# **Stormwater Pollution Prevention Plan**

Prepared in accordance with NYS DEC General Permit GP-0-20-001

Woodward Lake Subdivision Towns of Northampton & Mayfield Fulton County, New York

Owner/Developer:

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### **Permit Overview**

This Stormwater Pollution Prevention Plan (SWPPP) is prepared to inform the owner/developer/operator and construction personnel of the measures to be implemented for controlling runoff and pollutants from the project site during and after construction activities, in compliance with the New York State Department of Environmental Conservation (NYS DEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities, Permit No. GP-0-20-001 requirements. The project may have other permits, which are the responsibility of the owner and contractor to know and understand.

Upon processing of the Notice of Intent (NOI) to begin construction activities, NYS DEC will issue a bill for a \$110.00 annual fee for the open GP-0-20-001 permit. The operator will also be billed a one-time fee of \$110.00 per acre of proposed disturbed soil area, as listed in the NOI, and a one-time \$675.00 per acre fee for the proposed increased impervious area listed in the NOI.

The operator is responsible for maintaining the following information onsite, in a secure location that is accessible during normal working hours to an individual performing a compliance inspection:

- The Notice of Intent (NOI)
- The NYS DEC NOI Acknowledgement Letter
- The SWPPP
- A copy of the General Permit
- All inspection records

This SWPPP was developed in conformance with the NYS DEC technical standards as presented in the "New York State Stormwater Design Manual" (2015) and the "New York Standards and Specifications for Erosion and Sediment Control" (2016). Standards and details for the project are illustrated on the Construction Drawings. The National Resources Conservation Service (NCRS) Technical Release 55 (TR-55), Urban Hydrology for Small Watersheds was used for hydrologic and hydraulic calculations.

### **Stormwater Management Objectives**

In general, stormwater management objectives seek to preserve or improve existing conditions by:

- preventing increases in, or reducing, the volume and flow of stormwater runoff associated with new development, so as to mitigate the hazards and costs related to flooding;
- minimizing the erosion potential from a construction site to prevent deposition of sediment into streams and other receiving waterbodies;
- preventing decreases in groundwater recharge and stream base flows so as to maintain aquatic life, assimilative capacity, and potential water supplies;
- reducing the pollutant load in stormwater runoff from developing areas to enable perpetuation of the natural biological functions of streams and other receiving waterbodies.

During construction, runoff, erosion, and sediment control to maintain water quality are the objectives of temporary and some permanent practices. In accordance with New York's General Permit for Stormwater Discharges from Construction Activities, it is a violation of environmental conservation law for any discharge to either cause or contribute to a violation of water quality standards, such as:

- an increase in turbidity causing a substantial visible contrast to natural conditions;
- an increase in suspended, colloidal or settleable solids that cause deposition or impair the waters;
- residue from oil and floating substances, visible oil film, or globules of grease.

### **SWPPP Review**

Authorized Federal, State, and local regulatory agencies having jurisdiction may elect to review this SWPPP and notify the permittee in writing that the SWPPP does not meet the requirements of their regulations. If the SWPPP needs to be revised, the permittee and the site contractor will make the required modifications within seven (7) days of such notification and submit written certification to the notifying agency that the changes have been implemented. A copy of the SWPPP will be kept available onsite for review by regulatory agencies, engineers, and subcontractors.

### **Updating the SWPPP**

The permittee identified in this SWPPP shall amend the SWPPP under the following conditions:

- Whenever the current provisions prove to be ineffective in minimizing the pollutants in stormwater discharge from the site.
- Whenever there is a change in design, construction, or operation that could have an effect on the discharge of pollutants.
- To address issues or deficiencies identified during an inspection by the qualified inspector, the DEC, or other regulatory authority.
- To identify a new subcontractor that will implement any part of the SWPPP.

Any required modifications to the post-construction stormwater management practices shall be documented in the SWPPP kept onsite. The SWPPP Plan Changes, Authorization, and Change Certification form (in the Appendix) must be filled out and a copy retained onsite during construction.

If modifications are required to the post-construction stormwater management practices and the project is within a regulated, traditional land use control Municipal Separate Storm Sewer System (MS4), the owner/operator must notify the MS4 in writing of any planned amendments to those components. Unless otherwise notified by the MS4, the owner/operator shall have the SWPPP amendments reviewed and approved by the MS4 prior to commencing construction of the stormwater management practice. Note that this project is <u>not</u> within a regulated MS4.

### **Project Description and Summary**

Woodward Lake Properties, LLC is proposing a 37-lot residential subdivision of a 1,169.6-acre property in Fulton County, New York. The property is located approximately 1 mile west of the Village of Northville. Collins-Gifford Valley Road runs through the property in a generally north-south direction. A location map is provided in the Appendix. Approximately 1,159 acres are situated in the Town of Northampton, with 11 acres in the Town of Mayfield. All of the property lies in the Adirondack Park. About 580 acres are within a Rural Use Area, while 590 acres are within a designated Resource Management area. The town boundaries and APA land use classification areas are depicted on the General Subdivision Plan of the Plans.

The site is generally forested and contains one large water body named Woodward Lake. The lake is an impoundment created by a dam constructed in 1928. Open water makes up 106.8 acres of the property. The site also contains numerous wetlands and streams, many of which have been delineated and mapped on the Plans. A single residence exists on the property. Collins-Gifford Valley Road, a Town of Northampton road, is mostly gravel surfaced, with a short section of pavement within the property bounds.

Woodward Lake Properties, LLC proposes to make infrastructure improvements, including construction of a 3,000-foot long gravel road on the east side of the lake, common area access, and the shared portion of proposed shared driveways. Individual lots will be sold without improvements. Woodward Lake and some adjacent lands, totaling approximately 170.7 acres, will be designated Common Area. Lot sizes range from 5.0 to 214.6 acres, with an average of 26.6 acres. New development will be for residential purposes and limited to pre-defined sites on each lot. A forestry plan has also been developed for optional use by individual land owners. In general, the overall project will encourage recreational land use, have minimal impacts, and result in the property retaining an undeveloped character.

Project build-out is expected to occur over a period of many years. The total ultimate area of soil disturbance is estimated to be a maximum of 27.6 acres over the life of the project, including 7.7 acres for infrastructure construction (roadways, shared driveways, and utilities). Because the overall project involves more than one acre of disturbance, compliance with the New York State Dept. of Environmental Conservation (NYS DEC) General Permit for Stormwater Discharges from Construction Activities is necessary.

At this writing, SPDES General Permit No. GP-0-20-001 is in effect. Copies of the most current permit and instructions may be obtained by calling the DEC at (518) 402-8109, visiting any regional DEC office, or at the website <a href="http://www.dec.ny.gov/">http://www.dec.ny.gov/</a>. The developer/property owners association will obtain initial permit coverage by submitting a Notice of Intent (NOI) to the NYS DEC Division of Water. The Property Owners' Association may suspend coverage from time to time, depending on activity. Upon completion of all construction activities, permit coverage may be terminated by filing a Notice of Termination (NOT).

Erosion and sediment control plans have been developed for the project. Green infrastructure techniques have been incorporated into the project design in order to reduce the production of runoff and the associated need for collection, storage, and treatment. These are detailed on the Plans.

Watershed maps, base data, and hydrologic summaries are presented on drawings included in the Appendix, Sheets SWM-1 and SWM-2.

# **Pre-Development Conditions**

The site is situated in a lightly developed area of the Adirondack Park. Land uses in the vicinity primarily consist of single and multi-family homes, some seasonal homes, mining (stone quarry), hunting, hiking, and recreation. Large areas adjacent to the site are vacant New York State Forest and private lands. The project site is wooded and contains a large impounded water body. The dam was constructed in 1928 and is in good condition. Historically, small farm operations existed along Collins-Gifford Valley Road. A few scattered foundation remnants and a small cemetery dating to the 1800's remain. Logging and mining more recently took place on the property. Dirt access roads to a gravel pit and log landings still exist. A dirt access road from Collins-Gifford Valley Road leads to a property west of the site. Other than the roadway and access drives, existing development consists of one single family residence constructed in 1997.

### Historic/Cultural Resources

According to the Cultural Resource Information System of the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and the State Historic Preservation Office (SHPO), there are no listed or eligible properties in the immediate project area.

# Site Assessment

The vicinity watershed is depicted on a USGS Quad overlay on Drawing SWM-1. Slopes in the watershed vary from flat to severe (60%). Topographical analysis of the site vicinity indicates the watershed area contributing to project site runoff is approximately 2,359.4 acres. The watershed has been divided into three catchments as shown. Runoff through the watershed traverses along a variety of routes including streams, wetlands, the lake, culverts, and ditches. There are no stormwater management practices within the project area other than culverts and roadside ditches. Catchment I drains to a receiving stream in Catchment II via the dam and spillway at the northern end of Woodward Lake. Catchments II and III both drain to the common outlet stream of Woodward Lake, but at different points. The outlet stream flows generally northeasterly to the Sacandaga River, which flows into the Great Sacandaga Lake, ultimately reaching the Hudson River.

Soil types within the contributing watershed were identified from the Fulton County Soil Survey and are predominantly classified in hydrologic soil groups (HSG) B and C. An area with HSG A soils is also included within the proposed development area. This information is presented on Drawing SWM-1. With the exception of marsh soils, the soils present are mostly characterized as well drained. A few soils are noted to be excessively drained, primarily due to steep slopes. Soil profiles identified in the Soil Survey and during a number of test pit excavations indicate most soils consist of loamy sand, sandy loam, silty sand, and/or gravelly sand. Many of the soils contain few to numerous stones, rocks, and cobbles. In general, seasonal high water tables were found at 24 to 41 inches below grade, although several areas had seasonal high water tables in excess of 48 inches below grade. Test pit and percolation data is provided on Sheet C-402 of the Plans. Select Soil Survey information is included in the Appendix.

The Existing Conditions Map Drawing SWM-1 depicts each drainage area and its characteristics (area, cover types, land use composite number, time of concentration). Impervious cover in the watershed consists of roads, rooftops, and access roads. Total impervious area is approximately 10.6 acres, or 0.45% of the watershed. The property contains approximately 8.1 acres, or 0.69%, of impervious cover. Green-space, open water, and impervious cover composition of each drainage area is tabulated on Drawing SWM-1.

# **Post-Development Conditions**

Proposed site development is shown on the subdivision plan drawings. A total of 36 lots are proposed for single family dwelling development. One additional lot contains existing residential development. One common area is proposed, which will include Woodward Lake, the dam and spillway, a large area adjacent to the lake containing mostly of wetlands, and an access area on the northeast end of the dam. Only small portable watercraft will be permitted on the lake. The proposed land use is consistent with regional development patterns and objectives.

Collins-Gifford Valley Road will remain a town road within a 60-foot right-of-way. The proposed gravel-surfaced Woodward Lake Road will be built to town standards but will remain private. A property owners' association will maintain the road and common area.

Driveways for several lots will utilize existing logging and access roads. In other cases new driveways will need to be cleared and constructed. All driveways will be gravel surfaced. Woodward Lake Properties will construct the shared portions of all proposed shared driveways. Otherwise, individual property owners will be responsible for constructing their driveways.

Electric and telephone services will be provided from existing local lines. Utility services will be extended along Collins-Gifford Valley and Woodward Lake Roads. Utility plans are included in the project plan drawings. Each lot will have an individual water supply well and onsite wastewater system.

Total impervious cover created is estimated to be about 8.3 acres, for a total of 18.9 acres in the overall watershed. While this is a 78% increase over existing conditions, it only represents 0.35% of the watershed and 0.72% of the property. The developed conditions surface composition and drainage area summary are presented on Drawing SWM-2.

Impervious cover was calculated as follows:

Woodworth Lake Road
1.8 acres
Common Area Access & Parking
0.3 acres
Shared Driveways
0.8 acres
36 Building Envelopes (average 4,200 sq. ft. each)
3.5 acres
Individual Driveways Outside Building Envelopes
1.9 acres

No wetlands, streams, or slopes exceeding 25% will be disturbed.

Developed conditions are depicted on Drawing SWM-2. Building envelopes and driveways are shown. Each building envelope may contain one principle building (dwelling), ancillary structures such as a garage or shed, a driveway, a septic system, and a drilled well. The envelopes give owners flexibility in structure location while fixing the locations of septic system absorption fields (refer to the site plans).

# **Hydrologic and Hydraulic Analyses**

Hydrologic and hydraulic analyses for both the existing and proposed conditions were carried out using TR-55 methods and computer modeling. Computer analysis results are appended.

The NCRS TR-55 program was utilized to quantify stormwater runoff rates. The SCS 24-hour Type II design storms for 1, 2, 5, 10, and 100-year frequency rainfall were analyzed.

24-Hour Rainfall data is as follows:

90 <sup>th</sup> Percentile Average Annual	1.2"
One-Year Event	2.2"
Two-Year Event	2.6"
Five-Year Event	3.4"
Ten-Year Event	3.8"
Hundred-Year Event	5.4"

A summary report of land use data, runoff quantities, and peak discharge rates for the watershed are included in the Appendix. Drawing Sheets SWM-1 and SWM-2 included in the Appendix depict the predevelopment and post-construction conditions, respectively. A comparison of pre- and post-development peak discharge rates at the Design Points and Outlet follows. (cfs = cubic feet per second)

	<u>1-Year Event</u>	<u>5-Year Event</u>	<u> 10-Year Event</u>	100-Year Event
Pre-Development:				
Area I	242.85 cfs	944.67 cfs	1,237.91 cfs	2,584.44 cfs
Area II	0.06 cfs	2.91 cfs	4.77 cfs	14.66 cfs
Area III	15.22 cfs	59.44 cfs	77.25 cfs	157.38 cfs
Outlet	40.56 cfs	162.31 cfs	227.54 cfs	592.12 cfs
Post-Development:				
Area I	242.85 cfs	944.67 cfs	1,237.91 cfs	2,584.44 cfs
Area II	0.06 cfs	2.91 cfs	4.77 cfs	14.66 cfs
Area III	15.22 cfs	59.44 cfs	77.25 cfs	157.38 cfs
Outlet	40.56 cfs	162.31 cfs	227.54 cfs	592.12 cfs

Comparison of the peak discharge rates of the pre-development and post-development conditions shows that the project will have no impact on watershed hydrology.

### **Water Quality Control and Quantity Control**

In accordance with the NYS Stormwater Management Design Manual, water quality treatment must be provided for 100% of new impervious surfaces within the contributing watershed area.

Quantity controls must be provided for any increased discharge. Because the calculated discharge rates of pre-development versus post-development flows for the ten-year and hundred-year storms result in zero net increases, water quantity control criteria do not apply. Nevertheless, existing conveyances must be maintained to ensure continued passage of both offsite and onsite flows.

### Green Infrastructure Practices/Runoff Reduction Techniques

Water quality criteria are targeted at the capture and treatment of 90% of the average annual stormwater runoff volume. The volume of water to be treated (WQv) is directly related to the amount of impervious cover created at a site. New York State also requires reduction of the WQv, and to the extent possible, channel protection volume (Cpv) (24-hour detention of the 1-year storm), by application of green infrastructure techniques along with standard stormwater management practices (SMP) to replicate pre-development hydrology.

The developer will be creating new impervious cover by constructing Woodward Lake Road and shared driveways. Through grading, runoff will be directed to undisturbed wooded or brushy areas, thus providing filtering (treatment). Roadside swales, with permanent check dams where needed, will slow runoff rates to non-erosive velocities and provide for infiltration as well as channel protection volume.

Lot owners will create impervious cover as they develop their sites. Typical lot development plans have been developed for guidance purposes (see Plan Sheet C-401). These plans have incorporated several green infrastructure techniques which contribute to runoff reduction. These include conservation of natural areas and wetlands, sheet flow to riparian buffers and filter strips, disconnection of rooftops, tree planting/preservation and landscaping, vegetated swales, level spreaders, and rain gardens. Factors such as soil characteristics, depth to groundwater, available head, available area, environmental and community compatibility, relative construction complexity and costs, and ease of maintenance were all considerations in selections. All disturbed areas designated to be pervious are to be graded for effective drainage and stabilized with appropriate vegetation and landscaping. Driveways outside building envelopes are to be constructed in such a manner as to drain to natural areas, thus providing 100% treatment of their associated WQv.

Water quality and runoff reduction volumes (RRv) were calculated using the unified stormwater sizing criteria in accordance with the Design Manual. It is estimated that a typical lot, within its building envelope, will disturb no more than 20,000 sq. ft. and create up to 4,200 sq. ft. of impervious surface consisting of house (including decks), separate garage or ancillary structure, and driveway area. Most of the proposed building envelopes are in areas with soils characterized as HSG B. Following are calculations for typical conditions.

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\label{eq:wqv} \begin{split} \text{WQv} &= (\text{P x Rv x A}) \, / 12 \\ &= \text{P} = 90\% \text{ rainfall event number for project site} = 1.2'' \\ &= \text{Rv} = 0.05 + 0.009(\text{I}) \\ &= \text{I mpervious Cover} = 21\% \\ &= \text{A rea} = 20,000 \text{ sq. ft.} \\ &= 478 \text{ cu. ft.} \end{split}
```

Minimum Runoff Reduction Volume Required (RRv-min) = (P x Rv x Aic x S)/12

 $\underline{Rv}$  = 0.05 + 0.009(I) where I is 100% impervious

Aic = Total area of new impervious cover = 4,200 sq. ft.

S = Specific Reduction Factor = 0.40 for HSG B soils

RRv-min = 160 cu. ft.

### Area reductions:

Conservation of natural areas, Riparian buffers/filter strips,

Tree planting and preservation/landscaping

Contributing area = 10,000 sq. ft.

Aic in contributing area = 2,200 sq. ft.

Remaining drainage area = 10,000 sq. ft.

Remaining Aic = 2,000 sq. ft.

Rv = 0.23

Area reduced WOv = 230 cu. ft.

RRv = 478 - 230 = 248 cu. ft.

### Impervious Disconnection:

Total disconnected impervious area = 1,000 sq. ft.

Considered pervious for Rv calculations

Remaining Aic = 1,000 sg. ft.

Rv = 0.14

Disconnection reduced WQv = 140 cu. ft.

RRv = 248 - 140 = 108 cu. ft.

### Source Control Treatment Practices:

Vegetated open swale: Contributing area = 5,000 sq. ft.

Contributing Aic = 500 sq. ft.

Associated Rv = 0.14

Associated WQv = 70 cu. ft.

Allowable RRv = 20% in HSG B soils = 14 cu. ft.

Rain Garden: Contributing Area = 5,000 sq. ft.

Contributing Aic = 500 sg. ft.

Associated Rv = 0.14

Associated WQv = 70 cu. ft.

Allowable RRv = 100% in HSG C soils = 70 cu. ft.

Total source control contributing drainage area = 10,000 sq. ft.

Total source control WQv = 140 cu. ft.

Total source control RRv = 84 cu. ft.

Total RRv provided = 248 + 108 + 84 = 440 cu. ft.

Exceeds Minimum RRv required of 160 cu. ft. √

WQv remaining to be treated = 478 - 440 = 38 cu. ft.

Accommodate by increasing the surface area of rain gardens to increase detention volume or providing equivalent additional volume behind level spreaders. Soil amendment in vegetated swales, rain gardens or level spreader basins would promote infiltration, provide additional treatment, and further reduce runoff.

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Channel Protection Volume (Cpv) for individual lots is not required because the calculated post-development peak discharge rate for the 1-year event is less than 2 cfs in each case. As such, the peak discharge rates are non-erosive. Furthermore, all runoff will be naturally directed to wooded and undisturbed areas, effectively replicating pre-development conditions.

### Soil Restoration

Excessively compacted areas and areas of cut and fill on the project site will have soil restoration applied as needed and as specified below.

- Areas where topsoil is stripped only, with no change to grade do not require restoration.
- In areas of cut and fill, apply 6 inches of topsoil.
- If compost amendment is required, 2 to 4 inches of screened compost will be incorporated into the soil.
- Any soil tillage (deep or shallow) will not be done on soils that are excessively wet, as this will damage the soil.
- Any tillage will not be done within approximately 10 feet of the drip-line of any existing established trees intended to be preserved.
- Any large stones that are unearthed during tillage should be removed from the surface prior to final surface preparation and vegetation establishment.

### **Erosion and Sediment Control**

Erosion and sediment control (E&SC) plans have been developed for the infrastructure work and lot development. E&SC controls are depicted on the site plans where road work is involved. The typical lot development plans on Sheet C-401 provide guidance and specifications on required E&SC controls during construction.

The total area of soil disturbance over the life of the project is estimated to be a maximum of 27.6 acres, including 7.2 acres for infrastructure improvements by the developer, and 0.5 acres of vegetative clearing for utility installation by others. Less than five contiguous acres will be disturbed, or remain unstabilized, at any one time. The build-out period will be phased over many years. However, road and infrastructure construction will be completed by the developer within an estimated 9 months. Schedules outlining the sequence of construction, implementation, maintenance, and inspection requirements are included later in this report as well as on the construction drawings.

Erosion and sediment control practices to be installed and maintained throughout the infrastructure construction period include the following.

# Temporary controls:

- stabilized construction entrance
- silt fences
- stabilized haul/access roads
- biodegradable coir wattles
- streambank protection
- catch basin inlet protection
- dust control

# Permanent Structural Controls:

- grading
- vegetated swales and ditches
- stone check dams
- retaining walls
- culverts
- catch basins

### Temporary Stabilization Practices:

• Seed and mulch bare soil areas within 14 days of disturbance unless construction will resume in that area within 21 days. Erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats) may also be used for temporary stabilization.

### Permanent Stabilization Practices:

 Seed and mulch all disturbed areas intended to remain pervious within 14 days of final disturbance. Slopes that are 3:1 or steeper should receive a Rolled Erosion Control Product, sodding, and/or hydro-seeding of a homogenous mixture of wood fiber mulch with tackifying agent.

For individual lot development, temporary erosion and sediment control practices to be installed include stabilized construction entrances where new driveways off existing roads will be constructed, silt fences, diversion swales, and check dams. Permanent structural controls include grading and vegetated swales. Existing ditches, culverts, and storm drains for offsite runoff are to remain functional throughout construction. Temporary measures are to be left in place and maintained until final stabilization has been achieved on all contributing areas. Final stabilization is defined as the point at which all soil disturbing

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activities have been completed and a uniform perennial vegetative cover with a density of 80% has been established on nonimpervious surfaces (or equivalent measures such as use of mulches or geotextiles have been employed).

### Recommended Grass Seed Mixtures:

In areas intended to carry water, such as vegetated channels, swales, and basin bottoms, a flood and drought resistant mixture consisting of Kentucky bluegrass (25 lbs. per acre), creeping red fescue (20 lbs. per acre), and perennial ryegrass (10 lbs. per acre) is suitable.

Lawn and recreation areas in shady areas may be seeded with one of the following mixtures:

- 65% fine fescue, 15% perennial ryegrass, 20% Kentucky bluegrass blend
- 80% blen of shade-tolerant Kentucky bluegrass, 20% perennial ryegrass
- 100% Tall fescue, Turf-type, fine leaf

Lawn and recreation areas in sunny areas may be seeded with one of the following mixtures:

- 65% Kentucky bluegrass blend, 20% perennial ryegrass, 15% fine fescue
- 100%Tall fescue, Turf-type, fine leaf.

### **Construction Sequence Scheduling, Compliance, and Maintenance**

The project schedule and general sequence of implementing the E&SC Plan and the water quality control practices identified in the SWPPP is outlined below.

The Owner/Operator must submit a completed and signed Notice of Intent (NOI) to the NYS DEC at least five (5) days prior to commencing any construction activities. A copy of the executed NOI must be maintained on the construction site, together with all other required documents comprising the SWPPP. The NOI must be submitted in order to obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001). A copy of the General Permit is available online at <a href="http://www.dec.ny.gov/docs/water\_pdf/gp015002.pdf">http://www.dec.ny.gov/docs/water\_pdf/gp015002.pdf</a> or by contacting the NYS DEC. The project Owner/Operator is responsible for ensuring the implementation of the SWPPP, performance of required inspections, and complying with the requirements of General Permit GP-0-20-001.

### **Basic Permit Compliance Requirements**

- The SWPPP is to be signed by the Owner/Operator and an up-to-date copy retained at the construction site.
- The Owner/Operator must identify all contractors and subcontractors responsible for each erosion and sediment control measure and post-construction stormwater control measure, and obtain signed compliance certification statements from them. The signed statements are to be attached to the SWPPP.
- The owner or operator shall maintain a copy of the General Permit, NOI, and NOI Acknowledgment Letter at the construction site, together with all other required documents comprising the SWPPP until the NOT has been submitted.
- A copy of the NOI is to be posted at the construction site such that it is available for public viewing.
- The owner or operator must ensure that all erosion and sediment control practices and all postconstruction stormwater management practices identified in the SWPPP are maintained in effective operating condition at all times.
- Upon completion of all site construction work and achievement of final stabilization, whereby all
  soil disturbance activities have ceased, all areas disturbed have achieved final stabilization, all
  temporary structural erosion and sediment controls have been removed, and all post-construction
  stormwater practices required have been constructed in conformance with the SWPPP and are
  operational, the owner or operator must submit to the NYS DEC a completed NOT to indicate that
  coverage under the SPDES General Permit is no longer necessary.

# Project Schedule

- 1. <u>Phases 1 4:</u> Construction of Woodward Lake Road, common area access and amenities, and shared driveways. Extension and installation of electric and telephone utilities. Anticipated start September 2020, completion May 2021.
- 2. <u>Phases 5 41:</u> Individual lot development by lot owners. Anticipated start June 2021, completion November 2041.

# **Infrastructure Construction**

- Woodward Lake Road construction shall be executed in three (3) consecutive phases such that less than 5 acres are disturbed at any time.
- Common Area access drive and parking area may be constructed after completion of Phase 1.

- Shared driveways off Woodward Lake Road shall be constructed after full completion of Woodward Lake Road. Shared driveways off Collins-Gifford Valley Road may be constructed at any time.
- No soil disturbing activities shall take place when soils are frozen or saturated.

### General Sequence of Road Construction

- Construction vehicles are to enter/exit the site utilizing only a stabilized construction entrance.
- Stabilize any non-paved areas made bare for construction routes and equipment parking by topping with gravel.
- Install temporary sediment and erosion controls measures: Install silt fences above areas to remain undisturbed. Reinforced silt fences shall be installed adjacent to wetland areas to be protected.
- Install coir wattles along wetland edges adjacent to proposed temporary access bride abutments.
- Stabilize all disturbed areas.
- Inspection by a qualified individual certifying that all sediment and erosion controls are in place must be conducted and recorded prior to start of road construction work.
- Perform clearing and grubbing. Install temporary abutments and access bridge. Complete temporary haul roads and stabilize.
- Perform site work and grading, including ditches and swales. No machinery may be used within
  any delineated wetlands. All work shall be smoothly blended to existing grades. Stabilize all
  disturbed areas as work progresses.
- Install storm drains, catch basins, check dams, and permanent stormwater management practices. Construct permanent bridge structures.
- Progressively install temporary catch basin protection.
- Stabilize all drainages, swales, and bare areas with topsoil and permanent seeding. Use mulches or geotextiles when seeding.
- Topsoil shall be applied to a minimum depth of 4 inches to finished grade in vegetated channels
  and swales, and 6 inches to finished grade in other disturbed areas to be vegetated, and shall be
  seeded and mulched. In all areas where the slope is 5% or more, the mulch shall be securely
  anchored.
- Following soil disturbance or re-disturbance, temporary or permanent stabilization should be completed within 14 days.
- Complete final grading and stabilization.
- Apply final surface treatments and complete landscaping after construction work is completed.
- Maintain temporary control measures until final stabilization is achieved.

# General Sequence of Access Drive Construction

- Stabilize areas made bare for construction routes and equipment parking by topping with gravel.
- Install temporary sediment and erosion control measures: Install stone check dams in areas of concentrated flow where gradients exceed 10%.
- Perform clearing and grubbing, site work, grading, and driveway construction, including culverts, ditches/swales, and retaining walls. All work shall be smoothly blended to existing grades.
- Stabilize all drainages, ditches/swales, and bare areas with topsoil and permanent seeding.
- Topsoil shall be applied to a minimum depth of 4 inches to finished grade in vegetated channels
  and swales, and 6 inches to finished grade in other disturbed areas to be vegetated, and shall be
  seeded and mulched. In all areas where the slope is 5% or more, the mulch shall be securely
  anchored.
- Following soil disturbance or re-disturbance, temporary or permanent stabilization should be completed within 14 days.
- Remove temporary controls and restore and stabilize the areas they occupied.

- Apply final surface treatments.
- Maintain temporary control measures until final stabilization is achieved.

# <u>General Sequence of Lot Development (Phases 5 – 41)</u>

- Construction vehicles are to enter/exit the site utilizing only a stabilized construction entrance.
- Stabilize any non-paved areas made bare for construction routes and equipment parking by topping with gravel.
- Install temporary sediment and erosion controls measures: Install silt fences above areas to remain undisturbed. Install stone check dams in areas of concentrated flow where gradients exceed 10%.
- Perform clearing and grubbing, basic grading, and site work. No machinery may be used within
  any delineated wetlands. All work shall be smoothly blended to existing grades. Stabilize all
  disturbed areas as work progresses. Not more than 5 acres may be disturbed on the project site
  at any one time.
- Construct and install proposed driveway, buried utilities, culverts, and ditches as needed.
- Construct house and any accessory structures, septic system, and drilled well.
- Stabilize all drainages, swales, and bare areas with topsoil and permanent seeding. Use mulches or geotextiles when seeding, otherwise dense and vigorous vegetative cover (80%) must be established in swales before runoff can be accepted into them.
- Topsoil shall be applied to a minimum depth of 4 inches to finished grade in vegetated channels and swales, and 6 inches to finished grade in other disturbed areas intended to remain pervious, and shall be seeded and mulched. In all areas where the slope is 10% or more, the mulch shall be securely anchored.
- Following soil disturbance or re-disturbance, temporary or permanent stabilization should be completed within 14 days.
- Construct permanent stormwater practices such as rain gardens and level spreaders.
- Complete final grading and stabilization.
- Apply final surface treatments and complete landscaping after construction work is completed.
- Maintain temporary control measures until final stabilization is achieved.

### General Maintenance

- Remove sediment tracked onto public streets daily.
- Implement dust control when needed.
- Inspect sediment and erosion control measures every 7 calendar days. Maintain and/or repair measures as needed for proper functioning.
- Remove sediment accumulations from behind silt fencing, check dams, and other temporary controls when sediment depth reaches about 6 inches, or 25% of the original capacity.

# **Erosion and Sediment Control Inspection**

A qualified inspector shall conduct an assessment of the site prior to the commencement of construction activity and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed to ensure overall preparedness of the site. The qualified inspector must 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, provided they have received, within the previous 3 years, 4 hours of DEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District or other endorsed entity.

The day-to-day erosion control activities on the site will be monitored by the construction manager. The qualified inspector and his/her crews will make at least one inspection every seven (7) days of erosion control devices, and non-stabilized areas during construction. A maintenance inspection report will be completed by the qualified inspector after each inspection, which shall be compiled and maintained onsite.

All measures will be maintained in good working order. If repair is necessary, it will be initiated within 24 hours of report. The qualified inspector shall take photographs of any needed repairs and also photographs when the repairs are completed. Photographs will be date stamped and attached to the weekly inspection report.

Seeded and planted areas will be inspected for bare spots, washouts, and healthy growth. If necessary, spot reseeding or sodding will be implemented.

A trained contractor will be an employee from the contracting company responsible for the implementation of the SWPPP. This person will be onsite when any soil disturbing activities are being conducted. The trained contractor must have received within the previous 3 years, 4 hours of DEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District or other endorsed entity. The trained contractor cannot conduct the regular SWPPP compliance inspections unless they meet the qualified inspector qualifications.

### Construction Waste

All waste materials generated during construction will be disposed of at a suitable landfill or transfer station.

It is not anticipated that any hazardous waste will be generated during construction. If any such materials are generated, a licensed hazardous waste carrier will be contracted to dispose of the material at a suitable disposal site. If hazardous materials are discovered during construction, the work will be stopped until the issue is resolved.

Portable sanitary facilities will be made available to construction personnel and will be serviced regularly.

### Offsite Vehicle Tracking

Excavation equipment involved with the construction will remain on the project site and will not regularly egress or ingress the site. Any trucks used to bring in materials or remove materials via municipal paved roads will do so over a stabilized construction entrance. If any offsite vehicle tracking occurs, the contractor will be directed to initiate a street sweeping program in the immediate vicinity of the site.

# Temporary Stabilization for Frozen Conditions

The following temporary stabilization measures MUST be performed when construction is occurring during winter/frozen ground conditions. These do not supersede any other requirements of this SWPPP.

- Perimeter erosion control must still be installed prior to earthwork disturbance as per this SWPPP.
- Any areas that cannot be seeded to turf by October 1 will receive a temporary seeding. The
  temporary seeding will consist of winter rye seeded at the rate of 120 pounds per acre (2.5
  pounds per 1,000 sq. ft.) or stabilized as per the temporary stabilization for winter
  construction/frozen ground conditions.
- Any area of disturbance that will remain inactive for a period of 14 consecutive days must be mulched. This includes any previously disturbed areas that are covered with snow.

- Mulch shall consist of loose straw applied at the rate of 2 to 3 bales (90 to 100 pounds) per 1,000 sq. ft. Biodegradable erosion control matting may be required on steeper slopes
- Mulch must be applied uniformly over the area of bare soil or bare soil that is covered with snow. For the latter condition, mulch must be applied on top of snow.
- Using a tracked vehicle, mulch must be crimped into the bare soil or snow. The tracked vehicle must be driven across the mulched areas in at least two directions to maximize crimping.
- If mulch gets blown off an area to a significant degree, the site inspector will require that an area be re-mulched, and this area will be included on the inspection checklist for the next inspection.
- If a particular area repeatedly experiences loss of mulch due to wind, the inspector will require that an alternative method be used to secure the mulch in place. Such alternatives may include the use of netting, tackifier, or other methods deemed appropriate by the inspector.
- During periods when snow is melting and/or surface soils are thawing during daytime hours, mulched areas must be re-tracked (crimped) at least once every 7 days. Additional mulch may be required to obtain complete coverage of an area.

During the winter season, if a site has been stabilized and soil disturbing activities have been suspended for the winter, weekly inspection can be suspended. However, monthly inspections must still be conducted. Normal weekly inspections must resume when soil disturbing activities resume.

### **Spill Prevention**

The following good housekeeping and material management practices will be followed onsite during the construction project to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

- Materials will be brought onsite in the minimum quantities required.
- All materials stored onsite will be stored in a neat, orderly manner in appropriate containers, and if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposal.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The contractor shall prohibit washing of tools, equipment, and machinery within 100 feet of any watercourse or wetland.
- All above grade storage tanks are to be protected from vehicle damage by temporary barriers.

### **Pollution Prevention**

- All fueling and cleaning of construction vehicles and equipment onsite will be conducted near the
  construction entrance.
- All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Any vehicle leaking fuel or hydraulic fuel will be immediately scheduled for repairs and use will be discontinued until repairs are made.
- Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water at a designated location near the construction entrance.
- Asphalt trucks shall not discharge surplus asphalt on the site.
- Each contractor is responsible for providing litter control for trash generated by his crew.
- Paint cans, oil cans, used oil, and filters will be contained and disposed of by the contractor by taking them to a licensed Hazardous Waste Disposal Center.
- Onsite storage of raw materials will be permitted on stabilized surfaces only.
- Finishing materials will be brought onsite and applied as needed, without storage.

### Spill Control

The construction manager or site superintendent responsible for day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the onsite construction office or trailer.

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Any spill in excess of two gallons will be reported to the NYS DEC Regional Spill Response Unit (800-457-7362) within two hours of the discovery of the spill.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite.
- Any spills shall be cleaned up immediately upon discovery.
- The spill area will be kept well-ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a spilled substance.
- Spill of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size of the spill.

### **Maintenance of Post-Construction Stormwater Management Practices**

All of the proposed post-construction stormwater management practices operate passively. That is, there are no specific operational tasks to perform. The effectiveness of the practices depends upon regular inspection and maintenance. Following is a schedule of maintenance activities pertinent to the proposed practices which should be performed.

### **DRY SWALES**

### Monthly or As Needed:

- Mow and remove litter/debris
- Stabilize eroded side slopes and bottom
- Manage nutrient and pesticide use
- Replace displaced stone and/or riprap at check dams and outfalls

### Annually:

- Dethatch swale bottom and remove thatching
- Disc or aerate swale bottom

### Every 5 Years:

- Scrape swale bottom and remove sediment to restore original cross section
- Seed or sod to restore ground cover

### CULVERTS, CATCH BASINS, AND DITCHES

### Annually:

Inspect and remove litter/debris

### Every 5 Years:

- Remove sediment accumulations
- Scrape ditch bottom to restore original cross section

### FILTER STRIPS

### Monthly or As Needed:

- Mow and remove litter/debris
- Manage nutrient and pesticide use
- Repair eroded or sparse grass areas

### Annually:

- Aerate soil on the filter strip
- Clean sediment accumulations from behind berms

### **VEGETATED SWALES**

# Monthly or As Needed:

- Mow during growing season to maintain grass height at 4" to 6"
- Fertilize and lime

### **Annually:**

- Remove any sediment or debris buildup by hand when depth reaches 2"
- Inspect for pools of standing water. Regrade to restore design grade and revegetate.

### Every 5 Years:

 Repair fills in channel bottom with compacted topsoil, anchored with mesh or filter fabric. Seed and mulch

### **RAIN GARDENS**

### Monthly or As Needed:

- Weeding and thinning
- Keep plants pruned if start to get leggy and floppy
- Cut off old flower heads
- Inspect for sediment accumulations or heavy organic matter where runoff enters the garden and remove as necessary

### Annually:

- Replace any dead plants
- Mulch with shredded hardwood or leaf compost
- If water ponds for more than 48 hours, replace top few inches of planting soil
- Check berm for erosion and repair as necessary. If erosion occurs frequently, armor area with stone

### LEVEL SPREADERS

### Monthly or As Needed:

- Stabilize eroded side slopes and bottom
- Repair eroded or sparse grass areas
- Remove undesirable vegetative growth and litter/debris

### Annually:

- Check lip area for erosion and repair as necessary.
- Remove any sediment or heavy organic matter accumulations behind spreader lip

### **LAWNS**

### Annually or As Needed:

- Mow during the growing season.
- Remove litter/debris.
- Fertilize as needed to maintain dense vegetation.
- Manage nutrient and pesticide use.
- Aerate soil on the filter strip.
- Repair eroded or sparse grass areas.

### **TREES**

### First Three Years:

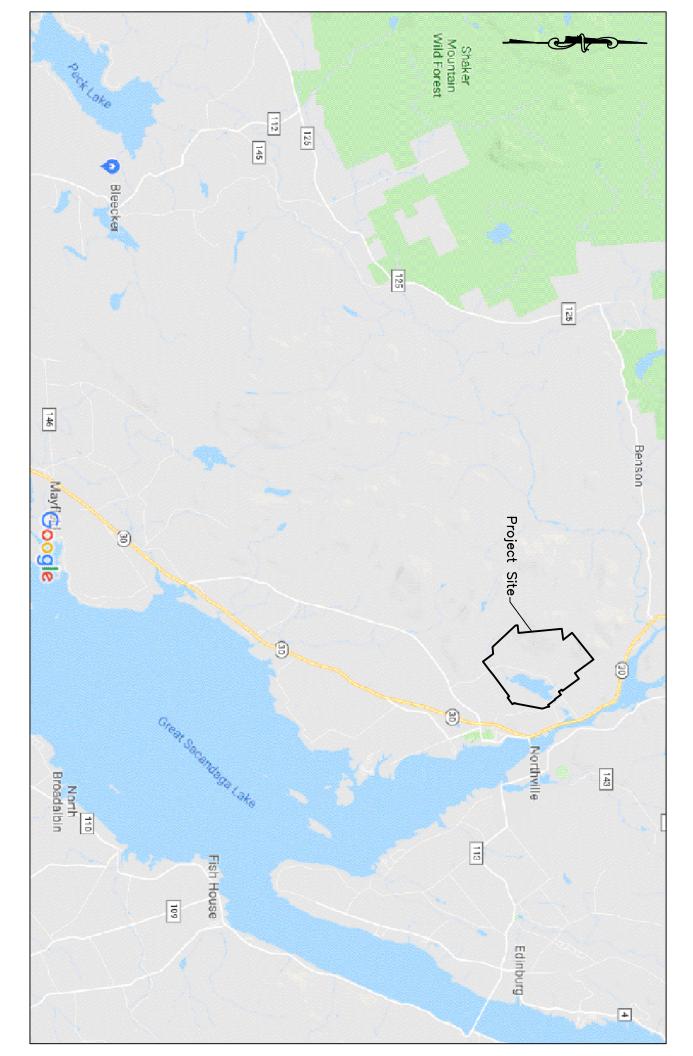
- Mulching, watering, and protection of young trees may be necessary and should be included in inspections.
- Inspect every three months and within one week of ice storms and high wind events (wind speeds reaching 20 mph) until trees have reached maturity.
- Regular inspections should include an assessment of tree health and survival rate. Replace any dead trees.
- Inspect for evidence of insect and disease damage, and treat as necessary.
- Inspect for damaged or dead limbs. Prune as necessary.

# Appendix A

Location Map

SWM-1 Existing Conditions

SWM-2 Proposed Conditions



# **Location Map**

EXISTING CONDITIONS WATERSHED SURFACE COMPOSITION & HYDROLOGIC CHARACTERISTICS 0.34% 3.30% 3.96% 0.45% 4.67% 0.00% 0.00% 4.53% 94.98% 97.80% 96.04% 95.02% MPOSITE CN 70 57 70 70 Tc (MINUTES) 69.8 12.5 20.9

SWM-

Existing Conditions
Watershed

SWPPP

06/17/20
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Watershed
Scale: 1" = 800'

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		W		1380C		† !	1202		1291C			851F			831D		725B		723C			721F		721D		721C		170C		96B	( i	81D	810	022	818		6A	Map Unit Symbo	Iviab Office
Total Watershed Area					rocky, very bouldery			rocky very houldery			35-60% slopes, very rocky,	851F Lyman-Knob Lock complex,	very bouldery	15-35% slopes, very rocky,		15% slopes, very bouldery	725B Skerry-Becket complex, 3-	15% slopes, very bouldery	723C Becket fine sandy loam, 3-		35-60% slopes, rocky, very		15-35% slopes, rocky, very		complex, 3-15% slopes,							81D Charlton fine sandy loam. 15-						p Unit Symbol	Map Office February
Total Watershed Area 2,359.4			15% slopes, very bouldery		rocky, very bouldery	compley 15-25% clones very		complex, 8-15% slopes, very		very bouldery	35-60% slopes, very rocky,			15-35% slopes, very rocky,		15% slopes, very bouldery		15% slopes, very bouldery			35-60% slopes, rocky, very		15-35% slopes, rocky, very		complex, 3-15% slopes,		slopes		poorly drained, 0-8% slopes		25% slopes			6% slopes		slopes, trequently ponded		p Unit Symbol   Map Unit Name   Acres i	

MM/DD/YY

721D

Mud Lake

1,00

723C

721F

721D

851F

723C

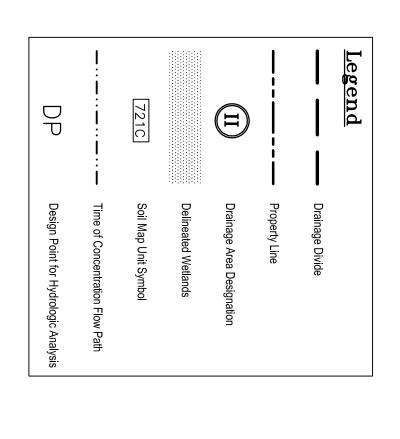
81B

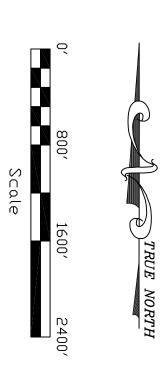
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Sacandaga

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Outlet (DP 3

DP 2-DP 1

Gifford Valle C

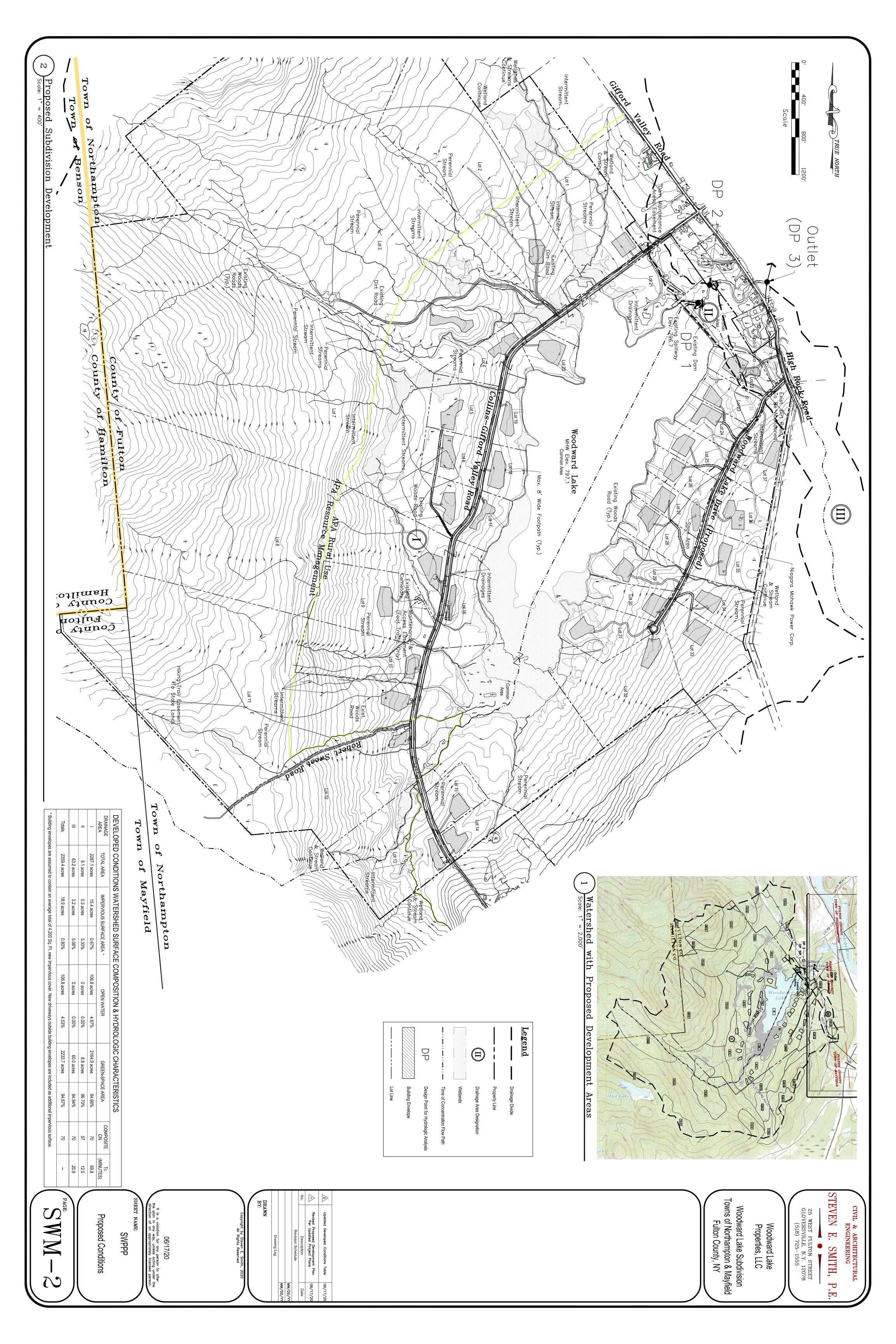
Woodward Lake Subdivision
Towns of Northampton & Mayfield
Fulton County, NY Woodward Lake Properties, LLC

25 WEST FULTON STREET GLOVERSVILLE, N.Y. 12078 (518) 725-1555

STEVEN E. SMITH, P.E.

CIVIL & ARCHITECTURAL ENGINEERING

Hampt



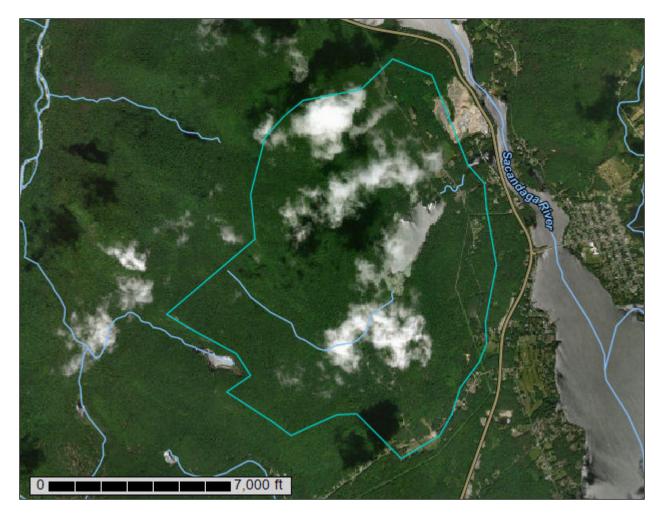
# Appendix B

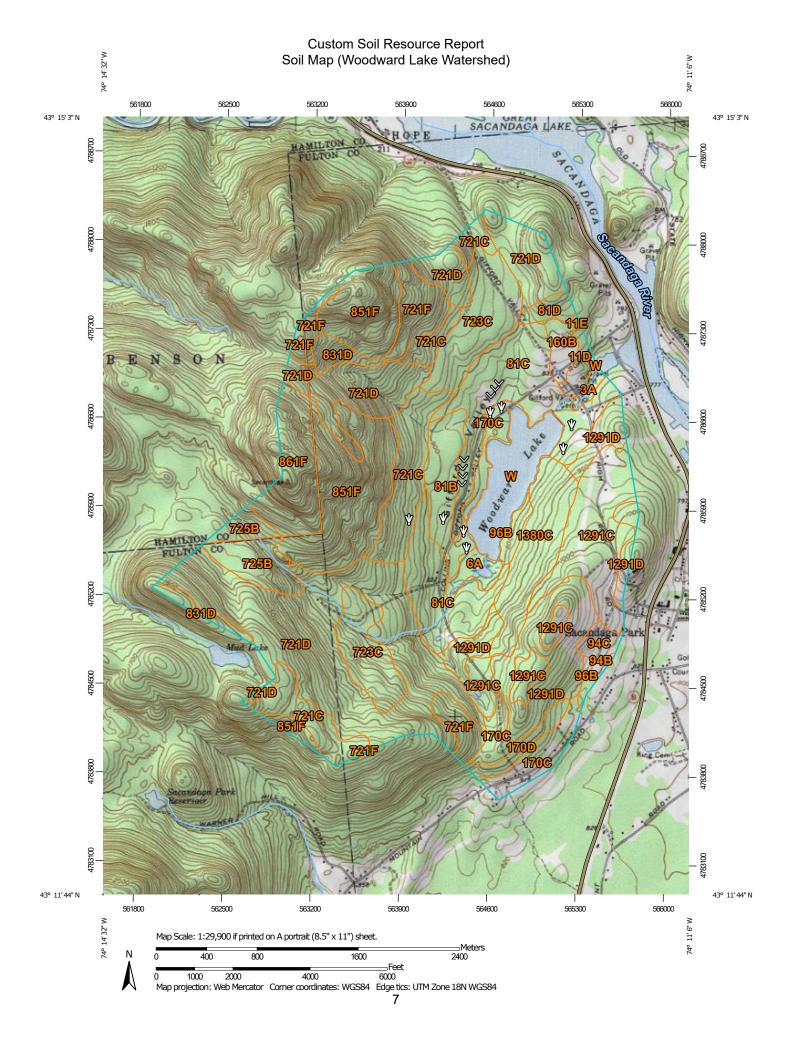
Soils Report
Watershed and Routing Data for TR55 Analyses
TR55 Summary for Existing Conditions
TR55 Summary for Proposed Conditions



Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource Report for Fulton County, New York, and Hamilton County, New York

**Woodward Lake Watershed** 





### MAP LEGEND

### Area of Interest (AOI)

Ar

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

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Borrow Pit

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Clay Spot

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Closed Depression

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Gravel Pit

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**Gravelly Spot** 

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Landfill

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Lava Flow

Marsh or swamp

an a

Mine or Quarry

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Miscellaneous Water
Perennial Water

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Rock Outcrop

4

Saline Spot

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Sandy Spot

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Severely Eroded Spot

A 5

Sinkhole

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Sodic Spot

Slide or Slip

# =

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

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Water Features

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Streams and Canals

### Transportation

14115F

Rails

~

Interstate Highways

US Routes

~

Major Roads

~

Local Roads

### Background

11/6

Topographic Map



Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:24,000 to 1:62,500.

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

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Fulton County, New York Survey Area Data: Version 19, Sep 16, 2019

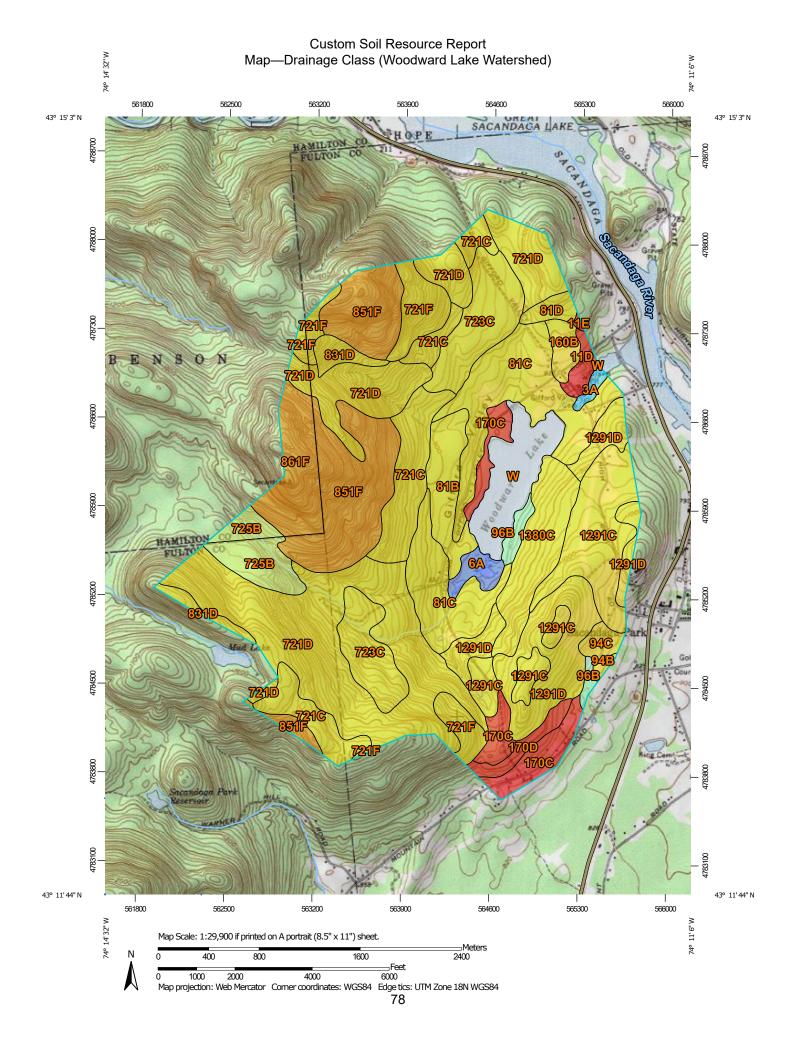
Soil Survey Area: Hamilton County, New York Survey Area Data: Version 19, Sep 16, 2019

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Jul 30, 2012—Nov 9, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background



### MAP LEGEND

### Area of Interest (AOI) Excessively drained Area of Interest (AOI) Somewhat excessively drained Soils Well drained Soil Rating Polygons Excessively drained Moderately well drained Somewhat excessively Somewhat poorly drained drained Poorly drained Well drained Very poorly drained Moderately well drained Subaqueous Somewhat poorly drained Not rated or not available Poorly drained **Water Features** Very poorly drained Streams and Canals Subaqueous Transportation Not rated or not available Rails ---Soil Rating Lines Interstate Highways Excessively drained **US Routes** $\sim$ Somewhat excessively drained Maior Roads Well drained Local Roads 000 Moderately well drained Background Somewhat poorly drained Topographic Map Poorly drained Aerial Photography Very poorly drained Subaqueous Not rated or not available Soil Rating Points

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:24,000 to 1:62,500.

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

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

Soil Survey Area: Fulton County, New York Survey Area Data: Version 19, Sep 16, 2019

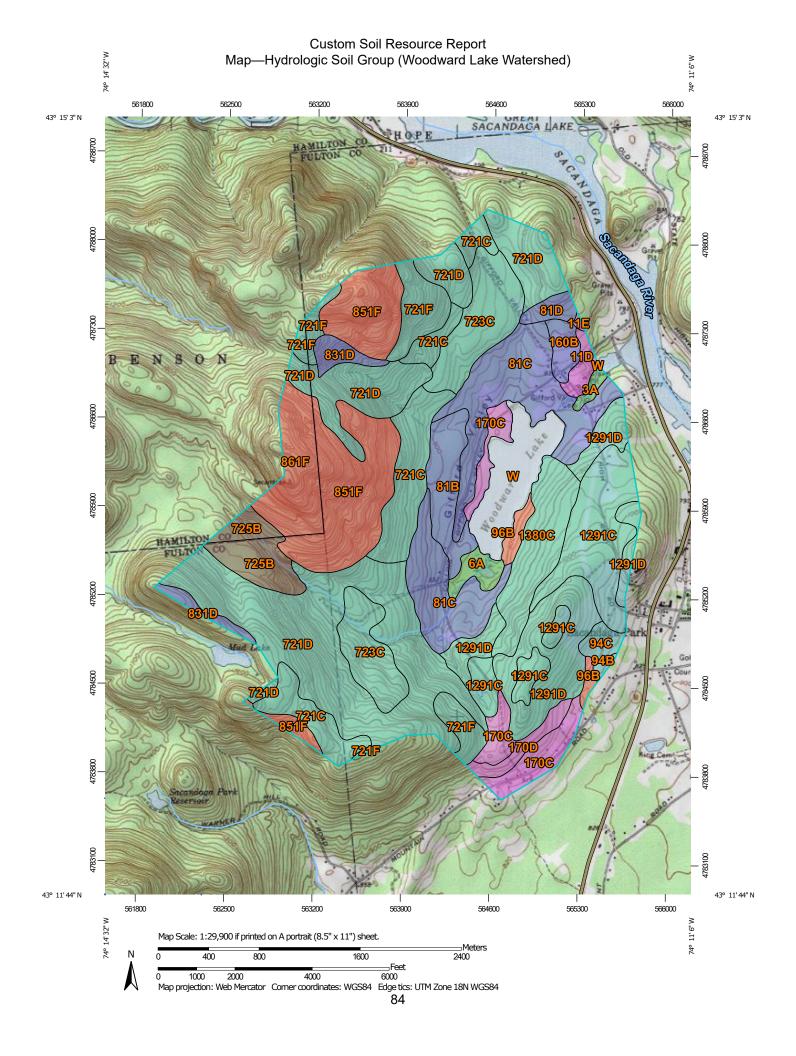
Soil Survey Area: Hamilton County, New York Survey Area Data: Version 19, Sep 16, 2019

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Jul 30, 2012—Nov 9, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background



### MAP LEGEND MAP INFORMATION The soil surveys that comprise your AOI were mapped at scales Area of Interest (AOI) С ranging from 1:24,000 to 1:62,500. Area of Interest (AOI) C/D Soils Please rely on the bar scale on each map sheet for map D Soil Rating Polygons measurements. Not rated or not available Α Source of Map: Natural Resources Conservation Service **Water Features** A/D Web Soil Survey URL: Streams and Canals В Coordinate System: Web Mercator (EPSG:3857) Transportation B/D Rails ---Maps from the Web Soil Survey are based on the Web Mercator С projection, which preserves direction and shape but distorts Interstate Highways distance and area. A projection that preserves area, such as the C/D **US Routes** Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. D Major Roads $\sim$ Not rated or not available -Local Roads This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. Soil Rating Lines Background Topographic Map Soil Survey Area: Fulton County, New York Survey Area Data: Version 19, Sep 16, 2019 Aerial Photography Soil Survey Area: Hamilton County, New York Survey Area Data: Version 19, Sep 16, 2019 Your area of interest (AOI) includes more than one soil survey C/D area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil Not rated or not available properties, and interpretations that do not completely agree across soil survey area boundaries. **Soil Rating Points** Α Soil map units are labeled (as space allows) for map scales A/D 1:50,000 or larger. Date(s) aerial images were photographed: Jul 30, 2012—Nov 9, B/D 2016 The orthophoto or other base map on which the soil lines were

compiled and digitized probably differs from the background

# Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in Watershed	HSG*
6A	Saprists & Aquents, 0-2% slopes, frequently ponded	51.4	A/D
81B	Charlton fine sandy loam, 3-8% slopes	72.8	В
81C	Charlton fine sandy loam, 8- 15% slopes	259.3	В
81D	Charlton fine sandy loam, 15-25% slopes	4.3	В
96B	Ridgebury loam, somewhat poorly drained, 0-8% slopes	10.9	D
170C	Windsor loamy sand, 8-15% slopes	40.1	Α
721C	Becket-Tunbridge-Skerry complex, 3-15% slopes, rocky,	150.6	С
721D	Becket-Tunbridge complex, 15-35% slopes, rocky, very bouldery	490.3	С
721F	Becket-Tunbridge complex, 35-60% slopes, rocky, very bouldery	83.2	С
723C	Becket fine sandy loam, 3- 15% slopes, very bouldery	247.3	С
725B	Skerry-Becket complex, 3-15% slopes, very bouldery	132.1	B/D
831D	Tunbridge-Lyman complex, 15- 35% slopes, very rocky, very bouldery	28.5	В
851F	Lyman-Knob Lock complex, 35-60% slopes, very rocky, very bouldery	328.0	D
1291C	Becket-Lyman-Tunbridge complex, 8-15% slopes, very rocky, very bouldery	144.5	С
1291D	Becket-Lyman-Tunbridge complex, 15-35% slopes, very rocky, very bouldery	107.9	С
1380C	Becket-Skerry complex, 3-15% slopes, very bouldery	101.5	С
W	Water	106.8	n/a
	<b>Total Watershed Area</b>	2,359.4	

<sup>\*</sup> Hydrologic Soil Group

Storm Data

# Rainfall Depth by Rainfall Return Period

2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	1-Yr
(in)	(in)	(in)	(in)	(in)	(in)	(in)
2.6	3.4	3.8	4.5	4.9	5.4	2.2

Storm Data Source: User-provided custom storm data Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

\_\_\_\_\_\_

BCT Woodward Lake Subdiv Existing Conditions

Fulton County, New York

Reach Summary Table

Reach Identifier	Receiving Reach Identifier	Reach Length (ft)	Routing Method	
DP2 - DP1 Spill-DP2 Spillway	Outlet DP2 - DP1 Spill-DP2	906 293	CHANNEL CHANNEL STRUCTURE (Dam)	

\_\_\_\_\_\_

BCT

Woodward Lake Subdiv Existing Conditions Fulton County, New York

# Reach Channel Rating Details

		riodon ondinior	nacing becari	9	
	Length	Reach Manning's n	Slope	Width	
Spill-DP2	293	0.045 0.04 each is a structu	0.0034		11.5 :1 10 :1
Reach Identifier	_	Flow (cfs)	Area		Slope
DP2 - DP1	0.5 1.0 2.0	23.394 84.417 338.205 2578.937 13689.864	12.9 31.5 86	20 31.5 43 66 135 250 480	0.01

Spill-DP2	0.0	0.000	0	16	0.0034
-	0.5	12.411	10.5	26	
	1.0	45.253	26	36	
	2.0	183.977	72	56	
	5.0	1431.113	330	116	
	10.0	7682.309	1160	216	
	20.0	44400.764	4320	416	
Spillway	(This r	reach is a struc	ture: Dam)		

\_\_\_\_\_\_

BCT

Woodward Lake Subdiv Existing Conditions Fulton County, New York

#### Structure Description - User Entered

Reach Identifier	Surface Area @ Crest (ac)	Height Above Crest (ft)	Surface Area @ Ht Above (ac)	Pipe Diameter (in)	Head on Pipe (ft)	Weir Length (ft)
Spillway	104.75					70

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BCT

Woodward Lake Subdiv Existing Conditions Fulton County, New York

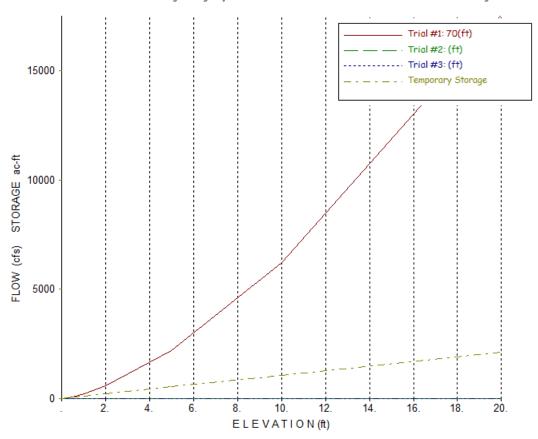
## Structure Rating Details - Computed

Reach Idendifier	Stage (ft)	Pool Storage (ac ft)	Flow Length #1 70ft	s (cfs) @ Weir Length #2 ft	Length Length #3 ft	
Dam	0	0.00	0.000			
	0.5	52.38	69.296			
	1	104.75	196.000			
	2	209.50	554.372			
	5	523.75	2191.347			
	10	1047.50	6198.064			
	20	2095.00	17530.773			

\_\_\_\_\_\_

5 Structure Rating Project: Woodward Lake Subdiv Weir Flow Rating - Dam

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#### WinTR-55 Current Data Description

#### --- Identification Data ---

Date: 1/29/2020 Units: English User: BCT Project: Woodward Lake Subdiv Areal Units: Acres SubTitle: Existing Conditions

State: New York County: Fulton

Filename: C:\Users\Bobbi Trudel\Documents\Engineering\Projects\New York Land & Lakes\Woodward Lake\SWPPP\

#### --- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
III I	High Rock Region Woodward Lake DA Below Spillway	Outlet Spillway DP2 - DP1	63.2 2287.1 9.1	70 70 57	.349 1.164 .209

Total area: 2359.40 (ac)

#### --- Storm Data --

#### Rainfall Depth by Rainfall Return Period

2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	1-Yr
(in)	(in)	(in)	(in)	(in)	(in)	(in)
2.6	3.4	3.8	4.5	4.9	5.4	2.2

Storm Data Source: User-provided custom storm data Rainfall Distribution Type: Type II

Dimensionless Unit Hydrograph: <standard>

# Woodward Lake Subdiv Existing Conditions Fulton County, New York

#### Watershed Peak Table

or Reach	PeanANALYSIS: (cfs)	5-Yr	10-Yr	100-Yr	1-Yr
SUBAREAS III	27.98	59.44	77.25	157.38	15.22
I	437.29	944.67	1237.91	2584.44	242.85
II	0.38	2.91	4.77	14.66	0.06
	64.19 64.19				
	64.10 64.10			581.87 581.86	
	437.29 64.10				
OUTLET	65.79	162.31	227.54	592.12	40.56

BCT Woodward Lake Subdiv Existing Conditions

Fulton County, New York Structure Output Table

Reach Peak Flow (PF), Storage Volume (SV), Stage (STG)
Identifier by Rainfall Return Period

Structure

Identifier ANALYSIS: 5-Yr 10-Yr 100-Yr 1-Yr

Reach: Spillway Weir : Dam

70(ft)

PF (cfs) 64.10 158.45 222.50 581.87 39.54 SV (ac ft) 48.45 89.23 112.50 214.78 29.89 STG (ft) .46 .85 1.07 2.05 .29

# Woodward Lake Subdiv Existing Conditions Fulton County, New York

#### Sub-Area Time of Concentration Details

Sub-Area Identifier/	Length	Slope	Mannings's n	Area	Perimeter	Velocity	Travel Time (hr)
III SHEET SHALLOW CHANNEL CHANNEL	1377 716	0.1500 0.0800	0.050		1.57 6.47		
				Ti	me of Conce		.349
	7350 650	0.0800	0.050 0.050	27.10	20.60	5.662	0.524 0.447 0.125 0.068
				Ti	me of Conce	ntration	1.164
	50 986		0.400 0.050				0.131 0.078
				Ti	me of Conce		.209

# Woodward Lake Subdiv Existing Conditions Fulton County, New York

#### Sub-Area Land Use and Curve Number Details

Sub-Area Identifie			Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
III	Open space; grass cover 50% to 75%	(fair)	В	2.85	69
	Open space; grass cover 50% to 75%	(fair)	C	3.8	79
	Paved parking lots, roofs, driveways		В	1.15	98
	Paved parking lots, roofs, driveways			1.3	98
	Woods	(fair)		9.3	60
	Woods	(good)	C	44.8	70
	Total Area / Weighted Curve Number			63.2	70
				====	==
I	Open space; grass cover > 75%	(good)	В	2.1	61
	Paved parking lots, roofs, driveways		A	106.8	98
	Paved parking lots, roofs, driveways		В	.65	98
	Paved parking lots, roofs, driveways		С	. 44	98
	Gravel (w/ right-of-way)		A	.94	76
	Gravel (w/ right-of-way)		В	3.14	85
	Gravel (w/ right-of-way)		С	.75	89
	Dirt (w/ right-of-way)		A	.16	72
	Dirt (w/ right-of-way)		В	.97	82
	Dirt (w/ right-of-way)		C	.84	87
	· · · · · · · · · · · · · · · · · · ·	(good)		62.3	73
		(good)		39.3	30
	Woods		В	335.34	55
		(good)		1273.27	70
	Woods	(good)	) D	460.1	77
	Total Area / Weighted Curve Number			2287.1	70
				=====	==
II	Open space; grass cover > 75%	(good)	В	1.7	61
	Paved parking lots, roofs, driveways		В	. 2	98
	Woods	(good)	В	7.2	55
	Total Area / Weighted Curve Number			9.1	57
				===	==

#### WinTR-55 Current Data Description

#### --- Identification Data ---

Date: 6/23/2020 Units: English User: BCT Project: Woodward Lake Subdiv Areal Units: Acres SubTitle: Proposed Conditions

State: New York County: Fulton

Filename: C:\Users\Bobbi Trudel\Documents\Engineering\Projects\New York Land & Lakes\Woodward Lake\SWPPP\

#### --- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
III I	High Rock Region Woodward Lake DA Below Spillway	Outlet Spillway DP2 - DP1	63.2 2287.1 9.1	70 70 57	.349 1.164 .209

Total area: 2359.40 (ac)

#### --- Storm Data --

#### Rainfall Depth by Rainfall Return Period

2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	1-Yr
(in)	(in)	(in)	(in)	(in)	(in)	(in)
2.6	3.4	3.8	4.5	4.9	5.4	2.2

Storm Data Source: User-provided custom storm data Rainfall Distribution Type: Type II

Dimensionless Unit Hydrograph: <standard>

# Woodward Lake Subdiv Proposed Conditions Fulton County, New York

#### Watershed Peak Table

or Reach	Pea ANALYSIS: (cfs)	5-Yr	10-Yr	100-Yr	1-Yr	
SUBAREAS III	27.98	59.44	77.25	157.38	15.22	 
I	437.29	944.67	1237.91	2584.44	242.85	
II	0.38	2.91	4.77	14.66	0.06	
	64.19 64.19					
-	64.10 64.10			581.87 581.86		
	437.29 64.10					
OUTLET	65.79	162.31	227.54	592.12	40.56	

BCT Woodward Lake Subdiv Proposed Conditions

Fulton County, New York Structure Output Table

Reach Peak Flow (PF), Storage Volume (SV), Stage (STG)
Identifier by Rainfall Return Period

Structure

Identifier ANALYSIS: 5-Yr 10-Yr 100-Yr 1-Yr

Reach: Spillway Weir : Dam

70(ft)

PF (cfs) 64.10 158.45 222.50 581.87 39.54 SV (ac ft) 48.45 89.23 112.50 214.78 29.89 STG (ft) .46 .85 1.07 2.05 .29

# Woodward Lake Subdiv Proposed Conditions Fulton County, New York

#### Sub-Area Time of Concentration Details

Identifier/	Length	Slope	Mannings's n	Area	Perimeter	Velocity	Travel Time (hr)
			0.800				0.209
SHALLOW CHANNEL CHANNEL		0.0800				6.630 4.031	
CHMMDE	, 11	0.0000	0.000			entration	
I							
SHEET SHALLOW SHALLOW		0.0800					0.524 0.447 0.125
CHANNEL	1386	0.0160	0.040	27.10	20.60	5.662	0.068
				Ti	me of Conc	entration	1.164
II							
	50 986		0.400 0.050				0.131
				Ti	me of Conc	entration	.209

# Woodward Lake Subdiv Proposed Conditions Fulton County, New York

#### Sub-Area Land Use and Curve Number Details

Sub-Area Identifie		Hydrold Soil Group	l Area	Curve Number
III			2.9 3.7 1.2 1.3 .6 .1 8.9 44.5	 69 79 98 98 85 89 60 70
I	Woods (go Woods (go Woods (go	A B C A B C A B	1.89 1.34 .94 3.14 2.42 .27 2.05 2.35 62.3 38.91 333.02 1269.17 460.12	61 98 98 98 76 85 89 72 82 87 73 30 555 70
II	Total Area / Weighted Curve Number  Open space; grass cover > 75% (go Paved parking lots, roofs, driveways Gravel (w/ right-of-way) Woods (go	od) B B B od) B	2287.1 ====== 1.7 .25 .025 7.12	70 == 61 98 85 55
	Total Area / Weighted Curve Number		9.1 ===	57 ==

## Appendix C

Preparer Certification

Owner/Operator Certification

Contractor and Subcontractor Certification

## **Preparer Certification of Compliance with Federal, State, and Local Regulations**

This Stormwater Pollution Prevention Plan was prepared in accordance with the New York Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-0-20-001), issued pursuant to Article 17, Titles 7, 8, and Article 70 of the Environmental Conservation Law. The SPDES General Permit implements the Federal Clean Water Act pertaining to stormwater discharges.

Name:	Bobbi C. Trudel, P.E.	Title:	Civil Engineer
Signatu	ıre:	Date:	06/24/20
Compa	ny Name: <u>Steven E. Smith Civil</u>	k Architectural Engineering	
Owne	r/Operator Stormwater Poll	ution Prevention Plan Ce	rtification
	I certify under penalty of law that the direction or supervision. Based on preparing this Stormwater Pollution the best of my knowledge and belestatements made herein are punishate Penal Law.	my inquiry of the person or pe n Prevention Plan, the informat ef, true, accurate, and complet	rsons directly responsible for tion contained therein is, to e. I am aware that false
	I understand that GP-0-20-001 red professional, as defined in the Ge approved in writing by the New Yo disturbances of greater than five ( every seven (7) days.	neral Permit, once every seven rk Department of Environment	(7) days and when al Conservation,
Name:	Alan Lord	Title:	Project Manager
Signatu	ıre:	Date:	

Company Name: Woodward Lake Properties, LLC

## **Contractor and Subcontractor Certification**

All contractors and subcontractors performing work identified in this Stormwater Pollution Prevention Plan (SWPPP) shall sign a copy of the following certification statement before undertaking any construction activity at the site identified in the SWPPP.

I certify that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site as a condition of authorization to discharge stormwater, 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 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 understand that certifying false, incorrect, or inaccurate information is a violation of the General Permit and the laws of the State of New York and could subject me to criminal, civil, and/or administrative proceeding.

T:41 - .

Name:	riue:	
Signature:	Date:	
Company Name:		
Address:		
City, State, Zip:		
Phone Number:		
SWPPP Components You Are Responsible For:		
1		
2		
3		
4.		
5		
6		
Trained Individual Responsible for SWPPP Imple	mentation:	
Name:		
Signature:	Date:	

## **Contractor and Subcontractor Certification**

All contractors and subcontractors performing work identified in this Stormwater Pollution Prevention Plan (SWPPP) shall sign a copy of the following certification statement before undertaking any construction activity at the site identified in the SWPPP.

I certify that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site as a condition of authorization to discharge stormwater, 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 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 understand that certifying false, incorrect, or inaccurate information is a violation of the General Permit and the laws of the State of New York and could subject me to criminal, civil, and/or administrative proceeding.

T:41 - .

Name:	riue:	
Signature:	Date:	
Company Name:		
Address:		
City, State, Zip:		
Phone Number:		
SWPPP Components You Are Responsible For:		
1		
2		
3		
4.		
5		
6		
Trained Individual Responsible for SWPPP Imple	mentation:	
Name:		
Signature:	Date:	

## Appendix D

Weekly Inspection Form

SWPPP Plan Changes, Authorization, and Change Certification

# WOODWARD LAKE SUBDIVISION INFRASTRUCTURE WEEKLY SWPPP INSEPCTION REPORT

Inspector Name:	Date:
Signature (required):	Time:
Weather:	Inspection #:
Soil Conditions (dry, saturated, etc.):	
Status	
Yes No N/A	
[] [] Routine Inspection.	Date of last inspection:
[] [] Inspection following rain event.	Date/time of storm ending: Amount of rainfall: Recorded by:
[] [] [] Is this a final inspection?	
[] [] Has site undergone final stabilization?	
[] [] If so, have all temporary erosion and sedir	nent controls been removed?
Site Disturbance (Indicate Locations on Plan) Yes No N/A  [] [] [] Areas previously disturbed but have not us [] [] [] Areas disturbed within last 14 days? [] [] [] Areas expected to be disturbed in next 14 Additional Comments:	
Erosion and Sediment Control Devices  Type of Device Accumulation  1. 2. 3. 4. 5.	
Stabilization/Runoff Yes No N/A  [] [] [] Are all existing disturbed areas contained [] [] [] Are there areas that required stabilization [] [] Have stabilization measures been initiated [] [] [] Are stockpiles stabilized with vegetation a [] [] [] Is sediment control is installed at the toe of the control is installed at the control is installed	within the next 14 days? (Indicate on Plan) I in inactive areas? nd/or mulch? If stockpile slope(s)? s of vegetation, lack of germination, or loss of

Receiving Stru Yes No N/A	ctures/Water Bodies (Indicate locations where i	runoff leaves the project site on the Plan)	
	face water swale or natural surface waterbody?		
	If natural waterbody, is it located [] onsite, or []	adjacent to property boundary?	
	•	· · · · · · · · · · · · · · · · · · ·	
	nicipal or community system?		
	s where runoff from project site enters the receive	ing waters and indicate if there is	
evidence of:		and Comparity	
	mping/deposition, rills or gullies, loss of vegetatio	on? Specify:	
	lermining of structures? s there a discharge into the receiving water on the	e day of inspection?	
	nere evidence of turbidity, sedimentation, or oil in		
Additional Com	•	the receiving waters.	
	tion Stormwater Management Practices	Danaia (Maistana an Nasalad	
Type of	•	Repairs/Maintenance Needed	
^			
<u> </u>			
General Site Co	onditions		
Yes No N/A			
	e action items from previous reports been address		
	es routine maintenance of protection components	•	
	onstruction site litter and debris appropriately ma	inaged?	
	ne site maintained in an orderly manner? facilities and equipment necessary for implemen	station of orosion and sodiment control in	
	orking order and/or properly maintained?	itation of erosion and sediment control in	
	onstruction impacting the adjacent property?		
	es cleaning and/or sweeping of affected roadways	s occur daily, at a minimum?	
Contractor's pro	gress over last 7 days:		
Anticipated worl	k in the next 7 days:		
Anticipated work	Till the hext / days.		
Summary of A	ction Items to Repair/Replace/Maintain/Correc	ct Deficiencies:	
Status/Action I	tems Reported To (no signature required):		
Name:	tomo Hoportou To (no signature requireu).		
Company:			

# PLAN CHANGES, AUTHORIZATION, AND CHANGE CERTIFICATION

Changes Required to the SWPPP:	
Reasons for Changes:	
Requested By:	Date:
Authorized By:	Date:
Certification of Changes:	
direction or supervision in accordant personnel gathered and evaluated in person or persons directly responsi responsible for gathering the informations knowledge and belief, true, accurate	is document and all attachments were prepared under my ace with a system designed to assure that qualified the information submitted. Based on my inquiry of the ble for managing the system, or those persons directly nation, the information submitted is, to the best of my be, and complete. I am aware that false statements made provisions of Article 210 of the New York State Penal Law.
Signature:	Date: