

## **APPENDIX H**

# Preliminary Stormwater Pollution Plan

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Preliminary Stormwater Pollution Prevention Plan

## HUDSON HIGHLANDS RESERVE

Route 9  
Town of Philipstown  
Putnam County, New York

March 9, 2018  
November 30, 2021 Rev1



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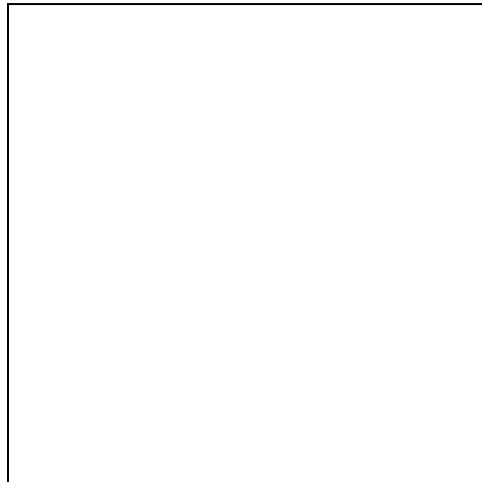
## PREPARER OF THE SWPPP

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 29.45 of the Penal Law."

Name<sup>1</sup>: Margaret Smith McManus, PE

Title: Senior Project Manager

Date:



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<sup>1</sup> This is a signature of a New York State licensed Professional Engineer employed by The Badey & Watson that is duly authorized to sign and seal Stormwater Pollution Prevention Plans (SWPPPs), NOIs, and NOTs prepared under their direct supervision.

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## 1.0 EXECUTIVE SUMMARY

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for major activities associated with construction of a 25 lot subdivision of single family homes. The Property is located on Route 9 between East Mt Road North, Horton Road and East Mt Road South in the Town of Philipstown. This SWPPP includes the elements necessary to comply with the national baseline general permit for construction activities enacted by the U.S. Environmental Protection Agency (EPA) under the National Pollutant Discharge Elimination System (NPDES) program and all local governing agency requirements. This SWPPP must be implemented at the start of construction.

This SWPPP has been developed in accordance with the “New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity” General Permit Number GP-0-20-001, effective January 29, 2020 through January 28, 2025. The SWPPP and accompanying plans identify and detail stormwater management, pollution prevention, and erosion and sediment control measures necessary during and following completion of construction.

This SWPPP and the accompanying plans entitled Conservation Subdivision Plan Set Hudson Highland Reserve.... have been submitted as a set. These engineering drawings are considered an integral part of this SWPPP. Therefore, this SWPPP is not considered complete without them. References made herein to “the plans” or to a specific “sheet” refer to these drawings.

This report considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns as much as possible while continuing the conveyance of upland watershed runoff;
2. Controlling increases in the rate of stormwater runoff resulting from the proposed development so as not to adversely alter downstream conditions; and
3. Mitigating potential stormwater quality impacts and preventing soil erosion and sedimentation resulting from stormwater runoff generated both during and after construction.

The analysis and design completed and documented in this report is intended to be part of the application made for a residential development project completed on behalf of Horton Road LLC.

This Preliminary Stormwater Pollution Prevention Plan (SWPPP) has been prepared to support the state environmental quality review (SEQR) of the proposed project. The intent of this Preliminary SWPPP is to provide sufficient documentation for an overall SEQR determination, and to serve as the baseline for the final SWPPP that will be prepared for the proposed development, as approved. As such, design concepts are provided for stormwater collection and conveyance systems, and water quality and quantity control facilities. This report is not intended to be a final engineering document as certain detailed aspects of the project are likely to change during the site plan review process. Portions of the design were advanced to substantiate regulatory compliance determinations and to provide input pertinent to the environmental assessment of impacts of the proposed project. Final stormwater facility designs will be advanced in support of and during the site plan permitting process.

The methodology used to develop this Preliminary SWPPP shall be adhered to for the preparation of the project's final SWPPP. Stormwater quality and quantity controls designed for this Preliminary SWPPP are preliminary in nature and are intended to demonstrate their location, approximate size, and design concept. Detailed analysis of these practices must be performed, and their design refined as part of the final SWPPP.

The stormwater analysis identified herein follows *the "NYS Stormwater Management Design Manual," dated January 2015 (Design Manual) and the USDA Technical Release No. 20*. This Preliminary SWPPP and analysis are an integral part of the project's natural resource management plan which takes into consideration existing parameters of site topography, soils, erosion potential, surface waters, their connectivity and water quality of receiving water bodies.

Stormwater mitigation measures primarily involve preventing soil erosion and sedimentation resulting from stormwater run-off during and after construction. During construction, this is accomplished by sequencing site disturbance activities to establish erosion controls, minimize disturbed areas, maintain existing vegetation as much as possible, and stabilize newly disturbed areas as soon as possible. Stormwater pollutant controls utilized during construction will include temporary sediment barriers and sediment traps designed in accordance with the *"NYS Standards and Specifications for Erosion and Sediment Control"*. Stormwater pollutant controls utilized after construction will include stormwater quality control facilities designed in accordance with the Manual.

Land development can also have an effect on site hydrology. Impervious areas such as rooftops, roads, driveways, and parking lots can cause rainfall to rapidly convert into stormwater runoff. Increases in runoff can cause stream bank erosion and floodplain expansion. To mitigate these impacts, stormwater quantity controls will be implemented to capture and release run-off at less than pre-development discharge rates. A hydrologic and hydraulic analysis was performed using computer modeling and an evaluation of the proposed improvements across the project site.

## 1.1 Project Description

Horton Road LLC is proposing development of a 25-lot conservation subdivision on the 210± acre site. The project site consists of tax lot numbers 17.-1-39 ,48, 76.111, 76.112, 76.21 & 77.2. A location map of the site has been provided in Appendix K, as Figure 1.

This type of project is included in Table 2 of Appendix B of GP-0-20-001; and the project site is not located in one of the watersheds listed in Appendix C of GP-0-20-001. Therefore, this SWPPP includes post-construction stormwater management practices, as well as erosion and sediment controls.

This project is located within the Town of Philipstown a regulated, traditional land use control Municipal Separate Stormwater Sewer System (MS4). Therefore, an MS4 SWPPP Acceptance Form is required to accompany NOIs submitted to the NYSDEC.

Runoff from the project site will discharge to the Ulmar Pond and the Clover Creek which are not included in the list of Section 303(d) water bodies included in Appendix E of GP-0-20-001.

Project construction activities will consist primarily units site grading, paving, building construction, and the installation of storm drainage, water supply, sewage collection, and public utility infrastructure] necessary to support the proposed development. Construction phase pollutant sources anticipated at

the site are disturbed (exposed) soil, vehicle fuels and lubricants, chemicals associated with building construction, and building materials. Without adequate control there is the potential for each type of pollutant to be transported by stormwater.

## 1.2 Stormwater Pollution Controls

The stormwater pollution controls outlined herein have been designed and evaluated in accordance with the following standards and guidelines:

- New York State Stormwater Management Design Manual, dated January 2015 (Design Manual).
- New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016 (SSESC).
- Town of Philipstown Town Code Chapter 147A.

Stormwater quality will be enhanced through the implementation of temporary and permanent erosion and sediment control measures, the proposed stormwater management facilities, and other construction-phase pollution controls outlined herein.

The proposed stormwater collection system consisting of pipes, open drainage ways, and on-site stormwater management facilities will adequately collect, treat, and convey the stormwater runoff.

Bio-retention areas, dry swales, rain gardens and filteria units will be used to manage and treat stormwater runoff generated by the proposed development.

Pre- and post-development surface runoff rates have been evaluated for the 1-, 10-, and 100-year 24-hour storm events of pre- and post-development watershed conditions demonstrates that the peak rate of runoff from the project site will not be increased.

The post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) will be deeded to the municipality in which the practice(s) is located.

The post-construction stormwater management practice(s) will be privately owned by the Hudson Highland Reserve Homeowners Association. Deed restrictions will be in place, which require operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

## 1.3 Conclusion

This project is subject to the requirements of the Town of Philipstown regulated MS4, and this SWPPP has been prepared in conformance with the current Design Manual and SSESC. As such, GP-0-20-001 coverage will be effective five (5) business days from the date the NYSDEC receives the electronically submitted eNOI and signed "MS4 SWPPP Acceptance" form.

## 2.0 SITE CHARACTERISTICS

### 2.1 Land Use and Topography

The project site is located within the It is located in the RR (Rural Residential), HC (Highway Commercial) and M (Industrial/Manufacturing) zoning districts. Single Family use is allowed in the RR and HC zoning districts. A change of zoning is being sought to change the M zoning district that is location along Route 9 to allow for the inclusion of this area with in the conservation subdivision

The overall site has areas that are slightly, moderately, or extremely sloping, with slopes ranging from 1 greater than 35 percent. Site elevations range from approximately 252 feet above mean sea level (MSL) to 890 feet MSL. The site generally drain from east to west and discharges to Ulmar Pond and Clove Creek.

### 2.2 Soils and Groundwater

The United States Department of Agriculture (USDA) Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>) was used to obtain surficial soil conditions for the study area. Soil data as provided by the SCS is presented in Table 1.

**Table 1: USDA Soil Data**

Map Symbol & Description	Hydrologic Soil Group	Permeability (inches/hour)	Erosion Factor K	Depth to Water Table (feet)	Depth to Bedrock (inches)
ChB - CHARLTON loam, 2-8% Slopes	B	0.6-6.0	0.24	>6.0	>60
ChC - CHARLTON loam, 8-15% Slopes	B	0.6-6.0	0.24	>6.0	>60
ChD - CHARLTON loam, 15-25% Slopes	B	0.6-6.0	0.24	>6.0	>60
ChE - CHARLTON loam, 25-35% Slopes	B	0.6-6.0	0.24	>6.0	>60
CiC - CHARLTON loam, 8-15% Slopes, very stony	B	0.6-6.0	0.20	>6.0	>60
CiD - CHARLTON loam, 15-25% Slopes, very stony	B	0.6-6.0	0.20	>6.0	>60
CiF - CHARLTON loam, 35-45% Slopes, very stony	B	0.6-6.0	0.20	>6.0	>60
CrC - CHARLTON-CHATFIELD complex, rolling, very rocky	B	0.6-6.0	0.24	>6.0	>60
CsD - CHATFIELD-CHARLTON complex, hilly, very rocky	B	0.6-6.0	0.24	>6.0	>60
Ff - FLUVAQUENTS-UDIFLUVENTS complex, frequently flooded	B\D	0.2-20	0.32	0.5-6.0	>40

Map Symbol & Description	Hydrologic Soil Group	Permeability (inches/hour)	Erosion Factor K	Depth to Water Table (feet)	Depth to Bedrock (inches)
Fr - FREDON silt loam	C	0.6-2.0	0.28	0.5-1.5	>60
HnB - HINCKLEY gravelly loamy sand, 3-8% Slopes	A	6.0-20	0.17	>6.0	>60
HnC - HINCKLEY gravelly loamy sand, 8-15% Slopes	A	6.0-20	0.17	>6.0	>60
HnD - HINCKLEY gravelly loamy sand, 15-25% Slopes	A	6.0-20	0.17	>6.0	>60
LeB - LEICESTER loam, 2-8% Slopes, very stony	C	0.6-6.0	0.24	1.5	>60
PnB - PAXTON fine sandy loam, 2-8% Slopes	C	0.6-2.0	0.24	1.5-2.5	>60
PnC - PAXTON fine sandy loam, 8-15% Slopes	C	0.6-2.0	0.24	1.5-2.5	>60
PnD - PAXTON fine sandy loam, 15-25% Slopes	C	0.6-2.0	0.24	1.5-2.5	>60
Pt - PITS, gravel	-	-	-	-	-
RhA - RIVERHEAD loam, 0-3% Slopes	B	2.0-6.0	0.28	>6.0	>60
RhB - RIVERHEAD loam, 3-8% Slopes	B	2.0-6.0	0.28	>6.0	>60
RhC - RIVERHEAD loam, 8-15% Slopes	B	2.0-6.0	0.28	>6.0	>60
RhD - RIVERHEAD loam, 15-25% Slopes	B	2.0-6.0	0.28	>6.0	>60
RhE - RIVERHEAD loam, 25-50% Slopes	B	2.0-6.0	0.28	>6.0	>60
Sh - SUN loam	D	0.6-2.0	0.28	+1.0-0.5	>60
Ub - UDORTHENTS, smoothed	-	-	-	-	-
Uc - UDORTHENTS, wet substratum	-	-	-	-	-
Uf - URBAN LAND	-	-	-	>2.0	>10
WdB - WOODBRIDGE loam, 3-8% Slopes	C	0.6-2.0	0.24	1.5-2.5	>60
WdC - WOODBRIDGE loam, 8-15% Slopes	C	0.6-2.0	0.24	1.5-2.5	>60
W – Water	-	-	-	-	-

Upon review of the soil data presented in Table 1, the project site contains soils with a soil slope phase of E or F but is not tributary to a class AA or AA-S waters.

The Soil Conservation Service defines the hydrologic soil groups as follows:

- **Type A Soils:** Soils having a high infiltration rate and low runoff potential when thoroughly wet. These soils consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a moderate rate of water transmission.
- **Type B Soils:** Soils having a moderate infiltration rate when thoroughly wet and consisting mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- **Type C Soils:** Soils having a low infiltration rate when thoroughly wet and consisting chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine-to-fine texture. These soils have a low rate of water transmission.
- **Type D Soils:** Soils having a very low infiltration rate and high runoff potential when thoroughly wet. These soils consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very low rate of water transmission.

The soils map for the study area is presented in Appendix K, as Figure 2.

## 2.3 Watershed Designation

The project site is not located in a restricted watershed identified in Appendix C of GP-0-20-001.

## 2.4 Receiving Water Bodies

The nearest natural classified water bodies into which runoff from the project site will discharge are Ulmar Pond and the Clove Creek, each are classified by NYSDEC as a Class C (TS) and are not included in the Section 303(d) list of impaired waters found in Appendix E of GP-0-20-001.

## 2.5 Aquifer Designation

The project site is located over the Clover Creek aquifer, the NYSDEC identifies this as a Principal aquifer.

This aquifer is tributary to the Sprout Creek - Fishkill which is listed as a primary supply aquifer in the NYSDEC Technical and Operational Guidance Series (TOGS) 2.1.3 (1980), Primary and Principle Aquifer Determinations, Table 1, 1990; and in the Atlas of Eleven Selected Aquifers in New York, U.S. Geological Survey in cooperation with the NYS Department of Health, 1982.

## 2.6 Wetlands

Wetlands depicted on the accompanying plan set were delineated by Steven W. Colman on July 3, 2014, then updated by Stephen M. Gross in July 2015. And intermittent drainage way was delineated by Stephen M. Gross in July of 2015. The wetland boundary were surveyed by Badey & Watson, during July August and September 2015.

Some of the wetlands on the site are NYSDEC wetlands and will need to be verified by the NYSDEC. It is not anticipated that there is disturbance in the wetland. There is anticipated disturbance in the wetland buffer to remove two existing structure that are in disrepair.

## 2.7 Flood Plains

According to the National Flood Insurance Program Flood Insurance Rate Map (FIRM), Town of Philipstown, New York, Community Panel Number 36079C0081E, the majority of the project site lies within Flood Zone X, areas determined to be out outside the 0.2% annual chance floodplain, with a portion of the site along Clove Creek in Flood Zone AE, a special flood hazard area subject to inundation by the 1% annual chance flood (100 year flood) where the base flood elevation has been determined. No impact is proposed in the 100 year flood area.

## 2.8 Listed, Endangered, or Threatened Species

An ecological assessment was conducted as part of the DEIS study as prepared by Hudson Highlands Environmental Consulting, dated May 16, 2019, indicates that the project will not have a significant adverse impact on any listed, endangered, or threatened species, or on any critical habitat.

## 2.9 Historic Places

The existing 19<sup>th</sup> century barn is deemed to be historically significant by SHPO and is being preserved as part of the project. See the attached correspondence from NYS, Parks, Recreation, and Historic preservation, division of historic Preservation dated may 23, 2017, in Appendix K.

## 2.10 Rainfall Data

The most up-to-date data available online at <http://precip.eas.cornell.edu> was used for the 1, 10 and 100 year 24 hour storm events as presented in Table 2:

**Table 2: Rainfall Data**

<b>Storm Event Return Period</b>	<b>24-Hour Rainfall (inches)</b>
1-year	2.66
10-year	4.82
100-year	8.59

These values were used to evaluate the pre- and post-development stormwater runoff characteristics.

### 3.0 STORMWATER MANAGEMENT PLANNING

Chapter 3 of the Design Manual outlines a six-step planning process for site planning and selection of stormwater management practices that must be implemented for both new development and redevelopment projects. This process is intended to develop a design that maintains pre-construction hydrologic conditions through the application of environmentally sound development principles, as well as treatment and control of runoff discharges from the site. The following sections outline the step-by-step process and how it has been applied to this project.

The goals of this Stormwater Management Plan are to analyze the peak rate of runoff under pre- and post-development conditions, to maintain the pre-development rate of runoff in order to minimize impacts to adjacent or downstream properties, and to minimize the impact to the quality of runoff exiting the site.

The Design Manual provides both water quality and water quantity objectives to be met by projects requiring a “Full SWPPP”. These objectives will be met by applying stormwater control practices to limit peak runoff rates and improve the quality of runoff leaving the developed site.

#### 3.1 Step 1 – Site Planning

During the Site Planning process, the project site is evaluated for implementation of the green infrastructure planning measures identified in Table 3.1 of the Design Manual, in order to preserve natural resources and reduce impervious cover. Table A of Appendix K provides a description of each green infrastructure planning measure, along with a project specific evaluation.

#### 3.2 Step 2 - Determine Water Quality Treatment Volume (WQv)

Stormwater runoff from impervious surfaces is recognized as a significant contributor of pollution that can adversely affect the quality of receiving water bodies. Therefore, treatment of stormwater runoff is important since most runoff related water quality contaminants are transported from land, particularly the impervious surfaces, during the initial stages of storm events.

##### 3.2.1 NYSDEC Requirements for New Development

The Design Manual requires that water quality treatment be provided for the initial flush of runoff from every storm. The NYSDEC refers to the amount of runoff to be treated as the “Water Quality Volume” (WQv). Section 4.2 of the Design Manual defines the Water Quality Volume as follows:

$$WQv = \frac{[(P)(R_v)(A)]}{12}$$

Where: P = 90% Rainfall Event Number  
R<sub>v</sub> = 0.05 + 0.009 (I), minimum R<sub>v</sub> = 0.2  
I = Impervious Cover (Percent)  
A = Contributing Area in Acres

This definition ensures that, all other things being equal, the Water Quality Volume will increase along with the impervious cover percentage.

##### 3.2.2 Methodology

The Water Quality Volume equation has been applied to the drainage area tributary to each of the stormwater quality practices proposed for this project. The practices have been sized to accommodate



the Water Quality Volume, as per the performance criteria presented in Chapter 6 of the Design Manual. Water quality volume calculations for each of the proposed practices are presented in Table B of Appendix K.

### 3.3 Step 3 – Apply Runoff Reduction Techniques and Standard SMPs with RRv Capacity to Reduce Total WQv

Land use change and development in the watershed increases the volume of runoff. As such, reductions in the amount of runoff from new development, accomplished through the implementation of a stormwater management plan for the site, will play an important role in the success or failure of the watershed-wide stormwater management plan. Runoff reduction techniques can be applied to manage, reduce, and treat stormwater, while maintaining and restoring natural hydrology through infiltration, evapo-transpiration, and the capture and reuse of stormwater. Volume reduction techniques by themselves typically are not sufficient to provide adequate attenuation of stormwater runoff, but they can decrease the size of the peak runoff rate reduction facilities.

#### 3.3.1 NYSDEC Requirements for New Development

The Design Manual states that runoff reduction shall be achieved through infiltration, groundwater recharge, reuse, recycle, and/or evaporation/evapotranspiration of 100-percent of the post-development water quality volume to replicate pre-development hydrology. Runoff control techniques provide treatment in a distributed manner before runoff reaches the collection system, by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow. This can be accomplished by applying a combination of Runoff Reduction Techniques, standard Stormwater Management Practices (SMPs) with RRv capacity, and good operation and maintenance.

#### 3.3.2 Methodology

In order to reduce the required WQv, a site specific evaluation must be performed to determine the most practical means of reducing runoff volume. The Design Manual strongly encourages implementation of a combination of RR techniques and standard SMPs with RRv capacity. The following Table demonstrates a summary of the RRv practices being applied, and both the water quality and runoff reduction volumes they provide. The RR Technique(s) have been designed in accordance with Chapter 5 of the Design Manual. The standard SMP(s) with RRv capacity have been designed in accordance with Chapter 6 of the Design Manual. Refer to the contract drawings for practice dimensions, material specifications, and installation details. Practice specific calculations are presented in Table E of Appendix C.

**Table 3: Summary of RR Techniques and Standard SMPs with RRv Capacity**

RR Technique or Standard SMP with RRv Capacity	NYSDEC Design Variant	Pretreatment Volume Required (% of WQv)	Pretreatment Volume Provided (CF)	WQv Required (CF)	WQv Provided (CF)	RRv Capacity	RRv Provided (CF)
Conservation of Natural Areas	RR-1	-	-		42,082	100%	
Rain Garden (without	RR-6	-	-		5,426	100%	5,426

underdrains)							
Rain Garden (with underdrains)	RR-6	-	-		3,979	40%	1,592
Bioretention (without underdrain)	F-5	25			37,652	100%	37,652
<b>Total WQv Provided (CF)</b>							<b>89,139</b>
<b>Total RRv Provided (CF)</b>							<b>44,670</b>

### 3.3.3 Application of Standard Stormwater Management Practices (SMPs) with RRv Capacity

The standard SMPs with RRv capacity, described in the following section, have been incorporated into the stormwater management plan for this project. Design calculations for each measure have been included in Table E of Appendix K.

#### 3.3.3.1 Underground Infiltration System (I-4)

Most proprietary underground infiltration systems operate similarly to traditional infiltration basins (NYSDEC design variant I-2). These practices reduce runoff volume, remove fine sediment and associated pollutants, recharge groundwater, and provide partial attenuation of peak flows for storm events equal to or less than the design storm. Infiltration practices are appropriate for small drainage areas, but can also be used for larger multiple lot applications, in contrast to rain gardens and dry wells, which are primarily intended for single lots.

Proprietary underground infiltration systems are designed to capture and infiltrate the water quality volume, but do not retain a permanent pool. These systems are typically designed to infiltrate the water quality volume as well as to provide detention above the infiltration zone to attenuate peak volumes of larger storm events to meet flood control requirements.

Soil testing data consisting of deep test pits and falling head permeability tests in support of the design of the proposed underground infiltration system(s) has been provided on the accompanying plans.

#### 3.3.3.2 Bioretention (F-5)

Bioretention filters are shallow landscaped depressions commonly located in parking lot islands or within small pockets in residential areas that receive stormwater runoff. Stormwater flows into the bioretention area, ponds on the surface, and is gradually infiltrated into the soil bed. Pollutants are removed by a number of processes, such as adsorption, filtration, volatilization, ion exchange, and decomposition. Filtered runoff can either be allowed to infiltrate into the surrounding soil, functioning as an infiltration basin or rainwater garden or collected by an under drain system and discharged to the storm sewer system or directly to receiving waters, functioning like a surface sand filter. Runoff from larger storms is generally diverted past the bioretention area to the stormwater collection and conveyance system.

The Bioretention filters (F-5) were designed according to the criteria set forth in Section 6.4 “Stormwater Filtering Systems” of the Design Manual.

### 3.3.3.3 Dry Swale (O-1)

Dry swales are designed to temporarily hold the water quality volume of a storm in a pool or series of pools created by permanent check dams at culverts or driveway crossings. The soil bed consists of native soils or highly permeable fill material, underlain by an under drain system. Pollutants are removed through sedimentation, nutrient uptake, and infiltration.

The Dry Swale(s) (O-1) was/were designed according to the criteria set forth in Section 6.5 “Open Channel Systems” of the Design Manual.

## 4.0 SWPPP IMPLEMENTATION RESPONSIBILITIES

A summary of the responsibilities and obligations of all parties involved with compliance with the NYSDEC SPDES General Permit GP-0-20-001 conditions is outlined in the subsequent sections. For a complete listing of the definitions, responsibilities, and obligations, refer to the SPDES General Permit GP-0-20-001 presented in Appendix I.

### 4.1 Definitions

1. "General SPDES Permit" means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 authorizing a category of discharges.
2. "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. There may be occasions during the course of a project in which there are multiple Owners/Operators, all of which will need to file and maintain the appropriate SWPPP documents and plans, including without limitation, the Notice of Intent (NOI) and Notice of Termination (NOT).
3. "Owner's/Operator's Engineer" means the person or entity retained by an Owner/Operator to design and oversee the implementation of the SWPPP.
4. "Contractor" means the person or entity identified as such in the construction contract with the Owner/Operator. The term "Contractor" shall also include the Contractor's authorized representative, as well as any and all subcontractors retained by the Contractor.
5. "Qualified Inspector" means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as 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 an 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.

6. "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.
7. "Trained Contractor" means an employee from a 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 a 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(s)" will be responsible for implementation of the SWPPP.

## 4.2 Owner's/Operator's Responsibilities

1. Ensure that control measures are selected, designed, installed, implemented and maintained to minimize the discharge of pollutants and prevent a violation of the water quality standards, meeting the non-numeric effluent limitations in Part I.B.1.(a)-(f) of the SPDES General Permit and in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005.
2. Ensure that practices are selected, designed, installed, and maintained to meet the performance criteria in the Design Manual. Practices must be designed to meet the applicable sizing criteria in Part I.C.2.a., b., c. or d. of GP-0-20-001.
3. Retain the services of a "Qualified Inspector" or "Qualified Professional" as defined under Section 2.1, to provide the services outlined in Section 2.5 "Qualified Inspector's/Qualified Professional's Responsibilities."
4. Retain the services of a "Qualified Professional," as defined under Section 2.1, to provide the services outlined in Section 2.3 "Owner's/Operator's Engineers Responsibilities."

5. Have an authorized corporate officer sign the completed NOI. A copy of the completed NOI is included in Appendix B.
6. Submit the electronic version of the NOI (eNOI) along with the MS4 SWPPP acceptance form using the NYSDEC's website (<http://www.dec.ny.gov/chemical/43133.html>) and provide copy to the MS4.
7. Pay the required initial and annual fees upon receipt of invoices from NYSDEC. These invoices are generally issued in the fall of each year. The initial fee is calculated as \$100.00 per acre disturbed plus \$600.00 per acre of net increase in impervious cover, and the annual fee is \$100.00.
8. Prior to the commencement of construction activity, identify the contractor(s) and subcontractor(s) that will be responsible for implementing the erosion and sediment control measures and stormwater management practices described in this SWPPP. Have each of these contractors and subcontractors identify at least one "Trained Contractor", as defined under Section 2.1 that will be responsible for the implementation of the SWPPP. Ensure that the Contractor has at least one "Trained Contractor" on site on a daily basis when soil disturbance activities are being performed.
9. Schedule a pre-construction meeting which shall include the Town of Philipstown representative, Owner's/Operator's Engineer, Contractor, and their sub-contractors to discuss responsibilities as they relate to the implementation of this SWPPP.
10. Retain the services of an independent certified materials testing and inspection firm operating under the direction of a licensed Professional Engineer to perform regular tests, inspections, and certifications of the construction materials used in the construction of all post-construction stormwater management practices.
11. Retain the services of a NYS licensed land surveyor to perform an as-built topographic survey of the completed post-construction stormwater management facilities.
12. Require the Contractor to fully implement the SWPPP prepared for the site by the Owner/Operator's Engineer to 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 NYSDEC.
13. Forward a copy of the NOI Acknowledgement Letter received from the regulatory agency to the Owner's/Operator's Engineer for project records, and to the Contractor for display at the construction site.
14. Maintain a copy of the General Permit (GP-0-20-001), NOI, NOI Acknowledgement Letter, SWPPP, MS4 SWPPP Acceptance Form, inspection reports, Spill Prevention, Countermeasures, Cleanup ("SPCC") Plan, and all documentation in accordance with Part I.F.8.a.-d of GP-0-20-001 necessary to demonstrate eligibility with the permit at the construction site, until all disturbed areas have achieved final stabilization and the NOT has been submitted to the NYSDEC. Place documents in a secure location that must be accessible during normal business hours to an individual performing a compliance inspection.

15. Prior to submitting a Notice of Termination, ensure for post-construction stormwater management practice(s) that are privately owned, the Owner/Operator has a deed restriction in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.
16. Submit a Notice of Termination (NOT) form (see Appendix B) within 48 hours of receipt of the Owner's/Operator's Engineer's certification of final site stabilization to the following:

NOTICE OF TERMINATION  
NYS DEC, Bureau of Water Permits  
625 Broadway, 4<sup>th</sup> Floor  
Albany, New York 12233-3505

17. Request and receive all SWPPP records from the Owner's/Operator's Engineer and archive those records for a minimum of five (5) years after the NOT is filed.
18. Implement the Post-Construction Inspections and Maintenance procedures outlined in Appendix H.
19. The NOI, SWPPP, and inspection reports required by GP-0-20-001 are public documents that the Owner/Operator must make available for review and copying by any person within five (5) business days of the Owner/Operator receiving a written request by any such person to review the NOI, SWPPP, or inspection reports. Copying of documents will be done at the requester's expense.
20. The Owner/Operator must keep the SWPPP current at all times. At a minimum, the Owner/Operator shall amend the SWPPP:
  - a) Whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater discharges from the project 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.

### **4.3 Owner's/Operator's Engineer's Responsibilities**

1. Prepare the SWPPP using good engineering practices, best management practices, and in compliance with all federal, state, and local regulatory requirements.
2. Prepare the Notice of Intent (NOI) form (see Appendix D), sign the "SWPPP Preparer Certification" section of the NOI, and forward to Owner/Operator for signature.
3. Provide copies of the SWPPP to the Town of Philipstown once all signatures and attachments are complete.

4. Enter Contractor's information in Section 2.5 "SWPPP Participants" once a Contractor is selected by the Owner/Operator.
5. Update the SWPPP each time there is a significant modification to the pollution prevention measures or a change of the principal Contractor working on the project who may disturb site soil.

#### **4.4 Contractor's Responsibilities**

1. Sign the SWPPP Contractor's Certification Form contained within Appendix E and forward to the Owner's/Operator's Engineer for inclusion in the Site Log Book.
2. Identify at least one Trained Contractor that will be responsible for implementation of this SWPPP. Ensure that at least one Trained Contractor is on site on a daily basis when soil disturbance activities are being performed. The Trained Contractor shall 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 conditions 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.
3. Provide the names and addresses of all subcontractors working on the project site. Require all subcontractors who will be involved with construction activities that will result in soil disturbance to identify at least one Trained Contractor that will be on site on a daily basis when soil disturbance activities are being performed; and to sign a copy of the Subcontractor's Certification Form contained within Appendix E, then forward to the Owner's/Operator's Engineer for inclusion into the Site Log Book. This information must be retained as part of the Site Log Book.
4. Maintain a Spill Prevention and Response Plan in accordance with requirements outlined in Section 6.4 of this SWPPP. This plan shall be provided to the Owner's/Operator's Engineer for inclusion in the Site Log Book, prior to mobilization on-site.
5. Participate in a pre-construction meeting which shall include the Town of Philipstown representative, Owner/Operator, Owner's/Operator's Engineer, and all subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
6. If Contractor plans on utilizing adjacent properties for material, waste, borrow, or equipment storage areas, or if Contractor plans to engage in industrial activity other than construction (such as operating asphalt and/or concrete plants) at the site, Contractor shall submit appropriate documentation to the Owner's/Operator's Engineer so that the SWPPP can be modified accordingly.
7. Implement site stabilization, erosion and sediment control measures, and other requirements of the SWPPP.



8. In accordance with the requirements in the most current version of the NYS Standards and Specifications for Erosion and Sediment Control, conduct inspections of erosion and sediment control measures installed at the site to ensure that they remain in effective operating condition at all times. Prepare and retain written documentation of inspections as well as of all repairs/maintenance activities performed. This information must be retained as part of the Site Log Book.
9. Begin implementing corrective actions within one (1) business day of receipt of notification by the Qualified Inspector/Qualified Professional that deficiencies exist with the erosion and sediment control measures employed at the site. Corrective actions shall be completed within a reasonable time frame.
10. Maintain a record of the date(s) and location(s) that soil restoration is performed in accordance with the accompanying plans and NYSDEC Division of Water's publication "Deep-Ripping and Decompaction," dated April 2008. A copy of this publication is provided in Appendix G. The record that is to be maintained shall be a copy of the overall site grading plan delineating the area(s) and date(s) that the soil was restored.
11. Upon completion of all construction at the site, the contractor responsible for overall SWPPP Compliance shall sign the certification on their Contractor Certification Form indicating that: a.) all temporary erosion and sediment control measures have been removed from the site, b.) the on-site soils disturbed by construction activity have been restored in accordance with the SWPPP and the NYSDEC Division of Water's publication "Deep-Ripping and Decompaction," and c.) all permanent stormwater management practices required by the SWPPP have been installed in accordance with the contract documents.

#### **4.5 Qualified Inspector's/Qualified Professional's Responsibilities**

1. Participate in a pre-construction meeting with the Town of Philipstown representative, Owner/Operator, Contractor, and their subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
2. Conduct an initial assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment control measures described within this SWPPP have been adequately installed and implemented to ensure overall preparedness of the site.
3. Provide on-site inspections to determine compliance with the SWPPP. Site inspections shall occur at an interval of at least once every seven calendar days. A written inspection report shall be provided to the Owner/Operator and general contractor within one business day of the completion of the inspection, with any deficiencies identified. A sample inspection form is provided in Appendix F.
4. Prepare an inspection report subsequent to each and every inspection that shall include/address the items listed in Part IV.C.4.a-k of GP-0-20-001. Sign all inspection reports and maintain on site with the SWPPP.

5. Notify the owner/operator and appropriate contractor or subcontractor of any corrective actions that need to be taken.
6. Prepare a construction Site Log Book to be used as a record of all inspection reports generated throughout the duration of construction. Ensure that the construction Site Log Book is maintained and kept up-to-date throughout the duration of construction.
7. Review the Contractor's SWPPP records on a periodic basis to ensure compliance with the requirements for daily reports, soil restoration, inspections, and maintenance logs.
8. Based on the as-built survey and material testing certifications performed by others, perform evaluations of the completed stormwater management practices to determine whether they were constructed in accordance with this SWPPP.
9. Conduct a final site assessment and prepare a certification letter to the Owner/Operator indicating that, upon review of the material testing and inspection reports prepared by the firm retained by the Owner/Operator, review of the completed topographic survey, and evaluation of the completed stormwater management facilities, the stormwater management facilities have been constructed substantially in accordance with the contract documents and should function as designed.
10. Prepare the Notice of Termination (NOT). Sign the NOT Certifications VI (Final Stabilization) and VII (Post-construction Stormwater Management Practices), and forward the NOT to the Owner/Operator for signature on Certification VIII (Owner/Operator Certification).
11. Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, construction Site Log Book, and written records required by the General Permit to the Owner/Operator for archiving.

## 4.6 SWPPP Participants

1. Owner's/Operator's Engineer: Margaret Smith McManus, PE, Vice President for Engineering  
Badey & Watson, Surveying & Engineering, PC  
3063 Route 9  
Cold Spring, NY 10516  
Phone: 845-265-9217 x219  
Email: mmcmanus@badey-watson.com
2. Owner/Operator: Mr. Ulises Liceaga  
Horton Road, LLC.  
516 East 89th Street  
New York, NY 10128  
Phone: (212) 722-0170  
Email: uliceaga@thefractalgroup.com

3. Contractor<sup>2</sup>:

Name and Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

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<sup>2</sup> Contractor's information to be entered once the Contractor has been selected.

## 5.0 CONSTRUCTION SEQUENCE

This project has not received written approval from The Town of Philipstown allowing the disturbance of more than five acres of land at any one time. Therefore, if the Contractor's construction sequence requires the disturbance of more than five acres at any one time, written approval must be obtained from NYSDEC prior to disturbing more than five acres at once.

The "Erosion and Sediment Control Plan" in the accompanying drawings identifies the major construction activities that are the subject of this SWPPP. The order (or sequence) in which the major activities are expected to begin is presented on the accompanying drawings, though each activity will not necessarily be completed before the next begins. In addition, these activities could occur in a different order if necessary to maintain adequate erosion and sediment control. If this is the case, the contractor shall notify the Owner's/Operator's Engineer overseeing the implementation of the SWPPP.

The Contractor will be responsible for implementing the erosion and sediment control measures identified on the plans. The Contractor may designate these tasks to certain subcontractors as they see fit, but the ultimate responsibility for implementing these controls and ensuring their proper function remains with the Contractor.

Refer to the accompanying plans for details and specifications regarding the construction sequencing schedule.

## 6.0 CONSTRUCTION-PHASE POLLUTION CONTROL

The SWPPP and accompanying plans identify the temporary and permanent erosion and sediment control measures that have been incorporated into the design of this project. These measures will be implemented during construction, to minimize soil erosion and control sediment transport off-site, and after construction, to control the quality and quantity of stormwater runoff from the developed site.

Erosion control measures, designed to minimize soil loss, and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the following documents:

- NYSDEC SPDES General Permit for Stormwater Discharges From Construction Activity, Permit No. GP-0-20-001 (effective January 29, 2020 through January 28, 2025)
- New York State Standards and Specifications for Erosion and Sediment Control, NYSDEC (August 2005)
- Town of Philipstown Erosion and Sediment Control Ordinance

The SWPPP and accompanying plans outline the construction scheduling for implementing the erosion and sediment control measures. These documents include limitations on the duration of soil exposure, criteria and specifications for placement and installation of the erosion and sediment control measures, a maintenance schedule, and specifications for the implementation of erosion and sediment control practices and procedures.

Temporary and permanent erosion and sediment control measures that shall be applied during construction generally include:

1. Minimizing soil erosion and sedimentation by stabilization of disturbed areas and by removing sediment from construction site discharges.
2. Preservation of existing vegetation to the greatest extent practical. Following the completion of construction activities in any portion of the site, permanent vegetation shall be established on all exposed soils.
3. Site preparation activities to minimize the area and duration of soil disruption.
4. Establishment of permanent traffic corridors to ensure that "routes of convenience" are avoided.

### 6.1 Temporary Erosion and Sediment Control Measures

The temporary erosion and sediment control measures described in the following sections are included as part of the construction documents.

### 6.1.1 *Stabilized Construction Entrance*

Prior to construction, stabilized construction entrance(s) will be installed, per accompanying plans, to reduce the tracking of sediment onto public roadways.

Construction traffic must enter and exit the site at the stabilized construction entrance(s). The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic.

The entrance(s) shall be maintained in a condition, which will control tracking of sediment onto public rights-of-way or streets. When necessary, additional aggregate will be placed atop the filter fabric to assure the minimum thickness is maintained. All sediment and/or soil spilled, dropped, or washed onto public rights-of-way must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

### 6.1.2 *Dust Control*

Water trucks shall be used as needed during construction to reduce dust generated on-site. Dust control must be provided by the Contractor(s) to a degree that is acceptable to the Owner, and in compliance with the applicable local and state dust control requirements.

### 6.1.3 *Temporary Soil Stockpile*

Materials, such as topsoil, will be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles shall be located in an area away from storm drainage, water bodies and/or courses, and will be properly protected from erosion by a surrounding silt fence barrier.

### 6.1.4 *Silt Fencing*

Prior to the initiation of and during construction activities, a geotextile filter fabric (or silt fence) will be established downgradient of all disturbed areas. These barriers may extend into non-impact areas to provide adequate protection of adjacent lands.

Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To facilitate effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events will be performed by the Contractor(s). Maintenance of the fence will be performed as needed.

### 6.1.5 *Temporary Seeding*

For areas undergoing clearing, grading, and disturbance as part of construction activities, where work has temporarily ceased, temporary soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the soil disturbance activity has temporarily ceased.

### 6.1.6 *Stone and Block Drop Inlet Protection*

Concrete blocks surrounded by wire mesh and crushed stone will be placed around both existing catch basins, and proposed catch basins once they have been installed, to prevent sediment from entering the catch basins and storm sewer system. During construction, crushed stone shall be replaced as necessary to ensure proper function.

#### 6.1.7 *Filter Fabric Drop Inlet Protection*

Install filter fabric or silt fence with wooden stakes at the perimeter of existing or proposed catch basins located in lawn areas, to prevent sediment from entering the catch basins and storm sewer system. Remove sediment accumulation and repair or replace fabric as necessary to ensure proper function.

#### 6.1.8 *Erosion Control Blanket*

Erosion control blankets shall be installed in accordance with manufacturer's requirements on all slopes exceeding 3:1. Erosion control blankets provide temporary erosion protection, rapid vegetative establishment, and long-term erosion resistance to shear stresses generated by high runoff flow velocities associated with steep slopes.

#### 6.1.9 *Stone Check Dams*

Stone check dams will be installed within drainage ditches to reduce the velocity of stormwater runoff, promote settling of sediment, and reduce sediment transport off-site.

Sediment accumulated behind the stone check dam will be removed as needed to maintain flow through the stone check dam and prevent large flows from carrying sediment over or around the dam. Stones shall be replaced as needed to maintain the design cross section of the structures.

#### 6.1.10 *Temporary Sediment Trap*

Temporary sediment traps shall be constructed to intercept sediment-laden runoff, reduce the amount of sediment leaving the disturbed areas, and protect drainage ways, properties, and rights-of-way.

Accumulated sediment shall be removed from the trap when it reaches no greater than 50 percent of the design capacity. Sediment shall not be placed downstream from the embankment, adjacent to a stream, or floodplain.

Temporary sediment traps depicted on the accompanying plans have been designed to provide 3,600 CF of storage per acre of tributary watershed.

#### 6.1.11 *Temporary Diversion Swales*

Temporary diversion swales shall be used to divert off-site runoff around the construction site and divert runoff from stabilized areas around disturbed areas.

#### 6.1.12 *Dewatering Operations*

Dewatering will be used to intercept sediment-laden stormwater or pumped groundwater and allow it to settle out of the pumped discharge prior to being discharged from the site. Water from dewatering operations shall be treated to eliminate the discharge of sediment and other pollutants. Water resulting from dewatering operations shall be directed to temporary sediment traps or dewatering devices. Temporary sediment traps and dewatering bags will be provided, installed, and maintained at downgradient locations to control sediment deposits to downstream surfaces.

## 6.2 Permanent Erosion and Sediment Control Measures

The permanent erosion and sediment control measures described in the following sections are included as part of the construction documents.

### 6.2.1 *Establishment of Permanent Vegetation*

Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch, and maintenance measures as described in the contract documents shall also be followed.

Permanent soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the soil disturbance activity has permanently ceased.

### 6.2.2 *Rock Outlet Protection*

Rock outlet protection shall be installed at the locations as indicated and detailed on the accompanying plans. The installation of rock outlet protection will reduce the velocity and energy of water, such that the flow will not erode downstream surfaces.

### 6.2.3 *Permanent Turf Reinforcement*

Permanent turf reinforcement mats (TRMs) provide long-term erosion protection and vegetation establishment assistance while permanently reinforcing vegetation. TRMs shall be installed on slopes/channels where specified. TRM's provide two key advantages. First, their unique fiber shape and 3-D pattern create a thick matrix of voids that trap seed, soil, and water in place for quicker, thicker vegetation growth. Secondly, they provide additional reinforcement that doubles the vegetation's natural erosion protection abilities by remaining a permanent part of the application and anchoring mature plants to the soil for superior, long-term erosion resistance.

## 6.3 Other Pollutant Controls

Other necessary pollutant controls are listed below:

### 6.3.1 *Solid and Liquid Waste Disposal*

No solid or liquid waste materials, including building materials, shall be discharged from the site with stormwater. All solid waste, including disposable materials incidental to any construction activities, must be collected and placed in containers. The containers shall be emptied periodically by a licensed trash disposal service and hauled away from the site.

Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed of so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.



### 6.3.2 Sanitary Facilities

Temporary sanitary facilities will be provided by the Contractor throughout the construction phase. They must be utilized by all construction personnel and will be serviced by a licensed commercial Contractor. These facilities must comply with state and local sanitary or septic system regulations.

### 6.3.3 Water Source

Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site; such water can be retained in temporary ponds/sediment traps until it infiltrates and/or evaporates.

## 6.4 Construction Housekeeping Practices

During the construction phase, the Contractor(s) will implement the following measures:

### 6.4.1 Material Stockpiles

Material resulting from clearing and grubbing operations that will be stockpiled on-site, must be adequately protected with downgradient erosion and sediment controls.

### 6.4.2 Equipment Cleaning and Maintenance

The Contractor(s) will designate areas for equipment cleaning, maintenance, and repair. The Contractor(s) and subcontractor(s) will utilize those areas. The areas will be protected by a temporary perimeter berm.

### 6.4.3 Detergents

The use of detergents for large-scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

### 6.4.4 Spill Prevention and Response

A Spill Prevention and Response Plan shall be developed for the site by the Contractor(s). The plan shall detail the steps required in the event of an accidental spill and shall identify contact names and phone numbers of people and agencies that must be notified.

The plan shall include Material Safety Data Sheets (MSDS) for all materials to be stored on-site. All workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction. Regular tailgate safety meetings shall be held and all workers that are expected on the site during the week shall be required to attend.

### 6.4.5 Concrete Wash Areas

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in specifically designated diked and impervious washout areas, which have been prepared

to prevent contact between the concrete wash and stormwater. Waste generated from concrete wash water shall not be allowed to flow into drainage ways, inlets, receiving waters, or highway right of ways, or any location other than the designated concrete wash areas. Proper signage designating the "Concrete Wash Areas" shall be placed near the facility. Concrete wash areas shall be located at minimum 100 linear feet from drainage ways, inlets, and surface waters.

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

Sawcut Portland Cement Concrete (PCC) slurry shall not be allowed to enter drainage ways, inlets, and/or surface waters. Sawcut residue should not be left on the surface of pavement or be allowed to flow over and off pavement.

The Project may require the use of multiple concrete wash areas. All concrete wash areas will be located in an area where the likelihood of the area contributing to stormwater discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to stormwater discharges.

#### 6.4.6 *Material Storage*

Construction materials shall be stored in a dedicated staging area. The staging area shall be located in an area that prevents negative impacts of construction materials on stormwater quality.

Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated, and disposed of at an approved solid waste or chemical disposal facility.

## 7.0 INSPECTIONS, MAINTENANCE, AND REPORTING

### 7.1 Inspection and Maintenance Requirements

#### 7.1.1 Pre-Construction Inspection and Certification

Prior to the commencement of construction, the Qualified Inspector/Qualified Professional shall conduct an assessment of the site and certify that the appropriate erosion and sediment control measures have been adequately installed and implemented. The Contractor shall contact the Qualified Inspector/Qualified Professional once the erosion and sediment control measures have been installed.

#### 7.1.2 Construction Phase Inspections and Maintenance

A Qualified Inspector/Qualified Professional, as defined in Appendix A of the General Permit GP-0-20-001, shall conduct regular site inspections between the time this SWPPP is implemented and final site stabilization.

The purpose of site inspections is to assess performance of pollutant controls. Based on these inspections, the Qualified Inspector/Qualified Professional will decide whether it is necessary to modify this SWPPP, add or relocate sediment barriers, or whatever else may be needed in order to prevent pollutants from leaving the site via stormwater runoff. The general contractor has the duty to cause pollutant control measures to be repaired, modified, maintained, supplemented, or whatever else is necessary in order to achieve effective pollutant control.

Examples of particular items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection the inspector must evaluate overall pollutant control system performance as well as particular details of individual system components. Additional factors should be considered as appropriate to the circumstances.

1. Locations where vehicles enter and exit the site must be inspected for evidence of off-site sediment tracking. A stabilized construction entrance will be constructed where vehicles enter and exit. This entrance will be maintained or supplemented as necessary to prevent sediment from leaving the site on vehicles.
2. Sediment barriers must be inspected and, if necessary, they must be enlarged or cleaned in order to provide additional capacity. All material from behind sediment barriers will be stockpiled on the up slope side. Additional sediment barriers must be constructed as needed.
3. Inspections will evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system. If necessary, the materials must be covered or original covers must be repaired or supplemented. Also, protective berms must be constructed, if needed, in order to contain runoff from material storage areas.
4. Grassed areas will be inspected to confirm that a healthy stand of grass is maintained. The site has achieved final stabilization once all areas are covered with building foundation or pavement, or have a stand of grass with at least 80 percent density. The density of 80 percent or greater must be maintained to be considered as stabilized. Areas must be watered, fertilized, and reseeded as needed to achieve this goal.

5. All discharge points must be inspected to determine whether erosion control measures are effective in preventing significant impacts to receiving waters.

The inspection reports must be completed entirely and additional remarks should be included if needed to fully describe a situation. An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance.

Within one (1) business day of the completion of an inspection, the *Qualified Inspector/Qualified Professional* shall notify the Owner/Operator and appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one (1) business day of the notification and shall complete the corrective actions in a reasonable time frame.

In addition to the inspections performed by the *Qualified Inspector/Qualified Professional*, the Contractor shall perform routine inspections that include a visual check of all erosion and sediment control measures. All inspections and maintenance shall be performed in accordance with the inspection and maintenance schedule provided on the accompanying plans. Sediment removed from erosion and sediment control measures will be exported from the site, stockpiled for later use, or used immediately for general non-structural fill.

It is the responsibility of the general contractor to assure the adequacy of site pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more structural controls than are shown on the accompanying plans. (For example, localized concentrations of runoff could make it necessary to install additional sediment barriers, sediment traps, etc.) Assessing the need for additional controls and implementing them or adjusting existing controls will be a continuing aspect of this SWPPP until the site achieves final stabilization.

#### 7.1.3 *Temporary Suspension of Construction Activities*

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 frequency of Qualified Inspector/Qualified Professional inspections can be reduced to once every 30 calendar days. Prior to reducing the frequency of inspections, the Owner/Operator shall notify the NYSDEC Region 3 stormwater contact person and the Town of Philipstown MS4 officer in writing.

#### 7.1.4 *Partial Project Completion*

For construction sites where soil disturbance activities have been shut down with partial project completion, 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 inspections by the Qualified Inspector/Qualified Professional can stop. Prior to the shutdown, the Owner/Operator shall notify the NYSDEC Region 3 stormwater contact person the Town of Philipstown MS4 officer writing.

If soil disturbance activities have not resumed within two years from the date of shutdown, a Notice of Termination (NOT) shall be properly completed and submitted to the NYSDEC.

### 7.1.5 *Post-Construction Inspections and Maintenance*

Inspections and maintenance of final stabilization measures and post-construction stormwater management practices shall be performed in accordance with Appendix H, once all disturbed areas are stabilized and all stormwater management systems are in place and operable.

## 7.2 Reporting Requirements

### 7.2.1 *Inspection and Maintenance Reports*

Inspection/maintenance reports shall be prepared prior to and during construction in accordance with the schedule outlined herein and in the SPDES General Permit GP-0-20-001 Part IV.C. The reports shall be prepared to identify and document the maintenance of the erosion and sediment control measures. A sample inspection form is provided in Appendix F.

Specifically, each inspection shall record the following information:

1. Date and time of inspection.
2. Name and title of person(s) performing inspection.
3. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection.
4. 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.
5. 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 water body.
6. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance.
7. 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.
8. 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.
9. Indication of the 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.

10. 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 practices.
11. Identification and status of all corrective actions that were required by previous inspection.
12. Color photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *Qualified Inspector/Qualified Professional* 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/Qualified Professional* 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/Qualified Professional* shall attach the 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.

All inspection reports shall be signed by the *Qualified Inspector/Qualified Professional*. Pursuant to Part II.C.2 of GP-0-20-001, the inspection reports shall be maintained on site with the SWPPP.

#### 7.2.2 *Site Log Book*

The Owner/Operator shall retain a copy of the SWPPP required by GP-0-20-001 at the construction site from the date of initiation of construction activities to the date of final stabilization.

During construction, the Owner's/Operator's Engineer shall maintain a record of all SWPPP inspection reports at the site in the Site Log Book. The Site Log Book shall be maintained on-site and made available to the permitting authority, if necessary.

#### 7.2.3 *Post Construction Records and Archiving*

Following construction, the Owner/Operator shall retain copies of the SWPPP, the complete construction Site Log Book, and records of all data used to complete the NOI to be covered by this permit, for a period of at least five years from the date that the site is finally stabilized. This period may be extended by the NYSDEC, at its sole discretion, at any time upon written notification.

Records shall be maintained of all post construction inspections and maintenance work performed in accordance with the requirements outlined in Appendix F and H.