Mattituck (Marratooka) Pond	Westchester	Lake Lincolndale
Suffolk	Tidal tribs to West Moriches Bay	Westchester	Lake Meahaugh
Suffolk	Canaan Lake	Wyoming	Java Lake
Suffolk	Lake Ronkonkoma	Wyoming	Silver Lake
Suffolk	Beaverdam Creek and tribs		
Suffolk	Big/Little Fresh Ponds		
Suffolk	Fresh Pond		
Suffolk	Great South Bay, East		
Suffolk	Great South Bay, Middle		

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.

APPENDIX F

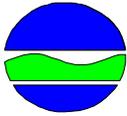
LIST OF NYS DEC REGIONAL OFFICES

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

ATTACHMENT 2

**Notice of Intent (NOI)
&
Notice of Termination (NOT)**

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-0-15-002
All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

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

Owner/Operator Information

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

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State Zip -

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

Email (Owner/Operator)

FED TAX ID - (not required for individuals)

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

**Pre-Development
Existing Land Use**

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

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Post-Development
Future Land Use**

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

Number of Lots

--	--	--

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

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

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

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

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A																			
B																			
C																			
D																			

7. Is this a phased project? Yes No

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

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

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

Two rows of empty grid boxes for text entry.

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

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

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

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

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

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

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

Post-construction Stormwater Management Practice (SMP) Requirements

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

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

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

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

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

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

Total WQv Required

. acre-feet

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

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

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

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

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

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

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

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

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

WQv Provided

						
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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

D A L E

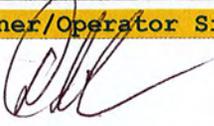
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Print Last Name

I R W I N

Owner/Operator Signature



Date

07 / 01 / 2019

ATTACHMENT 3

**Construction Drawings Set
(Reduced: Half-scale)**

LOCKWOOD HILLS LLC LOCKWOOD ASH DISPOSAL SITE SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS CONSTRUCTION DRAWINGS

TOWN OF TORREY, YATES COUNTY, NEW YORK
MARCH 2019



VICINITY MAP
NOT TO SCALE

INDEX OF DRAWINGS

SHEET NO.	TITLE
CD-1	SITE PLAN
CD-2	LEACHATE STORAGE AND TRANSFER AREA
CD-3	FRAC TANK AND PIPE BRIDGE DETAILS
CD-4	SEDIMENT DRYING AND DISPOSAL AREA
CD-5	SETTLING POND PLAN AND PROFILES
CD-6	SETTLING POND INLET DETAILS
CD-7	SETTLING POND OUTLET DETAILS
CD-8	DETAILS
CD-8	GENERAL NOTES



LOCATION MAP
NOT TO SCALE

PREPARED BY:

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

PREPARED FOR: **LOCKWOOD HILLS LLC**
590 PLANT ROAD
P.O. BOX 187
DRESDEN, NEW YORK 14441

DATE: MARCH 2019	DWG: TITLE SHEET.dwg	CHECKED BY:	PROJ. NO.: 31-1518	DRAWING: 1 OF 10
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ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

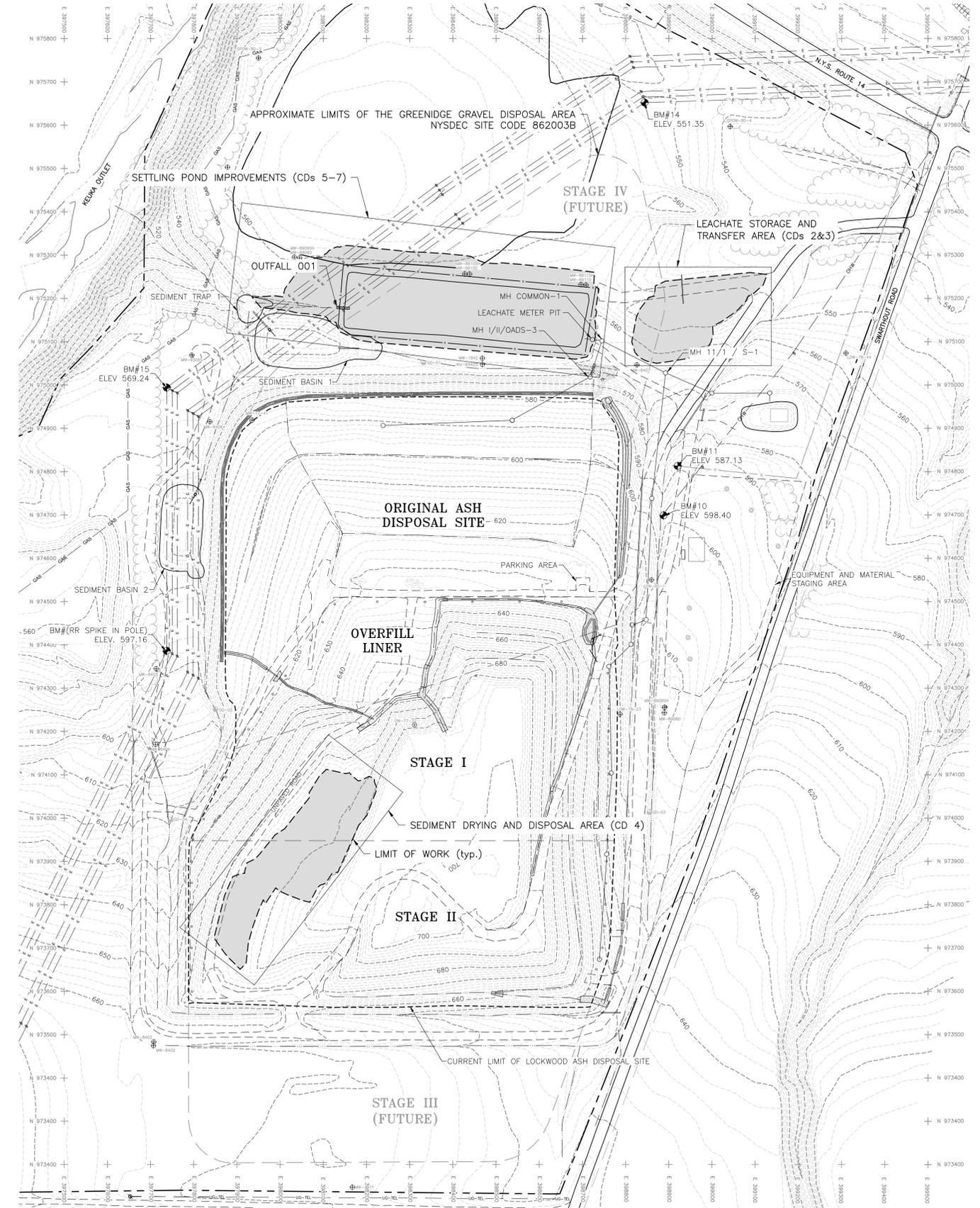
- LEGEND:**
- 550 --- GROUND SURFACE 10' CONTOUR
 - 2' --- GROUND SURFACE 2' CONTOUR
 - ==== PAVED ROAD
 - UNPAVED ROAD
 - x- FENCE
 - - - - - LIMIT OF EXISTING WASTE
 - - - - - PERMITTED LIMIT OF WASTE
 - - - - - PROPERTY BOUNDARY
 - ⊕ GROUNDWATER MONITORING WELL
 - ⊕ OVERHEAD POWER LINES AND POLES
 - LEACHATE SEWER AND MANHOLE
 - GAS — NATURAL GAS LINE
 - DRAINAGE CHANNEL
 - ROCK-LINED CHANNEL
 - CULVERT
 - GROUNDWATER DRAIN
 - ⊕ SURVEY BENCHMARK

NOTES:

1. THE TOPOGRAPHY AND PLANIMETRICS SHOWN ON THIS DRAWING HAVE BEEN COMPILED BY KUCERA INTERNATIONAL, INC. USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 4, 2010. TOPOGRAPHY WAS SUPPLEMENTED WITH SURVEY FROM WILLSON ASSOCIATES ON 11/13/17, 11/24/17, AND 12/21/17.
2. VERTICAL CONTROL IS THE GREENIDGE STATION PLANT DATUM. HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE GRID NAD 83.
3. THE CONTRACTOR SHALL FIELD VERIFY THE ASSUMED CONDITIONS AND REPORT FINDINGS TO THE ENGINEER.
4. EFFORTS SHALL BE MADE BY THE CONTRACTOR AND CONSTRUCTION STAFF TO CONTROL WASTE AND FLOATABLE DEBRIS. INSPECTIONS FOR WASTE MATERIALS SHALL BE CONDUCTED REGULARLY.
5. SEE CD-9 FOR GENERAL PROJECT NOTES

VERTICAL CONTROL POINT DESCRIPTIONS:

- BM#10 RAILROAD SPIKE, WEST SIDE OF POLE NYSEG #P35828. ELEV. 598.40
- BM#11 TOP OF BRASS CAP IN 6" SQUARE CONCRETE MONUMENT PROPERTY CORNER, NORTHWEST CORNER OF LOCKWOOD RESIDENCE. ELEV. 587.13
- BM#12 TOP OF SOUTH WINGWALL OF SEDIMENTATION POND OUTLET, 4.5' WEST OF FENCE AT VERTICAL TAPER IN WINGWALL, ELEV. 556.04
- BM#14 RAILROAD SPIKE, EAST SIDE OF POLE MOST SOUTHERLY OF 5 POLES. ELEV. 551.35
- BM#15 RAILROAD SPIKE, EAST SIDE OF POLE NYSEG #234 EASTERLY OF THREE POLES. ELEV. 569.24
- BM#16 RAILROAD SPIKE, EAST SIDE OF POLE NYSEG #967167, EASTERLY OF THREE POLES. ELEV. 596.76



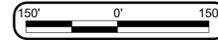
ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW

NO.	REVISION	BY	DATE

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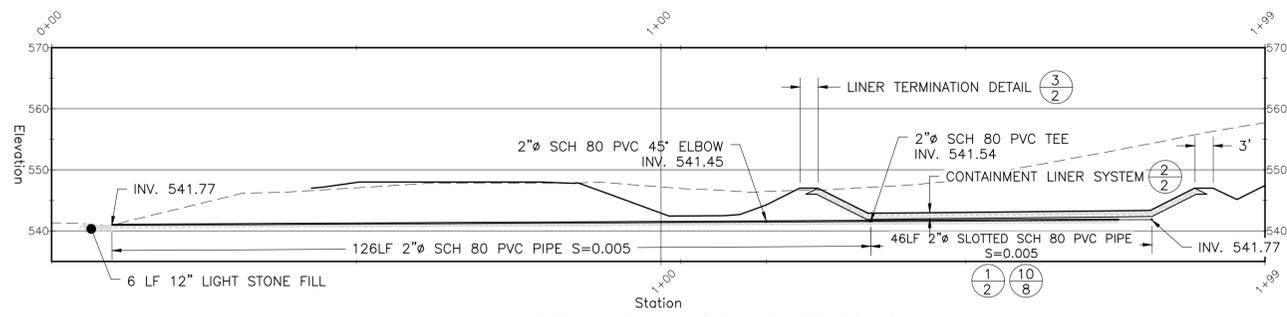
JAMES A. DAIGLER, P.E.
 NYSPE NO. 061689

DATE: March 2019

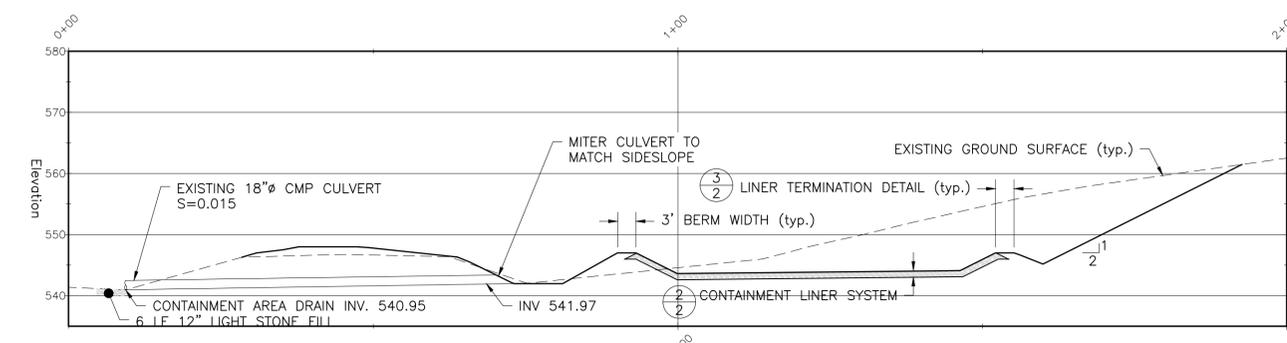


PREPARED FOR: LOCKWOOD HILLS LLC			SITE PLAN			CD-1
DES. BY:	DRW. BY:	CHK. BY:				
DWG. CD-1 EXISTING CONDITIONS SITE PLAN.dwg	TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK			

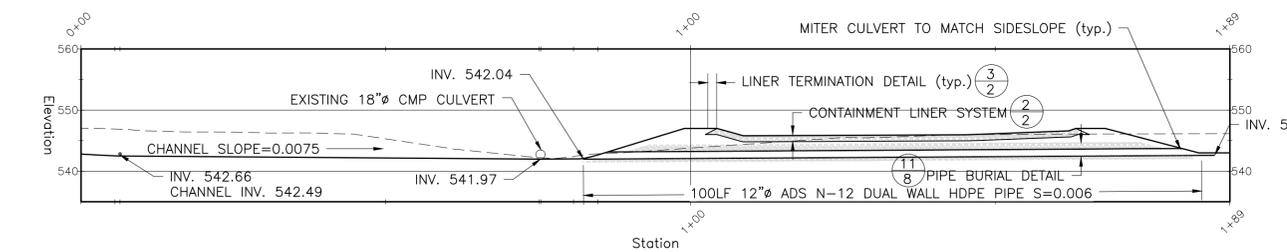
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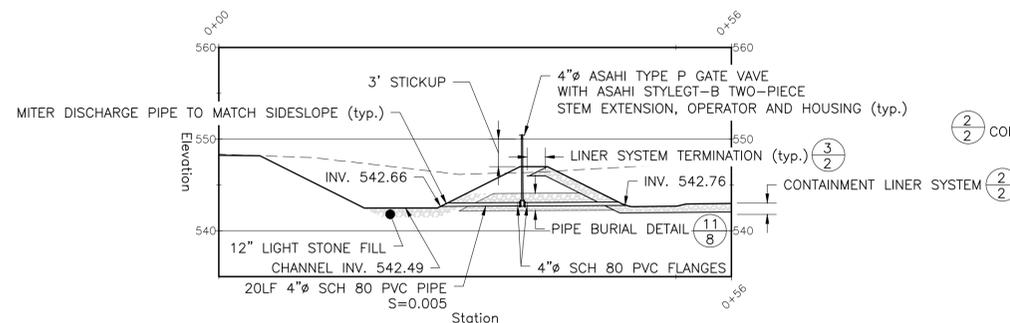
SECTION VIEW A-A (GROUNDWATER DRAIN)
SCALE: 1"=15'



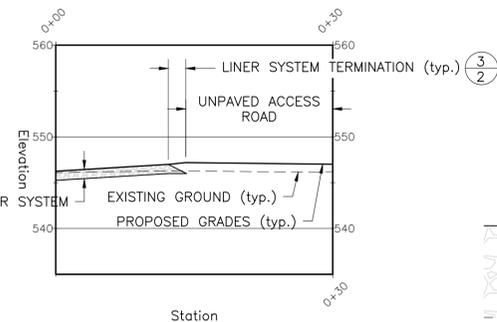
SECTION VIEW B-B (THROUGH EXISTING OUTLET PIPE)
SCALE: 1"=15'



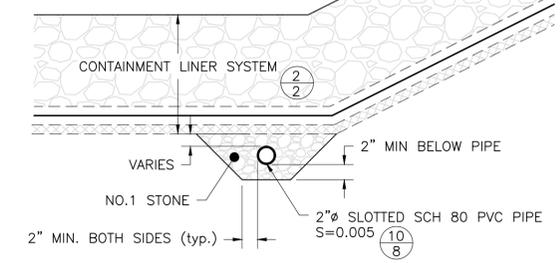
SECTION VIEW D-D (THROUGH ACCESS ROAD CULVERT AND CHANNEL)
SCALE: 1"=15'



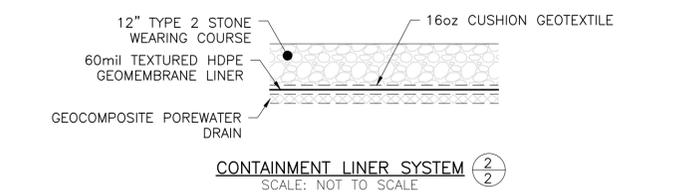
SECTION VIEW E-E (THROUGH DRAIN PIPE)
SCALE: 1"=10'



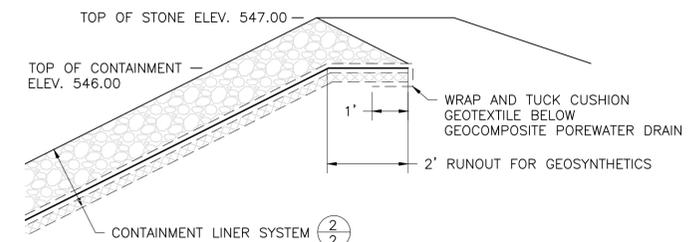
PROFILE VIEW F-F (ENTRANCE RAMP)
SCALE: 1"=10'



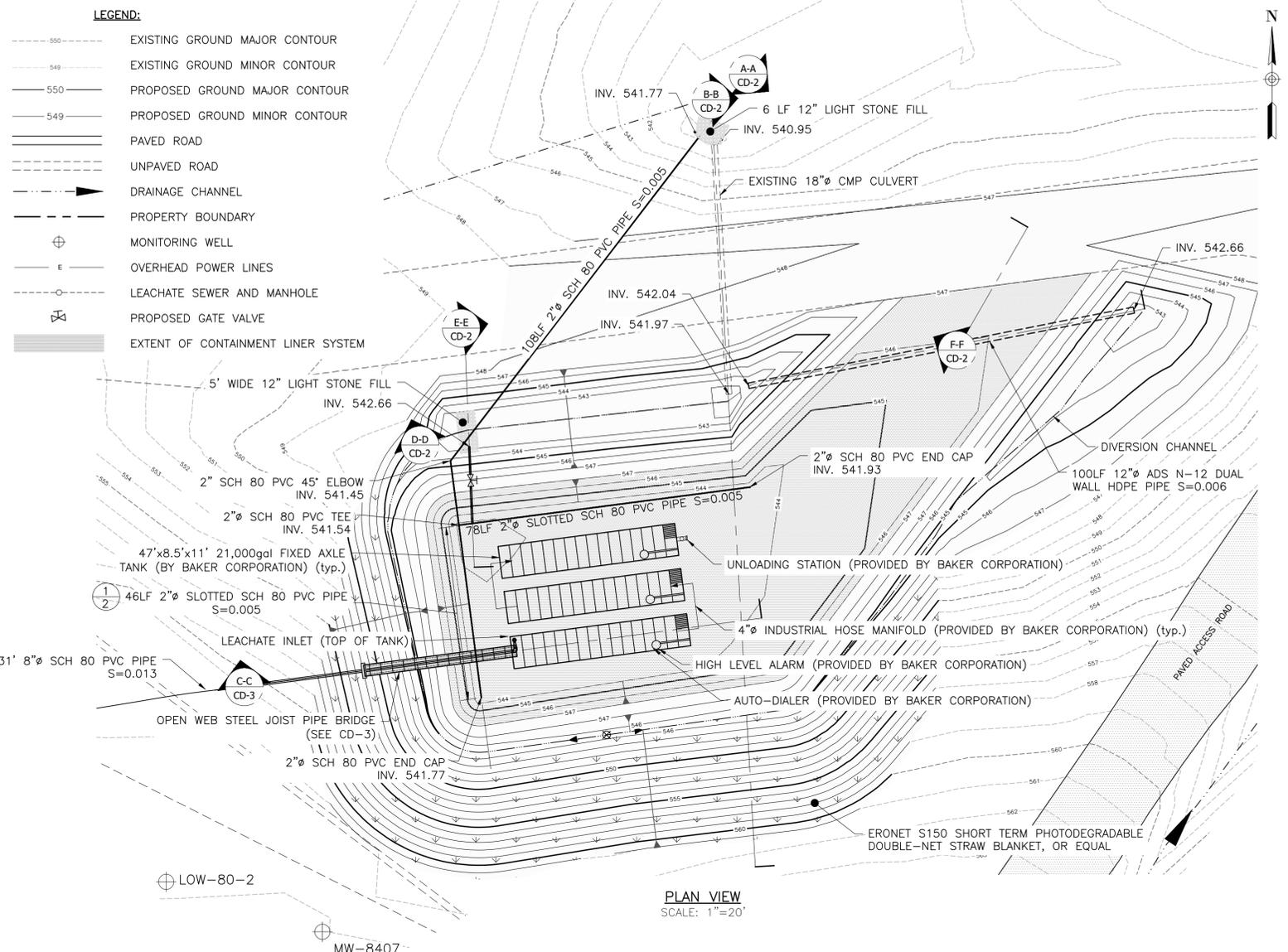
POREWATER DRAIN PIPE DETAIL
SCALE: 1"=1'



CONTAINMENT LINER SYSTEM
SCALE: NOT TO SCALE



LINER TERMINATION DETAIL
SCALE: NOT TO SCALE



PLAN VIEW
SCALE: 1"=20'

- LEGEND:**
- 550 --- EXISTING GROUND MAJOR CONTOUR
 - 549 --- EXISTING GROUND MINOR CONTOUR
 - 550 --- PROPOSED GROUND MAJOR CONTOUR
 - 549 --- PROPOSED GROUND MINOR CONTOUR
 - ==== PAVED ROAD
 - ==== UNPAVED ROAD
 - > DRAINAGE CHANNEL
 - > PROPERTY BOUNDARY
 - ⊕ MONITORING WELL
 - E --- OVERHEAD POWER LINES
 - > LEACHATE SEWER AND MANHOLE
 - > PROPOSED GATE VALVE
 - EXTENT OF CONTAINMENT LINER SYSTEM

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NO.	REVISION	BY	DATE

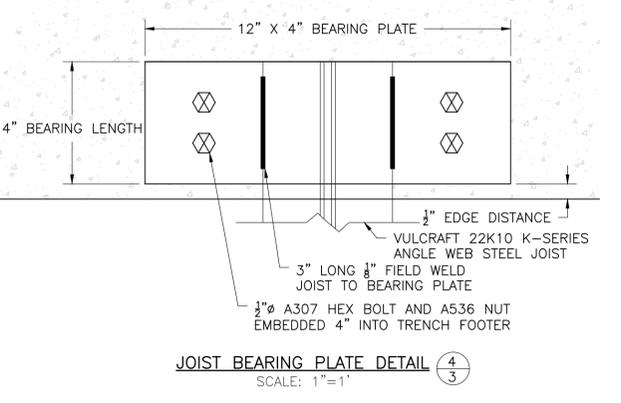
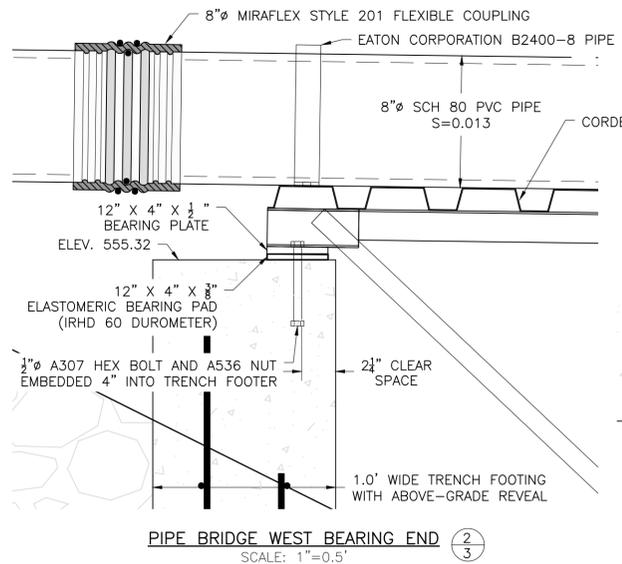
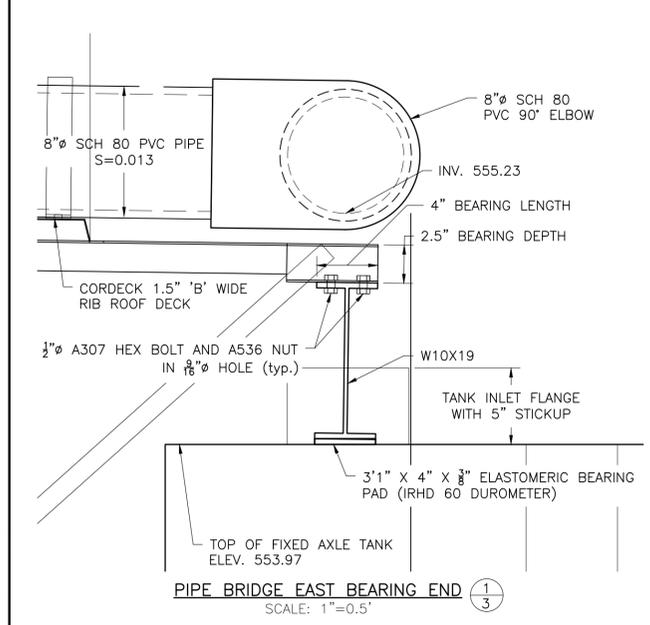
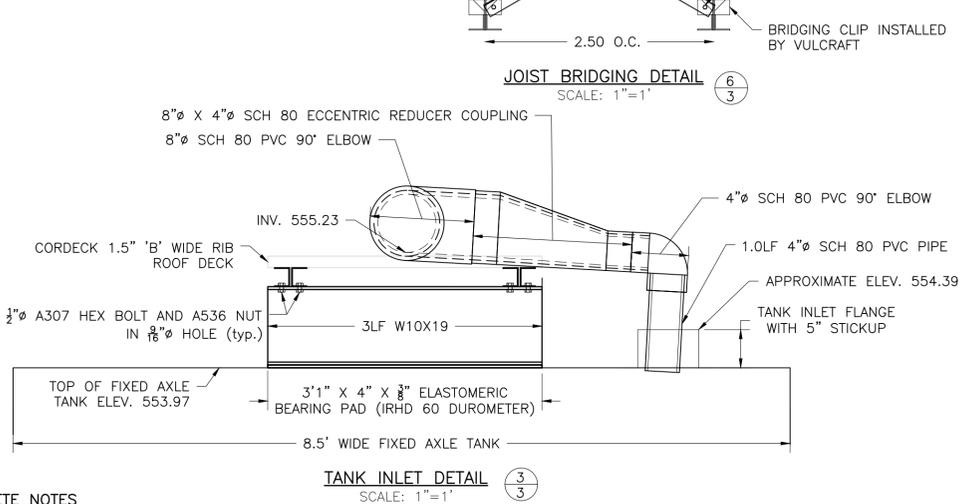
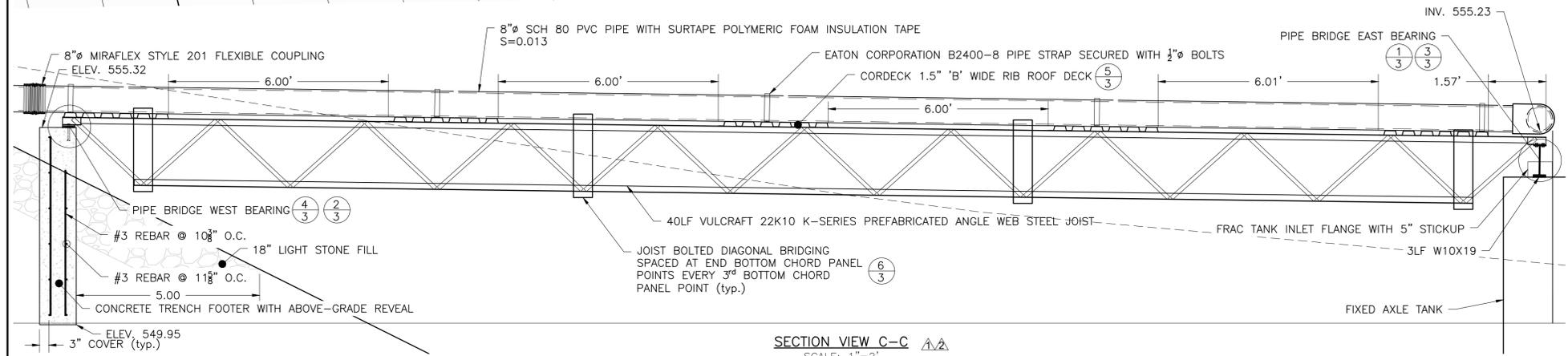
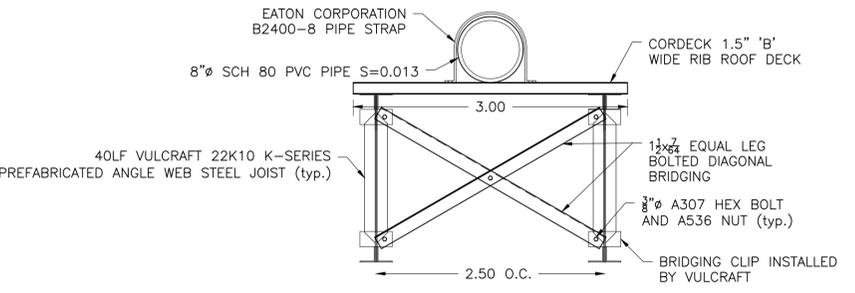
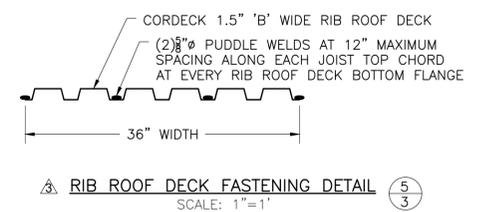
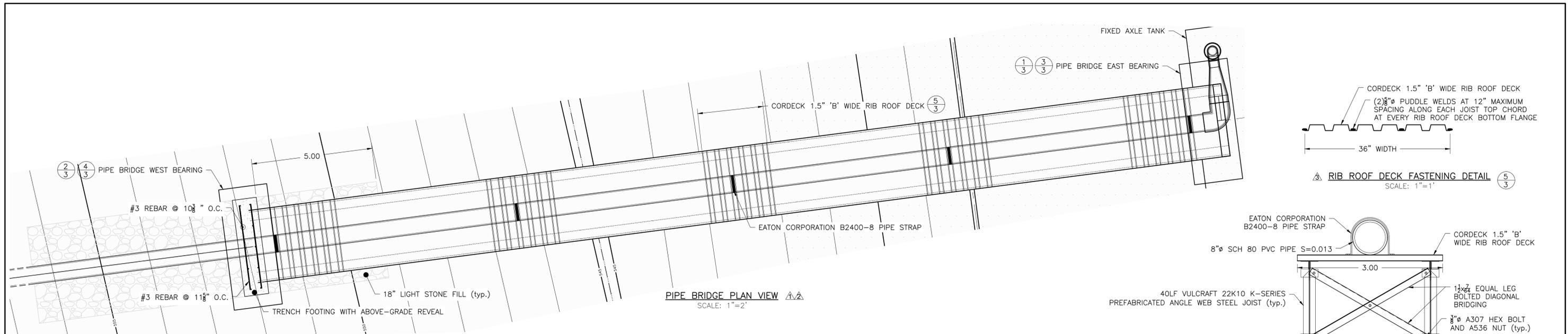
DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E. NYSPE NO. 061689
DATE: March 2019
SCALE: NOTED

PREPARED FOR: LOCKWOOD HILLS LLC
DES. BY: DRW. BY: CHK. BY:
DWG. CD-2 LEACHATE STORAGE PLAN.dwg

LEACHATE STORAGE AND TRANSFER AREA
SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS
TOWN OF TORREY YATES COUNTY STATE OF NEW YORK
CD-2

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- CONCRETE NOTES**
- MATERIALS**
- CONCRETE MATERIALS
 - PORTLAND CEMENT: CONFORMING TO ASTM C150 TYPE II.
 - AIR-ENTRAINING ADMIXTURE: CONFORMING TO ASTM C260.
 - FINE AGGREGATE: CONFORMING TO ASTM C33.
 - COARSE AGGREGATE: CONFORMING TO ASTM C33.
 - WATER: POTABLE, CLEAR AND FREE OF INJURIOUS AMOUNTS OF OIL, ACID, ALKALI, SALTS, ORGANIC MATTER, AND ANY OTHER SUBSTANCES THAT MAY BE DELETERIOUS TO CONCRETE OR STEEL.
 - POLYPROPYLENE FIBERS
 - FIBRILLATED POLYPROPYLENE FIBERS: 100 PERCENT VIRGIN POLYPROPYLENE, MD GRADED, CONTAINING NO REPROCESSED OLEFIN MATERIALS, AND SPECIFICALLY MANUFACTURED FOR USE AS CONCRETE SECONDARY REINFORCEMENT, AND TO PROTECT CONCRETE FROM STRESSES WHICH CAUSE CRACKING INITIALLY AFTER PLACEMENT.
- MIX CRITERIA**
- CONCRETE MIX
 - COMPRESSIVE STRENGTH: 3,500 PSI MINIMUM AT 28 DAYS.
 - ENTRAINED AIR CONTENT: 5 PERCENT.
 - INCLUDE POLYPROPYLENE FIBERS IN CONCRETE MIX AT A DOSAGE OF ONE POUND PER CUBIC YARD OF CONCRETE UNLESS GREATER DOSAGE IS RECOMMENDED BY THE FIBER MANUFACTURER.
- EXECUTION**
- INSPECT ALL FORMS, EARTH BEARING SURFACES, REINFORCEMENT, AND EMBEDDED ITEMS, AND OBTAIN THE ENGINEER'S WRITTEN APPROVAL BEFORE PLACING CONCRETE.
- PLACEMENT**
- PLACE CONCRETE IMMEDIATELY AFTER MIXING. DO NOT USE CONCRETE AFTER IT HAS BEGUN TO STIFFEN. DO NOT RETEMPER CONCRETE BY ADDING WATER IN THE FIELD. IF CHUTING IS USED, PREVENT SEGREGATION.
 - TRANSFER CONCRETE FROM MIXER TO POINT OF PLACEMENT AS RAPIDLY AS IS PRACTICABLE PREVENTING FORMATION OF COLD JOINTS.
- CONSOLIDATION AND FINISHING**
- THOROUGHLY WORK CONCRETE INTO ALL CORNERS AND AROUND ALL EMBEDDED ITEMS INTO CORNERS AND SHAPES OF FORMWORK, LEAVING NO EXCESSIVE VOIDS IN THE CONCRETE OR HONEYCOMBED SURFACES.
 - CONSOLIDATE CONCRETE WITH A MECHANICAL VIBRATOR OF TYPE AND SIZE ACCEPTABLE TO THE ENGINEER. VIBRATORS SHALL BE OPERATED IN SUCH A MANNER AS TO REACH ALL CONCRETE AREAS, BUT MINIMIZE THE AMOUNT OF CONTACT WITH REINFORCING STEEL AND FORMWORK.
 - ALL CONCRETE SHALL BE FULLY CONSOLIDATED WITHIN 15 MINUTES OF PLACEMENT.
 - APPLY A UNIFORM BROOMED FINISH TO THE CONCRETE SURFACE UNLESS INDICATED OTHERWISE. BROOM MARK SHALL NOT EXCEED 1/8 INCH IN DEPTH.

NO.	REVISION	BY	DATE
1	REMOVED SIDELAP SCREW CALLOUT	SJD	5/3/19
2	REVISED CORDECK PLACEMENT ON PIPE BRIDGE	SJD	5/3/19
3	REVISED SPACING OF EASTON PIPE STRAPS ON PIPE BRIDGE	SJD	5/3/19

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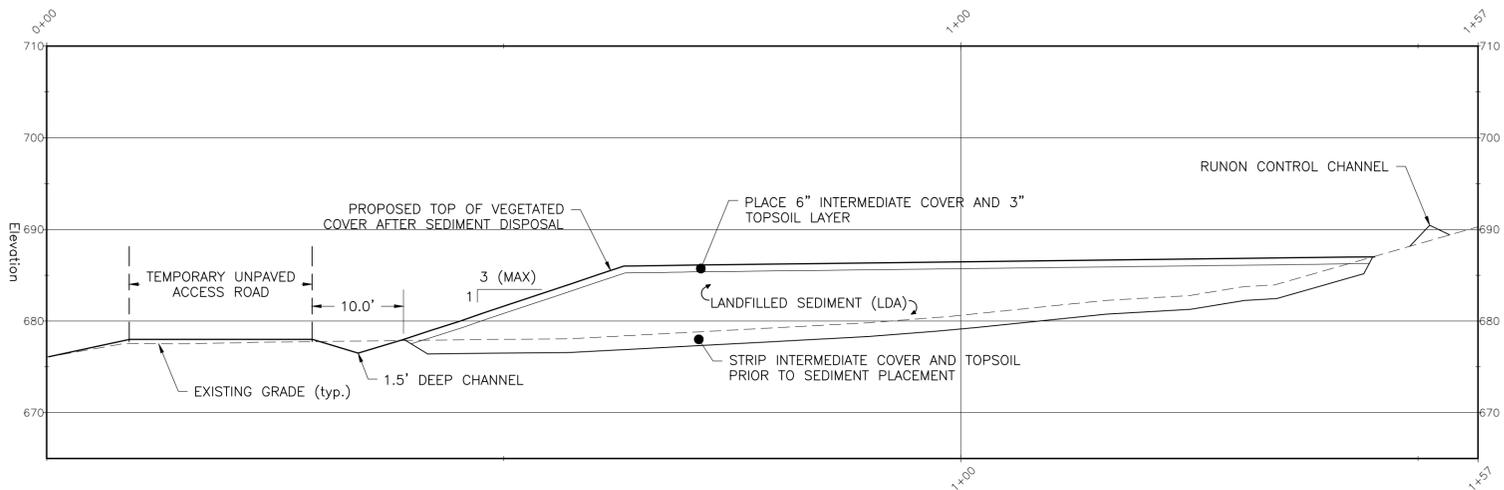
JAMES A. DAIGLER, P.E. NYSPE NO. 061689
 DATE: March 2019
 SCALE: NOTED

PREPARED FOR:			LOCKWOOD HILLS LLC		
DES. BY:	DRW. BY:	CHK. BY:	FRAC TANK AND PIPE BRIDGE DETAILS		
			LEACHATE MANAGEMENT AND POND SEDIMENT REMOVAL PLAN		
DWG. CD-3 FRAC TANK AND PIPE BRIDGE DETAILS rev1.dwg	TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK		

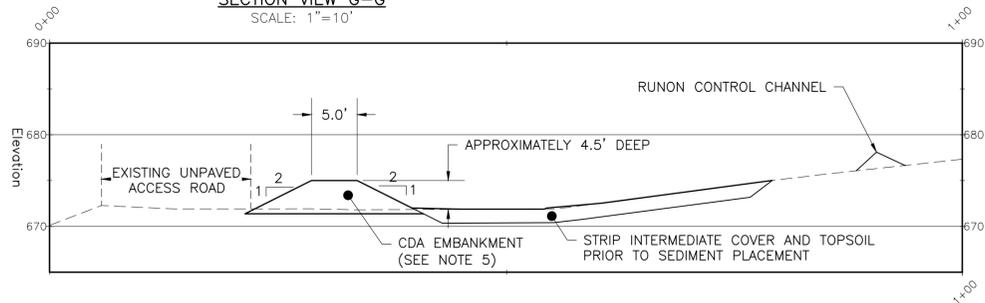
D:\Lockwood Hills LLC\31-1518 Consent Order Eng Report 2\Load\Construction Drawings\CD-3 FRAC TANK AND PIPE BRIDGE DETAILS rev1.dwg 5/6/2019 2:11 PM

NOTES:

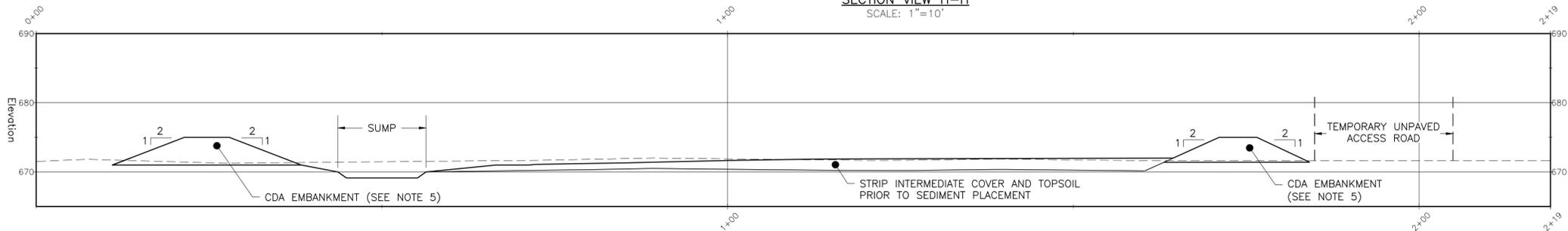
- ALL DREDGED MATERIAL DISPOSED AT THE LAND DISPOSAL AREA (LDA) MUST BE DEWATERED TO 20 PERCENT OR MORE SOLIDS AND EXHIBIT NO FREE LIQUID AS DEFINED BY SW-846 METHOD 9095 - PAINT FILTER LIQUIDS TEST (USEPA PAINT FILTER TEST). TO SATISFY THIS REQUIREMENT, A SCREENING AND TESTING PROTOCOL WILL BE IMPLEMENTED DURING THE DISPOSAL OF DREDGED LEACHATE POND SEDIMENT.
- UPON ARRIVAL TO THE SEDIMENT DISPOSAL AREA, EACH LOAD OF DREDGED MATERIAL WILL BE VISUALLY INSPECTED BY THE PROJECT ENGINEER OR QUALIFIED DESIGNEE ("INSPECTOR"). IF THE PRESENCE OF FREE-STANDING LIQUID IS OBSERVED, THE INSPECTOR CAN CONCLUDE THE MATERIAL CONTAINS FREE LIQUIDS WITHOUT TESTING. LOADS OF DREDGED MATERIAL CONTAINING FREE LIQUID WILL BE DIVERTED TO THE CDA AND WILL BE DEWATERED IN ACCORDANCE WITH NOTE 7 BELOW. IF FREE LIQUIDS ARE NOT OBSERVED, A USEPA PAINT FILTER TEST MUST BE PERFORMED ON A SAMPLE FROM THE LOAD TO CONFIRM FREE LIQUIDS ARE NOT PRESENT. IF THE LOAD OF DREDGED MATERIAL IS DEEMED NOT TO CONTAIN FREE LIQUID (AS DEFINED BY THE USEPA PAINT FILTER TEST), ANOTHER SAMPLE OF THE DREDGED MATERIAL FROM THE SAME LOAD WILL UNDERGO MOISTURE CONTENT TESTING (MC TEST) USING AN OPEN FLAME GAS BURNER IN GENERAL ACCORDANCE WITH ASTM D4959 - STANDARD TEST METHOD FOR DETERMINATION OF WATER CONTENT OF SOIL BY DIRECT HEATING. IF THE MOISTURE CONTENT IS MEASURED TO BE LESS THAN 70%, THE INSPECTOR CAN CONCLUDE WITH CONFIDENCE THAT THE MATERIAL CONTAINS AT LEAST 20% SOLIDS AND IS SUITABLE FOR DISPOSAL AT THE LDA.
- A USEPA PAINT FILTER TEST AND MC TEST WILL BE COMPLETED EACH DAY ON THE FIRST LOAD OF DREDGED MATERIAL CONTAINING NO OBSERVABLE FREE LIQUID. TESTING OF EACH LOAD WILL CONTINUE UNTIL A LOAD OBSERVED AS SUITABLE FOR DISPOSAL IN THE LDA PASSES BOTH THE USEPA PAINT FILTER TEST AND MC TEST. FOR ALL SUBSEQUENT LOADS, TESTING WILL ONLY BE CONDUCTED IF THE PROPERTIES OF THE DREDGED SEDIMENT ARE DETERMINED BY THE INSPECTOR TO BE MATERIALLY DIFFERENT THAN THE MOST RECENT LOAD DIRECTED TO THE LDA. IN ADDITION, A USEPA PAINT FILTER TEST AND MC TEST WILL BE REQUIRED FOR EACH BATCH OF MATERIAL REMOVED FROM THE CDA FOR DISPOSAL AT THE LDA. A BATCH OF MATERIAL MAY CONSIST OF MORE THAN ONE TRUCK LOAD AS LONG AS THE TESTED SAMPLE IS REPRESENTATIVE OF THE ENTIRE BATCH OF MATERIAL REMOVED.
- MATERIAL SHALL ONLY BE REMOVED FROM THE CDA IF ADDITIONAL CONTAINMENT VOLUME IS REQUIRED. ONCE THE DREDGING OPERATIONS ARE COMPLETE, SAMPLES OF SEDIMENT REMAINING IN THE CDA WILL UNDERGO USEPA PAINT FILTER AND MC TESTING TO CONFIRM THE MATERIAL HAS REACHED A SUITABLE CONSISTENCY AND MOISTURE CONTENT. ONLY AFTER THE REMAINING SEDIMENT PASSES BOTH TESTS, WILL THE CDA BE REGRADED APPROPRIATELY AND COVERED IN ACCORDANCE NOTE 8 BELOW.
- SURFACES OF THE LANDFILL WHICH WILL RECEIVE DREDGED SEDIMENT (FOOTPRINT OF THE LDA AND CDA), SHALL BE STRIPPED ENTIRELY OF INTERMEDIATE COVER AND TOPSOIL PRIOR TO SEDIMENT PLACEMENT. TOPSOIL SHALL BE STOCKPILED FOR FUTURE USE AND INTERMEDIATE COVER SHALL BE USED TO CONSTRUCT THE CDA EMBANKMENT.
- THE FIRST LIFT OF DREDGED SEDIMENT PLACEMENT SHALL BE MIXED WITH EXISTING WASTE TO EXPEDITE ABSORPTION. EACH LIFT OF SEDIMENT WILL BE PLACED ACROSS THE ENTIRE SURFACE AREA OF THE ACTIVE LDA WORKING FACE PRIOR TO PLACEMENT OF OVERLYING LIFTS. THE SURFACE OF THE LDA SHALL BE GRADED TO DEVELOP A TOPOGRAPHY THAT DRAINS LEACHATE AND SURFACE WATER TO THE PROPOSED PERIMETER CHANNEL THAT DISCHARGES TO THE CDA.
- THE CDA SHALL BE BE PASSIVELY DEWATERED AS COLLECTED LIQUID INFILTRATES THROUGH THE UNDERLYING WASTE. ALTERNATIVELY, THE CONTRACTOR MAY UTILIZE A VACUUM TRUCK TO REMOVE PONDED LIQUID FROM THE CDA SUMP FOR DISPOSAL AT THE GREENIDGE GENERATION LLC WASTEWATER TREATMENT PLANT.
- FOLLOWING FINAL RECEIPT OF SEDIMENT AND CONFIRMATION TESTING OF REMAINING CDA MATERIAL AS DETAILED IN NOTE 4 ABOVE, ALL SURFACES OF THE LDA AND CDA MUST BE GRADED WITH SIX INCHES OF INTERMEDIATE COVER SOIL AND THREE INCHES OF TOPSOIL TO ACCOMMODATE SEEDING AND MULCHING. GRADING MUST BE DONE IN A MANNER THAT ELIMINATES PONDING ON FINISHED SURFACES OF THE LANDFILL.



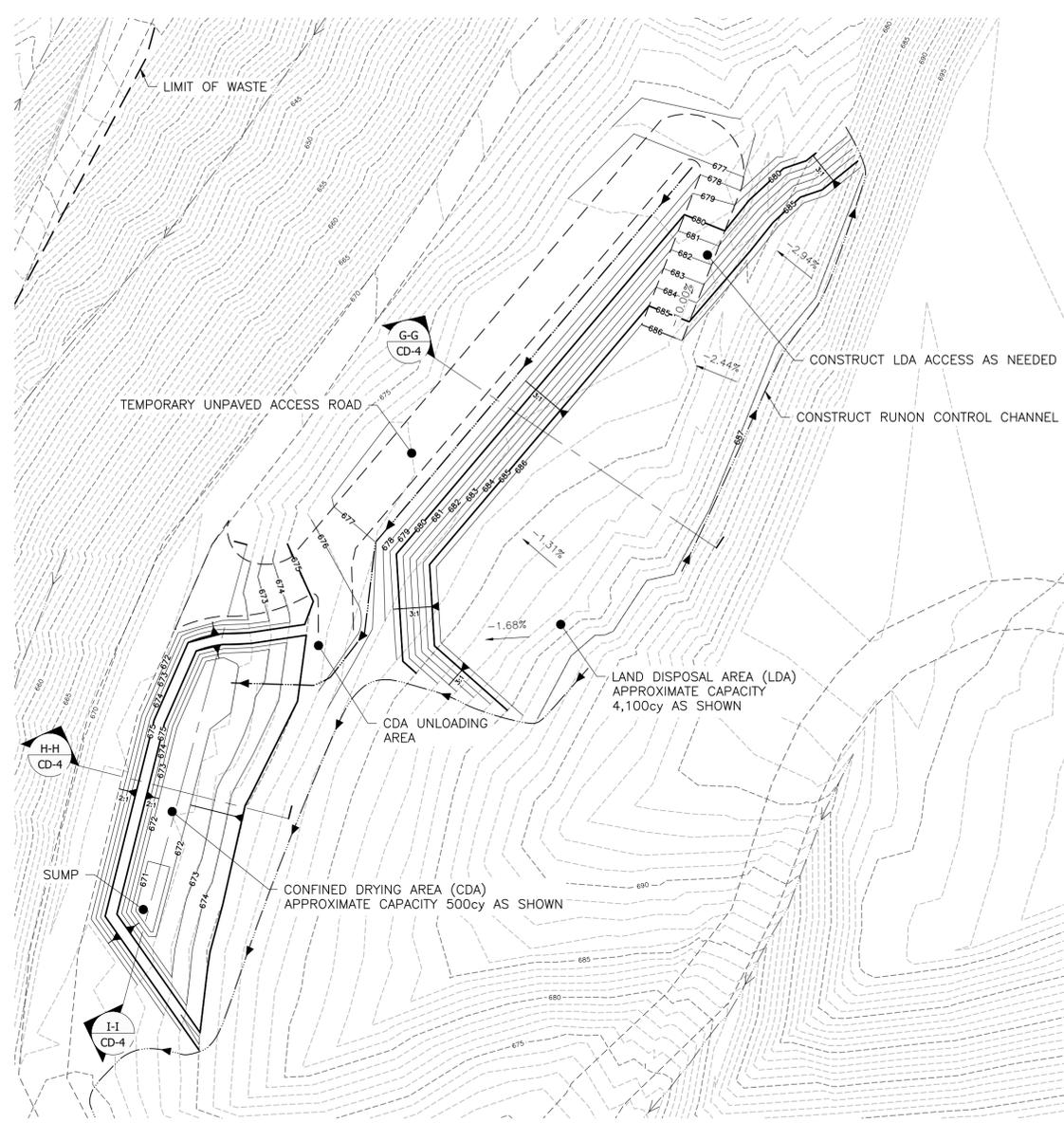
Station
SECTION VIEW G-G
SCALE: 1"=10'



Station
SECTION VIEW H-H
SCALE: 1"=10'



Station
SECTION VIEW I-I
SCALE: 1"=10'



PLAN VIEW
SCALE: 1"=40'

LEGEND:

- 550 --- EXISTING GROUND MAJOR CONTOUR
- 549 --- EXISTING GROUND MINOR CONTOUR
- 550 — PROPOSED GROUND MAJOR CONTOUR
- 549 — PROPOSED GROUND MINOR CONTOUR
- --- EXISTING UNPAVED ACCESS ROAD
- --- TEMPORARY UNPAVED ACCESS ROAD
- --- EXISTING DRAINAGE CHANNEL
- --- PROPOSED DRAINAGE CHANNEL

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 2209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW

NO.	REVISION	BY	DATE

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CIVIL & GEO-ENVIRONMENTAL ENGINEERING
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JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2019

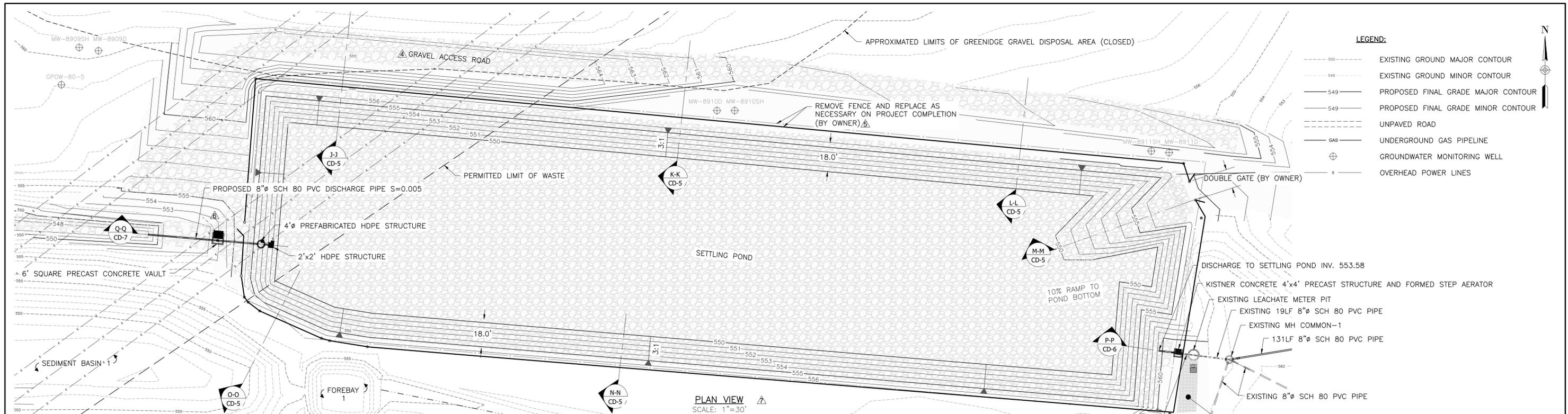
SCALE: NOTED

PREPARED FOR:	LOCKWOOD HILLS LLC
DES. BY:	DRW. BY:
	CHK. BY:
DWG.	CD-4 SEDIMENT DISPOSAL AREA.dwg

SEDIMENT DRYING AND DISPOSAL AREA
SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS

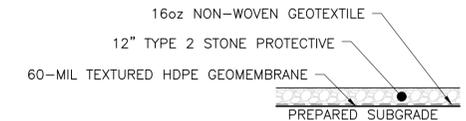
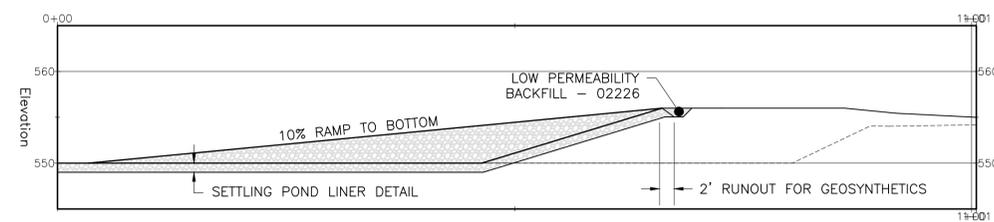
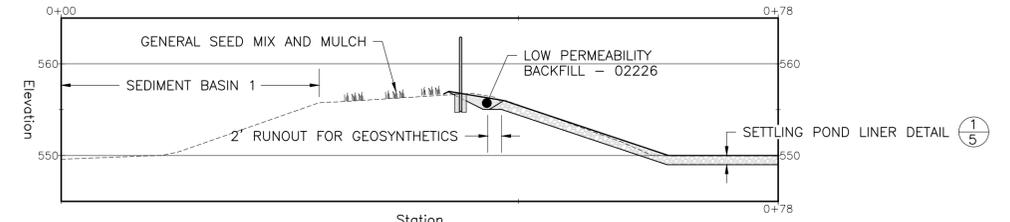
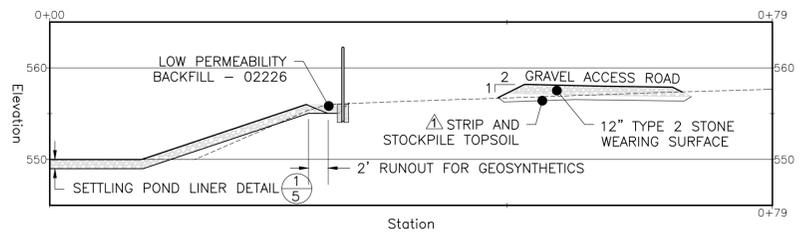
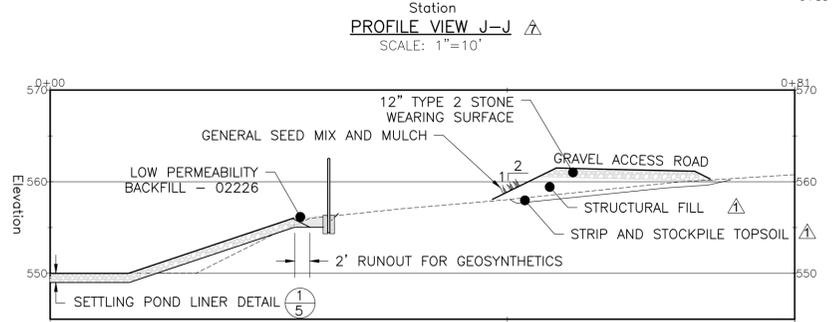
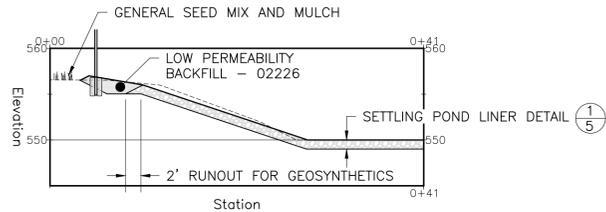
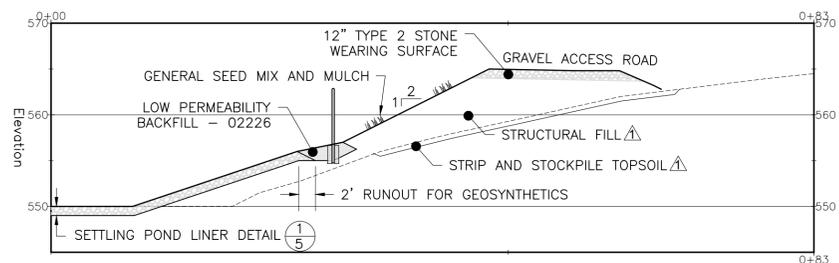
CD-4

TOWN OF TORREY YATES COUNTY STATE OF NEW YORK



- LEGEND:**
- 550 --- EXISTING GROUND MAJOR CONTOUR
 - 549 --- EXISTING GROUND MINOR CONTOUR
 - 549 --- PROPOSED FINAL GRADE MAJOR CONTOUR
 - 549 --- PROPOSED FINAL GRADE MINOR CONTOUR
 - --- UNPAVED ROAD
 - GAS --- UNDERGROUND GAS PIPELINE
 - ⊕ GROUNDWATER MONITORING WELL
 - OVERHEAD POWER LINES

PLAN VIEW
SCALE: 1"=30'



ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

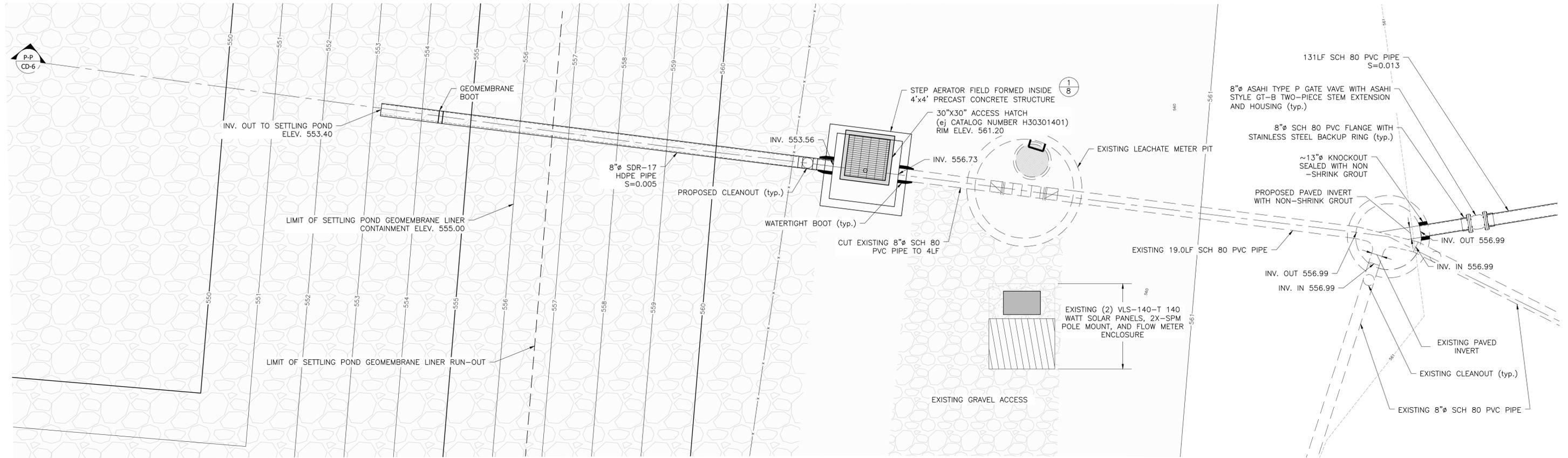
NO.	REVISION	BY	DATE
1	REVISED SETTLING POND GRADING	SJD	6/5/19
2	REVISED SETTLING POND OUTLET STRUCTURES	SJD	5/6/19
3	ADDED PROPOSED FENCING AND CORNER POSTS	SJD	4/15/19
4	ADDED GRAVEL HATCH TO ACCESS ROAD	SJD	4/15/19
5	ADJUSTED EXTENT OF GRAVEL SURFACE SURROUNDING SOLAR/FLOW METER PANELS	SJD	4/15/19
6	ADJUSTED POSITION OF SOLAR PANEL AND FLOW METER CONTROL PANEL	SJD	4/15/19
7	ADDED TOPSOIL STRIPPING AND STRUCTURAL FILL TO PROFILE VIEWS	SJD	4/15/19



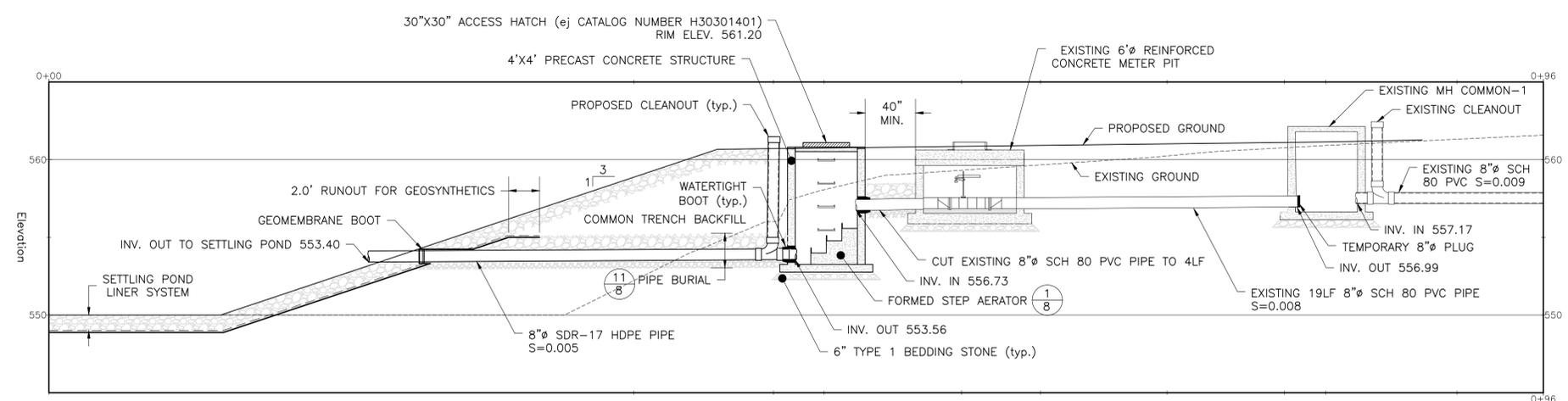
JAMES A. DAIGLER, P.E. NYSPE NO. 061689
DATE: March 2019
SCALE: NOTED

PREPARED FOR:	LOCKWOOD HILLS LLC	SETTLING POND SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS			CD-5
DES. BY:	DRW. BY:				
DWG.	CD-5 SETTLING_POND_rev44.dwg	TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK	

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SETTLING POND INLET PLAN VIEW $\frac{1}{8}$
SCALE: 1"=3'



PROFILE VIEW P-P (SETTLING POND INLET) $\frac{1}{8}$
SCALE: 1"=5'

- LEGEND:**
- 550 --- EXISTING GROUND MAJOR CONTOUR
 - 549 --- EXISTING GROUND MINOR CONTOUR
 - 549 --- PROPOSED FINAL GRADE MAJOR CONTOUR
 - 549 --- PROPOSED FINAL GRADE MINOR CONTOUR
 - x- EXISTING FENCELINE

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 2209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW

NO.	REVISION	BY	DATE
4	REVISED SETTLING POND GRADING	SJD	5/31/19
3	REMOVED VALVE FROM EXISTING 19.0 FT PVC PIPE SECTION	SJD	5/13/19
2	REVISED STEP AERATOR PLACEMENT	SJD	5/13/19
1	REVISED FLUME PLACEMENT TO ORIGINAL POSITION	SJD	5/13/19

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JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2019

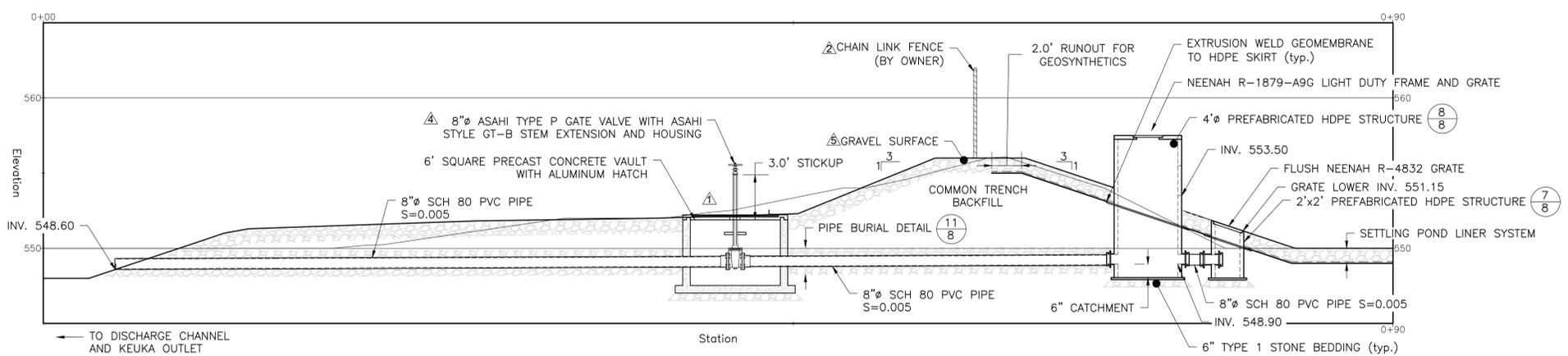
SCALE: NOTED

PREPARED FOR:	LOCKWOOD HILLS LLC
DES. BY:	DRW. BY:
CHK. BY:	DWG. CD-6_rev3.dwg

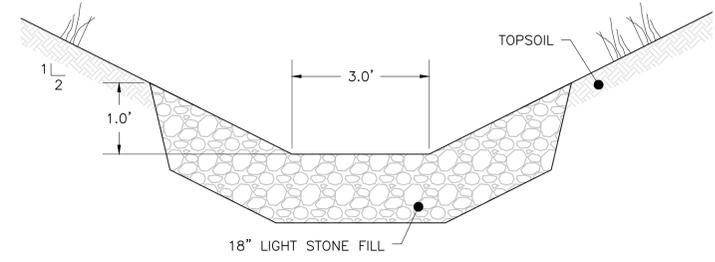
SETTLING POND INLET DETAILS		
SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS		
TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK

CD-6

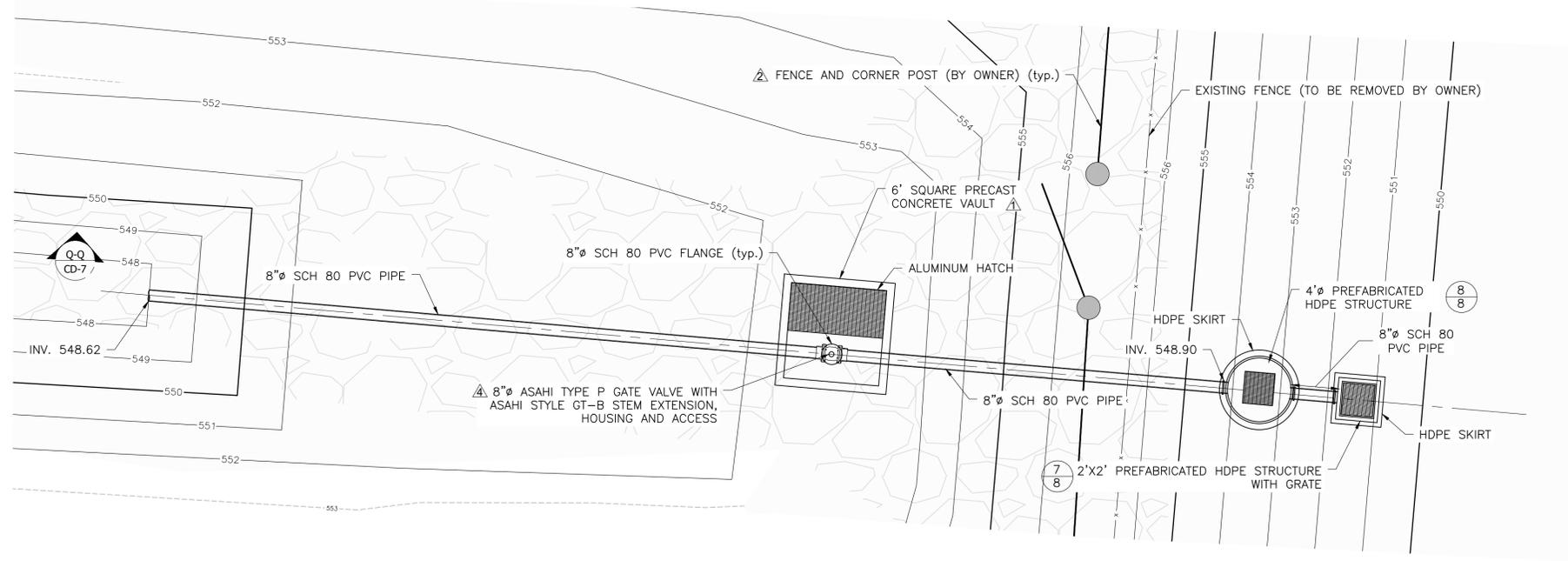
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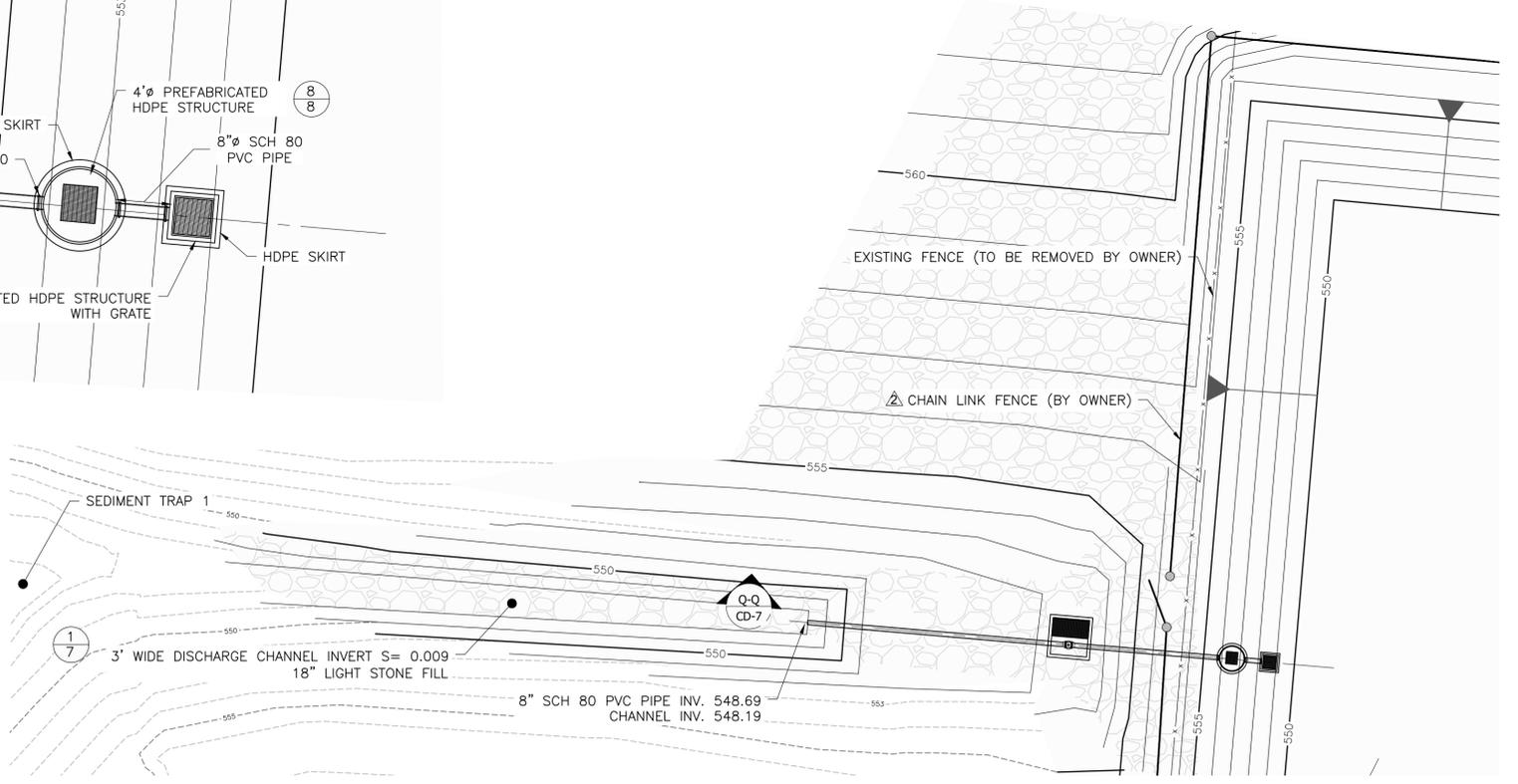
PROFILE VIEW Q-Q (SETTLING POND OUTLET) Δ ∇ δ
SCALE: 1"=5'



SETTLING POND DISCHARGE CHANNEL DETAIL $\frac{1}{7}$
SCALE: NOT TO SCALE



SETTLING POND OUTLET PLAN VIEW Δ ∇ δ
SCALE: 1"=5'



SETTLING POND DISCHARGE CHANNEL PLAN VIEW Δ ∇ δ
SCALE: 1"=15'

LEGEND:

- 550 --- EXISTING GROUND MAJOR CONTOUR
- 549 --- EXISTING GROUND MINOR CONTOUR
- 549 — PROPOSED FINAL GRADE MAJOR CONTOUR
- 549 — PROPOSED FINAL GRADE MINOR CONTOUR
- PROPOSED FENCE AND CORNER POST
- x — EXISTING FENCELINE

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	REVISION	BY	DATE
8	REMOVED FLUME	SJD	6/5/19
7	REVISED POSITIONS OF SETTLING POND OUTLET STRUCTURES AND SHAPE OF 4x4 OUTLET	SJD	5/3/19
6	REVISED GRADING AT SETTLING POND OUTLET	SJD	5/3/19
5	REPLACED TOPSOIL WITH GRAVEL SURFACE ON PROFILE Q-Q	SJD	4/15/19
4	CHANGED BUTTERFLY VALVE TO GATE VALVE	SJD	4/15/19
3	ADJUSTED POSITION OF SOLAR PANEL AND FLOW METER CONTROL PANEL	SJD	4/15/19
2	ADDED CHAIN LINK FENCE (BY OWNER)	SJD	4/15/19
1	ADDED 6" SQUARE PRECAST CONCRETE ACCESS VAULT FOR DISCHARGE VALVE	SJD	4/15/19



JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2019

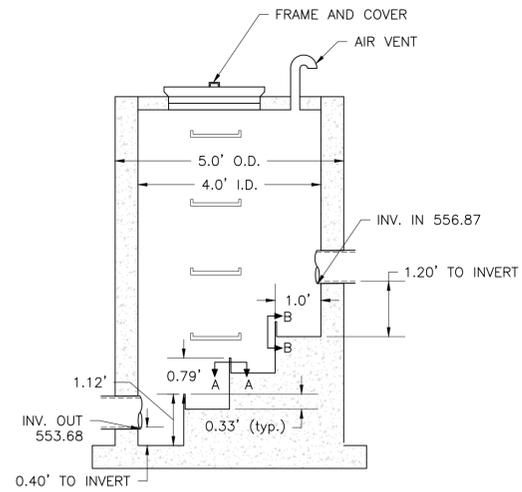
SCALE: NOTED

PREPARED FOR:	LOCKWOOD HILLS LLC
DES. BY:	DRW. BY:
CHK. BY:	
DWG.	CD-7_rev4.dwg

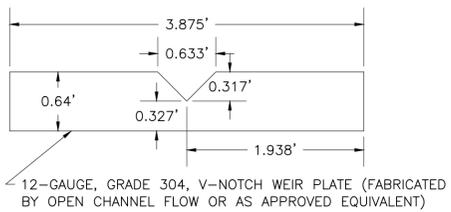
SETTLING POND OUTLET DETAILS		
SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS		
TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK

CD-7

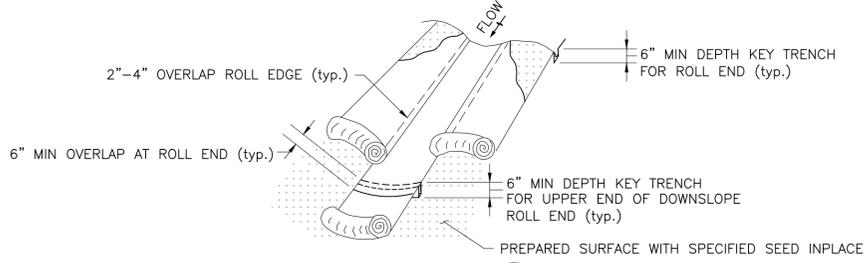
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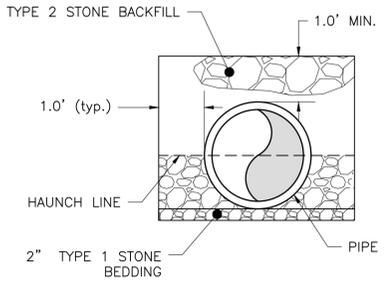
STEP AERATOR DETAIL
SCALE: 1"=2'
1/8



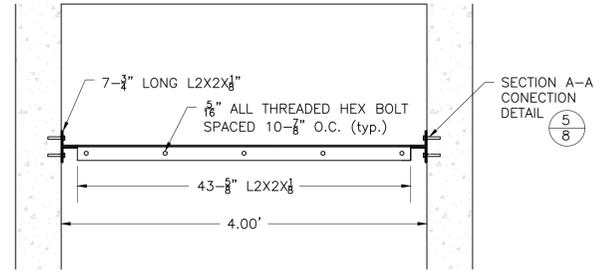
V-NOTCH WEIR DIMENSIONS
SCALE: 1"=1'
4/8



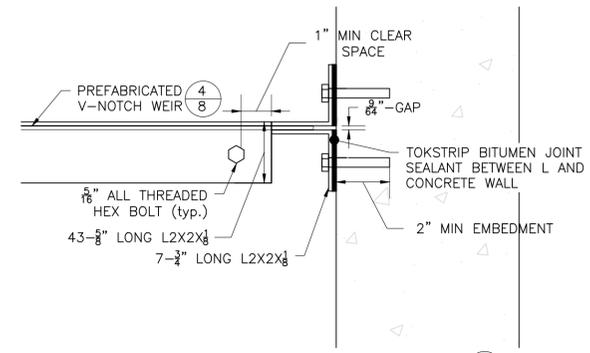
EROSION CONTROL BLANKET DETAIL
SCALE: NOT TO SCALE
9/8



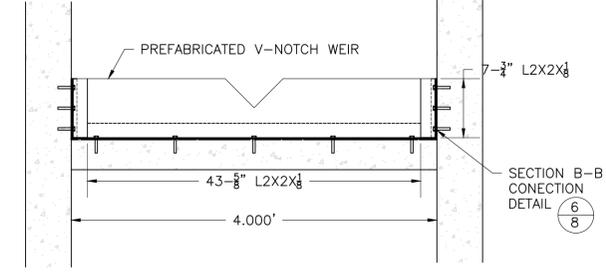
PIPE BURIAL DETAIL
SCALE: 1"=2'
11/8



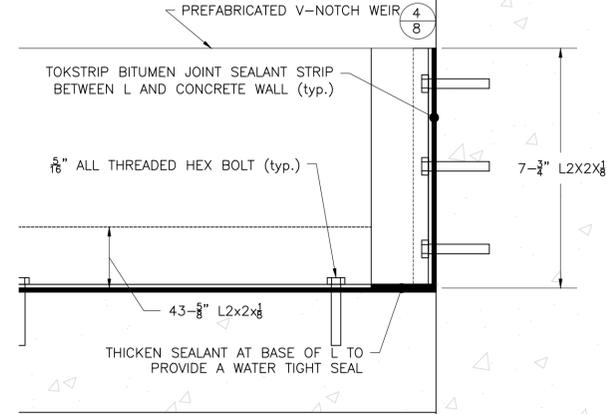
SECTION A-A CONNECTION DETAIL
SCALE: 1"=1'
2/8



SECTION A-A CONNECTION DETAIL
SCALE: 1"=0.25'
5/8



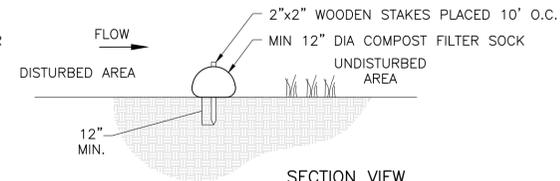
SECTION B-B CONNECTION DETAIL
SCALE: 1"=1'
3/8



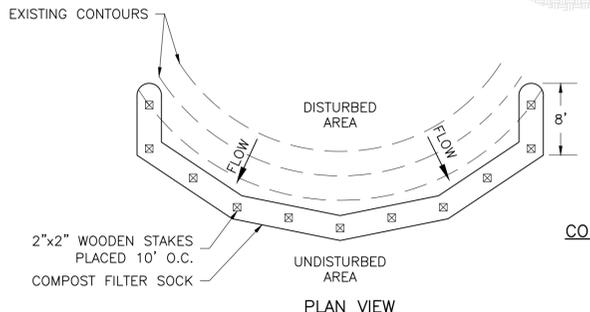
SECTION B-B CONNECTION DETAIL
SCALE: 1"=0.25'
6/8

NOTES:

1. COMPOST INFILL SHALL BE WELL DECOMPOSED, WEED-FREE, ORGANIC MATTER, SHALL BE AEROBICALLY COMPOSTED, POSSESS NO OBJECTIONABLE ODORS, AND CONTAIN LESS THAN 1% BY DRY WEIGHT MANMADE FOREIGN MATTER. OTHER INFILL SHALL BE ACCEPTED BY THE ENGINEER PRIOR TO USE.
2. THE COMPOST FILTER SOCK SHALL MEET THE REQUIREMENTS OF TABLE 5.1 AND TABLE 5.2 OF THE STANDARDS AND SPECIFICATIONS FOR COMPOST FILTER SOCK INCLUDED IN THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.



SECTION VIEW

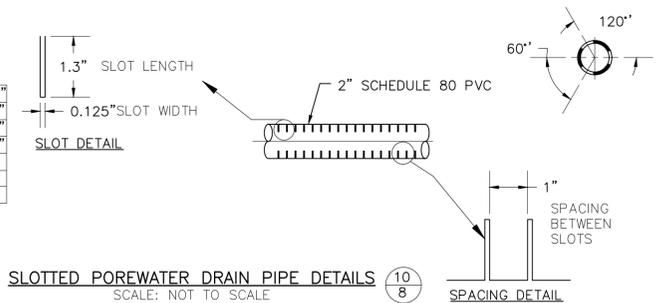


PLAN VIEW

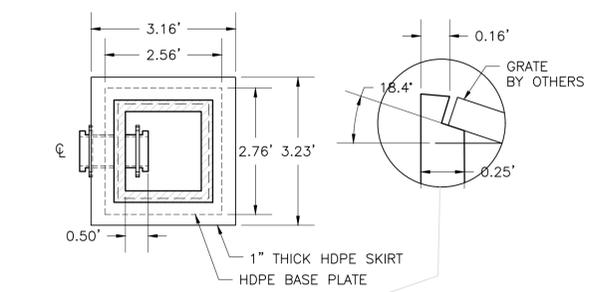
COMPOST FILTER SOCK DETAIL
SCALE: NOT TO SCALE
12/8

PIPE/SLOT SPECIFICATIONS

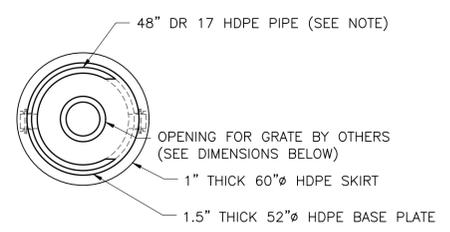
SCHEDULE 80 PVC	2.375"
NOMINAL O.D.	1.939"
NOMINAL ID	0.218"
NOMINAL WALL THICKNESS	0.125"
SLOT WIDTH	1.3"
SLOT LENGTH	1.0"
SPACING BETWEEN SLOTS	3
NUMBER OF ROWS	



SLOTTED POREWATER DRAIN PIPE DETAILS
SCALE: NOT TO SCALE
10/8



PREFABRICATED HDPE DRAIN STRUCTURE
SCALE: NOT TO SCALE
7/8



PREFABRICATED HDPE DISCHARGE STRUCTURE
SCALE: NOT TO SCALE
8/8

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NO.	REVISION	BY	DATE
REMOVED	DETAIL 13-8	SJD	6/9/19
REPLACED	DETAIL 8-8	SJD	6/9/19
REPLACED	DETAIL 7-8	SJD	6/9/19

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JAMES A. DAIGLER, P.E. NYSPE NO. 061689
DATE: March 2019
SCALE: NOTED

PREPARED FOR:	LOCKWOOD HILLS LLC	DETAILS		
DES. BY:	DRW. BY:	CHK. BY:	SETTLING POND SEDIMENT REMOVAL AND SETTLING POND	
DWG.	CD-5 6 7 8 SETTLING POND.dwg	TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK

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EROSION AND SEDIMENT CONTROL NOTES:

- THE CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN ILLUSTRATING THE TYPE AND PLACEMENT OF EROSION AND SEDIMENT CONTROLS TO BE INSTALLED AT THE SITE FOR APPROVAL BY THE ENGINEER.
- EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED AND MAINTAINED PER NEW YORK STATE STANDARDS & SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
- EROSION AND SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO DISTURBANCE OF ANY SOIL SURFACE.
- SITE CONDITIONS WILL DICTATE AMOUNT AND TYPE OF EROSION AND SEDIMENT CONTROL NECESSARY.
- CONTROLS SHALL BE INSTALLED AND MAINTAINED SUCH THAT SEDIMENT LADEN WATER LEAVING THE SITE SHALL PASS THROUGH DEVICES DESIGNED TO REMOVE SEDIMENT.
- THE CONTRACTOR SHALL COMPLETE SITE INSPECTIONS WEEKLY AND AFTER EACH RAINFALL EVENT. ANY CONTROLS THAT ARE DEFICIENT SHALL BE REPAIRED AS SOON AS PRACTICABLE.
- ALL FINE-GRAINED SOIL STOCKPILES SHALL HAVE EROSION AND SEDIMENT CONTROLS INSTALLED AROUND THE BASE OF THE STOCKPILES.
- WATER OR OTHER SUITABLE MEASURES FOR DUST CONTROL SHALL BE EMPLOYED AS NECESSARY TO MINIMIZE OFFSITE MITIGATION OF AIRBORNE PARTICLES.
- CONTRACTOR SHALL REMOVE SEDIMENT ACCUMULATED TO ONE HALF THE DESIGN CAPACITY OF ALL EROSION AND SEDIMENT CONTROLS. REMOVED SEDIMENT SHALL BE PLACED IN THE SOIL STOCKPILE AREA AND THE EROSION AND SEDIMENT CONTROL SHALL BE RESTORED TO ORIGINAL CONDITION.
- EROSION AND SEDIMENT CONTROLS SHALL ONLY BE REMOVED UPON FINAL STABILIZATION OF THE SITE.

SILT FENCE OR COMPOST FILTER SOCK

- ALL SILT FENCE OR COMPOST FILTER SOCK SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE OR WHEN SEDIMENT ACCUMULATE TO HALF THE HEIGHT OF THE SILT FENCE OR COMPOST FILTER SOCK.
- ALL SEWN SEAMS AND OVERLAPS FOR SILT FENCE SHALL BE LOCATED AT A SUPPORT POST.
- SILT FENCE POSTS SHALL BE 36 INCHES MINIMUM IN LENGTH, INSERTED A MINIMUM 16 INCHES INTO THE GROUND, AND SPACED EVERY SIX FEET O.C.
- TERMINAL ENDS OF THE SILT FENCE OR COMPOST FILTER SOCK SHALL BE TURNED INWARDS TO FORM A DETENTION AREA AND PREVENT STORMWATER FROM RUNNING AROUND THE EROSION CONTROL PRACTICE. WHEN TWO SECTIONS OF SILT FENCE OR COMPOST FILTER SOCK ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY A MINIMUM OF SIX INCHES.

OUTLET PROTECTION

- ALL OUTLET PROTECTION SHALL BE PLACED AS SHOWN ON THE DRAWINGS.
- ALL OUTLET PROTECTION SHALL BE INSTALLED ACROSS THE CHANNEL BOTTOM AND UP THE CHANNEL BANKS TO THE TOP OF BANK OR AS OTHERWISE SHOWN ON THE DRAWINGS.
- THE SUBGRADE FOR STONE 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.
- THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED.
- MATERIAL MAY BE PLACED BY EQUIPMENT, CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS.
- MATERIAL SHALL BE PLACED IN A MANNER TO ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH SMALLER ROCKS FILLING THE VOIDS BETWEEN LARGER ROCKS.
- HAND PLACEMENT SHALL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO PERMANENT WORKS.

SEDIMENT TRAP

- THE CONTRACTOR SHALL REMOVE SEDIMENT ACCUMULATED IN SEDIMENT TRAP 1 (ST-1) TO ONE HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE PLACED IN THE SOIL STOCKPILE AREA AND THE SEDIMENT TRAP SHALL BE RESTORED TO ORIGINAL CONDITION.
- THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED ONCE THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

GRASS LINED CHANNELS

- SEE SEEDING NOTES
- DRAINAGE CHANNEL SEED MIX SHALL BE APPLIED TO ALL GRASS LINED CHANNELS ONCE FINAL GRADES HAVE BEEN ACHIEVED.

EROSION CONTROL BLANKET (ECB)

- ECBs AS SHOWN ON THE DRAWINGS SHALL BE FROM NORTH AMERICAN GREEN TENSAR OR EQUAL AS APPROVED EQUIVALENT BY THE ENGINEER. ALTERNATIVE ECBs MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO INSTALLATION.
- LIMIT OF ECB INSTALLATION IS SHOWN ON DRAWINGS.
- ECB SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION, INCLUDING AMOUNT AND TYPE OF ANCHORING NECESSARY.

RIP-RAP LINED CHANNELS

- ALL SUBGRADE SURFACES SHALL BE COMPACTED TO NOT LESS THAN 90 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM 698 OR VERIFIED AS STABLE THROUGH COMPACTION AND PROOFROLLING.
- A MINIMUM OF SIX INCHES OF BEDDING MATERIAL MEETING THE REQUIREMENTS OF TYPE 2 STONE SHALL BE PLACED BELOW THE RIP-RAP. BEDDING MATERIAL SHALL BE PLACED USING METHODS THAT WILL NOT RESULT IN SEGREGATION OF PARTICLE SIZES.
- ALL STONE FILLING TO BE USED FOR CHANNEL LINING SHALL BE ACCEPTED OR REJECTED FOR USE BASED ON A VISUAL EXAMINATION OF THE MATERIAL BY THE ENGINEER.
- STONE FILLING SHALL BE PLACED AND CONSOLIDATED IN-PLACE IN CHANNELS TO ITS FULL COURSE THICKNESS IN ONE OPERATION.
- THE DESIRED DISTRIBUTION OF THE VARIOUS SIZES OF STONE THROUGHOUT THE CHANNEL LINING SHALL BE OBTAINED BY SELECTIVE LOADING AT THE SOURCE, BY CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING FINAL PLACEMENT, BY REARRANGING OF INDIVIDUAL STONES BY MECHANICAL EQUIPMENT, BY HAND, OR BY OTHER WELL CONSIDERED METHODS THAT WILL PRODUCE THE SPECIFIED RESULTS.
- STONE FILLING SHALL BE PLACED IN A MANNER THAT PRODUCES A REASONABLY WELL-GRADED MASS WITH THE SMALLER STONE FRAGMENTS FILLING THE VOIDS BETWEEN THE LARGER PARTICLES WITH A MINIMUM PRACTICABLE VOID RATIO IN THE COMPLETED CHANNEL LINING.
- THE MATERIAL SHALL BE PLACED SUCH THAT THERE ARE NO POCKETS OF UNIFORM SIZE MATERIAL.
- PLACEMENT OF THE CHANNEL LINING SHALL BE COMPLETED IN A MANNER THAT AVOIDS DISRUPTION AND DAMAGE TO UNDERLYING MATERIAL.

STABILIZATION NOTES:

- TEMPORARY SEDIMENT TRAPPING DEVICES SHALL NOT BE REMOVED UNTIL PERMANENT STABILIZATION (i.e., 80% UNIFORM DENSITY OF PERMANENT VEGETATION) IS ESTABLISHED IN ALL DISTURBED AREAS.

PRECAST STRUCTURE NOTES:

- ALL HOPE AND CONCRETE PRECAST STRUCTURE MANUFACTURER/SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASE.
- ALL CONCRETE SHALL BE OF A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.
- BEDDING FOR PRECAST UNITS SHALL CONSISTS OF TYPE 1 STONE AT A MINIMUM THICKNESS OF SIX INCHES.
- PRECAST UNITS MUST BE BACKFILLED WITH UNCLASSIFIED NATIVE FILL FROM ONSITE SOIL SOURCES.
- FOUNDATION WILL BE MINIMUM OF EIGHT INCHES THICK WITH A MINIMUM SIX-INCH WIDE BASE FLANGE. RISER WALL THICKNESS MUST BE A MINIMUM THICKNESS OF EIGHT INCHES.
- ALL WALL OPENINGS SHALL BE FORMED COMPLETELY THROUGH THE WALL SECTION. CIRCULAR WALL OPENINGS SHALL BE FORMED FOR EACH CIRCULAR PIPE ENTERING PERPENDICULAR TO THE WALL. THE CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE OPENINGS SHALL BE AT LEAST TWO INCHES BUT NO MORE THAN THREE INCHES.
- THE BELLS OF ALL PIPE SHALL BE CUT OFF AT EVERY PIPE ENTRY WHERE THE PVC BELL ENTERS THE STRUCTURE. CONNECTIONS BETWEEN THE STRUCTURE AND PIPE SHALL BE MADE BY EITHER USING A WATERTIGHT RUBBER BOOT OR BY COMPLETELY FILLING THE SPACE AROUND EACH PIPE WITH MORTAR OR CONCRETE MASONRY, CONCRETE GROUTING MATERIAL, OR CONCRETE REPAIR MATERIAL. THE CONTRACTOR MAY USE ALTERNATE METHODS FOR SEALING THE SPACE AROUND THE PIPE, CONTINGENT UPON SATISFACTORY RESULTS BEING OBTAINED.
- SEALING JOINTS IN PRECAST UNITS SHALL CONFORM TO THE REQUIREMENTS OF NYSDOT STANDARD SPECIFICATION SECTION 706-04 (JOINT MATERIAL).
- PRECAST STRUCTURES SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATION.

OVERHEAD 45 KV TRANSMISSION LINE NOTES:

- AT NO TIME SHALL ANY EQUIPMENT BECOME CLEARER THAN 20 FEET TO THE OVERHEAD POWERLINES.
- THE CONTRACTOR SHALL ERECT AND MAINTAIN AN ELEVATED WARNING LINE, BARRICADE, OR LINE OF SIGNS, IN VIEW OF THE OPERATOR, EQUIPPED WITH FLAGS OR SIMILAR HIGH-VISIBILITY MARKINGS, 20 FEET FROM THE POWER LINES. IF THE OPERATOR IS UNABLE TO SEE THE ELEVATED WARNING LINE, A DEDICATED SPOTTER SHALL BE USED THAT MEETS THE FOLLOWING CRITERIA;
 - BE IN CONTINUOUS CONTACT WITH THE OPERATOR;
 - BE EQUIPPED WITH A VISUAL AID TO ASSIST IN IDENTIFYING THE MINIMUM CLEARING DISTANCE;
 - BE POSITIONED TO EFFECTIVELY GAUGE THE CLEARANCE DISTANCE; AND,
 - GIVE TIMELY INFORMATION TO THE OPERATOR SO THAT THE REQUIRED CLEARANCE DISTANCE CAN BE MAINTAINED.
- IN ADDITION TO THE ABOVE, THE CONTRACTOR SHALL IMPLEMENT ONE OF THE FOLLOWING OPTIONS;
 - A PROXIMITY ALARM SET TO GIVE THE OPERATOR SUFFICIENT WARNING TO PREVENT ENCRoACHMENT;
 - A DEVICE THAT AUTOMATICALLY WARNS THE OPERATOR WHEN TO STOP MOVEMENT, SUCH AS A RANGE CONTROL WARNING DEVICE. SUCH A DEVICE MUST BE SET TO GIVE THE OPERATOR SUFFICIENT WARNING TO PREVENT ENCRoACHMENT; OR,
 - A DEVICE THAT AUTOMATICALLY LIMITS RANGE OF MOVEMENT, SET TO PREVENT ENCRoACHMENT.

SEEDING NOTES:

- TO PREVENT THE UNINTENTIONAL INTRODUCTION OR SPREAD OF INVASIVE SPECIES ALL CONSTRUCTION EQUIPMENT MUST BE CLEANED OF MUD, SEEDS, VEGETATION, AND OTHER DEBRIS PRIOR TO ENTERING THE PROJECT AREA. LOOSE PLANT AND SOIL MATERIAL SHALL BE REMOVED FROM CLOTHING AND TOOLS PRIOR TO ENTERING THE PROJECT AREA.
- TOPSOIL SHALL BE STRIPPED IN AREAS TO BE EXCAVATED AND FOR EMBANKMENT CONSTRUCTION. STRIPPED TOPSOIL SHALL BE STOCKPILED FOR RE-USE ONCE DESIGN ELEVATIONS ARE REACHED.
- A MINIMUM OF SIX INCHES OF TOPSOIL SHALL BE USED WHERE SEEDING AND PLANTING IS TO OCCUR.
- REMOVE ALL STONES AND OTHER OBSTRUCTIONS THAT HINDER MAINTENANCE AND FLOW ABOVE DESIGN GRADES. SEEDBED SHALL BE CLEANED OF ALL MATERIALS LARGER THAN 1.5 INCHES IN DIAMETER.
- ALL PERMANENT SEEDING AND PLANTING SHOULD BE CONDUCTED BETWEEN APRIL 1 TO JUNE 15. MULCH OR TEMPORARY SEEDING SHALL BE PLACED OUTSIDE THIS WINDOW ON ALL DISTURBED AREAS AND SEEDED WITH A PERMANENT SEED MIXTURE AT A LATER DATE.
- TEMPORARY SEEDING OR MULCHING SHALL BE USED ON DISTURBED AREAS THAT WILL BE EXPOSED FOR MORE THAN 14 DAYS.
- DISTURBED AREAS SHALL BE SEEDDED AND MULCHED WITH STRAW AS SOON AS PRACTICABLE AFTER EARTHWORK HAS BEEN COMPLETED TO REDUCE SOIL EROSION AND KEEP SOIL MOIST FOR GERMINATION.
- WITHIN 48 HOURS OF COMPLETION OF GRADING OPERATIONS, SEEDING SHALL COMMENCE, ALL SEEDING SHALL BE DONE "IN THE DRY". SEEDING SHALL NOT TAKE PLACE WHEN THE GROUND OR OVERLYING WATER IS FROZEN, OR WHEN CONDITIONS ARE OTHERWISE UNSATISFACTORY FOR PLANTING. INUNDATED AREAS SHALL NOT BE SEEDDED.
- MULCH IS TO CONSIST OF DRY OAT OR WHEAT STRAW, FREE FROM WEEDS AND FOREIGN MATTER DETRIMENTAL TO PLANT LIFE. HAY OR CHOPPED CORNSTALKS ARE NOT ACCEPTABLE. MULCH SHALL BE PLACED LOOSE AND SUFFICIENTLY OPEN FOR SUNLIGHT TO PENETRATE AND TO ALLOW CIRCULATION OF AIR. STRAW SHALL BE SPREAD UNIFORMLY OVER SEEDDED AREAS WITH NO LESS THAN 100% COVERAGE AND AT LEAST ONE-INCH LOOSE THICKNESS.
- MULCH SHALL BE WETTED FOLLOWING PLACEMENT IF TACKIFIER IS NOT USED TO PREVENT STRAW FROM BEING WIND BLOWN.
- ALL SEED MIXTURES ARE PRESENTED AS PURE LIVE SEED VALUES. THE MINIMUM PERCENTAGE OF PURE LIVE SEED SHALL BE 90%.
- SEED MIXTURES AND PLANTINGS ARE SUBJECT TO CHANGE ACCORDING TO AVAILABILITY.

TEMPORARY SEED MIX	
MIXTURE TYPE	RATE
COMMON WHITE CLOVER	8 lbs/acre
*PERENNIAL RYE	30 lbs/acre
ANNUAL RYE	75 lbs/acre
**AROOSTOOK WINTER RYE	100 lbs/acre

*IF TEMPORARY VEGETATION IS UNDERTAKEN DURING LATE FALL, CERTIFIED WINTER RYE (CEREAL RYE) MAY BE SUBSTITUTED FOR PERENNIAL RYE.

GENERAL SEED MIX (PERMANENT)	
MIXTURE TYPE	RATE
COMMON WHITE CLOVER	8 lbs/acre
CREeping RED FESCUE	20 lbs/acre
SMOOTH BROMEGRASS	2 lbs/acre
ANNUAL RYE	90 lbs/acre
PERENNIAL RYE	90 lbs/acre

DRAINAGE CHANNEL SEED MIX	
MIXTURE TYPE	RATE
LADINO CLOVER	8 lbs/acre
TALL FESCUE OR SMOOTH BROMEGRASS	20 lbs/acre
REDTOP	2 lbs/acre
ANNUAL RYE	90 lbs/acre
PERENNIAL RYE	90 lbs/acre

PIPE BRIDGE NOTES:

- OPEN WEB STEEL JOIST AND ROOF DECK MANUFACTURER/SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASE.
- CARE SHALL BE EXERCISED AT ALL TIMES TO AVOID DAMAGE THROUGH CARELESS HANDLING DURING UNLOADING, STORING, AND ERECTING. DROPPING OF JOISTS SHALL NOT BE PERMITTED.
- DECKS NOT PROMPTLY ERECTED SHALL BE STORED OFF THE GROUND, WITH ONE END ELEVATED TO PROVIDE DRAINAGE. BUNDLES MUST BE PROTECTED AGAINST CONDENSATION WITH A VENTILATED WATERPROOF COVERING.
- STEEL DECK BUNDLES MUST BE STACKED SO THERE IS NO DANGER OF SHIFTING OR MATERIAL DAMAGE. BUNDLES MUST BE CHECKED FOR TIGHTNESS, AND RETIGHTENED AS NECESSARY.

INSTALLATION

- THE CONTRACTOR IS REQUIRED TO ADHERE TO ALL OSHA SAFETY STANDARDS FOR STEEL ERECTION.
- ALL WORK PERTAINING TO THE CONSTRUCTION OF THE PIPE BRIDGE SHALL BE COMPLETED BY QUALIFIED AND EXPERIENCED WORKERS.
- THE PIPE BRIDGE STRUCTURE AS SHOWN ON THE DRAWINGS SHALL BE CONSTRUCTED ON A RELATIVELY FLAT WORKING SURFACE PRIOR TO HOISTING AND PLACEMENT ON THE STRUCTURAL SUPPORTS SHOWN.
- HOISTING CABLES ATTACHED AT A PANEL POINT APPROXIMATELY 1/3 OF THE SPAN FROM EACH END WILL MINIMIZE ERECTION STRESSES IN THE STEEL JOIST. THE ANGLE OF THE HOISTING CABLES FROM THE VERTICAL SHALL NOT EXCEED 30 DEGREES. HOISTING SHALL BE CONDUCTED IN A MANNER THAT AVOIDS APPLIED STRESS TO THE ENDS OF STEEL DECK (OVERHANGS). THE METHOD OF HOISTING THE COMPLETED STRUCTURE MUST BE APPROVED BY THE ENGINEER.
- K-SERIES JOISTS SUPPORTED BY MASONRY OR CONCRETE ARE TO BEAR ON STEEL BEARING PLATES
- K-SERIES JOISTS RESTING ON STEEL BEARING PLATES ON MASONRY OR STRUCTURAL CONCRETE SHALL BE ATTACHED THERETO WITH A MINIMUM OF TWO 1/8 INCH FILLET WELDS 1 INCH LONG, OR WITH TWO 1/2 INCH ASTM A307 BOLTS, OR THE EQUIVALENT.
- STEEL ENDS OF K-SERIES JOISTS RESTING ON STEEL SUPPORTS SHALL BE ATTACHED THERETO WITH A MINIMUM OF TWO 1/8 INCH FILLET WELDS 1 INCH LONG, OR WITH TWO 1/2 INCH ASTM A307 BOLTS, OR THE EQUIVALENT.
- THE ENDS OF K-SERIES JOISTS SHALL EXTEND A DISTANCE OF NOT LESS THAN 4 INCHES OVER THE MASONRY OR CONCRETE SUPPORT AND BE ANCHORED TO THE STEEL BEARING PLATE. THE PLATE SHALL BE LOCATED NOT MORE THAN 1/2 INCH FROM THE FACE OF THE WALL AND SHALL BE NOT LESS THAN 6 INCHES WIDE PERPENDICULAR TO THE LENGTH OF THE JOIST.
- CROSSBRIDGING MEMBERS MUST BE CONNECTED AT THEIR POINT OF INTERSECTION,
- CONNECTIONS TO THE CHORDS OF STEEL JOISTS SHALL BE MADE BY POSITIVE MECHANICAL MEANS OR BY WELDING.

- THE NUMBER OF ROWS OF CROSS BRIDGING SHALL NOT BE LESS THAN AS SHOWN ON THE DRAWINGS
- ROOF DECK SHEETS SHALL BE ATTACHED AS SOON AS POSSIBLE AFTER PLACEMENT. ALL SHEETS PLACED SHALL BE ATTACHED PRIOR TO THE END OF EACH WORK DAY. ARC WELDING IS THE MOST COMMONLY USED METHOD FOR ATTACHING CORDECK STEEL ROOF DECK TO STRUCTURAL SUPPORTS. WELDER SHALL IMMEDIATELY FOLLOW THE PLACEMENT CREW.
- ALL WELDS ARE TO BE MADE FROM THE TOP OF THE DECK DOWN THROUGH THE BOTTOM FLANGE OF THE RIBS. WELDS SHALL PENETRATE AND ATTACH ALL THICKNESSES OF MATERIAL TO THE STRUCTURAL SUPPORT.
- CAUTION SHALL BE EXERCISED ON THE SELECTION OF THE ELECTRODES TO PROVIDE POSITIVE ATTACHMENT AND TO PREVENT HIGH AMPERAGE BLOW HOLES.
- PUDDLE WELDS SHALL BE AT LEAST 5/8" DIAMETER OR ELONGATED PUDDLE WELDS WITH AN EQUAL PERIMETER. FILLET WELDS, WHEN USED, SHALL BE AT LEAST 1" LONG.
- 1.5" ROOF DECK ENDS SHALL BE WELDED TO STRUCTURAL SUPPORTS AT 12" ON CENTER MAXIMUM.
- VARIOUS MECHANICAL FASTENING SYSTEMS OTHER THAN WELDING ARE RECOGNIZED AS VIABLE ANCHORING METHODS PROVIDED THEY ARE REVIEWED, APPROVED, OR SPECIFIED BY THE ENGINEER. THESE INCLUDE BUT ARE NOT LIMITED TO POWER-ACTIVATED OR PNEUMATICALLY DRIVEN FASTENERS AND SCREWS.
- AT THE MIDPOINT OF EACH ROOF DECK SPAN, THE CONTRACTOR MUST PROVIDE A 1/2"Ø DRAIN AT EACH DECK BOTTOM FLANGE TO PREVENT THE ACCUMULATION OF RAIN WATER.

STONE BEDDING, BACKFILL, AND CHANNEL LINING GRADATION REQUIREMENTS:

TYPE 1 STONE BEDDING	
STONE SIZE	PERCENT PASSING BY WEIGHT
3 INCHES	100
2 INCHES	90 - 100
1/4-INCH	30 - 65
NO. 40	5 - 40
NO. 200	0 - 10

TYPE 2 STONE BACKFILL	
STONE SIZE	PERCENT PASSING BY WEIGHT
2 INCHES	100
1/4 INCH	25 - 60
NO. 40	5 - 40
NO. 200	0 - 10

LIGHT STONE FILLING TYPE II	
STONE SIZE	PERCENT TOTAL BY WEIGHT
LIGHTER THAN 110 lbs	90 - 100
LARGER THAN 6 INCHES	50 - 100
SMALLER THAN 1/2-INCH	0 - 10

MEDIUM STONE FILLING TYPE III	
STONE SIZE	PERCENT TOTAL BY WEIGHT
HEAVIER THAN 110 lbs	50 - 100
SMALLER THAN 6 INCHES	0 - 10

EXCAVATION NOTES:

- CONTRACTOR SHALL VERIFY EXISTING GROUND CONDITIONS INCLUDING SIZE AND ELEVATIONS OF EXISTING CHANNELS, PONDS, AND CULVERTS, AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
- THE LIMITS OF EXCAVATION SHOWN ARE APPROXIMATE. THE CONTRACTOR MUST CONSIDER THE FINISHED GRADES AND SHAPE OF THE CHANNELS AND THE THICKNESS AND SLOPE OF UNDERLYING LAYERS WHEN STAKING OUT THE EXCAVATION TO ENSURE ADEQUATE AREA AND DEPTH ARE AVAILABLE TO CONSTRUCT THE NECESSARY LAYERS IN ACCORDANCE WITH THE DESIGN.
- RECONSTRUCTION OF DISTURBED SOILS WHERE INTERMEDIATE COVER HAS BEEN PLACED AND HAD BEEN SEEDDED AND MULCHED TO PROMOTE AND SUSTAIN VEGETATIVE GROWTH TO CREATE SEPARATION BETWEEN THE COAL COMBUSTION BY-PRODUCTS WASTE, SHALL BE REPLACED IN KIND. THE EXTENT OF THE LOW PERMEABILITY SOIL BARRIER LAYER RECONSTRUCTION WILL BE DETERMINED BY THE ENGINEER BASED ON THE CONDITIONS ENCOUNTERED IN THE FIELD.
- CLEAN EXCAVATED SOIL SHALL BE HAULED TO THE DESIGNATED STOCKPILE AREA AND/OR USED AS FILL TO REDUCE NEED FOR OFFSITE SOILS, AS NECESSARY.
- REMOVE AND PROPERLY DISPOSE OF EXISTING LEACHATE POND OUTLET STRUCTURE.

GRADING NOTES:

ALL SURFACES AT FINAL GRADE SHALL BE COMPACTED TO NOT LESS THAN 90 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM 698 OR VERIFIED AS STABLE THROUGH COMPACTION AND PROOFROLLING.

PIPE BURIAL NOTES:

- BEDDING AND BACKFILL MATERIAL FOR THE PIPE SHALL BE WELL GRADED COHESIONLESS MIXTURES OF SAND AND GRAVEL.
- PIPE BEDDING AND BACKFILL SHALL BE ACCOMPLISHED IN THREE STAGES. THE FIRST STAGE SHALL INVOLVE PLACEMENT OF BEDDING MATERIAL TO SUPPORT THE PIPE. THE SECOND STAGE SHALL CONSIST OF HAUNCHING PLACED TO THE SPRINGLINE OF THE PIPE AND CONSOLIDATED IN-PLACE. THE THIRD STAGE INVOLVES THE PLACEMENT OF SELECT BACKFILL TO 12" OVER THE TOP OF THE PIPE IN LIFTS NOT TO EXCEED 12 INCHES IN THICKNESS THAT SHALL BE PLACED AND COMPACTED IN-PLACE AS APPROVED BY THE ENGINEER. THE REMAINDER OF THE TRENCH SHALL BE BROUGHT TO GRADE USING UNCLASSIFIED FILL FROM ONSITE.
- BEDDING SHALL BE ACCOMPLISHED WITH TYPE 1 STONE. HAUNCHING AND BACKFILLING TO 12" OVER THE TOP OF THE PIPE SHALL BE ACCOMPLISHED WITH TYPE 2 STONE.

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	REVISION	BY	DATE



JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: February 2019

SCALE: N/A

PREPARED FOR:	LOCKWOOD HILLS LLC			GENERAL NOTES			CD-9
DES. BY:	DRW. BY:	CHK. BY:	SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS				
DWG.	CD-9 DRAWING NOTES.dwg	TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK			

ATTACHMENT 4

**Soil Management and Erosion Control
Plan**

SOIL MANAGEMENT AND EROSION CONTROL PLAN

AREAS:

- P1 107,349.993 FT2, 2.46 AC
- P2 97,995.4426 FT2, 2.25 AC
- P3 211,347.1849 FT2, 4.85 AC

LEGEND:

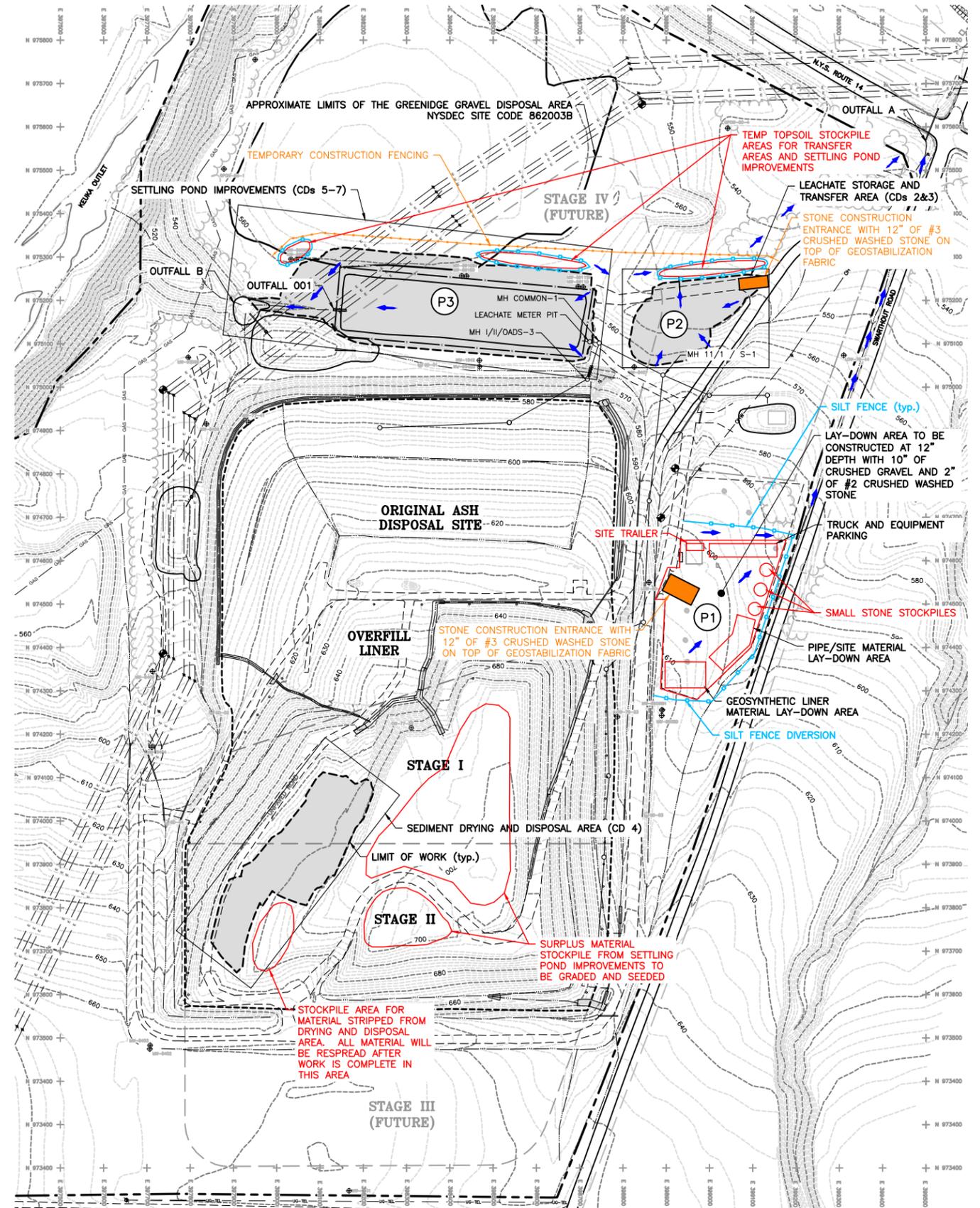
- 550 --- GROUND SURFACE 10' CONTOUR
- 550 --- GROUND SURFACE 2' CONTOUR
- ==== PAVED ROAD
- UNPAVED ROAD
- FENCE
- LIMIT OF EXISTING WASTE
- PERMITTED LIMIT OF WASTE
- PROPERTY BOUNDARY
- ⊕ GROUNDWATER MONITORING WELL
- OVERHEAD POWER LINES AND POLES
- LEACHATE SEWER AND MANHOLE
- GAS
- NATURAL GAS LINE
- DRAINAGE CHANNEL
- ROCK-LINED CHANNEL
- CULVERT
- ⊙ GROUNDWATER DRAIN
- ⊕ SURVEY BENCHMARK

NOTES:

1. THE TOPOGRAPHY AND PLANIMETRICS SHOWN ON THIS DRAWING HAVE BEEN COMPILED BY KUCERA INTERNATIONAL, INC. USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 4, 2010. TOPOGRAPHY WAS SUPPLEMENTED WITH SURVEY FROM WILLSON ASSOCIATES ON 11/13/17, 11/24/17, AND 12/21/17.
2. VERTICAL CONTROL IS THE GREENIDGE STATION PLANT DATUM. HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE GRID NAD 83.
3. THE CONTRACTOR SHALL FIELD VERIFY THE ASSUMED CONDITIONS AND REPORT FINDINGS TO THE ENGINEER.
4. EFFORTS SHALL BE MADE BY THE CONTRACTOR AND CONSTRUCTION STAFF TO CONTROL WASTE AND FLOATABLE DEBRIS. INSPECTIONS FOR WASTE MATERIALS SHALL BE CONDUCTED REGULARLY.
5. SEE CD-9 FOR GENERAL PROJECT NOTES

VERTICAL CONTROL POINT DESCRIPTIONS:

- BM#10 RAILROAD SPIKE, WEST SIDE OF POLE NYSEG #P35828. ELEV. 598.40
- BM#11 TOP OF BRASS CAP IN 6" SQUARE CONCRETE MONUMENT PROPERTY CORNER, NORTHWEST CORNER OF LOCKWOOD RESIDENCE. ELEV. 587.13
- BM#12 TOP OF SOUTH WINGWALL OF SEDIMENTATION POND OUTLET, 4.5' WEST OF FENCE AT VERTICAL TAPER IN WINGWALL, ELEV. 556.04
- BM#14 RAILROAD SPIKE, EAST SIDE OF POLE MOST SOUTHERLY OF 5 POLES. ELEV. 551.35
- BM#15 RAILROAD SPIKE, EAST SIDE OF POLE NYSEG #234 EASTERLY OF THREE POLES. ELEV. 569.24
- BM#16 RAILROAD SPIKE, EAST SIDE OF POLE NYSEG #967167, EASTERLY OF THREE POLES. ELEV. 596.76



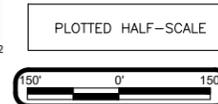
ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 2209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	REVISION	BY	DATE

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 NYSPE NO. 061689

DATE: March 2019



PREPARED FOR:	LOCKWOOD HILLS LLC
DES. BY:	DRW. BY:
CHK. BY:	
DWG.	e&sc areas_rev1.dwg

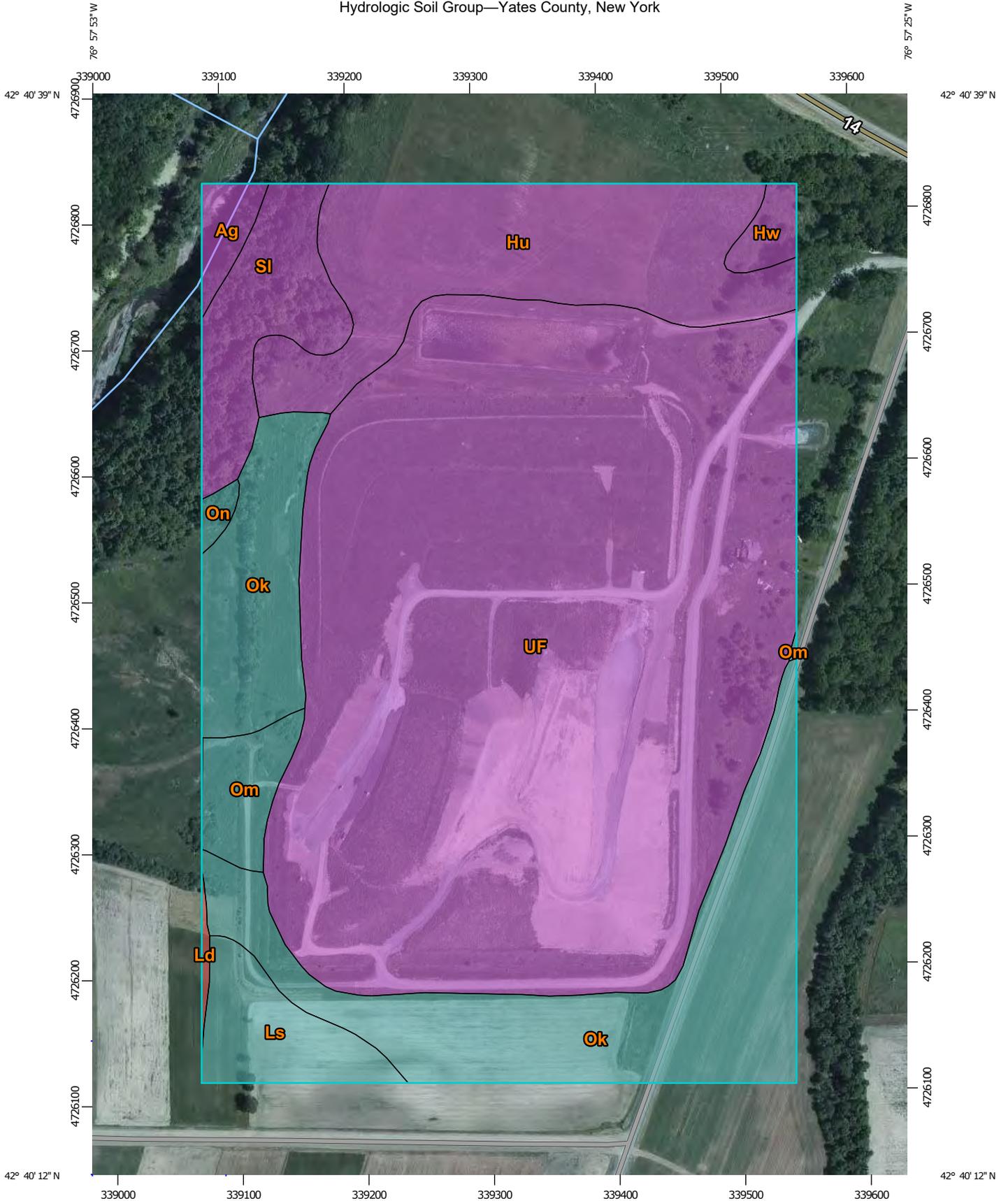
SITE PLAN		
SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS		
TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK

CD-1

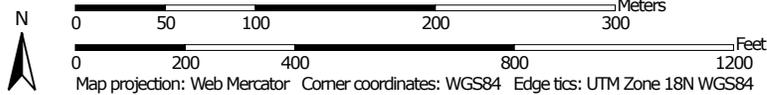
ATTACHMENT 5

**NRCS Hydrologic Soil Group Map and
Information**

Hydrologic Soil Group—Yates County, New York



Map Scale: 1:4,180 if printed on A portrait (8.5" x 11") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Yates County, New York
 Survey Area Data: Version 12, Sep 25, 2015

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

Date(s) aerial images were photographed: Jun 2, 2010—Oct 8, 2010

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

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Yates County, New York (NY123)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ag	Alluvial soils, undifferentiated, 0 to 2 percent slopes	A	0.8	0.9%
Hu	Howard gravelly loam, 0 to 5 percent slopes	A	10.1	12.0%
Hw	Howard soils, 15 to 25 percent slopes	A	0.7	0.8%
Ld	Lansing and Danley silt loams, 12 to 20 inches deep, 3 to 8 percent slopes	D	0.1	0.2%
Ls	Lima silt loam, 3 to 10 percent slopes	C	2.5	3.0%
Ok	Ontario loam, 3 to 10 percent slopes	C	15.1	18.0%
Om	Ontario loam, eroded, 10 to 20 percent slopes	C	1.6	1.9%
On	Ontario soils, eroded, 20 to 30 percent slopes	C	0.3	0.3%
Sl	Steep broken land, 35 to 60 percent slopes	A	3.6	4.3%
UF	Udorthents, refuse substratum	A	49.1	58.5%
Totals for Area of Interest			83.9	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

ATTACHMENT 6

Routine Visual Inspection Form

Stormwater Pollution Prevention Plan Routine Visual Inspection Report

GENERAL INFORMATION				
Project Name:	Lockwood Ash Disposal Site/ Settling Pond Sediment Removal and Improvements	Project Location:	Town of Torrey, New York	Active Phase(s) at time of Inspection: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
Inspector Name:		Inspector's Signature (When Complete):		
Inspector Title(s):				
Inspector Contact Information:			Date of Inspection:	
Inspection Start Time:		End Time:		
Type of Inspection:	<input type="checkbox"/> Routine <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> Post-Storm Event			
Describe Current Site Activities:				
WEATHER INFORMATION				
Current Conditions (mark all that apply):	<input type="checkbox"/> Clear	<input type="checkbox"/> Sunny	<input type="checkbox"/> Partly Cloudy	
	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Windy	<input type="checkbox"/> Other:	
Precipitation:	<input type="checkbox"/> Rain	<input type="checkbox"/> Snow	<input type="checkbox"/> Other:	
Overall Ground Conditions:	<input type="checkbox"/> Dry	<input type="checkbox"/> Frozen	<input type="checkbox"/> Saturated/Wet	
Ambient Temperature:		Ground Cover Conditions:		

Date: _____ Initials: _____

The following table describes the Inspection Points shown on the site map contained in Attachment 4 of the SWPPP. During inspection, if areas not identified on the table are observed and require repairs, maintenance, and/or corrective action, blank spaces are provided and should be completed accordingly. Photographs should be printed and attached to this form.

At minimum, the following observations should be noted at each inspection point:

- Condition of runoff at all points of discharge
- Effectiveness of BMPs/ESCs
- Impacts of site activities on surrounding waterways, wetlands, and ground surfaces
- Photos at each inspection point

Inspection Point Description	What to Inspect	Repairs, maintenance, corrective action required?	Date repairs, maintenance, corrective, action completed?	Notes <i>(Location, type of action required, conditions at inspection point, discharges occurring, etc.)</i>	Photo Number <i>(include camera number or time taken)</i>
Stabilized Construction Entrance/ Construction Road	Sign of wear and tear, ponding water, potholes, erosion of adjacent grassed areas.	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			
Vehicle and Equipment Maintenance Areas	Signs of leak/spill, proper management of materials and equipment	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			
Diversion Channels & Rock Lined Channels	Sediment accumulation, channel erosion, areas of rock displacement, erosion under rocks	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			

Date: _____ Initials: _____

Stormwater Pollution Prevention Plan
Routine Visual Inspection Report

Inspection Point Description	What to Inspect	Repairs, maintenance, corrective action required?	Date repairs, maintenance, corrective, action completed?	Notes <i>(Location, type of action required, conditions at inspection point, discharges occurring, etc.)</i>	Photo Number <i>(include camera number or time taken)</i>
Straw Bales	Decaying or falling apart, properly anchored/ installed	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			
Silt Fence	Rips/tears in fabric, areas where stormwater flows around or through, proper installation and function	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			
Permanent/ Temporary Seeding & Mulched Areas	Bare spots, additional mulch needed, erosion and sediment transport	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			
Sediment Traps & Sediment Basins	Depth of accumulated sediment, floating debris, clogged outlet structures	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			
Outfalls	Accumulated sediment, clogged discharge structures, unusual discharge	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			

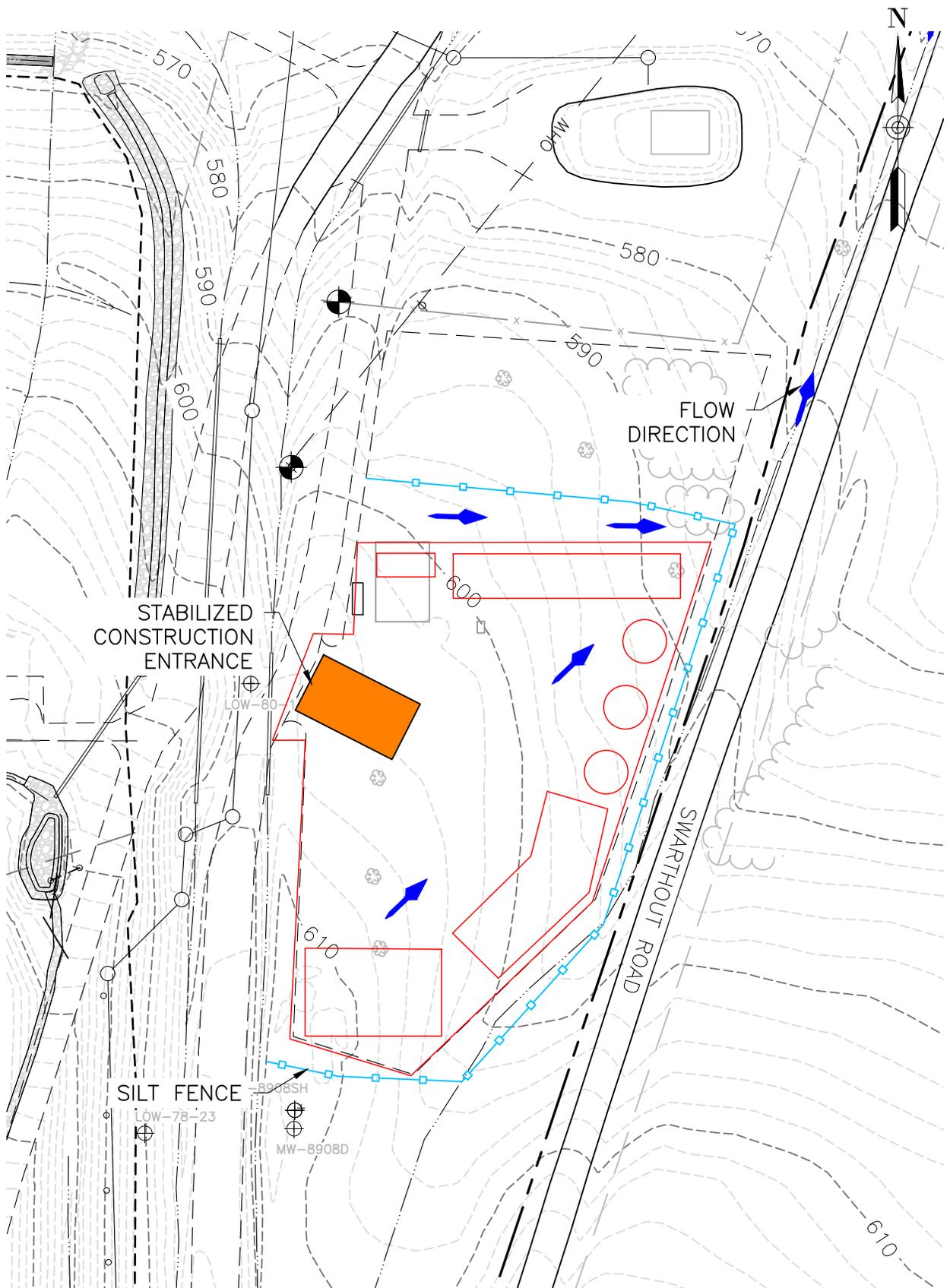
Date: _____ Initials: _____

Stormwater Pollution Prevention Plan
Routine Visual Inspection Report

Inspection Point Description	What to Inspect	Repairs, maintenance, corrective action required?	Date repairs, maintenance, corrective, action completed?	Notes <i>(Location, type of action required, conditions at inspection point, discharges occurring, etc.)</i>	Photo Number <i>(include camera number or time taken)</i>
	Were any allowable non-stormwater sources/discharges identified? <i>(i.e. fire hydrant flushing, potable water sources, air conditioning/compressor condensate, irrigation drainage, landscape watering, building washdowns, foundation drains)</i>	<input type="checkbox"/> YES <input type="checkbox"/> NO			
Condition of site as a whole	Litter, ponding of water, high level of erosion/sediment in uncontrolled areas	<input type="checkbox"/> NA <input type="checkbox"/> YES <input type="checkbox"/> NO			

Notes: _____

Date: _____ Initials: _____



EROSION AND SEDIMENT CONTROLS - PHASE 1
 SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS

LOCKWOOD HILLS LLC

TOWN OF TORREY

YATES COUNTY

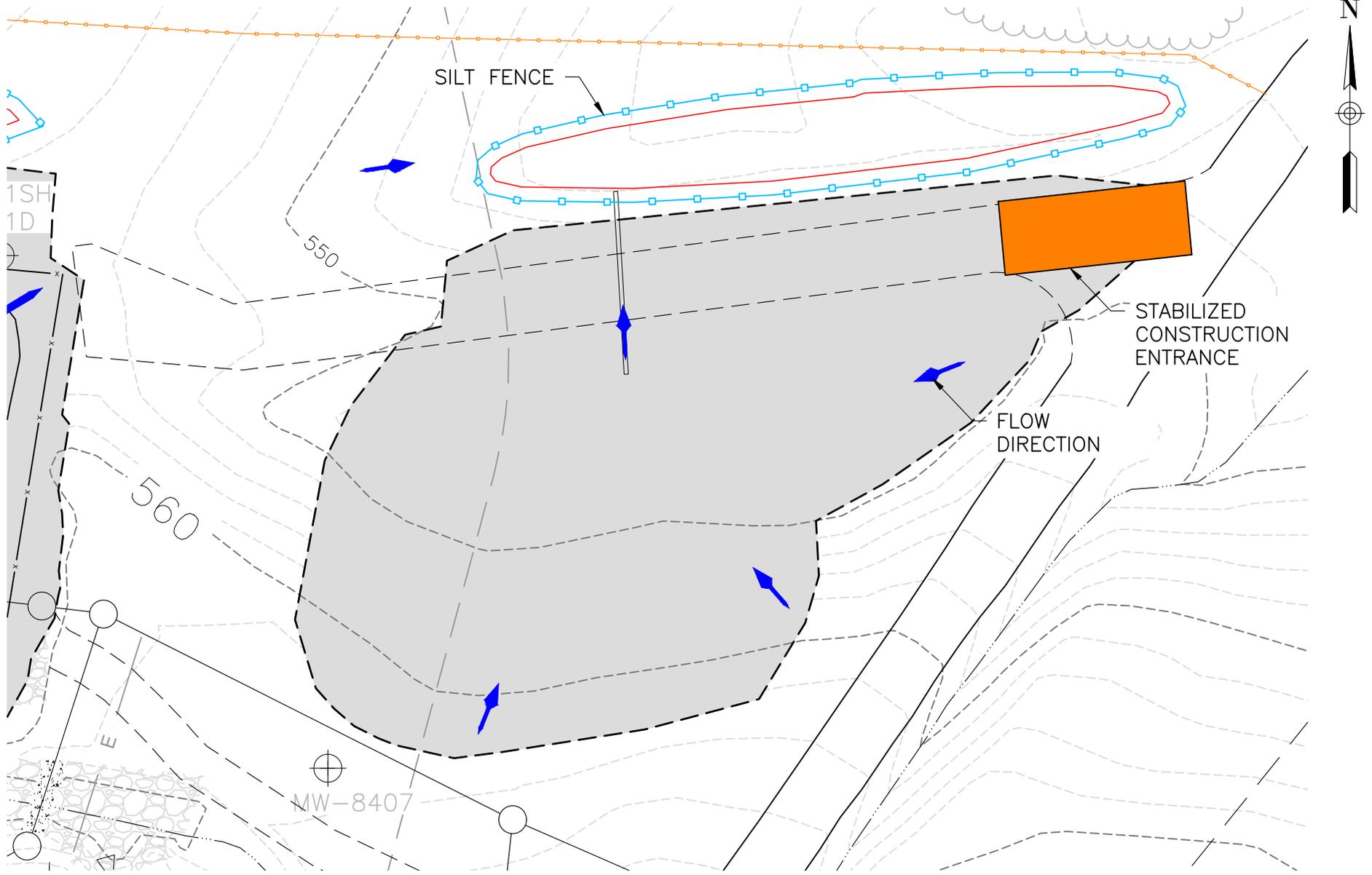
NEW YORK

June 2019

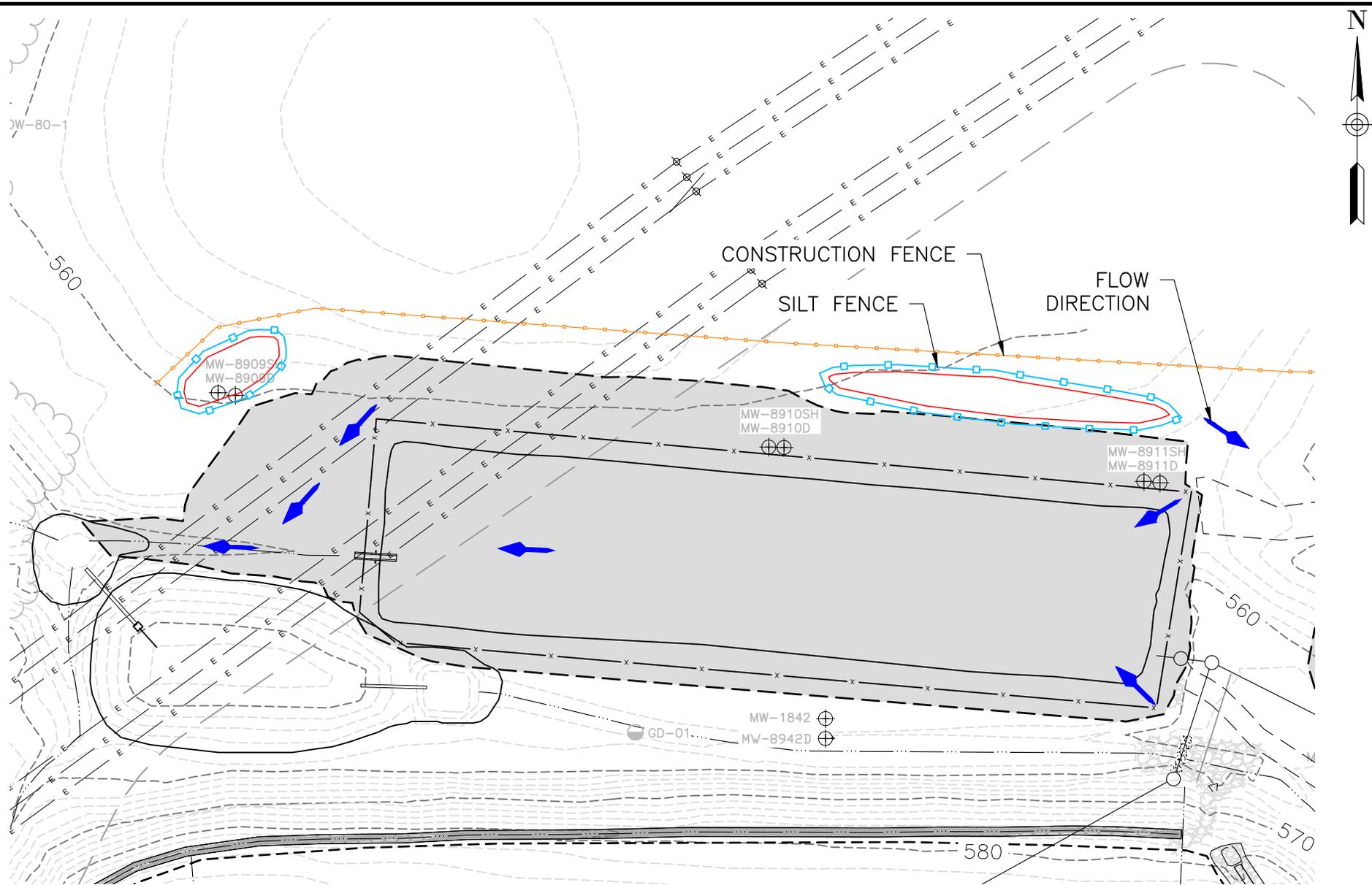
SCALE: 1"=100'

REVISION # 0

FIGURE
 1



LOCKWOOD HILLS LLC		EROSION AND SEDIMENT CONTROLS - PHASE 2			FIGURE 2
SCALE: 1"=50'	REVISION # 0	SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS			
June 2019		TOWN OF TORREY	YATES COUNTY	NEW YORK	



LOCKWOOD HILLS LLC		EROSION AND SEDIMENT CONTROLS - PHASE 3 SETTLING POND SEDIMENT REMOVAL AND IMPROVEMENTS			FIGURE 3
SCALE: 1"=100'	REVISION # 0				
June 2019		TOWN OF TORREY	YATES COUNTY	NEW YORK	

ATTACHMENT 7

Maintenance Activities Form

Stormwater Pollution Prevention Plan Maintenance Activities Log

MAINTENANCE LOG			
Name:			
Title:			
Contact Information:			
Date Maintenance was Identified:		Date Maintenance was Completed:	
Description of Maintenance Performed:			
Signature (When Complete):			

MAINTENANCE LOG			
Name:			
Title:			
Contact Information:			
Date Maintenance was Identified:		Date Maintenance was Completed:	
Description of Maintenance Performed:			
Signature (When Complete):			

ATTACHMENT 8

Spills and Releases Log

Stormwater Pollution Prevention Plan Spills and Releases Log

SPILLS AND RELEASES LOG			
Date & Time of Spill	Type of Spill, Location, Approximate Quantity Released	Was there a Release to a Nearby Waterbody?	Describe How and When the Release Was Remedied <i>(i.e. dry absorbent, wet vacuum, etc.)</i>
		<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	

ATTACHMENT 9

**Signed Contractor/Subcontractor
Certifications**

Contractor/Subcontractor Certification

Project Name: Lockwood Ash Disposal Site: Settling Pond Sediment Removal and Improvements

Property Owner: Lockwood Hills LLC

Contact Person: Christopher Gill
P.O. Box 187
Dresden, New York 14441
(315) 536-2359

Site Location: Southwest of the State Route 14 and Swarthout Road Intersection

SWPPP Element	Responsible Contractor/Subcontractor
	Company: City Hill Construction Street: 2199 State Route 14 Address: Penn Yan, New York 14527 Phone: (315) 536-3694

Contractor/Subcontractor Certification Statement:

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

Matt Hunt
Name

Foreman
Official Title

Matt Hunt
Signature

7/3/19
Date

ATTACHMENT 10

**Erosion and Sediment Controls
Construction Specifications from the NYS
Standards and Specifications for Erosion
and Sediment Control**

STANDARD AND SPECIFICATIONS FOR SILT FENCE



Definition & Scope

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 by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

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

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. 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; and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and

roll down. The area beyond the fence must be undisturbed or stabilized.

3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

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)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

Super Silt Fence

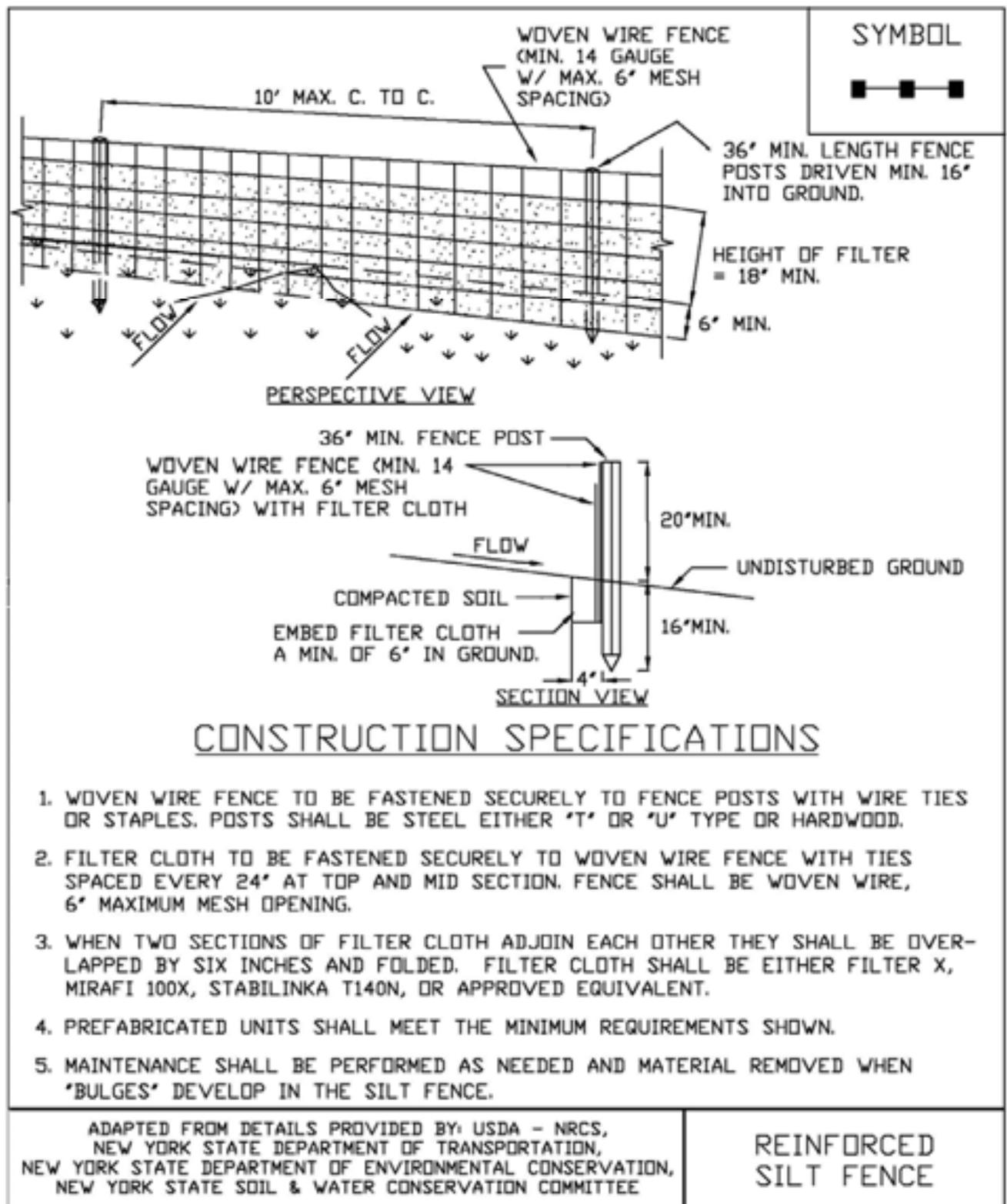


2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.
4. Prefabricated silt fence is acceptable as long as all material specifications are met.

Reinforced Silt Fence



**Figure 5.30
Reinforced Silt Fence**



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	Heavy Duty ²	Test Method
	Roads Grade Subgrade	Haul Roads Rough Graded	
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	--

¹Light 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.

²Heavy 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.

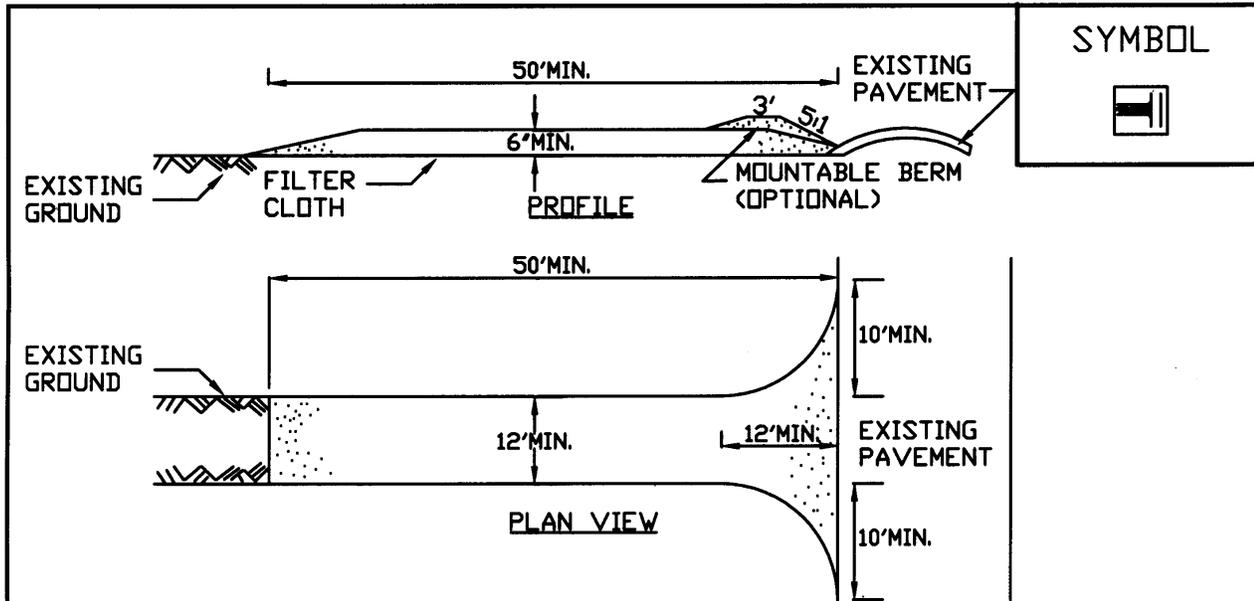
³Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

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**

STANDARD AND SPECIFICATIONS FOR CONSTRUCTION ROAD STABILIZATION



Definition & Scope

The stabilization of temporary construction access routes, on-site vehicle transportation routes, and construction parking areas to control erosion on temporary construction routes and parking areas.

Conditions Where Practice Applies

All traffic routes and parking areas for temporary use by construction traffic.

Design Criteria

Construction roads should be located to reduce erosion potential, minimize impact on existing site resources, and maintain operations in a safe manner. Highly erosive soils, wet or rocky areas, and steep slopes should be avoided. Roads should be routed where seasonal water tables are deeper than 18 inches. Surface runoff and control should be in accordance with other standards.

Road Grade – A maximum grade of 12% is recommended, although grades up to 15% are possible for short distances.

Road Width – 12 foot minimum for one-way traffic or 24 foot minimum for two-way traffic.

Side Slope of Road Embankment – 2:1 or flatter.

Ditch Capacity – On-site roadside ditch and culvert capacities shall be the 10 yr. peak runoff.

Composition – Use a 6-inch layer of NYS DOT sub-base Types 1,2,3, 4 or equivalent as specified in NYSDOT Standard Specifications.

Construction Specifications

1. Clear and strip roadbed and parking areas of all vegetation, roots, and other objectionable material.
2. Locate parking areas on naturally flat areas as available. Keep grades sufficient for drainage, but not more than 2 to 3 percent.
3. Provide surface drainage and divert excess runoff to stabilized areas.
4. Maintain cut and fill slopes to 2:1 or flatter and stabilized with vegetation as soon as grading is accomplished.
5. Spread 6-inch layer of sub-base material evenly over the full width of the road and smooth to avoid depressions.
6. Provide appropriate sediment control measures to prevent offsite sedimentation.

Maintenance

Inspect construction roads and parking areas periodically for condition of surface. Top dress with new gravel as needed. Check ditches for erosion and sedimentation after rainfall events. Maintain vegetation in a healthy, vigorous condition. Areas producing sediment should be treated immediately.

STANDARD AND SPECIFICATIONS FOR ROCK OUTLET PROTECTION



Definition & Scope

A **permanent** section of rock protection placed at the outlet end of the culverts, conduits, or channels to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach.

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 3.16 on page 3.42 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 3.17 on page 3.43 as an example. Pipes which outlet onto flat areas with no defined channel may be assumed to have a Minimum Tailwater Condition; see Figure 3.16 on page 3.42 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 3.16 on page 3.42

Maximum Tailwater – Use Figure 3.17 on page 3.43

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. Outlets constructed on the bank of a stream or wetland shall not use grouted rip-rap, gabions or concrete.

Riprap shall be composed of a well-graded mixture of rock 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 rock sizes, but with a sufficient mixture of other sizes to fill the smaller voids between the rocks. The diameter of the largest rock 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 rock diameter for d_{50} of 15 inches or less; and 1.2 times the maximum rock size for d_{50} greater than 15 inches. The following chart lists some examples:

D_{50} (inches)	d_{max} (inches)	Minimum Blanket Thick- ness (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

Rock Quality

Rock for riprap shall consist of field rock or rough unhewn quarry rock. The rock 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 rocks shall be at least 2.5.

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 Anchored Slope and Channel Stabilization on page 4.7.

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 manufacturer's 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 rocks. 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. Use 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.

Design Examples are demonstrated in Appendix B.

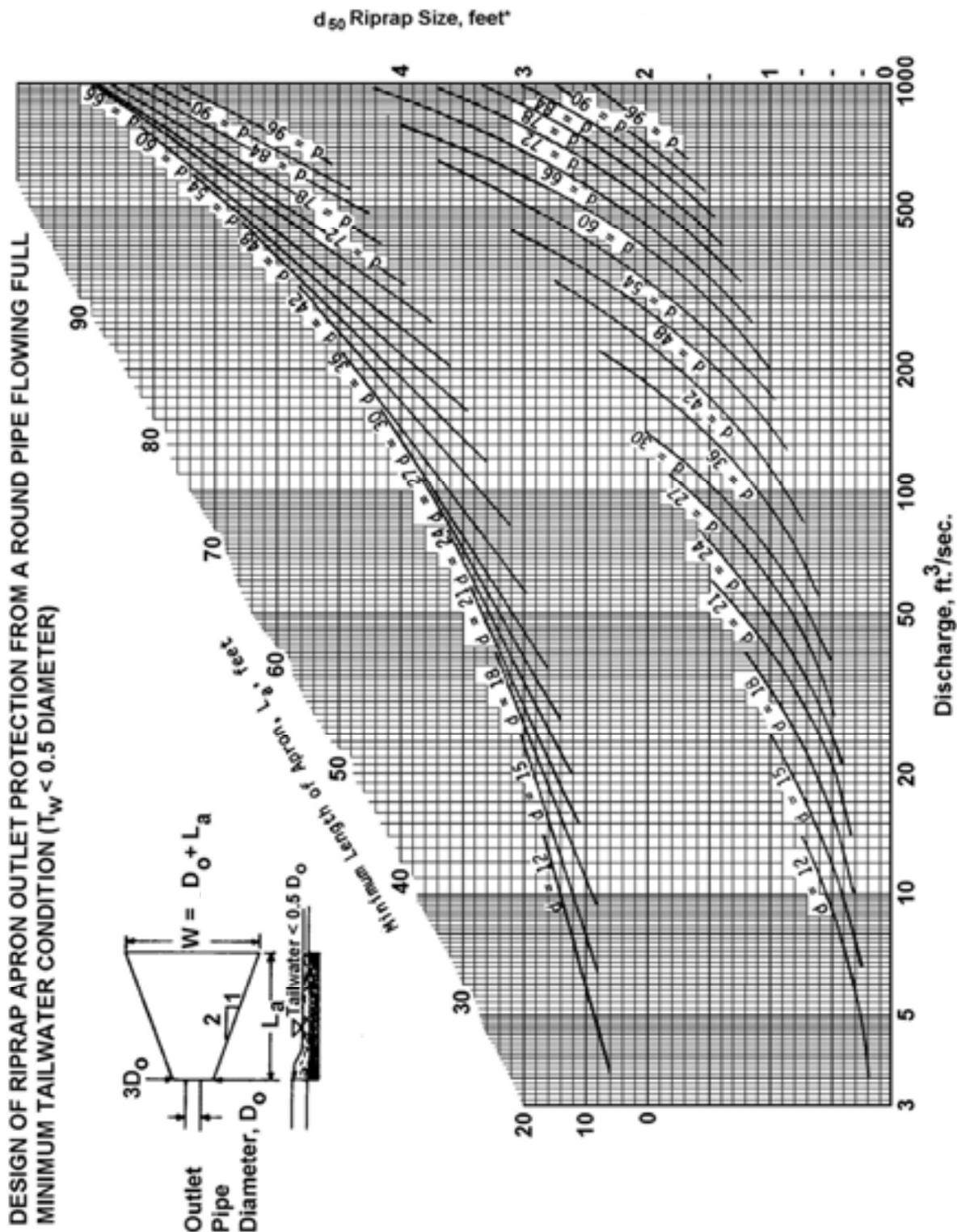
Construction Specifications

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 grad-

ing limits when installed respectively in the riprap or filter.

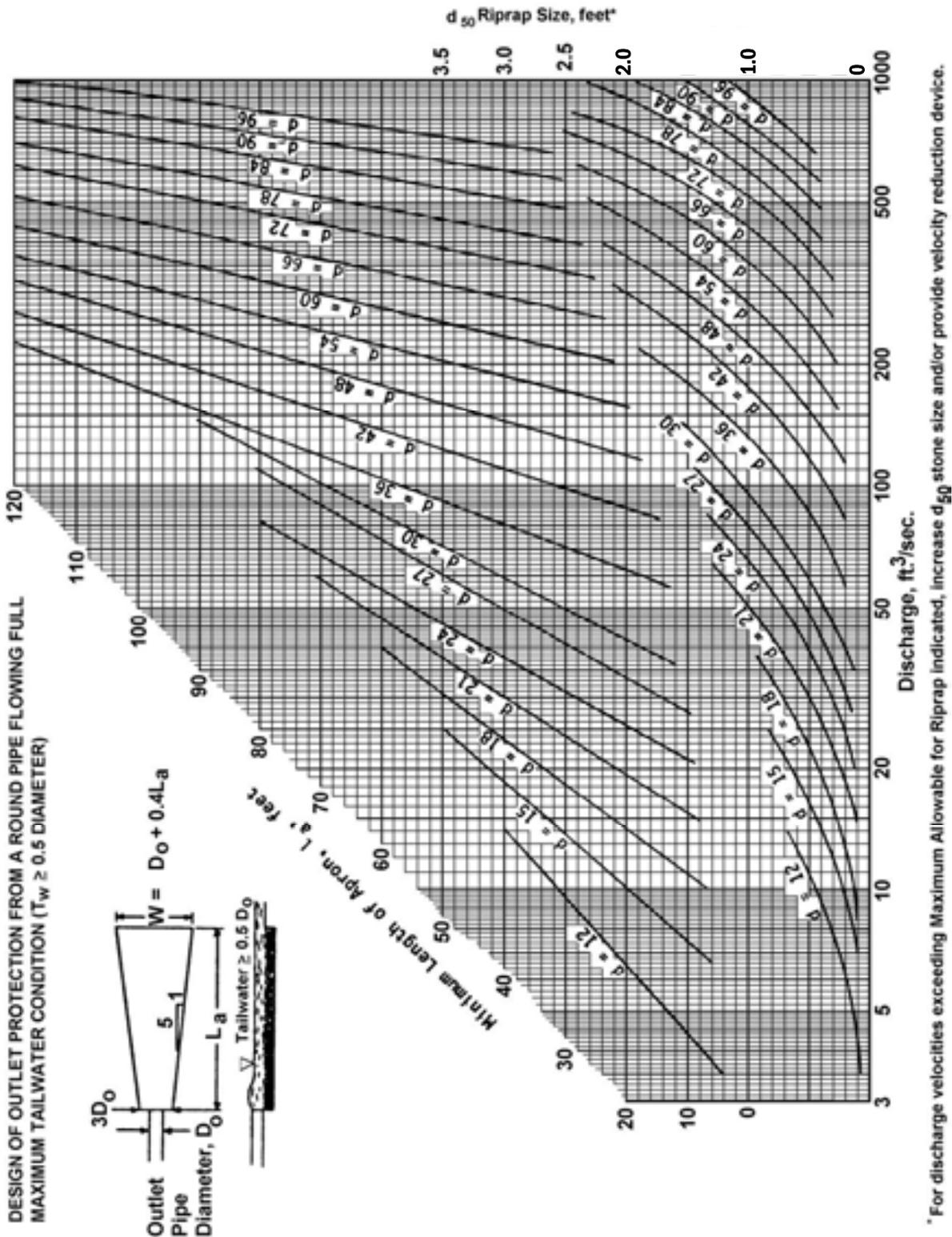
3. Filter cloth shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps, whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Rock 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 rock for riprap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogenous with the smaller rocks and spalls filling the voids between the larger rocks. 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 3.16
Outlet Protection Design—Minimum Tailwater Condition Chart
(Design of Outlet Protection from a Round Pipe Flowing Full,
Minimum Tailwater Condition: $T_w < 0.5D_o$) (USDA - NRCS)

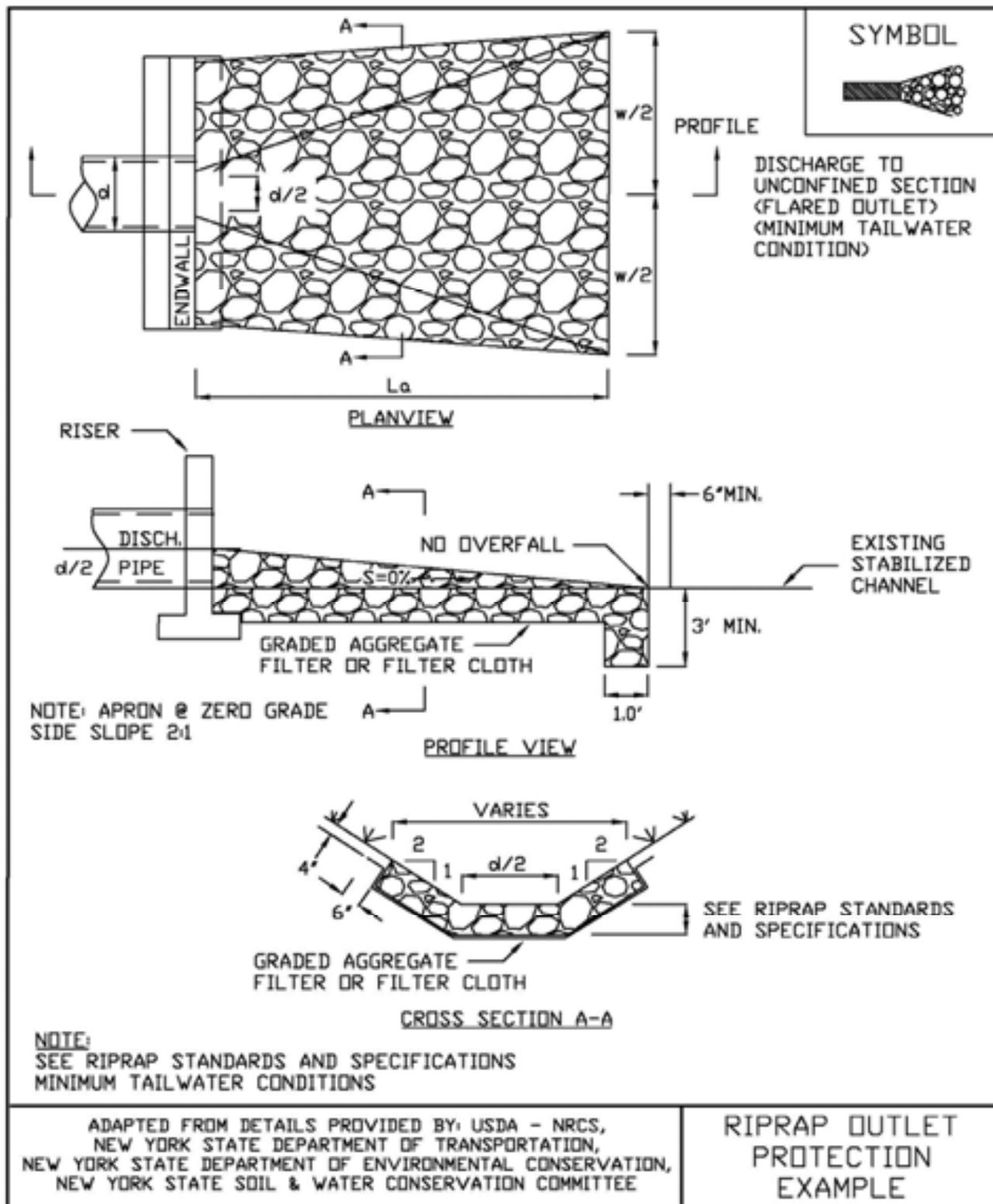


* For discharge velocities exceeding Maximum A for riprap indicated, increase d₅₀ stone size and/or provide velocity reduction device.

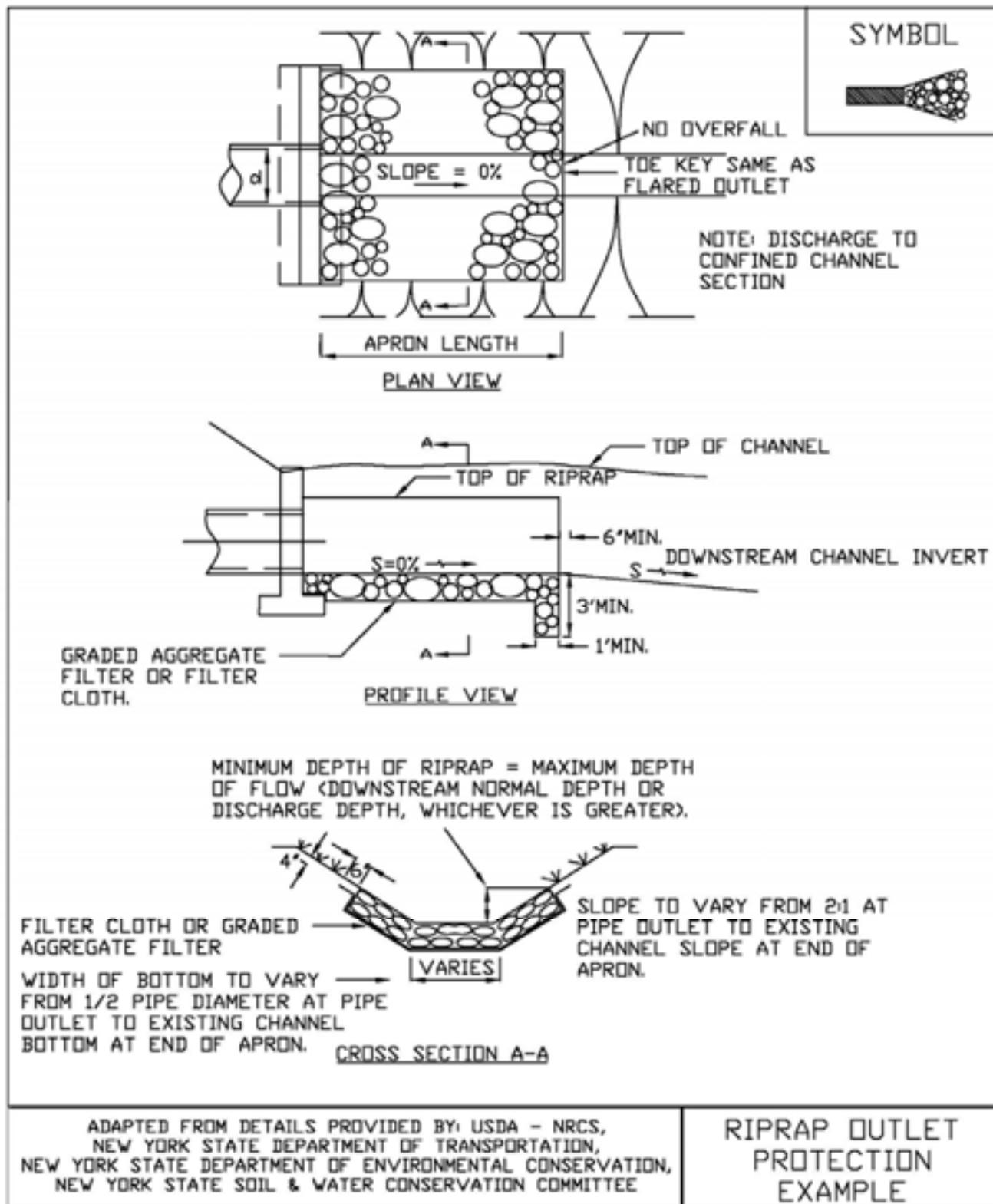
Figure 3.17
Outlet Protection Design—Maximum Tailwater Condition Chart
(Design of Outlet Protection from a Round Pipe Flowing Full,
Maximum Tailwater Condition: $T_w \geq 0.5D_o$) (USDA - NRCS)



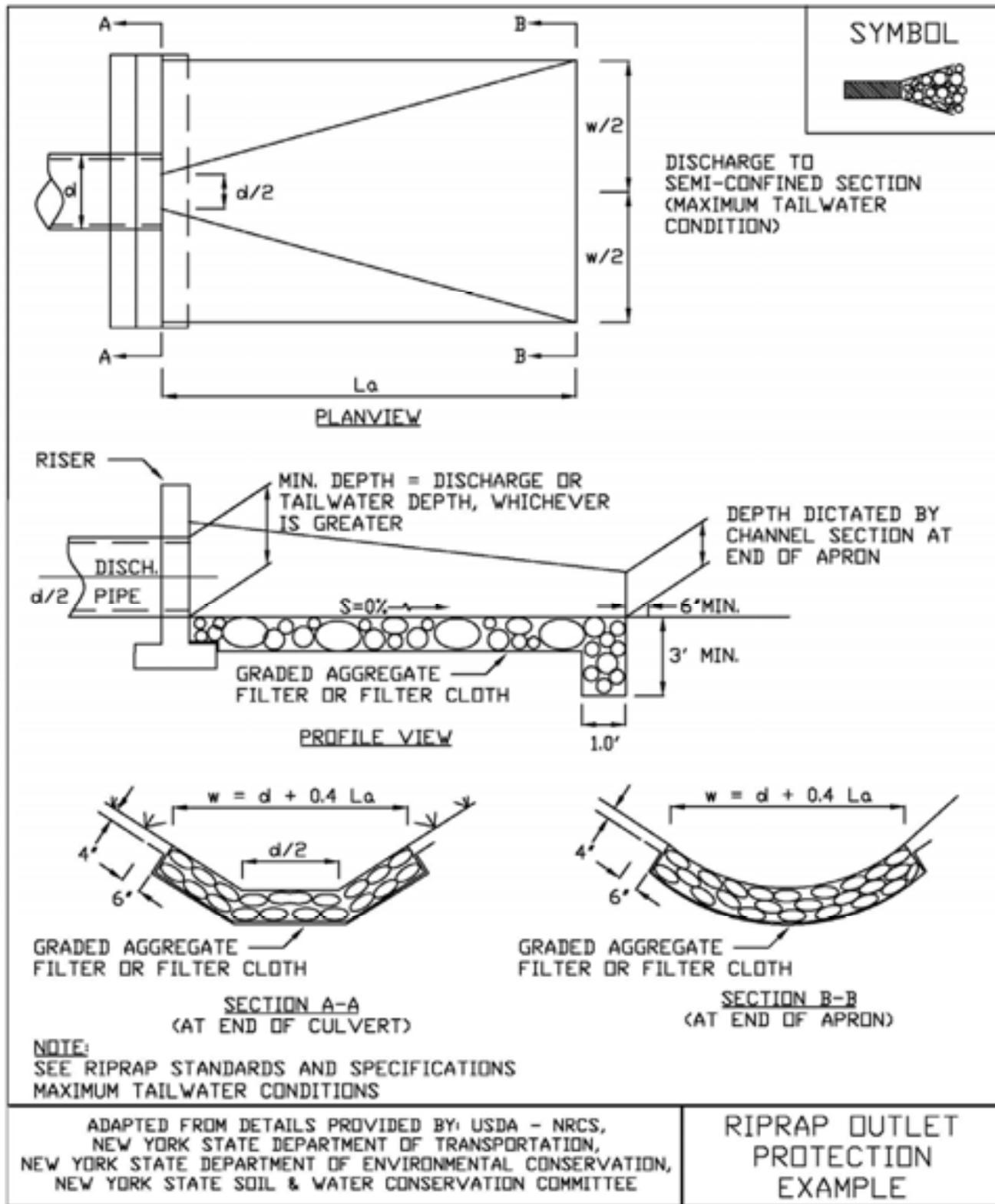
**Figure 3.18
Riprap Outlet Protection Detail (1)**



**Figure 3.19
Riprap Outlet Protection Detail (2)**



**Figure 3.20
Riprap Outlet Protection Detail (3)**



STANDARD AND SPECIFICATIONS FOR SEDIMENT TRAP



Definition & Scope

A **temporary** sediment control device formed by excavation and/or embankment to intercept sediment-laden runoff and trap the sediment in order to protect drainageways, properties, and rights-of-way below the sediment trap from sedimentation.

Conditions Where Practice Applies

A sediment trap is usually installed in a drainageway, at a storm drain inlet, or other points of collection from a disturbed area for one construction season.

Sediment traps should be used to artificially break up the natural drainage area into smaller sections where a larger device (sediment basin) would be less effective.

Design Criteria

If the drainage area to the proposed trap location exceeds 5 acres, or the trap is in place beyond one construction season, or any of the additional design criteria presented here cannot be met, a full Sediment Basin must be used. See Standard and Specification for Sediment Basin on page 5.19.

Drainage Area

The maximum drainage area for all sediment traps shall be 5 acres.

Location

Sediment traps shall be located so that they can be installed prior to grading or filling in the drainage area they are to protect. Traps must **not be located any closer than 20 feet** from a proposed building foundation if the trap is to func-

tion during building construction. Locate traps to obtain maximum storage benefit from the terrain and for ease of cleanout and disposal of the trapped sediment.

Trap Size

The volume of a sediment trap as measured at the elevation of the crest of the outlet shall be at least 3,600 cubic feet per acre of drainage area. A minimum length to width ratio of 2:1 should be provided. The volume of a constructed trap shall be calculated using standard mathematical procedures. The volume of a natural sediment trap may be approximated by the equation: Volume (cu.ft.) = 0.4 x surface area (sq.ft.) x maximum depth (ft.).

Trap Cleanout

Sediment shall be removed and the trap restored to the original dimensions when the sediment has accumulated to $\frac{1}{2}$ of the design depth of traps I-II, and $\frac{1}{3}$ the depth for trap III. Sediment removed from the trap shall be deposited in a protected area and in such a manner that it will not erode.

Embankment

All earth embankments for sediment traps shall not exceed five (5) feet in height as measured at the low point of the original ground along the centerline of the embankment. Embankments shall have a minimum four (4) foot wide top and side slopes of 2:1 or flatter. The embankment shall be compacted by traversing with equipment while it is being constructed. The embankment shall be stabilized with seed and mulch as soon as it is completed

The elevation of the top of any dike directing water to any sediment trap will equal or exceed the maximum height of the outlet structure along the entire length of the trap.

Excavation

All excavation operations shall be carried out in such a manner that erosion and water pollution shall be minimal. Excavated portions of sediment traps shall have 1:1 or flatter slopes.

Outlet

The outlet shall be designed, constructed, and maintained in such a manner that sediment does not leave the trap and that erosion at or below the outlet does not occur.

Sediment traps must outlet onto stabilized (preferable undisturbed) ground, into a watercourse, stabilized channel, or into a storm drain system. Distance between inlet and outlet should be maximized to the longest length practicable.

All traps must be seeded and mulched immediately after construction.

Trap Details Needed on Erosion and Sediment Control Plans

Each trap shall be delineated on the plans in such a manner that it will not be confused with any other features. Each trap on a plan shall indicate all the information necessary to properly construct and maintain the structure. If the drawings are such that this information cannot be delineated on the drawings, then a table shall be developed. If a table is developed, then each trap on a plan shall have a number and the numbers shall be consecutive.

The following information shall be shown for each trap in a summary table format on the plans.

1. Trap number
2. Type of trap
3. Drainage area
4. Storage required
5. Storage provided (if applicable)
6. Outlet length or pipe sizes
7. Storage depth below outlet or cleanout elevation
8. Embankment height and elevation (if applicable)

Type of Sediment Traps

There are three (3) specific types of sediment traps which vary according to their function, location, or drainage area.

- I. Pipe Outlet Sediment Trap
- II. Stone Outlet Sediment Trap
- III. Compost Filter Sock Sediment Trap

I. Pipe Outlet Sediment Trap

A Pipe Outlet Sediment Trap consists of a trap formed by embankment or excavation. The outlet for the trap is through a perforated riser and a pipe through the embankment. The outlet pipe and riser shall be made of steel, corrugated metal or other suitable material. The top of the embankment shall be at least 1 ½ feet above the crest of the riser. The preferred method of dewatering the sediment trap is by surface skimmer. See Dewatering Device Standard, page 5.10. If the riser alone is used for dewatering, the top 2/3 of the riser shall be perforated with one (1) inch nominal diameter holes or slits spaced six (6) inches vertically and horizontally placed in the concave portion of the corrugated pipe.

No holes or slits will be allowed within six (6) inches of the top of the horizontal barrel. All pipe connections shall be watertight. The riser shall be wrapped with ½ to ¼ inch hardware cloth wire then wrapped with filter cloth with a sieve size between #40-80 and secured with strapping or connecting band at the top and bottom of the cloth. The

cloth shall cover an area at least six (6) inches above the highest hole and six (6) inches below the lowest hole. The top of the riser pipe shall not be covered with filter cloth. The riser shall have a base with sufficient weight to prevent flotation of the riser. Two approved bases are:

1. A concrete base 12 in. thick with the riser embedded 9 in. into the concrete base, or
2. One quarter inch, minimum, thick steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2.5 feet of stone, gravel, or earth placed on it to prevent flotation. In either case, each side of the square base measurement shall be the riser diameter plus 24 inches.

Pipe outlet sediment traps shall be limited to a five (5) acre maximum drainage area. Pipe outlet sediment trap is interchangeable in the field with stone outlet provided that these sediment traps are constructed in accordance with the detail and specifications for that trap.

Select pipe diameter from the following table:
See details for Pipe Outlet Sediment Trap ST-I in Figure 5.25 and 5.26 on pages 5.49 and 5.50.

Optional sediment trap dewatering devices are shown on Figure 5.29 on Page 5.53.

Minimum Sizes

Barrel Diameter¹ (in.)	Riser Diameter¹ (in.)	Maximum Drainage Area (ac.)
12	15	1
15	18	2
18	21	3
21	24	4
21	27	5
¹ Barrel diameter may be same size as riser diameter		



II. Stone Outlet Sediment Trap

A Stone Outlet Sediment Trap consists of a trap formed by an embankment or excavation. The outlet of this trap is over a stone section placed on level ground. The minimum length (feet) of the outlet shall be equal to four (4) times the drainage area (acres).

Required storage shall be 3,600 cubic feet per acre of drainage area.

The outlet crest (top of stone in weir section) shall be level, at least one (1) foot below top of embankment and no more than one (1) foot above ground beneath the outlet. Stone used in the outlet shall be small riprap (4 in. x 8 in.). To provide more efficient trapping effect, a layer of filter cloth should be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.

Stone Outlet Sediment Traps may be interchangeable in the field with pipe outlet sediment traps provided they are constructed in accordance with the detail and specifications for those traps. Stone outlet sediment traps shall be limited to a five (5) acre maximum drainage area.

See details for Stone Outlet Sediment Trap ST-II in Figure 5.27 on page 5.51



III. Compost Sock Sediment Trap

A compost sock sediment trap consists of a trap formed by creating an enclosure of geotextile mesh tubes filled with a compost filter media. These traps are used in locations where there is no opportunity to direct runoff into larger traps or well vegetated areas. This could occur at site entrances and access points or in tight areas due to construction boundary limits.

Surface runoff can be directed to the trap with standard conveyance practices. Groundwater or surface ponding in low areas can be pumped into the compost sock sediment trap with appropriate energy dissipation at the pump outlet to prevent scour.

Design criteria for Compost Sock Sediment Trap

1. The maximum drainage area tributary to the trap shall be 5 acres.
2. The minimum settled height above ground shall be 2.0 feet formed by staking 3 compost filter socks in a pyramid as shown in Figure 5.28 on page 5.52.
3. The storage volume provided in the compost sock sediment trap shall be 3,600 cubic feet per tributary drainage acre.
4. If necessary, additional storage area can be created by excavating a sump 1 foot deep beginning at least 5 feet away from the inside sock.
5. All compost filter sock materials, mesh, and compost, will meet the material specifications listed in the Compost Filter Sock standard. No spillway is required.
6. Compost filter sock sediment traps shall be inspected weekly and after every rainfall event. Sediment shall be removed when it reaches one third, 1/3, the height of the trap.
7. The maximum limit of use for a compost sock sediment trap is one (1) year. The existing trap shall be replaced if there is a need for a trap beyond that time limit.
8. Upon completion of the work, the compost sock sediment trap shall be removed. The compost within the socks may be used during cleanup as a vegetative growth medium in accordance with the site stabilization plan.



**Figure 5.25
Pipe Outlet Sediment Trap: ST-I**

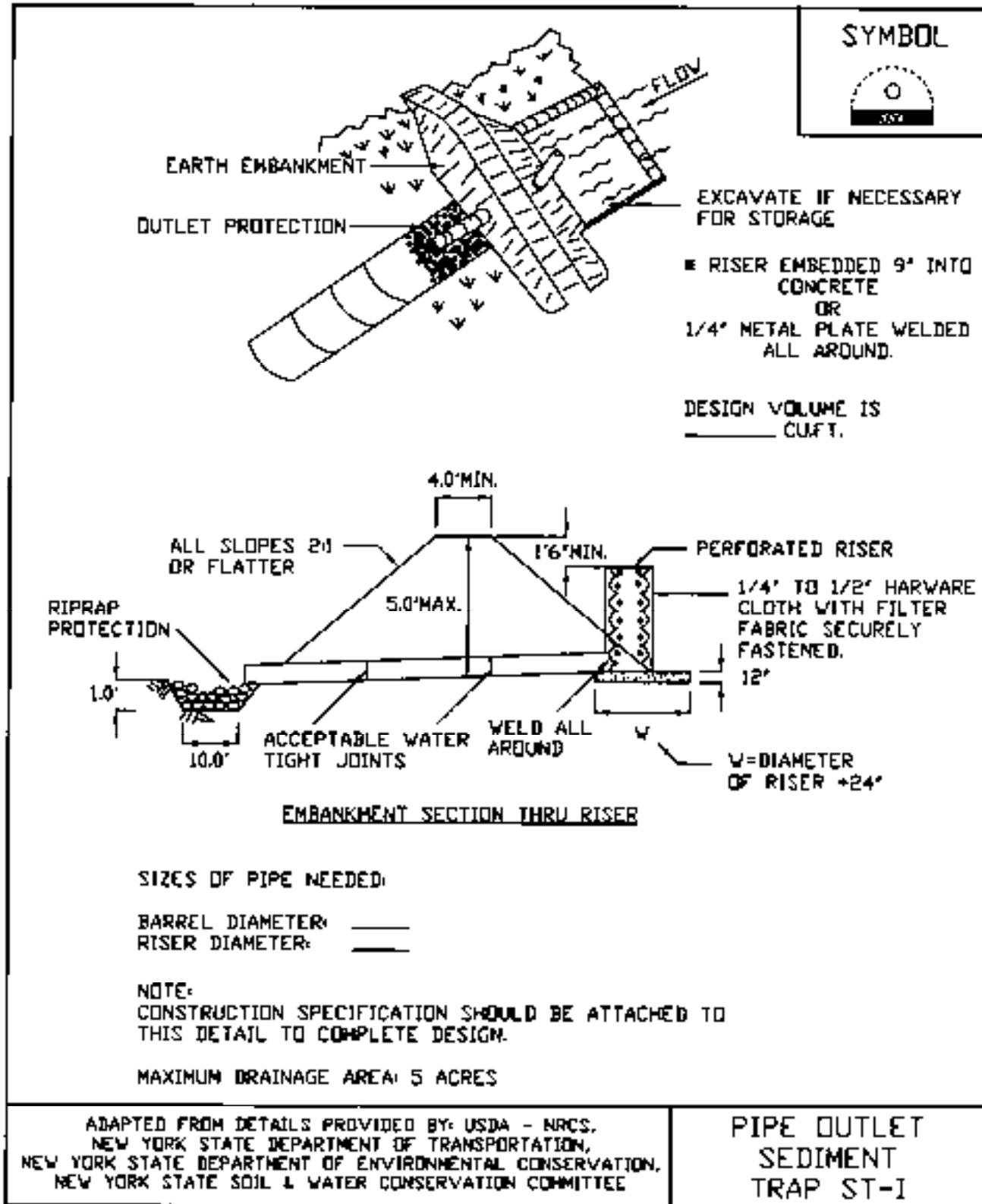


Figure 5.26
Pipe Outlet Sediment Trap: ST-I - Construction Specifications

<h2 style="margin: 0;">CONSTRUCTION SPECIFICATIONS</h2>	<p>SYMBOL</p> 
<ol style="list-style-type: none"> 1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED. 2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. 3. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE. 4. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED. 5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. 6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED. 7. THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED. 8. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER; CUT SLOPES 1:1 OR FLATTER. 9. ALL PIPE CONNECTIONS SHALL BE WATERTIGHT. 10. THE TOP 2/3 OF THE RISER SHALL BE PERFORATED WITH ONE (1) INCH DIAMETER HOLES OR SLITS SPACED SIX (6) INCHES VERTICALLY AND HORIZONTALLY AND PLACED IN THE CONCAVE PORTION OF PIPE. NO HOLES WILL BE ALLOWED WITHIN SIX (6) INCHES OF THE HORIZONTAL BARREL. 11. THE RISER SHALL BE WRAPPED WITH 1/4 TO 1/2 INCH HARDWARE CLOTH WIRE THEN WRAPPED WITH FILTER CLOTH (HAVING AN EQUIVALENT SIEVE SIZE OF 40-80). THE FILTER CLOTH SHALL EXTEND SIX (6) INCHES ABOVE THE HIGHEST HOLE AND SIX (6) INCHES BELOW THE LOWEST HOLE. WHERE ENDS OF THE FILTER CLOTH COME TOGETHER, THEY SHALL BE OVER-LAPPED, FOLDED AND STAPLED TO PREVENT BYPASS. 12. STRAPS OR CONNECTING BANDS SHALL BE USED TO HOLD THE FILTER CLOTH AND WIRE FABRIC IN PLACE. THEY SHALL BE PLACED AT THE TOP AND BOTTOM OF THE CLOTH. 13. FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE HAND COMPACTED IN FOUR (4) INCH LAYERS. A MINIMUM OF TWO (2) FEET OF HAND COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. 14. THE RISER SHALL BE ANCHORED WITH EITHER A CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. FOR CONCRETE BASE THE DEPTH SHALL BE TWELVE (12) INCHES WITH THE RISER EMBEDDED NINE (9) INCHES. A 1/4 INCH MINIMUM THICKNESS STEEL PLATE SHALL BE ATTACHED TO THE RISER BY A CONTINUOUS WELD AROUND THE BOTTOM TO FORM A WATERTIGHT CONNECTION AND THEN PLACE TWO (2) FEET OF STONE, GRAVEL, OR TAMPED EARTH ON THE PLATE. 	
<p>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</p>	<p>PIPE OUTLET SEDIMENT TRAP ST-I</p>

Figure 5.27
Stone Outlet Sediment Trap: ST-II

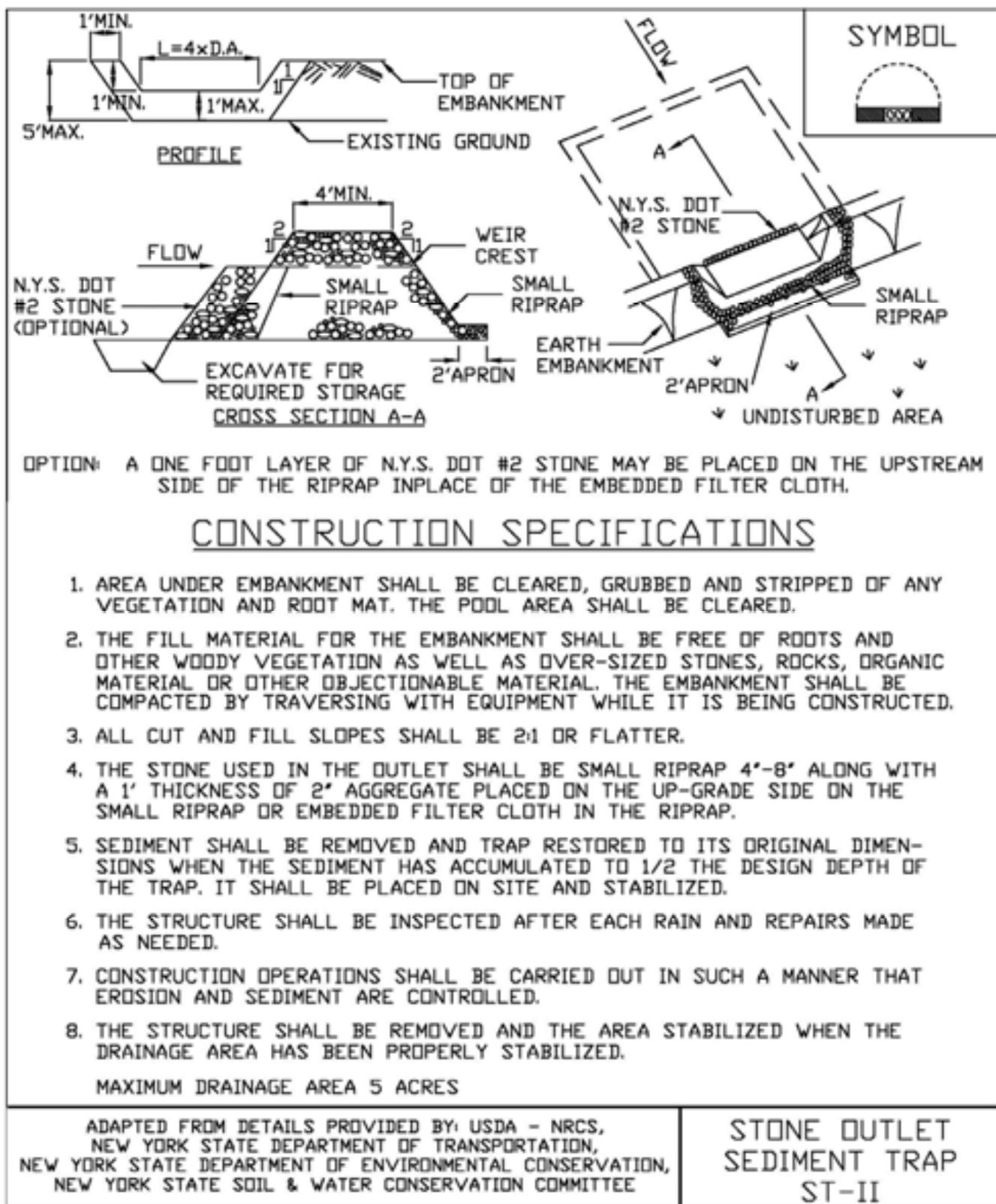
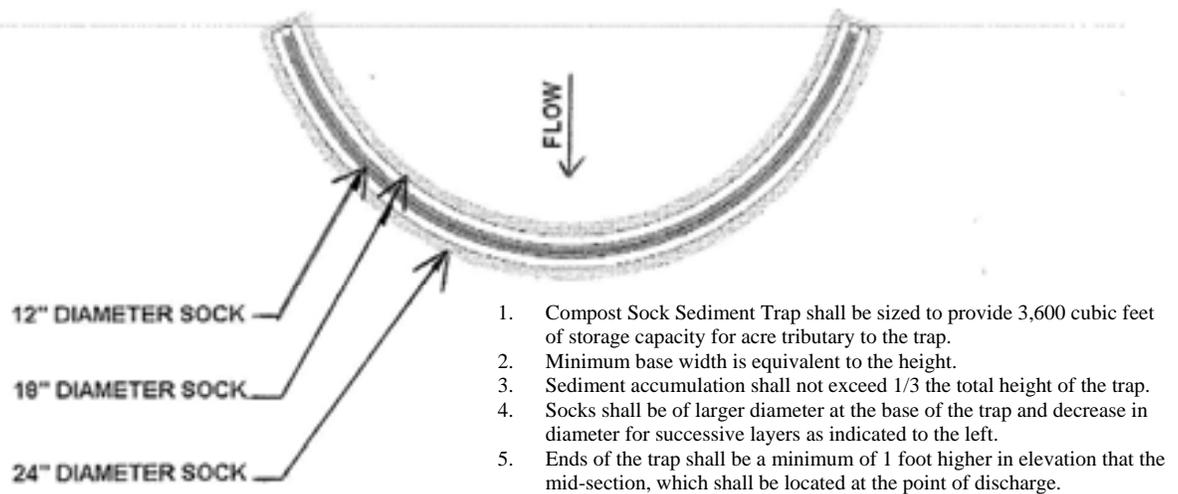
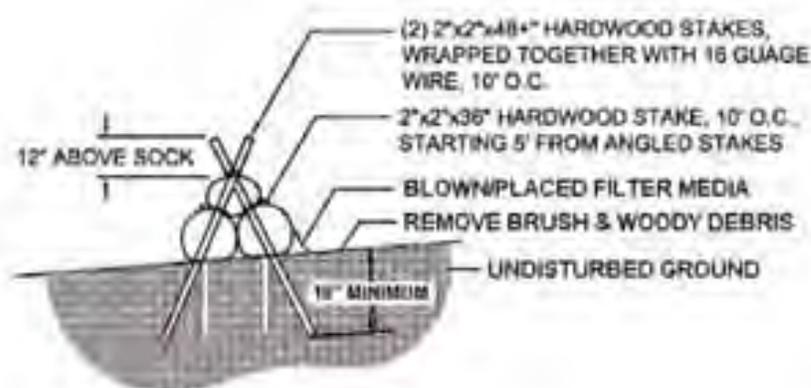


Figure 5.28 Compost Filter Sock Sediment Trap: ST-III

Plan View



Staking Detail

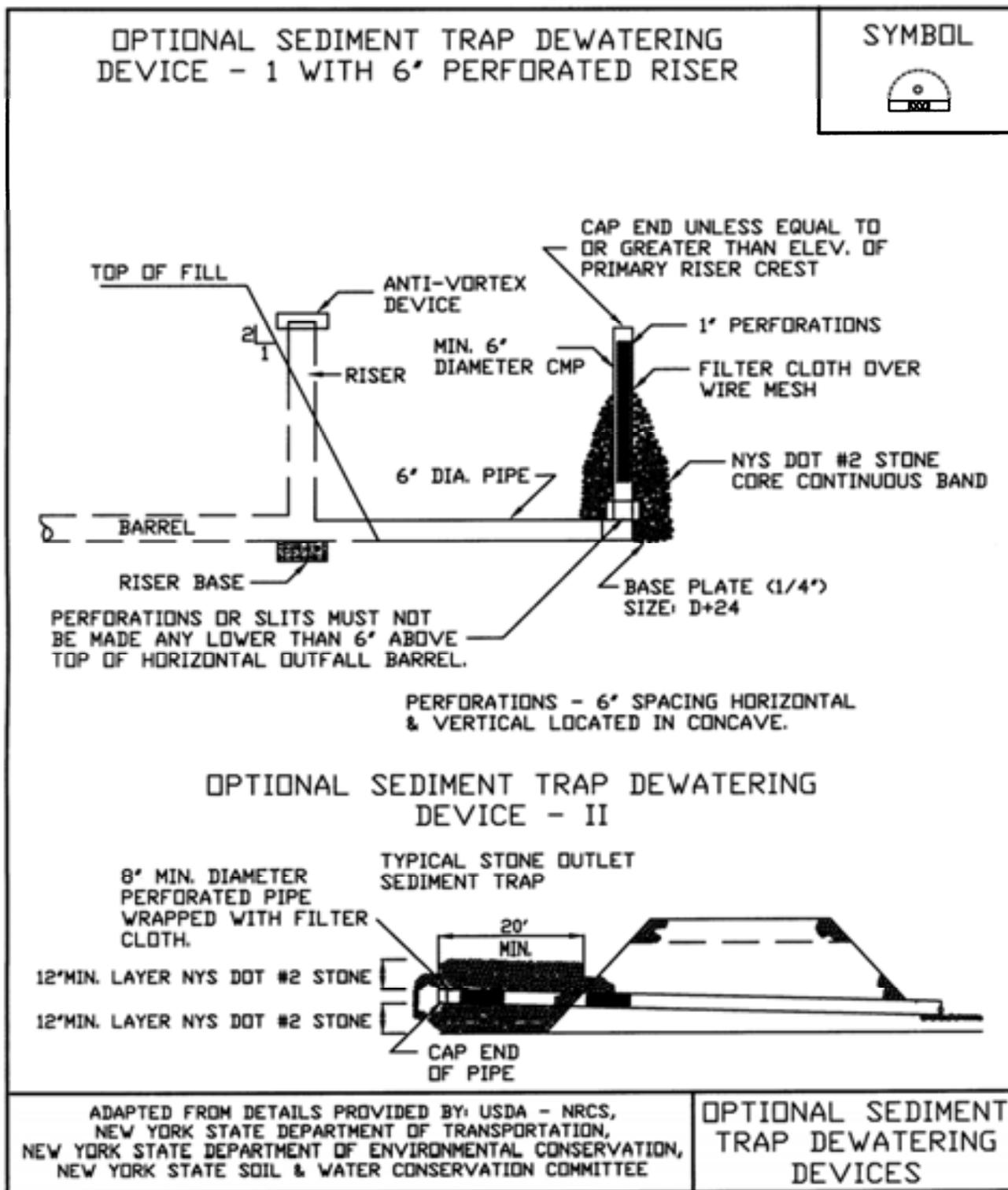


* Figures adapted from Filtrex

Specifications:

1. Sock infill and filter media material shall meet the standards of Table 5.1 on page 5.8 . Compost shall meet the compost filter sock standard of Table 5.2 on page 5.8.
2. Compost sock sediment traps shall not exceed three socks in height and shall be stacked in pyramidal form as shown above. Minimum trap height is one 24 inch diameter sock. Additional storage may be provided by means of an excavated sump 12 inches deep extending 1 to 3 feet upslope of the socks along the lower side of the trap.
3. Compost sock sediment traps shall provide 3,600 cubic feet storage capacity with 12 inches of freeboard for each tributary drainage acreage. (See manufacturer for anticipated settlement.)
4. The maximum tributary drainage area is 5.0 acres. Since compost socks are “flow-through,” no spillway is required.
5. Compost sock sediment traps shall be inspected weekly and after each runoff event. Sediment shall be removed when it reaches 1/3 the height of the socks.
6. Photodegradable and biodegradable socks shall not be used for more than 1 year.

Figure 5.29
Optional Sediment Trap Dewatering Devices
for Traps with <5 Acres Drainage Area



STANDARD AND SPECIFICATIONS FOR STRAW BALE DIKE



quarter of an acre per 100 feet of dike and the length of slope above the dike shall be less than 100 feet.

Design Criteria

The above table is adequate, in general, for a one-inch rain-fall event. Larger storms could cause failure of this practice. Use of this practice in sensitive areas for longer than one month should be specifically designed to store expected runoff. All bales shall be placed on the contour with cut edge of bale adhering to the ground. See Figure 5.34 on page 5.64 for details.

Definition & Scope

A **temporary** barrier of straw, or similar material, used to intercept sediment laden runoff from small drainage areas of disturbed soil to reduce runoff velocity and effect deposition of the transported sediment load. Straw bale dikes have an estimated design life of three (3) months.

Condition Where Practice Applies

The straw bale dike is used where:

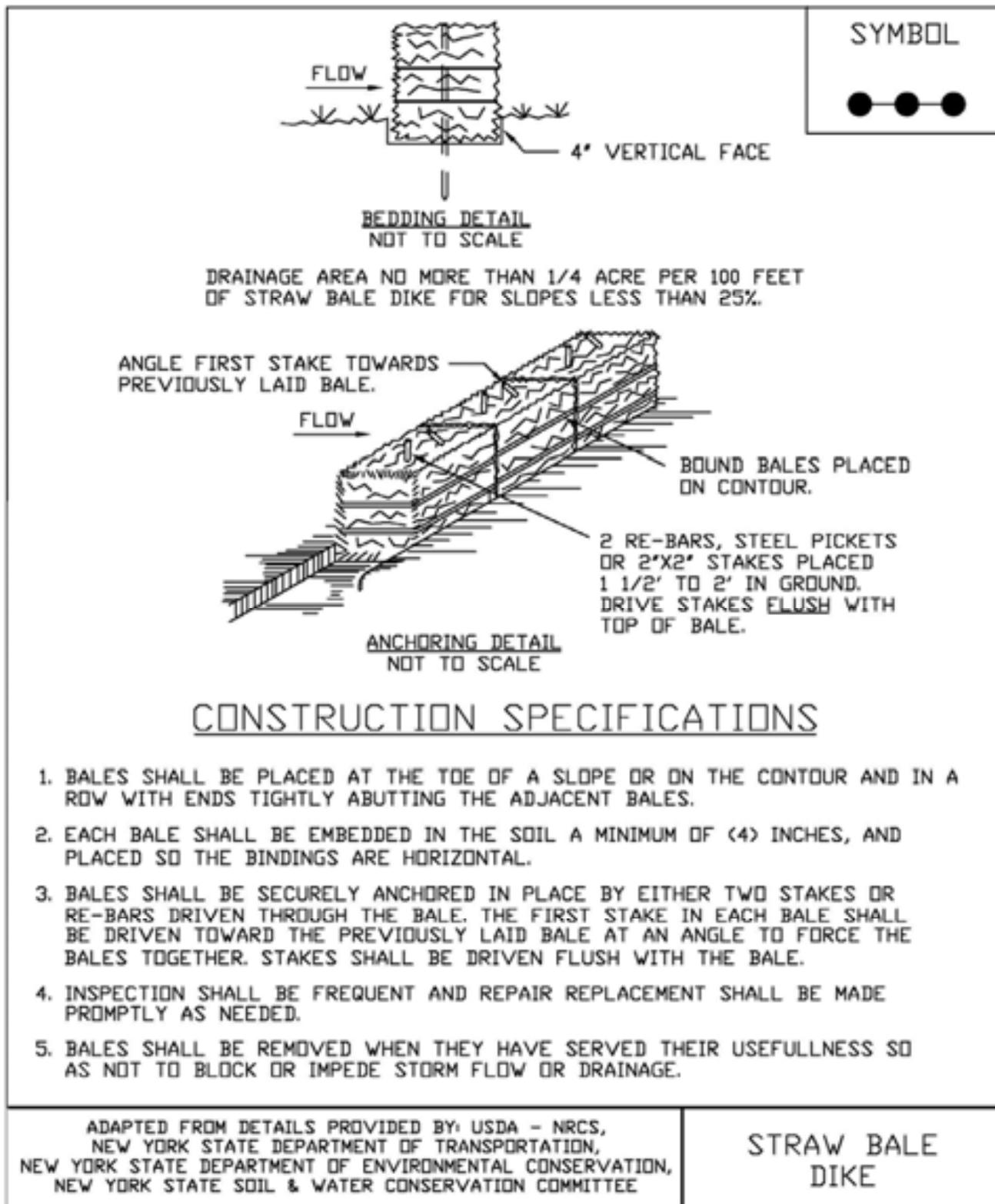
1. No other practice is feasible.
2. There is no concentration of water in a channel or other drainage way above the barrier.
3. Erosion would occur in the form of sheet erosion.
4. Length of slope above the straw bale dike does not exceed the following limits with the bale placed 10 feet from the toe of the slope:

Constructed Slope	Percent Slope	Slope Length (ft.)
2:1	50	25
3:1	33	50
4:1	25	75

Where slope gradient changes through the drainage area, steepness refers to the steepest slope section contributing to the straw bale dike.

The practice may also be used for a single family lot if the slope is less than 15 percent. The contributing drainage areas in this instance shall be less than one

**Figure 5.34
Straw Bale Dike**



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 PERMANENT CONSTRUCTION AREA PLANTING



Definition & Scope

Establishing **permanent** grasses with other forbs and/or shrubs to provide a minimum 80% perennial vegetative cover on areas disturbed by construction and critical areas to reduce erosion and sediment transport. Critical areas may include but are not limited to steep excavated cut or fill slopes as well as eroding or denuded natural slopes and areas subject to erosion.

Conditions Where Practice Applies

This practice applies to all disturbed areas void of, or having insufficient, cover to prevent erosion and sediment transport. See additional standards for special situations such as sand dunes and sand and gravel pits.

Criteria

All water control measures will be installed as needed prior to final grading and seedbed preparation. Any severely compacted sections will require chiseling or disking to provide an adequate rooting zone, to a minimum depth of 12", see Soil Restoration Standard. The seedbed must be prepared to allow good soil to seed contact, with the soil not too soft and not too compact. Adequate soil moisture must be present to accomplish this. If surface is powder dry or sticky wet, postpone operations until moisture changes to a favorable condition. If seeding is accomplished within 24 hours of final grading, additional scarification is generally not needed, especially on ditch or stream banks. Remove all stones and other debris from the surface that are greater than 4 inches, or that will interfere with future mowing or maintenance.

Soil amendments should be incorporated into the upper 2 inches of soil when feasible. **The soil should be tested to determine the amounts of amendments needed.** Apply

ground agricultural limestone to attain a pH of 6.0 in the upper 2 inches of soil. If soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 600 lbs. per acre of 5-5-10 or equivalent. If manure is used, apply a quantity to meet the nutrients of the above fertilizer. This requires an appropriate manure analysis prior to applying to the site. Do not use manure on sites to be planted with birdsfoot trefoil or in the path of concentrated water flow.

Seed mixtures may vary depending on location within the state and time of seeding. Generally, warm season grasses should only be seeded during early spring, April to May. These grasses are primarily used for vegetating excessively drained sands and gravels. See Standard and Specification for Sand and Gravel Mine Reclamation. Other grasses may be seeded any time of the year when the soil is not frozen and is workable. When legumes such as birdsfoot trefoil are included, spring seeding is preferred. See Table 4.4, "Permanent Construction Area Planting Mixture Recommendations" for additional seed mixtures.

<u>General Seed Mix:</u>	Variety	lbs./ acre	lbs/1000 sq. ft.
Red Clover ¹ <u>OR</u>	Acclaim, Rally, Red Head II, Renegade	8 ²	0.20
Common white clover ¹	Common	8	0.20
<u>PLUS</u>			
Creeping Red Fescue	Common	20	0.45
<u>PLUS</u>			
Smooth Bromegrass <u>OR</u>	Common	2	0.05
Ryegrass (perennial)	Pennfine/Linn	5	0.10
¹ add inoculant immediately prior to seeding ² Mix 4 lbs each of Empire and Pardee OR 4 lbs of Birdsfoot and 4 lbs white clover per acre. All seeding rates are given for Pure Live Seed (PLS)			

Pure Live Seed, or (PLS) refers to the amount of live seed in a lot of bulk seed. Information on the seed bag label includes the type of seed, supplier, test date, source of seed, purity, and germination. Purity is the percentage of pure seed. Germination is the percentage of pure seed that will produce normal plants when planted under favorable conditions.

To compute Pure Live Seed multiply the “germination percent” times the “purity” and divide that by 100 to get Pure Live Seed.

$$\text{Pure Live Seed (PLS)} = \frac{\% \text{ Germination} \times \% \text{ Purity}}{100}$$

For example, the PLS for a lot of Kentucky Blue grass with 75% purity and 96% germination would be calculated as follows:

$$\frac{(96) \times (75)}{100} = 72\% \text{ Pure Live Seed}$$

For 10lbs of PLS from this lot =

$$\frac{10}{0.72} = 13.9 \text{ lbs}$$

Therefore, 13.9 lbs of seed is the actual weight needed to meet 10lbs PSL from this specific seed lot.

Time of Seeding: The optimum timing for the general seed mixture is early spring. Permanent seedings may be made any time of year if properly mulched and adequate moisture is provided. Late June through early August is not a good time to seed, but may facilitate covering the land without additional disturbance if construction is completed. Portions of the seeding may fail due to drought and heat. These areas may need reseeding in late summer/fall or the following spring.

Method of seeding: Broadcasting, drilling, cultipack type seeding, or hydroseeding are acceptable methods. Proper soil to seed contact is key to successful seedings.

Mulching: Mulching is essential to obtain a uniform stand of seeded plants. Optimum benefits of mulching new seedings are obtained with the use of small grain straw applied at a rate of 2 tons per acre, and anchored with a netting or tackifier. See the Standard and Specifications for Mulching for choices and requirements.

Irrigation: Watering may be essential to establish a new seeding when a drought condition occurs shortly after a new seeding emerges. Irrigation is a specialized practice and care must be taken not to exceed the application rate for the soil or subsoil. When disconnecting irrigation pipe, be sure pipes are drained in a safe manor, not creating an erosion concern.



80% Perennial Vegetative Cover



50% Perennial Vegetative Cover

**Table 4.4
Permanent Construction Area Planting Mixture Recommendations**

Seed Mixture	Variety	Rate in lbs./acre (PLS)	Rate in lbs./1,000 ft ²
Mix #1			
Creeping red fescue	Ensylva, Pennlawn, Boreal	10	.25
Perennial ryegrass	Pennfine, Linn	10	.25
*This mix is used extensively for shaded areas.			
Mix #2			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	20	.50
*This rate is in pure live seed, this would be an excellent choice along the upland edge of a wetland to filter runoff and provide wildlife benefits. In areas where erosion may be a problem, a companion seeding of sand lovegrass should be added to provide quick cover at a rate of 2 lbs. per acre (0.05 lbs. per 1000 sq. ft.).			
Mix #3			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	4	.10
Big bluestem	Niagara	4	.10
Little bluestem	Aldous or Camper	2	.05
Indiangrass	Rumsey	4	.10
Coastal panicgrass	Atlantic	2	.05
Sideoats grama	El Reno or Trailway	2	.05
Wildflower mix		.50	.01
*This mix has been successful on sand and gravel plantings. It is very difficult to seed without a warm season grass seeder such as a Truax seed drill. Broadcasting this seed is very difficult due to the fluffy nature of some of the seed, such as bluestems and indiangrass.			
Mix #4			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	10	.25
Coastal panicgrass	Atlantic	10	.25
*This mix is salt tolerant, a good choice along the upland edge of tidal areas and roadsides.			
Mix #5			
Saltmeadow cordgrass (<i>Spartina patens</i>)—This grass is used for tidal shoreline protection and tidal marsh restoration. It is planted by vegetative stem divisions.			
'Cape' American beachgrass can be planted for sand dune stabilization above the saltmeadow cordgrass zone.			
Mix #6			
Creeping red fescue	Ensylva, Pennlawn, Boreal	20	.45
Chewings Fescue	Common	20	.45
Perennial ryegrass	Pennfine, Linn	5	.10
Red Clover	Common	10	.45
*General purpose erosion control mix. Not to be used for a turf planting or play grounds.			

STANDARD AND SPECIFICATIONS FOR MULCHING



Definition and Scope

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface 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 can also be used alone for temporary stabilization in non-growing months. Use of stone as a mulch could be more permanent and should not be limited to non-growing months.

Conditions Where Practice Applies

On soils subject to erosion and on new seedlings 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. Hay mulch shall not be used in wetlands or in areas of permanent seeding. Clean straw mulch is preferred alternative in wetland application. 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 4.2
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 ornaments. 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	4' x 112.5' or 8' x 112.5'	—	—	Use without additional mulch. Excellent for seeding establishment. Anchor as per manufacturers specifications. Approximately 72 lbs./roll for excelsior with plastic on both sides. Use two sided plastic for centerline of waterways.
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 4.3
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 ^o Fahrenheit are required.