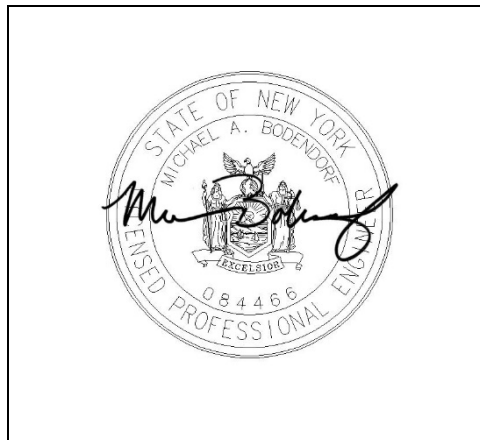


***Stormwater Pollution Prevention Plan:
for
Suben LLC Subdivision***

Prepared for:
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136 Fulton Street
Poughkeepsie, NY 12601

March 18, 2024



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TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Overview.....	1
1.2	Land Disturbance	2
2.0	PROJECT DESCRIPTION	2
2.1	Project Location.....	2
2.2	Project Scope and Description	2
2.3	Surface Water Bodies	2
2.3.1	Wetlands	2
2.3.2	Streams.....	2
2.3.3	Floodplains.....	2
2.4	State Historic Preservation Office (SHPO).....	2
2.4.1	Archaeological Sensitive Area.....	2
3.0	NOTICE OF INTENT.....	3
4.0	SOILS.....	3
4.1	Topography	4
5.0	RAINFALL.....	4
5.1	Overview	4
6.0	STORMWATER ANALYSIS AND MANAGEMENT	4
6.1	Methodology	4
6.1.1	Hydrologic Analysis	4
6.1.2	Stormwater Design Points.....	5
6.2	Pre-Development Watershed Conditions	5
6.3	Post-Development Watershed Conditions	5
6.4	Hydrologic Review	6
7.0	EROSION AND SEDIMENT CONTROL.....	6
7.1	Overview.....	6
7.2	Temporary Erosion and Sediment Control Measures	7
7.2.1	Silt Fence	7
7.2.2	Check Dams	7
7.2.3	Temporary Channels.....	7
7.2.4	Straw Bale Barriers	8
7.2.5	Temporary Soil Stockpiles.....	8
7.2.6	Dust Control.....	8
7.2.7	Temporary Soil Stabilization Practices.....	8
7.2.7.1	Mulching.....	9

7.2.7.2	Temporary Seeding	9
7.2.7.3	Temporary Erosion Control Blanket.....	9
7.3	Permanent Erosion and Sediment Control Measures.....	9
7.3.1	Outlet Protection	9
7.3.2	Permanent Soil Stabilization Practices	9
7.3.2.1	Sod	10
7.3.2.2	Permanent Vegetation.....	10
7.3.2.3	Hydroseeding	10
7.3.2.4	Permanent Erosion Control Blankets.....	10
7.4	Erosion and Sediment Control Sequencing Schedule.....	10
7.5	Maintenance Schedules.....	12
7.6	Construction Staging Areas	12
7.7	Site Assessments, Inspections and Reporting.....	12
7.7.1	Prior to Construction.....	12
7.7.2	During Construction.....	12
7.7.3	End of Term	14
7.8	Construction Log Book.....	15
7.9	Long Term Maintenance of Stormwater Structures.....	15
7.9.1	Vegetated Swales	15
8.0	GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES.....	15
8.1	Waste Materials	15
8.2	Chemical	15
8.3	Fuels and Oil	16
8.4	Fertilizers	16
8.5	Paint	16
8.6	Sanitary Waste Facilities.....	16
8.7	Container Disposal.....	16
8.8	Concrete and Asphalt Trucks.....	16
8.9	Site Supervisor	17
9.0	SWPPP AMENDMENT.....	17
10.0	CONTRACTOR CERTIFICATIONS.....	17
11.0	OWNER/OPERATOR CERTIFICATION	17
12.0	CONCLUSIONS	18

APPENDICES

APPENDIX A:	NOTICE OF INTENT & MS4 SWPPP ACCEPTANCE FORM
APPENDIX B:	SOILS DATA
APPENDIX C:	NYSDEC ERM, FLOOD MAP, WETLAND MAP, & SHPO MAP
APPENDIX D:	PRE DEVELOPMENT CONDITIONS
APPENDIX E:	POST DEVELOPMENT CONDITIONS
APPENDIX F:	PRE-CONSTRUCTION SITE ASSESSMENT CHECKLIST
APPENDIX G:	CONTRACTOR & SUBCONTRACTOR CERTIFICATIONS
APPENDIX H:	QUALIFIED PROFESSIONAL CERTIFICATION
APPENDIX I:	OWNER/OPERATOR CERTIFICATION
APPENDIX J:	POST MAINTENANCE
APPENDIX K:	CONSTRUCTION INSPECTION REPORT
APPENDIX J:	NOTICE OF TERMINATION

1.0 INTRODUCTION

1.1 Overview

This Stormwater Pollution Prevention Plan (SWPPP) has been developed in accordance with the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-20-001, dated January 29, 2020 which authorizes stormwater discharges to surface waters of the State from the following construction activities identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

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

This project qualifies for SPDES coverage under provision 1 as stated above. The project is a single family residential subdivision with less than 25% impervious cover at total site build-out (the project will have a total of 0.16 acres of impervious cover or 4.6% of the total site area), is not located in an impaired watershed, and does not directly discharge to a 303(d) waterbody, therefore the project requires a SWPPP with only erosion and sediment controls.

The objectives of this SWPPP are as follows:

- To develop a sediment and erosion control plan in accordance with the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, which implements best management practices to stabilize disturbed areas, protect off site areas and sensitive areas, and minimize the transport of sediment. A hydrologic and hydraulic analysis is also performed to demonstrate that the wetland and outlet will not be negatively impacted by the proposed development.

Construction activities are not permitted to begin until such time that authorization is obtained under the General Permit. This project is located within the limits of a Municipal Separate Storm Sewer System (MS4) area. Construction activities may commence upon authorization, Five (5) days from the date the NYSDEC receives both a complete electronic version of the NOI (eNOI) and signed "MS4 SWPPP Acceptance" form.

A copy of the General Permit (GP-0-20-001), SWPPP, NOI, *NOI Acknowledgment Letter*, MS4 SWPPP Acceptance Form, inspection reports and accompanying plans shall be maintained on site from the date of initiation of construction activities until final stabilization of all disturbed areas has been achieved and the Notice of Termination (NOT) has been submitted.

1.2 Land Disturbance

Per the General Permit, no more than five (5) acres of land disturbance may occur at any one time without written approval from the NYSDEC. Disturbance of more than one (1) acre at any one time is anticipated for this project, as the total proposed disturbance is estimated to be 1.62 acres.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The project site is located in the Town of Wappinger on Widmer Road at the intersection of New Hackensack Road and Widmer Road and is identified as tax parcel 6158-04-632426 (\pm 3.42 acres) on the Dutchess County tax maps.

2.2 Project Scope and Description

The project consists of a 2-lot residential subdivision, along with the associated grading and sewage disposal system and well construction. Two single-family dwellings are proposed to be constructed with driveways accessed from Widmer Road. The project proposes to disturb approximately 1.5 acres.

2.3 Surface Water Bodies

2.3.1 Wetlands

There are Federal wetlands present on the site. No disturbance to the wetlands is proposed. Maps showing the wetlands are provided in Appendix C.

2.3.2 Streams

There are no streams or waterbodies present on the site.

2.3.3 Floodplains

Based upon a review of the National Flood Insurance Program Flood Insurance Rate Map panel 36027C0456E (dated May 2, 2012) for the Town of Wappinger, New York, the site lies within Zone X, area of minimal flood hazard. A flood plain map is provided in Appendix C.

2.4 State Historic Preservation Office (SHPO)

2.4.1 Archaeological Sensitive Area

NYS ORPHP CRIS website mapping shows the project located in an archaeological buffer area. Mapping from the NYS ORPHP CRIS website is provided in Appendix C.

3.0 NOTICE OF INTENT

Prior to commencement of construction activities, the Owner/Operator shall submit a Notice of Intent (NOI) to the NYSDEC for authorization. The NYSDEC authorization schedule is dependent upon whether or not the construction activities are located in an area that is regulated by a MS4.

For construction activities that are not subject to the requirements of a regulated, traditional land use control MS4:

- (i) Five (5) business days from the date the NYSDEC receives a complete electronic version of the NOI (eNOI) for construction activities with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the performance criteria in the technical standard references in Parts III.B., 2 or 3, for construction activities that require post-construction stormwater management practices pursuant to Part III.C.; or
- (ii) Sixty (60) business days from the date the NYSDEC receives a complete NOI (electronic or paper version) for construction activities with a SWPPP that has not been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1, or, for construction activities that require post-construction stormwater management practices pursuant to Part III.C., the performance criteria in the technical standard referenced in Parts III.B., 2 or 3, or;
- (iii) Ten (10) business days from the date the NYSDEC receives a complete paper version of the NOI for construction activities with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Parts III.B., 2 or 3, for construction activities that require post-construction stormwater management practices pursuant to Part III.C.

For construction activities that are subject to the requirements of a regulated, traditional land use control MS4:

- Five (5) business days from the date the NYSDEC receives a complete electronic NOI (eNOI) and signed “MS4 SWPPP Acceptance” form, or
- Ten (10) business days from the date the NYSDEC receives both a complete paper version of the NOI and signed “MS4 SWPPP Acceptance” form.

The project area is under the control of a regulated MS4, therefore the NOI shall be submitted to the MS4 and then forwarded to NYSDEC once signed. The NOI and MS4 SWPPP acceptance form have been included in Appendix A.

4.0 SOILS

The hydrologic soil characteristics of the disturbance area and its immediate surroundings were obtained from Soil Survey Mapping of Dutchess County, New York, and available Geographical Information Systems (GIS) data, and are as follows:

Symbol	Description	Hydrologic Soil Group
DwB	Dutchess-Cardigan complex, undulating, rocky	B

SOIL PROPERTIES

Symbol	Water Table	Bedrock	Erosion Hazard (k)
DwB	>80"	>80"	0.32

4.1 Topography

Topography in the project area generally slopes towards the central area, then towards the low point at the northwest area of the area near New Hackensack Road where the onsite wetland is located.

Supporting soils information has been provided in Appendix B.

5.0 RAINFALL

5.1 Overview

The rainfall data utilized in the analysis of the watershed was obtained from Technical Release 55 (Urban Hydrology for Small Watersheds). Supporting information will be provided in future revisions to this SWPPP. The storm events are as follows:

Storm Event	24-Hour Rainfall (in)
1 - year	2.61
10 - year	4.66
25 - year	5.83
100 - year	8.19

Rainfall data is provided in Appendix C of this SWPPP.

6.0 STORMWATER ANALYSIS AND MANAGEMENT

6.1 Methodology

6.1.1 Hydrologic Analysis

The HydroCAD stormwater modeling system computer program by Applied Microcomputer Systems will be used to analyze, design and document the complete drainage system. The program uses standard hydrograph generation and routing techniques based on the USDA-NRCS Technical Releases TR-20 and TR-55 to develop stormwater runoff rates and volumes.

The program determines the rate and volume of runoff based on inputs of the watershed area, and characteristics of the land including vegetative coverage, slope, soil type, and impervious area.

6.1.2 Stormwater Design Points

Design Points represent the location where the majority of runoff from an area exits the site. The same design points are identified in post-development conditions so that a comparison can be made between the pre-development and post-development conditions. Four design points for the project were selected, as follows:

Stormwater Discharge Points	
SDP	Description
1	Wetland Outlet Pipe

6.2 Pre-Development Watershed Conditions

Subcatchment 1 is comprised of ±15.55 acres of offsite and onsite area that flows onto the site. Land cover consists of 1-acre developed lots, meadow, wooded areas and impervious roads. The onsite area is modeled as wooded area. The subcatchment area contains soils in hydrologic soil group (HSG) B. Runoff from the subcatchment travels via sheet flow and shallow concentrated flow to the onsite wetland and ultimately to SDP1.

Detailed stormwater calculations and routing for the pre-development conditions have been included in Appendix D.

The following table summarizes the pre-development watershed conditions:

Pre-Development Watershed Conditions					
Subcatchment	Area (ac)	Cover	Average Curve #	Hydrologic Soil Group(s)	Time of Concentration
1	15.55	Meadow and wooded areas, impervious roads, and developed lots	66	B	39.7 minutes

6.3 Post-Development Watershed Conditions

The proposed development will result in a disturbance of approximately 1.62 total acres. The site is broken into one subcatchment. The following is a description of the subcatchment:

Subcatchment 10 is comprised of ±15.55 acres of offsite and onsite area that flows onto the site. Land cover consists of 1-acre developed lots, meadow, wooded areas and impervious roads. The onsite development is modeled at 1 acre developed lots. The subcatchment area contains soils in hydrologic soil group (HSG) B. Runoff from the subcatchment travels via sheet flow and shallow concentrated flow to the onsite wetland and ultimately to SDP1.

Detailed stormwater calculations and routing for the post-development condition have been included in Appendix E.

The following table summarizes the post-development watershed conditions:

Post-Development Watershed Conditions					
Subcatchment	Area (ac)	Cover	Average Curve #	Hydrologic Soil Group(s)	Time of Concentration
10	15.55	Meadow and wooded areas, impervious roads, and developed lots	68	B	39.7 minutes

6.4 Hydrologic Review

The stormwater runoff rates at each discharge point are summarized below.

SDP	1 - Year		10 - Year		100 - Year	
	Pre	Post	Pre	Post	Pre	Post
1	2.19	2.79	6.48	6.78	9.03	9.17

Wetland Elevation	1 - Year		10 - Year		100 - Year	
	Pre	Post	Pre	Post	Pre	Post
(ft)	168.85	168.99	170.56	170.73	173.20	173.38
Increase (ft)		+0.14		+ 0.17		+ 0.18

As shown above the post-development peak flow rates and wetland elevation are slightly higher than pre-development conditions. The wetland elevation increase is minimal and still has 2.5 feet of freeboard to the New Hackensack Road surface. The 15" outlet pipe can safely convey the outflow while the wetland has the capacity to temporarily detain the stormwater runoff before discharging to offsite properties. Therefore, it can be stated that the post-developed rates do not negatively impact the wetland elevation or outlet pipe.

7.0 EROSION AND SEDIMENT CONTROL

7.1 Overview

The most sensitive stage of the development cycle is the period when vegetation is cleared and a site is graded. The potential impacts to on-site and off-site receiving waters and adjoining properties are particularly high at this stage. For example, trees and topsoil are removed, soils are exposed to erosion, and natural topography and drainage patterns are altered. Control of erosion and sediment during these periods is an essential function of this SWPPP and accompanying plans, Subdivision Plans are provided in Appendix J.

Effective and practical measures employed to minimize the erosion potential and prevent sediment from leaving the construction site and reaching streams or other water bodies have been recommended in accordance with:

- New York State Standards and Specifications for Erosion and Sediment Control, July 2016.

In order to ensure the effectiveness of the measures recommended herein, routine inspections and documentation, along with procedures for monitoring the findings, maintenance, and corrective actions resulting from each inspection, are outlined within this section of the SWPPP.

7.2 Temporary Erosion and Sediment Control Measures

The following temporary measures either have been, or may be incorporated into the erosion and sediment control plans for the site construction activities. Check dams, temporary channels, and straw bale barriers are not shown on the plans at this time, but are included in this report in the event that unforeseen site conditions require the use of these measures. Silt fence, temporary soil stockpiles measures are also detailed on the soil erosion & sediment control plan.

7.2.1 Silt Fence

A silt fence is a temporary sediment barrier consisting of a filter fabric stretched across and attached to supporting posts, entrenched, and supported with woven wire fence. Silt fences are installed on the contours across a slope and used to trap sediment by intercepting and detaining sediment laden runoff from disturbed areas in order to promote sedimentation on the uphill side of the fence.

Silt fences are suitable for perimeter and interior control, placed below areas where runoff may occur in the form of sheet flow. It should not be placed in channels or areas where flow is concentrated. In addition to interior and perimeter control a silt fence can be applied in the following applications:

- Below the toe or down slope of exposed and erodible slopes.
- Along streams and channels banks.
- Around temporary spoil area and stockpiles.

7.2.2 Check Dams

Check dams shall be placed in channels to reduce scour and erosion by reducing flow velocity and promoting sediment settlement. Check dams shall be spaced in the channel so that the crest of the downstream dam is at the elevation of the toe of the upstream dam. Check dams, consisting of a well-graded stone two (2) – nine (9) inches in size (NYSDOT – Light Stone) shall maintain a height of two (2) feet with side slopes of 2:1 extending beyond the bank of the channel by a minimum of one and a half (1.5) feet. Check dams shall be anchored in the channel by a cutoff trench of one and a half (1.5) feet in width by a half (0.5) foot in depth.

7.2.3 Temporary Channels

Temporary channels in the form of diversion swales or berms may be used to intercept and direct runoff under the following applications:

- Above disturbed areas in order to direct and prevent clean runoff from flowing over disturbed areas until the area is permanently stabilized.
- Below disturbed areas to convey sediment laden runoff to sediment traps.
- Across disturbed slopes to reduce slope lengths.

Where used to convey sediment laden runoff, temporary channels shall be equipped with check dams.

7.2.4 Straw Bale Barriers

Straw bale barriers are used to intercept and contain sediment from disturbed areas of limited size in order to prevent sediment from exiting the site. Bales should be placed in a single row lengthwise along the contour, with ends abutting one another. Straw bales shall be bound and installed so that the bindings are oriented around the sides. Straw bales shall be entrenched a minimum of four (4) inches, backfilled, and anchored using either two stakes or rebar driven through the straw bales to a depth of one and a half (1.5) to two (2) feet below grade.

Straw bales shall be used where no other measure is feasible. They shall not be used where there is a concentration of flow within a channel or other area.

The useful life of a straw bale barrier is three (3) months.

7.2.5 Temporary Soil Stockpiles

Stockpiling of soil is a method of preserving soil and topsoil for regrading and vegetating disturbed areas. Stockpiles shall be located away from environmentally sensitive areas (i.e. wetlands and associated buffers, streams, water bodies) and shall be protected with a peripheral silt fence. Slopes of stockpiles shall not exceed 2:1. Temporary stabilization measures shall be completed within fourteen (14) days of stockpile formation.

7.2.6 Dust Control

Dust control measures reduce the surface and air transport of dust, thereby preventing pollutants from mixing into stormwater. Dust control measures for the construction activities associated within this project consist of windbreaks, minimization of soil disturbance (preserving buffer areas of vegetation where practical), mulching, temporary and permanent vegetation cover, barriers (e.g., geotextile on driving surfaces) and water spraying.

Construction activities shall be scheduled to minimize the amount of area disturbed at any one time.

7.2.7 Temporary Soil Stabilization Practices

Stabilization practices reduce the potential for soil detachment by shielding the soil surface from the impact of rainfall and reducing overland flow velocity.

The Contractor shall initiate stabilization measures as soon as possible in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions.

Temporary stabilization practices may include:

7.2.7.1 Mulching

Mulching is a temporary soil stabilization practice. Mulching prevents erosion by protecting soil from raindrop impact and by reducing the velocity of overland flow. Mulching also retains moisture within the soil surface and promotes germination. Where mulching consists of wood chips or shavings, it shall be applied at a rate of 500-900 lbs per 1000 s.f. Where mulching consists of straw, it shall be applied at a rate of 90-100 lbs. per 1000 s.f. All temporary grass areas shall receive a standard application of mulch consisting of straw, unless the area is hydro-seeded.

7.2.7.2 Temporary Seeding

Temporary seeding provides additional benefits over other stabilization practices by creating a vegetation system that holds soil particles in place with root systems, and maintains the soil's capacity to absorb runoff. Temporary vegetation shall be placed in accordance with project plans. Irrigation shall be used when the soil is dry or when summer plantings are done.

7.2.7.3 Temporary Erosion Control Blanket

A temporary erosion control blanket is a degradable erosion control blanket used to hold seed and soil in place until vegetation is established in disturbed areas. Temporary erosion control blankets insulate and conserve seed moisture thus reducing evaporation and increasing germination rates, and protect seeds from birds. Temporary erosion control blankets may consist of straw blankets, excelsior blankets (curled wood excelsior), coconut fiber blankets, or wood fiber blankets (reprocessed wood fibers which do not possess or contain any growth or germination inhibiting factors).

7.3 Permanent Erosion and Sediment Control Measures

Many of the following permanent measures have been incorporated into the erosion and sediment control plans for the site construction activities. Other measures are noted in this report in the event that unforeseen site conditions require such measures.

7.3.1 Outlet Protection

Outlet protection is used to reduce stormwater velocity and dissipate the energy of flow exiting a culvert before discharging into receiving channels. Rip-rap treatment extends between the point where flows exit the culvert and where the velocity and/or energy from runoff are dissipated to a degree where there is minimal erosion downstream of the discharge point.

A geotextile fabric shall be placed beneath the rip-rap to prevent soil movement into and through the rip-rap.

7.3.2 Permanent Soil Stabilization Practices

Stabilization practices reduce the potential for soil detachment by shielding the soil surface from the impact of rainfall and reducing overland flow velocity.

The Contractor shall initiate stabilization measures as soon as possible in portions of the site where construction activities have permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has permanently ceased.

Permanent stabilization practices may include:

7.3.2.1 Sod

Where exposed soils have the potential to generate off-site sediment loading, sod can provide an immediate form of stabilization and extra protection to a disturbed area. Where applied, sod shall be bluegrass or a bluegrass/red fescue mixture or a perennial ryegrass and machine cut with a uniform soil thickness of $\frac{3}{4}$ inch, plus or minus $\frac{1}{4}$ inch. Sod shall be used at the discretion of the Owner, unless specifically required by the plans.

7.3.2.2 Permanent Vegetation

Permanent vegetation shall be used to provide a protective cover for exposed areas that have received final grading. Permanent stabilization shall be applied where topsoil has been placed or returned and incorporated into the soil surface. When used, this process shall be followed with the application of straw mulch to protect soil from erosion and seed from drying out. Irrigation shall be used when the soil is dry or when summer plantings are done. Permanent vegetation shall be placed in accordance with project plans.

7.3.2.3 Hydroseeding

Hydroseeding is the hydraulic application of seed and fertilizer onto prepared seed beds. When used, this process shall be followed with the application of straw mulch to protect soil from erosion and seed from drying out. Irrigation shall be used when the soil is dry or when summer plantings are done. Hydroseeding shall be used at the discretion of the Contractor, unless specifically required by the plans.

7.3.2.4 Permanent Erosion Control Blankets

Permanent erosion control blankets are comprised of synthetic materials that form a high strength mat that helps prevent soil erosion in channels and on steep slopes. Stems and roots become intertwined within the matrix, thus reinforcing the vegetation and anchoring the mat. Permanent erosion control blankets insulate and conserve seed moisture thus reducing evaporation and increasing germination rates, and protect seeds from birds. When used within channels, permanent erosion control blankets can aid in the establishment of vegetation and increase the maximum permissible velocity of the given channel by reinforcing the soil and vegetation to resist the forces of erosion during runoff events.

7.4 Erosion and Sediment Control Sequencing Schedule

Implementation schedules for the installation of erosion and sediment control measures prior to and during the course of construction will depend greatly on the actual construction schedule and the varying field conditions that may warrant temporary construction stops and/or work commencing in other locations.

Construction activities will be scheduled in such a manner as to minimize the impacts that runoff encountering the construction areas will have on receiving waters both on and off-site. The disturbed-construction area should be kept to a minimum at all times to minimize the potential for impacts during construction.

In order to minimize the impacts of stormwater to receiving water bodies and wetlands, a construction sequencing schedule is as follows:

1. Schedule a pre-construction meeting which shall include the owner or owner's representative, project engineer, representative from the MS4, contractor and subcontractors (if necessary) who are to perform the construction.
2. Establish the limit of disturbance for proposed clearing and grading associated with the proposed work for the improved drainage swale to be conveyed by easement to the Town of Wappinger, and the cut area for sight distance.
3. Install the stabilized construction entrance, utilizing the Lot 1 driveway entrance.
4. Install all silt fence as shown on the plan.
5. Prior to further construction activities, the Trained Contractor shall conduct a pre-construction site assessment to verify that the appropriate erosion and sediment controls shown on the plan have been adequately installed ensuring overall preparedness of this site for the commencement of construction. Trained Contractor means an employee from the contracting (construction) company that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the trained contractor shall receive four (4) hours of training every three (3) years. It can also mean an employee from the contracting (construction) company that meets the qualified inspector qualifications [e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].
6. Commence activities on the phase I areas to be improved. Bulk grading will be performed in the sight distance cut area, and the proposed drainage swale. Stockpile removed materials and surround stockpile with silt fence. Immediately seed disturbed areas that are to remain idle for more than 14 days.
7. When the sight distance cut area and drainage swale is completed, individual lot construction can commence.
8. Erosion control measures shall be inspected and repaired as needed during construction activities. Additional erosion control measures based on site conditions shall be provided.
9. When entire site has achieved final stabilization, schedule a post-construction meeting with the engineer, as well as a representative from the Town, as the MS4 must sign off on the Notice of Termination. Final stabilization means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.
10. Remove erosion and sediment controls when disturbed areas have become stabilized as directed by the engineer or SWPPP inspector.

7.5 Maintenance Schedules

Maintenance of the erosion and sediment controls incorporated into this project shall be performed on a regular basis to assure continued effectiveness. This includes repairs and replacement to all erosion and sediment control practices, including cleanout of all sediment retaining measures. Those measures found to be ineffective during routine inspections shall be repaired or replaced and cleaned out (where applicable) before the next anticipated storm event or within 24-hours of being notified, whichever comes first. A more detailed description of the maintenance procedures for the site specific erosion and sediment control practices has been provided on the plan set.

7.6 Construction Staging Areas

Construction staging areas are areas designated within construction sites where most equipment and materials are stored. Construction staging areas are not delineated specifically on the plan set as the project is relatively low impact. It is assumed that the contractor will utilize areas in the near vicinity of the house for staging.

7.7 Site Assessments, Inspections and Reporting

Regular inspections of the construction site shall be performed by the Trained Contractor who is familiar with all aspects of the SWPPP and the implemented control practices. Inspections are intended to identify areas where the pollutant control measures at the site are ineffective and have the potential to allow pollutants to enter water bodies or adjoining properties.

7.7.1 Prior to Construction

Prior to the commencement of construction, the Trained Contractor shall conduct an inspection of the site and certify in an inspection report that the appropriate erosion and sediment control measures have been installed as indicated by the project plan set and SWPPP. This certification shall be filed in the construction log book, as well as forwarded to the Town's MS4 Representative.

A copy of the "Pre-Construction Site Assessment Checklist" has been provided in Appendix D.

7.7.2 During Construction

Following the commencement of construction, the Trained Contractor shall perform inspections of site construction activities in accordance with the SPDES General Permit. Inspections are to be completed daily; however, formal inspection reports shall occur every seven (7) calendar days.

For project areas where soil disturbance activities have been temporarily suspended (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the Trained Contractor shall conduct a site inspection at least once every thirty (30) calendar days. The owner or operator shall notify the MS4 in writing prior to reducing the frequency of inspections.

For project areas where soil disturbance activities have been shut down with partial project completion, the Trained Contractor can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational (if applicable). The owner or operator shall notify the MS4 contact person in writing prior to the shutdown.

The inspections shall include observation of installed and maintained erosion and sediment control measures for consistency with project specifications and documentation of items to be corrected and recommendations for mitigating concerns. The following information, at minimum, shall be recorded during each inspection:

- Date and time of inspection;
- Name and title of person(s) performing inspection;
- A description of the weather and soil conditions (e.g., dry, wet, saturated) at the time of the inspection;
- 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;
- A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody;
- Identification of all erosion and sediment control practices that need repair or maintenance;
- Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
- Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards, if applicable;
- Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water (where applicable);

- Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume;
- Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
- Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The Trained Contractor shall attach paper color copies of the digital photographs to the inspection report being maintained on site within seven (7) calendar days of the date of the inspection. The Trained Contractor 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 Trained Contractor shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection;
- A brief description of any erosion and sediment control practice repairs, maintenance or installations made as a result of previous inspection; and
- All deficiencies that are identified with the implementation of the SWPPP.

Summary reports shall be forwarded to the Owner's Representative and Town's MS4 Representative. Reports shall be incorporated into the construction log book. Within one business day of the completion of an inspection, the Trained Contractor shall begin implementing the corrective actions of the inspection and shall complete the corrective actions in a reasonable time frame.

A copy of the "Construction" inspection report has been provided in Appendix H.

7.7.3 End of Term

Termination of coverage under the SPDES General Permit is accomplished by filing a Notice of Termination (NOT) with the NYSDEC, which first must receive sign-off from the MS4. Prior to the filing of the NOT, the Owner shall have a Qualified Professional perform a final site inspection. The Qualified Professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods, that all temporary erosion and sediment control structures have been removed, and that all permanent erosion control and stormwater facilities have been installed and are operational in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The owner or operator shall then submit the completed NOT form to the NYSDEC, once sign-off is received from the MS4.

A NOT is provided in Appendix I.

7.8 Construction Log Book

The construction log book shall be maintained on site from the date of initiation of construction activities to the date of final stabilization and shall be made available to the permitting authority upon request. The construction log book shall contain a record of all inspections; all certifications from the preparer(s), Trained Contractor(s), Qualified Professional(s), owner(s)/operator(s), contractor(s), and sub-contractor(s) as applicable; and all weekly reports.

7.9 Long Term Maintenance of Stormwater Structures

After construction is completed and a NOT has been filed, it is the responsibility of the owner to inspect and maintain all stormwater structures on-site, if applicable.

7.9.1 Vegetated Swales

Swales shall be inspected after every storm event and remove trash and debris that may be blocking the flow capability of the structure. The owner should pay close attention during the fall months where leave debris will be heavy. The swales shall be inspected for sediment accumulation at least once a year. Sediment shall be removed as necessary.

8.0 GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES

The following good housekeeping and material management practices shall be followed to reduce the risk of spills or exposure of materials to stormwater runoff.

8.1 Waste Materials

All waste material, including but not limited to trash and construction debris, generated during construction shall be collected and stored in a proper receptacle in accordance with Federal, State, County and Local regulations. No waste material shall be buried on-site. All collected waste material shall be hauled to an approved waste disposal facility.

8.2 Chemical

Chemicals used on-site shall be kept in small quantities, stored undercover in closed, water tight containers in a neat and orderly manner, and kept out of direct contact with stormwater. Chemical products shall not be mixed with one another unless recommended by the manufacturer.

All on-site personnel shall have access to material safety data sheets (MSDS) and National Institute for Occupational Safety and Health (NIOSH) Guide to Chemical Hazards (latest edition) for all chemicals stored and used on-site.

Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with chemicals shall be contained, collected, cleaned up immediately and disposed of in accordance with Federal, State, County and Local regulations.

8.3 Fuels and Oil

All on-site vehicles, tools, and construction equipment shall be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. On-site vehicle and equipment refueling shall be conducted at a location away from access to surface waters and runoff. Any on-site storage tanks shall have a means of secondary containment. Oil products shall be kept in their original containers with original manufacturer's label. In the event of a spill, it shall be contained, cleaned up immediately and the material, including any contaminated soil, shall be disposed of in accordance with Federal, State, County and Local regulations.

Fuel and oil spills in excess of reportable quantities shall be reported to the NYSDEC as soon as the discharge is discovered.

8.4 Fertilizers

Fertilizers used on site shall be stored undercover in closed, water tight containers in a neat orderly manner, and shall be kept out of direct contact with stormwater. Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with fertilizers shall be contained, collected, cleaned up immediately, and disposed of in accordance with Federal, State, County and Local regulations.

8.5 Paint

Paints used on-site shall be stored undercover in closed, water tight containers in a neat and orderly manner, and shall be kept out of direct contact with stormwater. Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with paint shall be contained, collected, cleaned up immediately, and disposed of in accordance with Federal, State, County and Local regulations.

8.6 Sanitary Waste Facilities

Should portable sanitary units be located on-site, they shall be placed in upland areas away from direct contact with surface waters. They shall be serviced and cleaned on a weekly basis by a licensed portable toilet and septic disposal service. Any spills occurring during service shall be cleaned up immediately and disposed of in accordance with Federal, State, County, and Local regulations.

8.7 Container Disposal

Products shall be used up entirely before disposal of their respective containers. Empty containers that may contain chemical residue shall be disposed of in accordance with Federal, State, County and Local regulations.

8.8 Concrete and Asphalt Trucks

Concrete and asphalt trucks shall not be allowed to wash out or discharge surplus material on-site unless a concrete washout station is provided.

8.9 Site Supervisor

It shall be the responsibility of the Contractor's Site Supervisor to inspect daily and ensure the proper use, storage and disposal of all on-site materials.

9.0 SWPPP AMENDMENT

The SWPPP shall be updated by a licensed professional engineer whenever any of the following apply:

- 1) There is a major change in design, construction, operation or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP.
- 2) The SWPPP proves to be ineffective in:
 - Eliminating or significantly minimizing pollutants from sources identified in the SWPPP required by the SPDES Permit; or
 - Achieving the general objective of controlling pollutants in stormwater discharges from permitted construction activity.
- 3) Identify any new contractor or subcontractor that will implement any measure of the SWPPP.
- 4) NYSDEC notifies the Permittee that the SWPPP does not meet one or more of the minimum requirements of the SPDES Permit. Within seven (7) days of such notification or as provided for by the NYSDEC, the Permittee shall make amendments to the SWPPP and submit to the NYSDEC a written certification that the requested changes have been made.

Since this project is subject to the requirements of a regulated, traditional land use control MS4, the owner or operator shall notify the MS4 in writing of any planned amendments or modifications to components of the SWPPP.

10.0 CONTRACTOR CERTIFICATIONS

All contractors and subcontractors that have any responsibility to install, inspect or maintain erosion or sediment control measures shall sign a copy of the certification statement included in Appendix E before undertaking any construction activity at the site identified in the SWPPP. Contractor Certifications are to include the training requirements for a "Trained Contractor" per GP-0-20-001 Part III.A.6. Contractor Certifications must be provided to the MS4 prior to the start of construction. Contractor certifications can be found in Appendix E.

11.0 OWNER/OPERATOR CERTIFICATION

The Owner/Operator must review and sign the owner/operator certification statement included in Appendix G.

12.0 CONCLUSIONS

This SWPPP demonstrates that the proposed project generally meets the requirements of SPDES GP-0-20-001, as follows:

- An erosion and sediment control plan in accordance with the latest revision to the New York State Standards and Specifications for Erosion and Sediment Control, July 2016, has been developed for the project and is included in the lot development plan set.

APPENDIX A

NOTICE OF INTENT & MS4 ACCEPTANCE



Department of
Environmental
Conservation

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information

1. Owner/Operator Name:

2. Contact Person:

3. Street Address:

4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by:

9. Title/Position:

10. Date Final SWPPP Reviewed and Accepted:

IV. Regulated MS4 Information

11. Name of MS4:

12. MS4 SPDES Permit Identification Number: NYR20A

13. Contact Person:

14. Street Address:

15. City/State/Zip:

16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).
Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

APPENDIX B

SOILS DATA


Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 19, Sep 10, 2022

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DwB	Dutchess-Cardigan complex, undulating, rocky	3.4	100.0%
Totals for Area of Interest		3.4	100.0%

Map Unit Descriptions

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

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

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

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

Custom Soil Resource Report

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

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

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

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

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

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

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

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

Dutchess County, New York

DwB—Dutchess-Cardigan complex, undulating, rocky

Map Unit Setting

National map unit symbol: 9rfn
Elevation: 0 to 1,330 feet
Mean annual precipitation: 41 to 47 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Dutchess and similar soils: 40 percent
Cardigan and similar soils: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dutchess

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived mainly from phyllite, slate, schist, and shale

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 28 inches: silt loam
H3 - 28 to 86 inches: channery silt loam

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Cardigan

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit

Custom Soil Resource Report

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy till or colluvium derived from phyllite, slate, shale, and schist

Typical profile

H1 - 0 to 8 inches: channery silt loam

H2 - 8 to 20 inches: channery loam

H3 - 20 to 30 inches: channery silt loam

H4 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 1 to 6 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low
(0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Georgia

Percent of map unit: 10 percent

Hydric soil rating: No

Nassau

Percent of map unit: 9 percent

Hydric soil rating: No

Massena

Percent of map unit: 9 percent

Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent

Hydric soil rating: Unranked

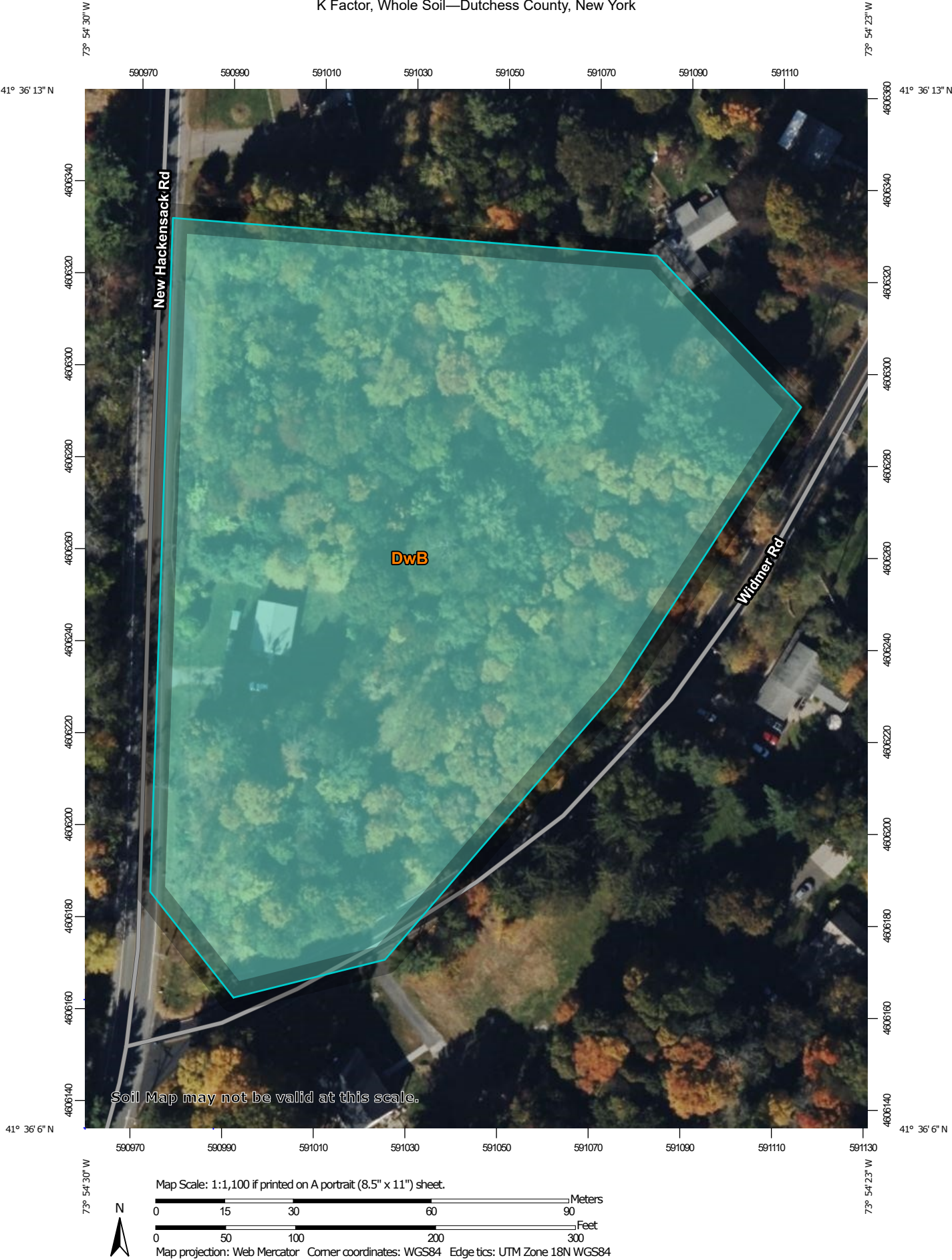
Sun

Percent of map unit: 1 percent

Landform: Depressions


Hydric soil rating: Yes

K Factor, Whole Soil—Dutchess County, New York


















MAP LEGEND

Area of Interest (AOI)







 Area of Interest (AOI)










Soils

Soil Rating Polygons
















	.02
	.05
	.10
	.15
	.17
	.20
	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

Soil Rating Lines









	.02
	.05
	.10
	.15
	.17
	.20

	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

Soil Rating Points

	.02
	.05
	.10
	.15
	.17
	.20
	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

Water Features

	Streams and Canals
	Rails
	Interstate Highways
	US Routes
	Major Roads
	Local Roads
	Background
	Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 20, Sep 5, 2023

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

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

K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DwB	Dutchess-Cardigan complex, undulating, rocky	.32	4.1	100.0%
Totals for Area of Interest			4.1	100.0%

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

APPENDIX C

NYSDEC ERM, FLOOD MAP, WETLAND MAP, & SHPO MAP

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing	Yes
State	New York
Location	New York, United States
Latitude	41.603 degrees North
Longitude	73.907 degrees West
Elevation	50 feet
Date/Time	Sat Mar 16 2024 11:34:56 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day
1yr	0.32	0.49	0.61	0.80	1.00	1.25	1yr	0.87	1.17	1.43	1.75	2.14	2.61	2.94	1yr	2.31	2.83	3.28	3.96	4.41
2yr	0.38	0.59	0.73	0.97	1.21	1.51	2yr	1.05	1.41	1.73	2.13	2.59	3.15	3.55	2yr	2.79	3.42	3.92	4.62	5.17
5yr	0.45	0.70	0.88	1.18	1.51	1.90	5yr	1.31	1.74	2.19	2.68	3.26	3.94	4.50	5yr	3.49	4.33	4.97	5.75	6.41
10yr	0.51	0.80	1.01	1.38	1.79	2.27	10yr	1.54	2.04	2.61	3.20	3.88	4.66	5.38	10yr	4.13	5.17	5.96	6.78	7.54
25yr	0.60	0.95	1.21	1.68	2.24	2.86	25yr	1.93	2.53	3.30	4.05	4.89	5.83	6.82	25yr	5.16	6.56	7.58	8.44	9.31
50yr	0.68	1.10	1.41	1.97	2.65	3.41	50yr	2.29	2.97	3.94	4.83	5.81	6.91	8.16	50yr	6.11	7.85	9.10	9.97	10.84
100yr	0.78	1.27	1.63	2.31	3.15	4.07	100yr	2.72	3.49	4.72	5.77	6.92	8.19	9.77	100yr	7.25	9.40	10.93	11.78	12.65
200yr	0.89	1.46	1.89	2.71	3.74	4.86	200yr	3.23	4.11	5.64	6.90	8.25	9.71	11.71	200yr	8.59	11.26	13.13	13.92	14.71
500yr	1.08	1.78	2.32	3.37	4.72	6.15	500yr	4.07	5.11	7.14	8.72	10.39	12.17	14.88	500yr	10.77	14.31	16.76	17.37	17.98

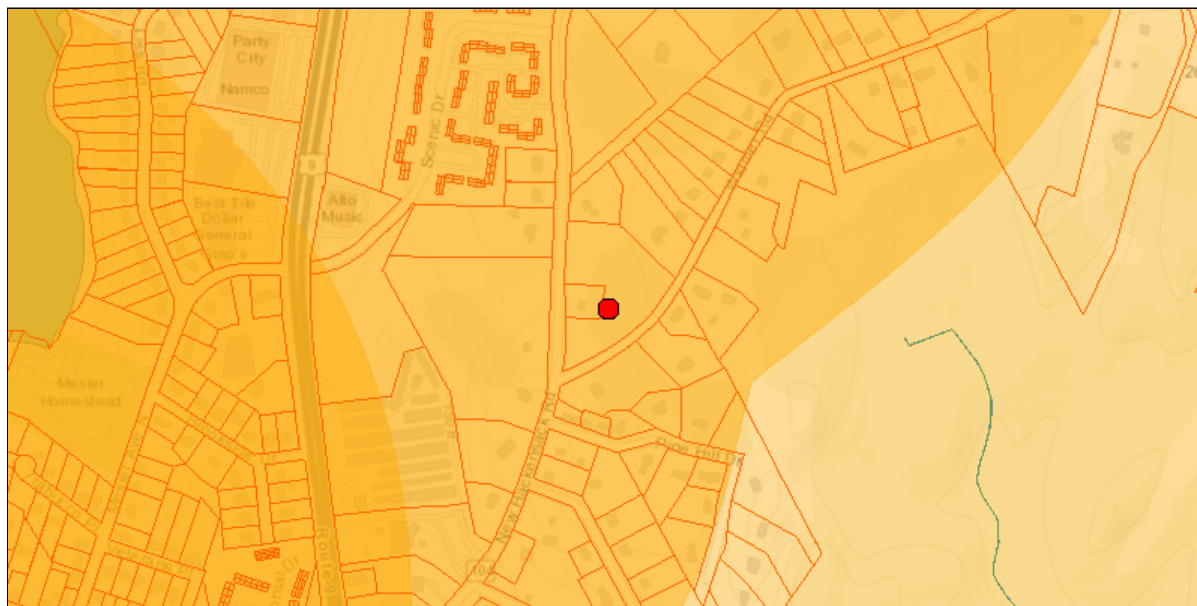
Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day
1yr	0.27	0.42	0.52	0.70	0.86	1.06	1yr	0.74	1.04	1.23	1.58	1.96	2.38	2.49	1yr	2.10	2.39	2.63	3.53	3.82
2yr	0.37	0.57	0.70	0.95	1.17	1.39	2yr	1.01	1.36	1.58	2.01	2.54	3.04	3.45	2yr	2.69	3.32	3.79	4.50	4.91
5yr	0.42	0.65	0.80	1.10	1.40	1.63	5yr	1.21	1.59	1.85	2.37	2.95	3.66	4.13	5yr	3.24	3.97	4.59	5.29	5.70
10yr	0.47	0.72	0.89	1.25	1.61	1.82	10yr	1.39	1.78	2.08	2.66	3.29	4.16	4.73	10yr	3.69	4.55	5.28	5.97	6.38
25yr	0.55	0.83	1.03	1.47	1.94	2.10	25yr	1.67	2.05	2.41	2.96	3.81	4.93	5.64	25yr	4.36	5.42	6.35	6.99	7.40
50yr	0.61	0.93	1.16	1.67	2.25	2.34	50yr	1.94	2.29	2.72	3.29	4.27	5.60	6.44	50yr	4.96	6.19	7.31	7.85	8.26
100yr	0.70	1.05	1.32	1.91	2.61	2.63	100yr	2.26	2.57	3.08	3.65	4.80	6.35	7.34	100yr	5.62	7.06	8.41	8.83	9.24
200yr	0.79	1.20	1.52	2.19	3.06	2.93	200yr	2.64	2.87	3.48	4.08	5.39	7.19	8.36	200yr	6.36	8.04	9.68	9.92	10.33
500yr	0.96	1.42	1.83	2.66	3.79	3.42	500yr	3.27	3.34	4.11	4.72	6.31	8.48	9.92	500yr	7.50	9.54	11.67	11.53	11.94

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day
1yr	0.36	0.55	0.67	0.90	1.11	1.34	1yr	0.96	1.31	1.49	1.93	2.39	2.88	3.19	1yr	2.55	3.07	3.54	4.25	4.54
2yr	0.40	0.62	0.76	1.03	1.27	1.52	2yr	1.09	1.49	1.72	2.22	2.77	3.28	3.70	2yr	2.90	3.56	4.06	4.79	5.08
5yr	0.49	0.75	0.93	1.28	1.63	1.93	5yr	1.41	1.89	2.23	2.86	3.63	4.24	4.90	5yr	3.75	4.71	5.38	6.25	6.54
10yr	0.58	0.89	1.10	1.54	1.99	2.34	10yr	1.72	2.29	2.72	3.50	4.45	5.21	6.08	10yr	4.61	5.85	6.69	7.65	7.94
25yr	0.72	1.10	1.37	1.95	2.57	3.02	25yr	2.22	2.95	3.56	4.74	5.85	6.87	8.11	25yr	6.08	7.80	8.92	10.02	10.31
50yr	0.85	1.30	1.62	2.32	3.13	3.67	50yr	2.70	3.59	4.36	5.86	7.18	8.46	10.12	50yr	7.49	9.73	11.12	12.30	12.59
100yr	1.01	1.53	1.92	2.77	3.80	4.47	100yr	3.28	4.37	5.34	7.27	8.81	10.44	12.62	100yr	9.24	12.14	13.88	15.11	15.40
200yr	1.20	1.80	2.28	3.31	4.61	5.43	200yr	3.98	5.31	6.56	9.00	10.83	12.89	15.77	200yr	11.41	15.17	17.33	18.61	18.90
500yr	1.51	2.24	2.89	4.19	5.97	7.04	500yr	5.15	6.88	8.57	11.96	14.22	17.05	21.21	500yr	15.09	20.39	23.29	24.53	24.82

Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18

Easting: 591031.09385447

Northing: 4606238.099520424

Longitude/Latitude

Longitude: -73.90760341781109

Latitude: 41.602671385977125

The approximate address of the point you clicked on is:

38 New Hackensack Rd, Wappingers Falls, New York, 12590

County: Dutchess

Town: Wappinger

USGS Quad: WAPPINGERS FALLS

[Rare Plants and Rare Animals](#)

This location is in the vicinity of Animals Listed as Endangered or Threatened - Contact NYSDEC Regional Office

This location is in the vicinity of Bats Listed as Endangered or Threatened -- Contact NYSDEC Regional Office

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

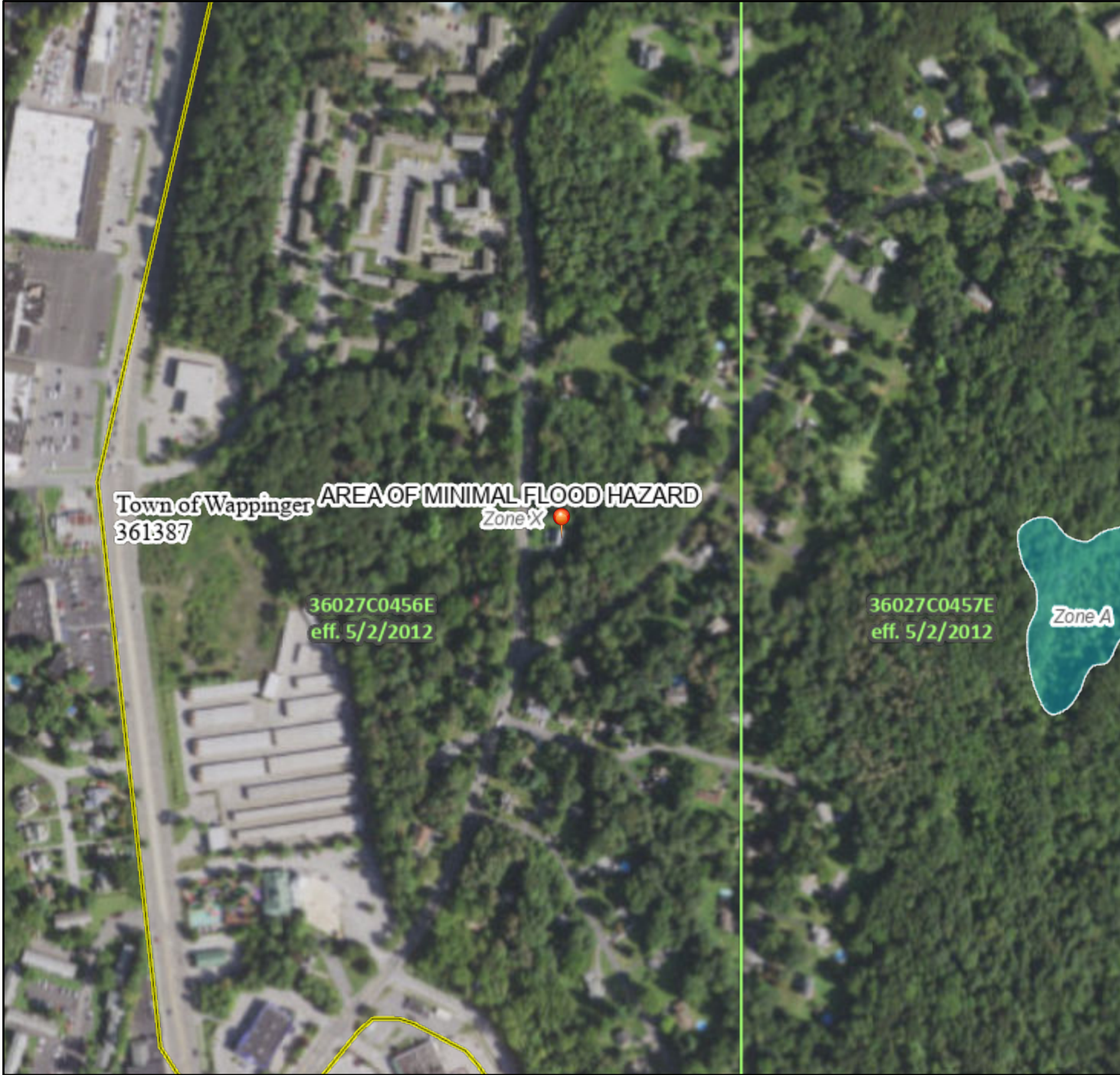
Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.

Print Preview

National Flood Hazard Layer FIRMMette



73°54'47"W 41°36'23"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

73°54'10"W 41°35'56"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **2/1/2024 at 2:21 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

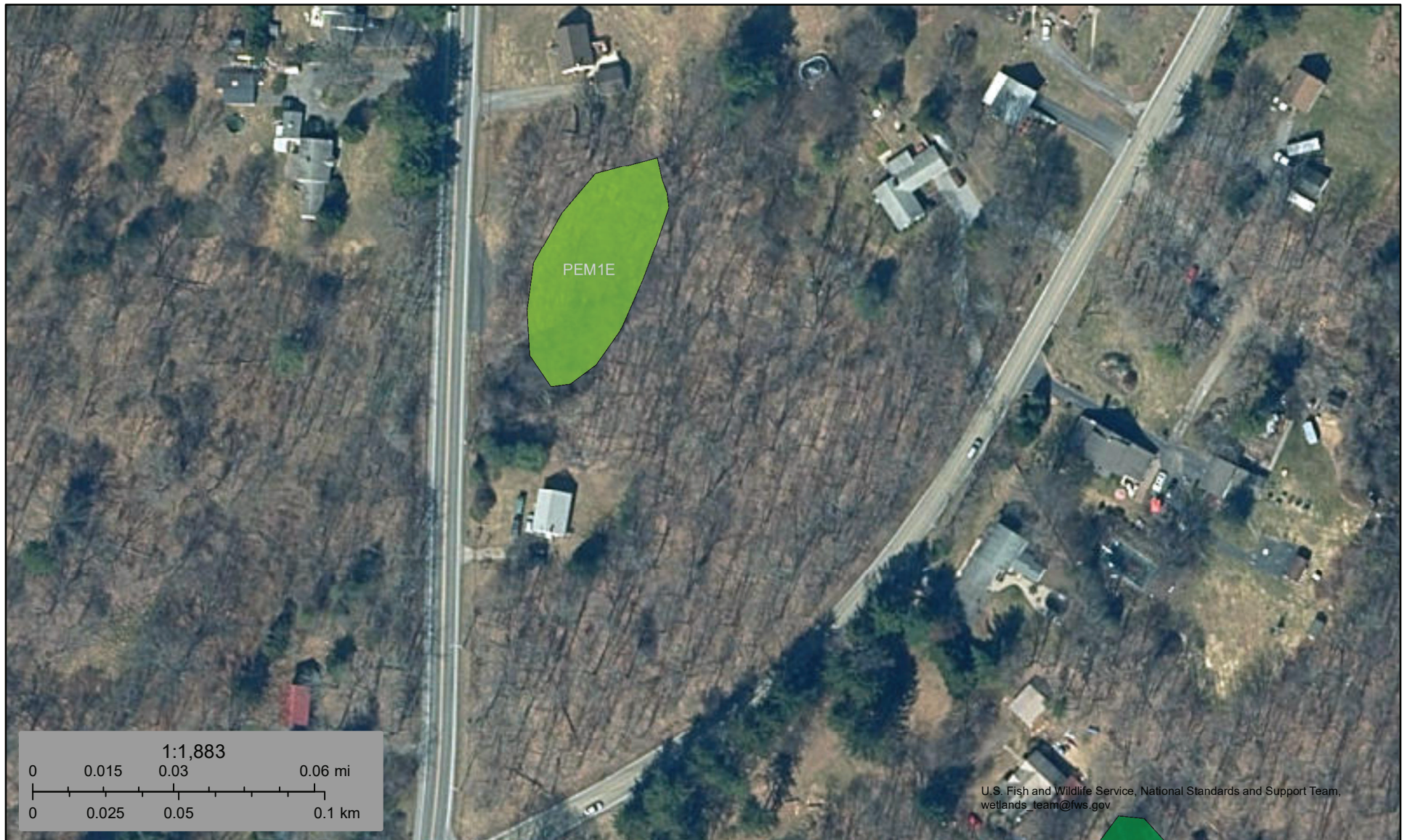
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



U.S. Fish and Wildlife Service

National Wetlands Inventory

Benoni Theodore New Hackensack Road F



October 11, 2023

Wetlands



Estuarine and Marine Deepwater



Estuarine and Marine Wetland



Freshwater Emergent Wetland



Freshwater Forested/Shrub Wetland



Freshwater Pond



Lake



Other

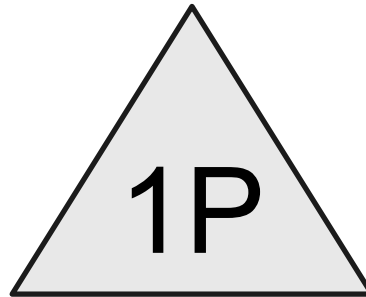


Riverine

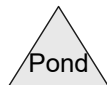
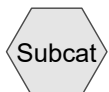
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX D

PRE-DEVELOPMENT CONDITONS



Onsite Wetland



Routing Diagram for SUBEN LLC PRE CONDITIONS, Revised 1/30/23

Prepared by Hudson Land Design, Printed 3/17/2024

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SUBEN LLC PRE CONDITIONS

Prepared by Hudson Land Design

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Type III 24-hr 1-year storm Rainfall=2.61"

Revised 1/30/23 Printed 3/17/2024

Page 2

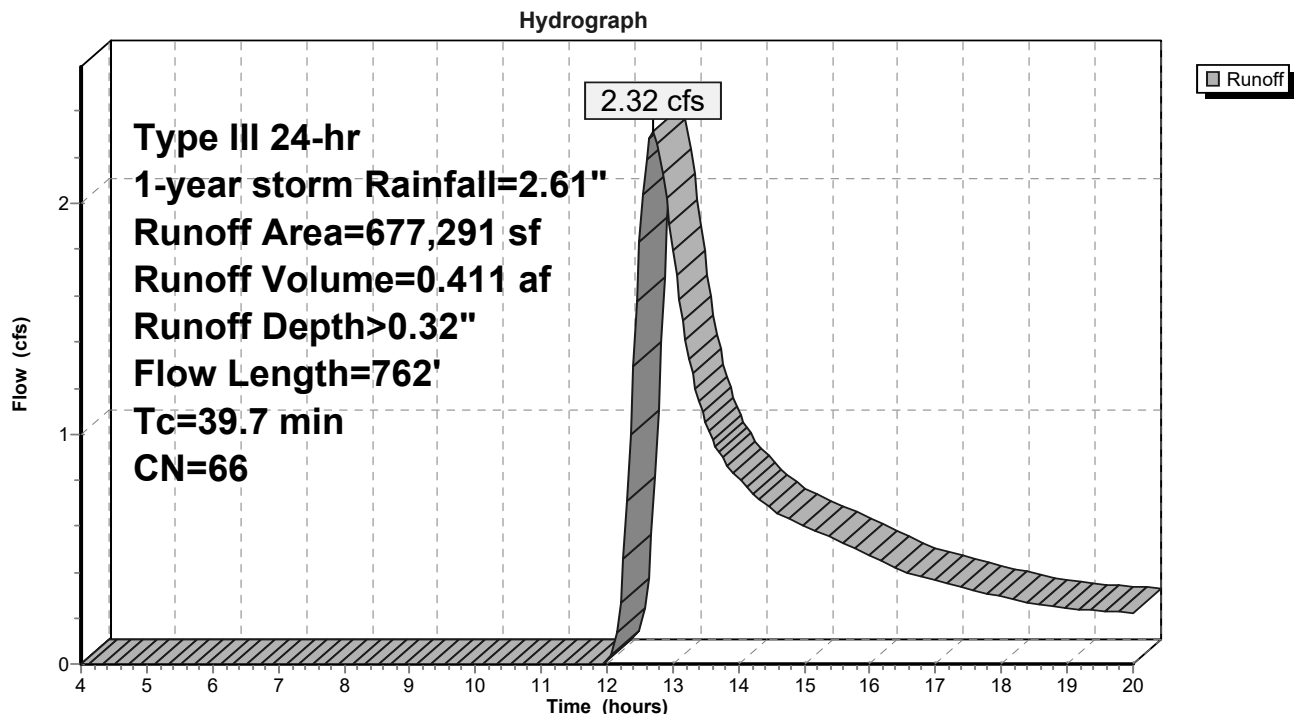
Summary for Subcatchment DA1: DA1

Runoff = 2.32 cfs @ 12.70 hrs, Volume= 0.411 af, Depth> 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year storm Rainfall=2.61"

Area (sf)	CN	Description
35,132	98	Paved parking, HSG A
160,672	55	Woods, Good, HSG B
53,771	61	>75% Grass cover, Good, HSG B
427,716	68	1 acre lots, 20% imp, HSG B
677,291	66	Weighted Average
556,616		82.18% Pervious Area
120,675		17.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	100	0.0200	0.08		Sheet Flow, SEGMENT 1 Woods: Light underbrush n= 0.400 P2= 3.16"
8.0	239	0.0100	0.50		Shallow Concentrated Flow, SEGMENT 2 Woodland Kv= 5.0 fps
10.1	423	0.0100	0.70		Shallow Concentrated Flow, SEGMENT 3 Short Grass Pasture Kv= 7.0 fps
39.7	762	Total			

Subcatchment DA1: DA1

SUBEN LLC PRE CONDITIONS

Type III 24-hr 1-year storm Rainfall=2.61"

Prepared by Hudson Land Design

Revised 1/30/23 Printed 3/17/2024

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Page 3

Summary for Pond 1P: Onsite Wetland

Inflow Area = 15.548 ac, 17.82% Impervious, Inflow Depth > 0.32" for 1-year storm event
 Inflow = 2.32 cfs @ 12.70 hrs, Volume= 0.411 af
 Outflow = 2.19 cfs @ 12.82 hrs, Volume= 0.408 af, Atten= 6%, Lag= 7.0 min
 Primary = 2.19 cfs @ 12.82 hrs, Volume= 0.408 af

Routing by Dyn-Stor-Ind method, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 168.85' @ 12.82 hrs Surf.Area= 1,794 sf Storage= 929 cf

Plug-Flow detention time= 8.2 min calculated for 0.408 af (99% of inflow)
 Center-of-Mass det. time= 5.6 min (884.9 - 879.3)

Volume	Invert	Avail.Storage	Storage Description
#1	168.00'	177,174 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
168.00	400	0	0
169.00	2,046	1,223	1,223
170.00	11,475	6,761	7,984
171.00	20,035	15,755	23,739
172.00	26,355	23,195	46,934
173.00	32,322	29,339	76,272
174.00	46,128	39,225	115,497
175.00	77,225	61,677	177,174

Device	Routing	Invert	Outlet Devices
#1	Primary	168.00'	15.0" Round Culvert L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 168.00' / 166.00' S= 0.0333 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=2.18 cfs @ 12.82 hrs HW=168.85' (Free Discharge)

↑**1=Culvert** (Inlet Controls 2.18 cfs @ 2.47 fps)

SUBEN LLC PRE CONDITIONS

Prepared by Hudson Land Design

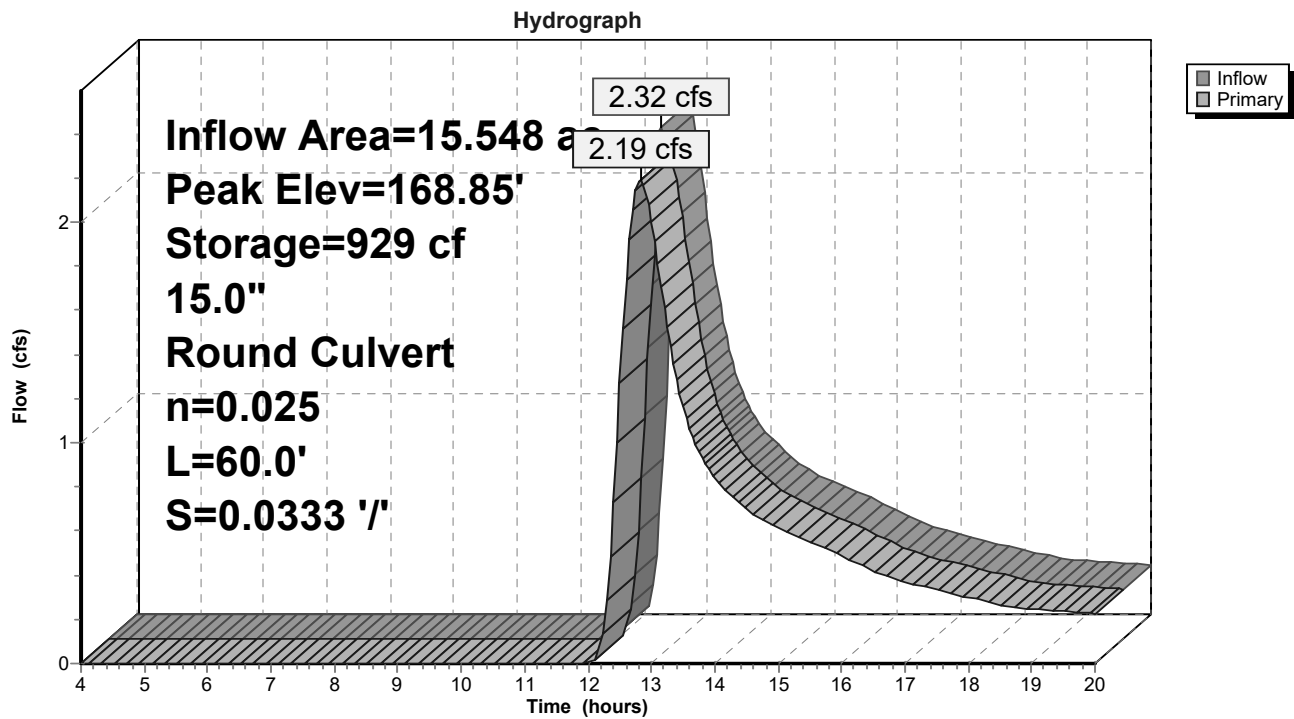
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Type III 24-hr 1-year storm Rainfall=2.61"

Revised 1/30/23 Printed 3/17/2024

Page 4

Pond 1P: Onsite Wetland



SUBEN LLC PRE CONDITIONS

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Type III 24-hr 10-year storm Rainfall=4.66"

Revised 1/30/23 Printed 3/17/2024

Page 5

Summary for Subcatchment DA1: DA1

Runoff = 12.74 cfs @ 12.60 hrs, Volume= 1.745 af, Depth> 1.35"

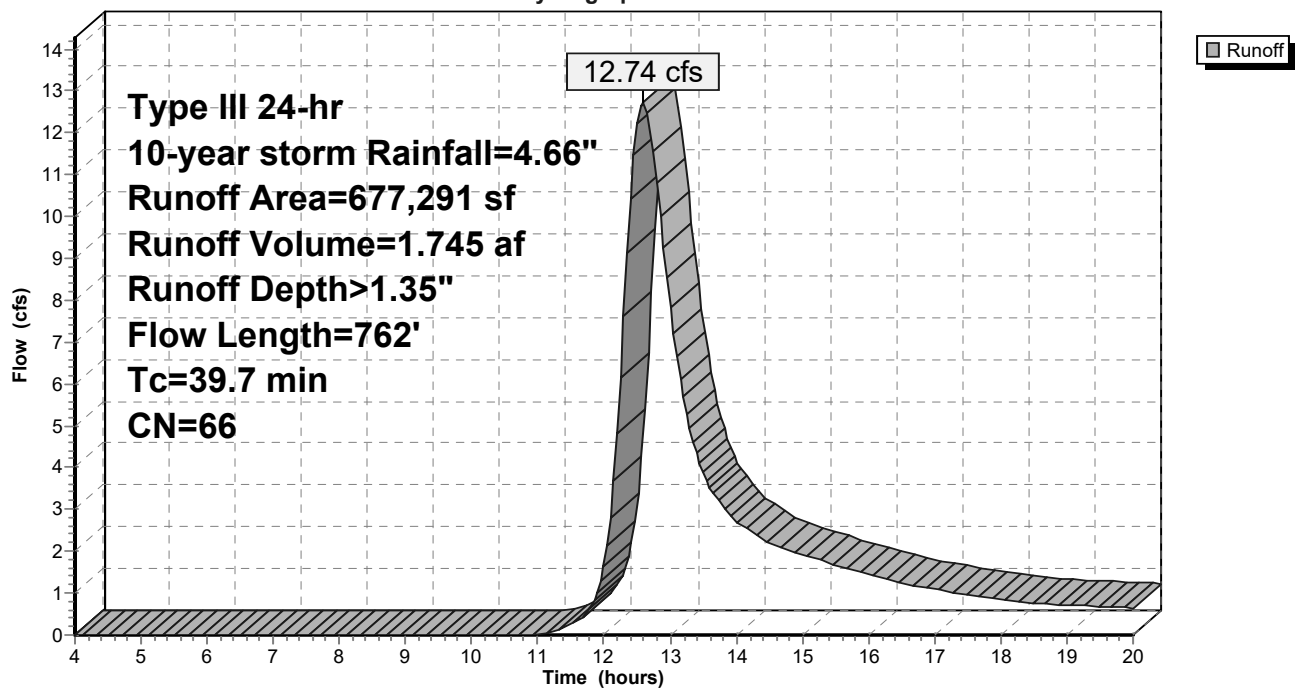
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year storm Rainfall=4.66"

Area (sf)	CN	Description
35,132	98	Paved parking, HSG A
160,672	55	Woods, Good, HSG B
53,771	61	>75% Grass cover, Good, HSG B
427,716	68	1 acre lots, 20% imp, HSG B
677,291	66	Weighted Average
556,616		82.18% Pervious Area
120,675		17.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	100	0.0200	0.08		Sheet Flow, SEGMENT 1 Woods: Light underbrush n= 0.400 P2= 3.16"
8.0	239	0.0100	0.50		Shallow Concentrated Flow, SEGMENT 2 Woodland Kv= 5.0 fps
10.1	423	0.0100	0.70		Shallow Concentrated Flow, SEGMENT 3 Short Grass Pasture Kv= 7.0 fps
39.7	762	Total			

Subcatchment DA1: DA1

Hydrograph



SUBEN LLC PRE CONDITIONS

Prepared by Hudson Land Design

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Type III 24-hr 10-year storm Rainfall=4.66"

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Page 6

Summary for Pond 1P: Onsite Wetland

Inflow Area = 15.548 ac, 17.82% Impervious, Inflow Depth > 1.35" for 10-year storm event
 Inflow = 12.74 cfs @ 12.60 hrs, Volume= 1.745 af
 Outflow = 6.48 cfs @ 13.12 hrs, Volume= 1.738 af, Atten= 49%, Lag= 31.2 min
 Primary = 6.48 cfs @ 13.12 hrs, Volume= 1.738 af

Routing by Dyn-Stor-Ind method, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 170.56' @ 13.12 hrs Surf.Area= 16,227 sf Storage= 15,674 cf

Plug-Flow detention time= 21.5 min calculated for 1.732 af (99% of inflow)
 Center-of-Mass det. time= 20.0 min (864.1 - 844.1)

Volume	Invert	Avail.Storage	Storage Description
#1	168.00'	177,174 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
168.00	400	0	0
169.00	2,046	1,223	1,223
170.00	11,475	6,761	7,984
171.00	20,035	15,755	23,739
172.00	26,355	23,195	46,934
173.00	32,322	29,339	76,272
174.00	46,128	39,225	115,497
175.00	77,225	61,677	177,174

Device	Routing	Invert	Outlet Devices
#1	Primary	168.00'	15.0" Round Culvert L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 168.00' / 166.00' S= 0.0333 ' / Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=6.48 cfs @ 13.12 hrs HW=170.55' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 6.48 cfs @ 5.28 fps)

SUBEN LLC PRE CONDITIONS

Prepared by Hudson Land Design

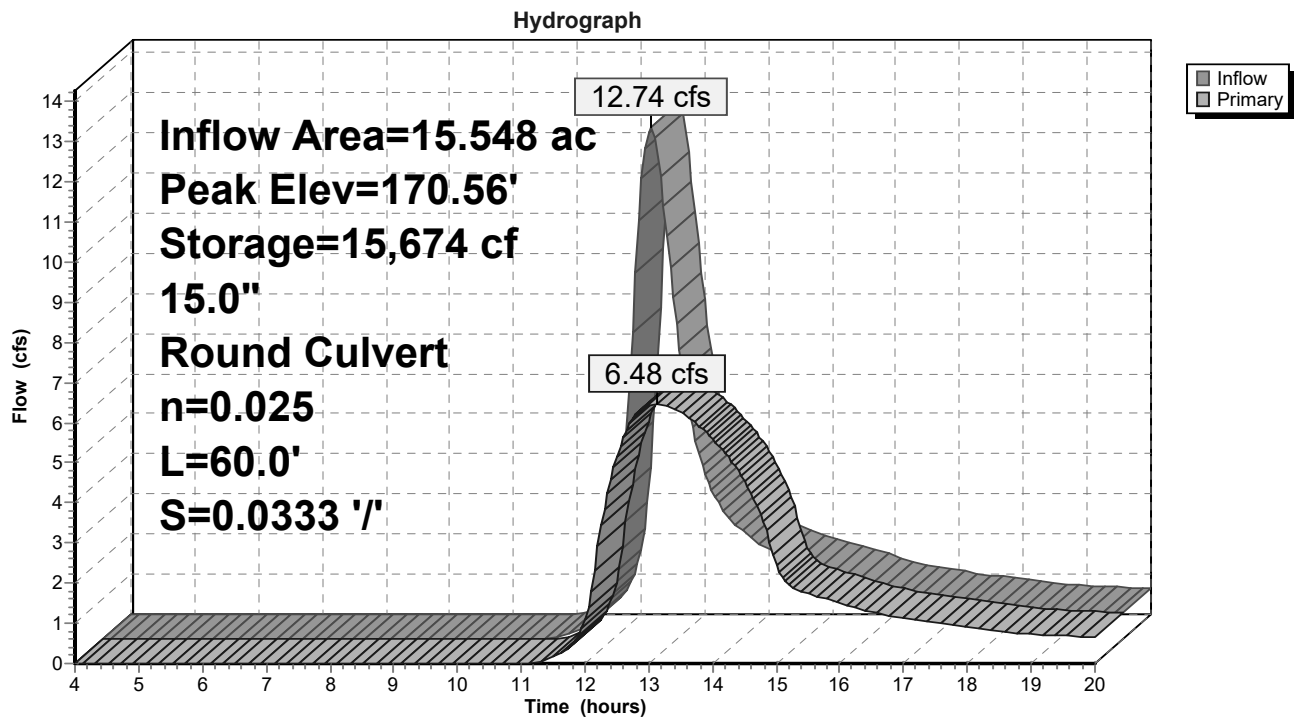
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Type III 24-hr 10-year storm Rainfall=4.66"

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Page 7

Pond 1P: Onsite Wetland



SUBEN LLC PRE CONDITIONS

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Type III 24-hr 100-year storm Rainfall=8.19"

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Page 8

Summary for Subcatchment DA1: DA1

Runoff = 37.39 cfs @ 12.56 hrs, Volume= 4.952 af, Depth> 3.82"

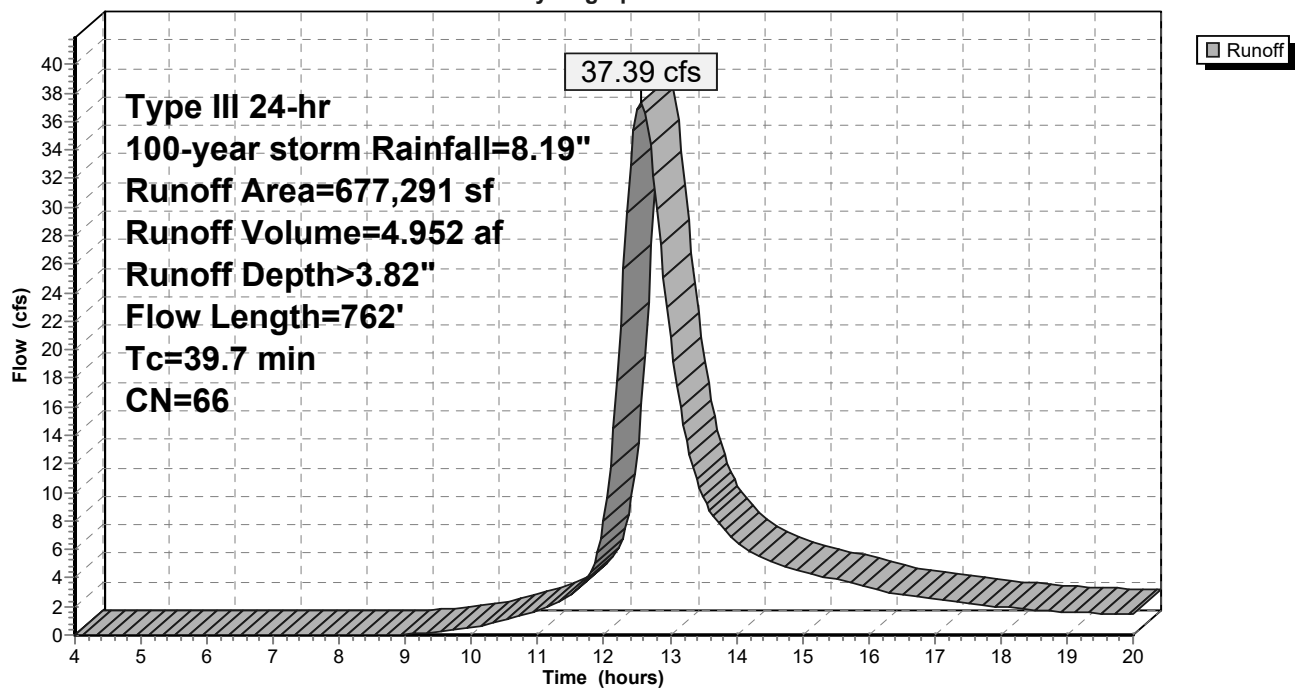
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year storm Rainfall=8.19"

Area (sf)	CN	Description
35,132	98	Paved parking, HSG A
160,672	55	Woods, Good, HSG B
53,771	61	>75% Grass cover, Good, HSG B
427,716	68	1 acre lots, 20% imp, HSG B
677,291	66	Weighted Average
556,616		82.18% Pervious Area
120,675		17.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	100	0.0200	0.08		Sheet Flow, SEGMENT 1 Woods: Light underbrush n= 0.400 P2= 3.16"
8.0	239	0.0100	0.50		Shallow Concentrated Flow, SEGMENT 2 Woodland Kv= 5.0 fps
10.1	423	0.0100	0.70		Shallow Concentrated Flow, SEGMENT 3 Short Grass Pasture Kv= 7.0 fps
39.7	762	Total			

Subcatchment DA1: DA1

Hydrograph



SUBEN LLC PRE CONDITIONS

Type III 24-hr 100-year storm Rainfall=8.19"

Prepared by Hudson Land Design

Revised 1/30/23 Printed 3/17/2024

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Page 9

Summary for Pond 1P: Onsite Wetland

Inflow Area = 15.548 ac, 17.82% Impervious, Inflow Depth > 3.82" for 100-year storm event
 Inflow = 37.39 cfs @ 12.56 hrs, Volume= 4.952 af
 Outflow = 9.03 cfs @ 13.57 hrs, Volume= 4.938 af, Atten= 76%, Lag= 60.8 min
 Primary = 9.03 cfs @ 13.57 hrs, Volume= 4.938 af

Routing by Dyn-Stor-Ind method, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 173.20' @ 13.57 hrs Surf.Area= 35,030 sf Storage= 82,877 cf

Plug-Flow detention time= 91.7 min calculated for 4.938 af (100% of inflow)
 Center-of-Mass det. time= 90.6 min (912.3 - 821.7)

Volume	Invert	Avail.Storage	Storage Description
#1	168.00'	177,174 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
168.00	400	0	0
169.00	2,046	1,223	1,223
170.00	11,475	6,761	7,984
171.00	20,035	15,755	23,739
172.00	26,355	23,195	46,934
173.00	32,322	29,339	76,272
174.00	46,128	39,225	115,497
175.00	77,225	61,677	177,174

Device	Routing	Invert	Outlet Devices
#1	Primary	168.00'	15.0" Round Culvert L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 168.00' / 166.00' S= 0.0333 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=9.03 cfs @ 13.57 hrs HW=173.20' (Free Discharge)

↑**1=Culvert** (Barrel Controls 9.03 cfs @ 7.36 fps)

SUBEN LLC PRE CONDITIONS

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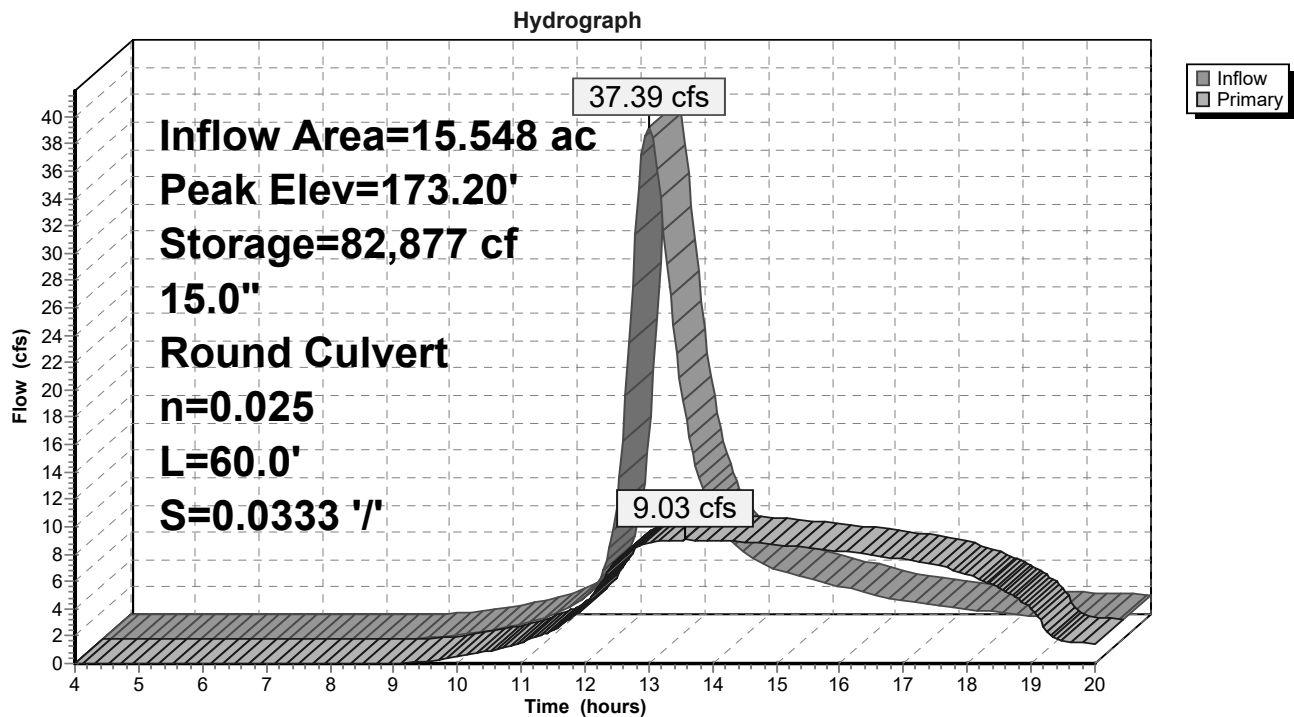
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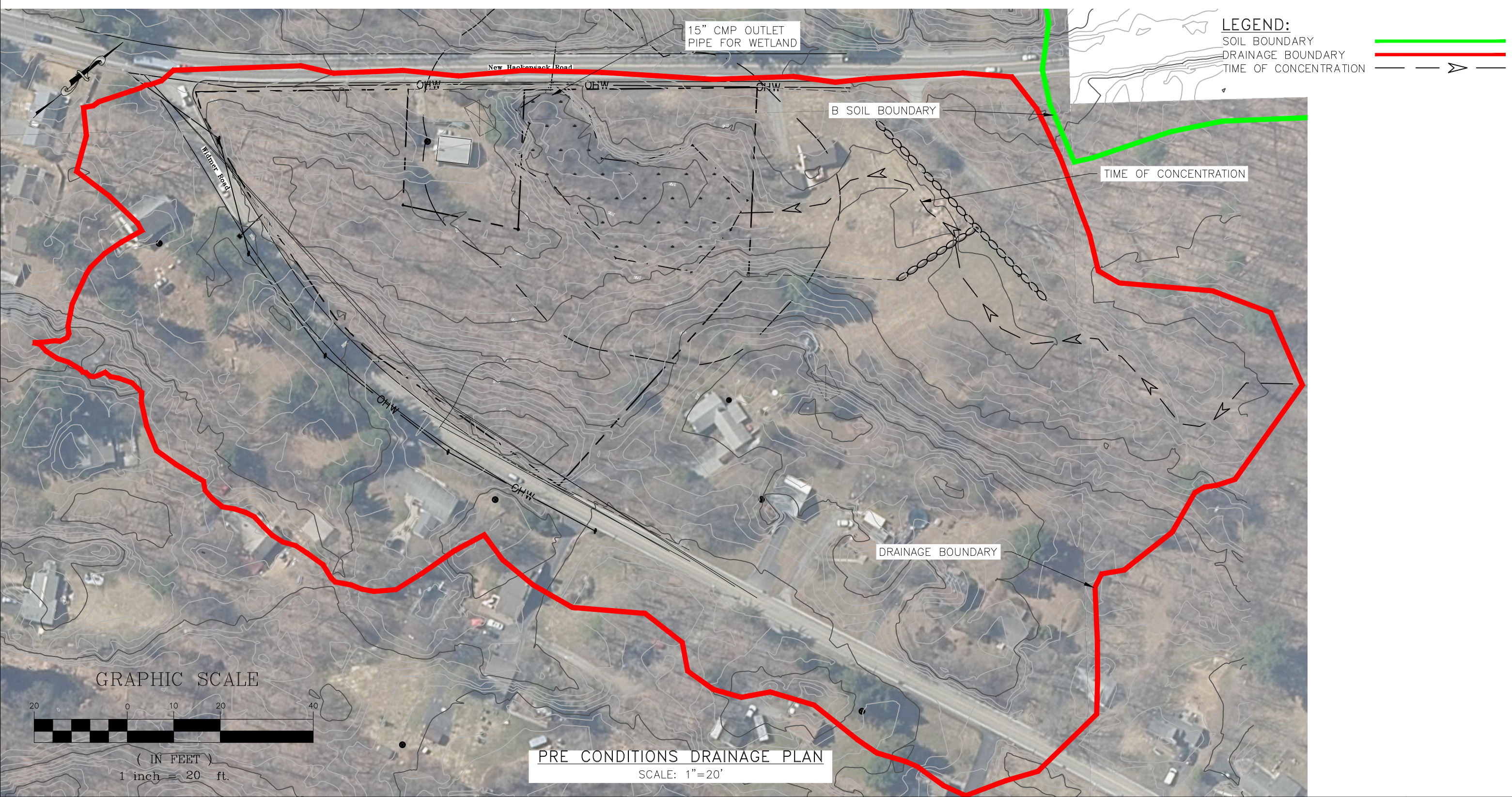
Type III 24-hr 100-year storm Rainfall=8.19"

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Page 10

Pond 1P: Onsite Wetland





DRAWN BY: CMB		CHECKED BY: MAB	
REVISIONS:			
NO.	DATE	DESCRIPTION	BY





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174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926

SEAL

PRE CONDITIONS DRAINAGE PLAN

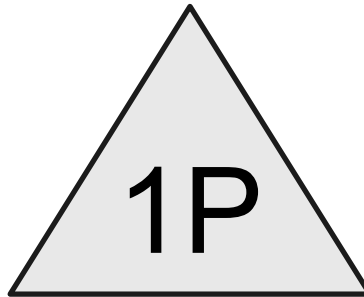
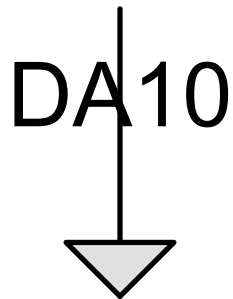
SUBEN, LLC SUBDIVISION

WIDMER ROAD
TOWN OF WAPPINGER
DUTCHESS COUNTY, NEW YORK
TAX ID:

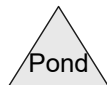
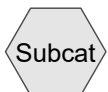
JOB #:	2023:031
DATE:	3/18/24
SCALE:	1"=100'
TITLE:	DR2
SHEET:	1 OF 2

APPENDIX E

PRE-DEVELOPMENT CONDITIONS



Onsite Wetland



Routing Diagram for SUBEN LLC POST CONDITIONS, Revised 1/30/23

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SUBEN LLC POST CONDITIONS

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Type III 24-hr 1-year storm Rainfall=2.61"

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Page 2

Summary for Subcatchment DA10: DA10

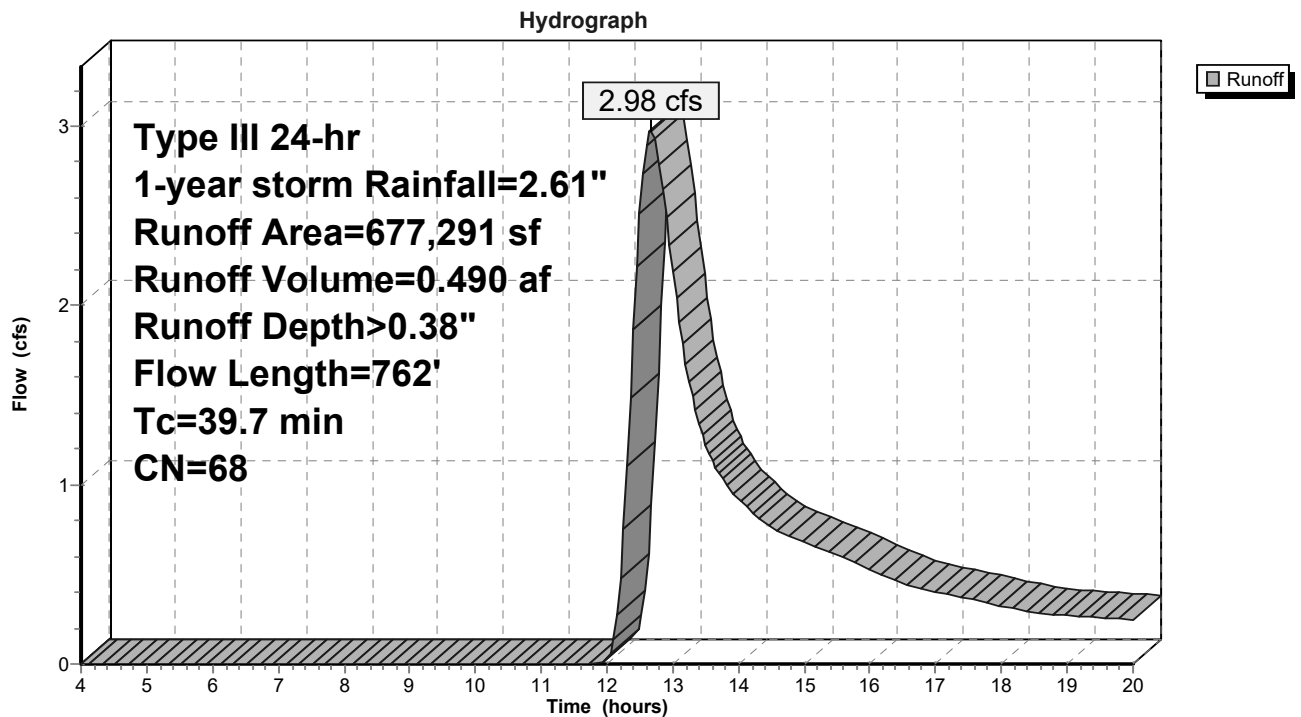
Runoff = 2.98 cfs @ 12.67 hrs, Volume= 0.490 af, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year storm Rainfall=2.61"

Area (sf)	CN	Description
35,132	98	Paved parking, HSG A
75,272	55	Woods, Good, HSG B
53,771	61	>75% Grass cover, Good, HSG B
513,116	68	1 acre lots, 20% imp, HSG B
677,291	68	Weighted Average
539,536		79.66% Pervious Area
137,755		20.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	100	0.0200	0.08		Sheet Flow, SEGMENT 1 Woods: Light underbrush n= 0.400 P2= 3.16"
8.0	239	0.0100	0.50		Shallow Concentrated Flow, SEGMENT 2 Woodland Kv= 5.0 fps
10.1	423	0.0100	0.70		Shallow Concentrated Flow, SEGMENT 3 Short Grass Pasture Kv= 7.0 fps
39.7	762	Total			

Subcatchment DA10: DA10



SUBEN LLC POST CONDITIONS

Type III 24-hr 1-year storm Rainfall=2.61"

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Page 3

Summary for Pond 1P: Onsite Wetland

Inflow Area = 15.548 ac, 20.34% Impervious, Inflow Depth > 0.38" for 1-year storm event
 Inflow = 2.98 cfs @ 12.67 hrs, Volume= 0.490 af
 Outflow = 2.79 cfs @ 12.80 hrs, Volume= 0.486 af, Atten= 6%, Lag= 7.7 min
 Primary = 2.79 cfs @ 12.80 hrs, Volume= 0.486 af

Routing by Dyn-Stor-Ind method, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 168.99' @ 12.80 hrs Surf.Area= 2,028 sf Storage= 1,201 cf

Plug-Flow detention time= 7.9 min calculated for 0.485 af (99% of inflow)
 Center-of-Mass det. time= 5.6 min (877.5 - 872.0)

Volume	Invert	Avail.Storage	Storage Description
#1	168.00'	177,174 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
168.00	400	0	0
169.00	2,046	1,223	1,223
170.00	11,475	6,761	7,984
171.00	20,035	15,755	23,739
172.00	26,355	23,195	46,934
173.00	32,322	29,339	76,272
174.00	46,128	39,225	115,497
175.00	77,225	61,677	177,174

Device	Routing	Invert	Outlet Devices
#1	Primary	168.00'	15.0" Round Culvert L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 168.00' / 166.00' S= 0.0333 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=2.78 cfs @ 12.80 hrs HW=168.99' (Free Discharge)

↑**1=Culvert** (Inlet Controls 2.78 cfs @ 2.67 fps)

SUBEN LLC POST CONDITIONS

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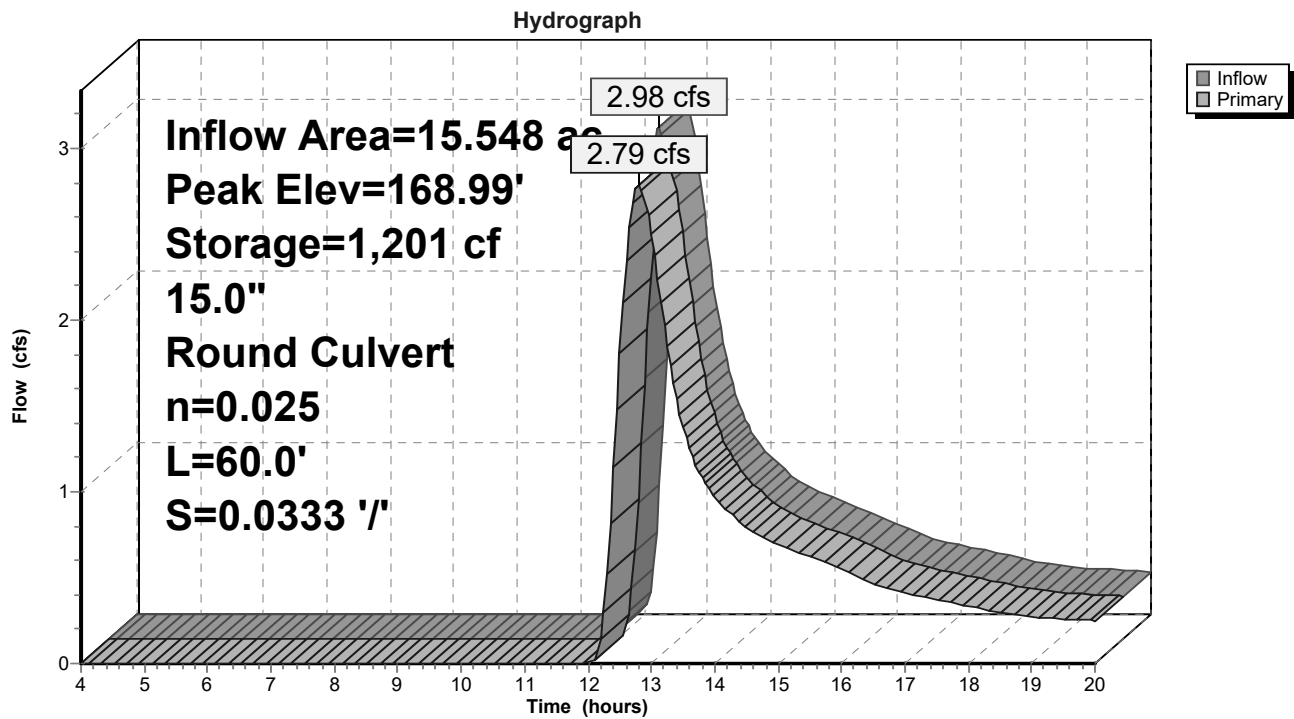
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Type III 24-hr 1-year storm Rainfall=2.61"

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Page 4

Pond 1P: Onsite Wetland



SUBEN LLC POST CONDITIONS

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Type III 24-hr 10-year storm Rainfall=4.66"

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Page 5

Summary for Subcatchment DA10: DA10

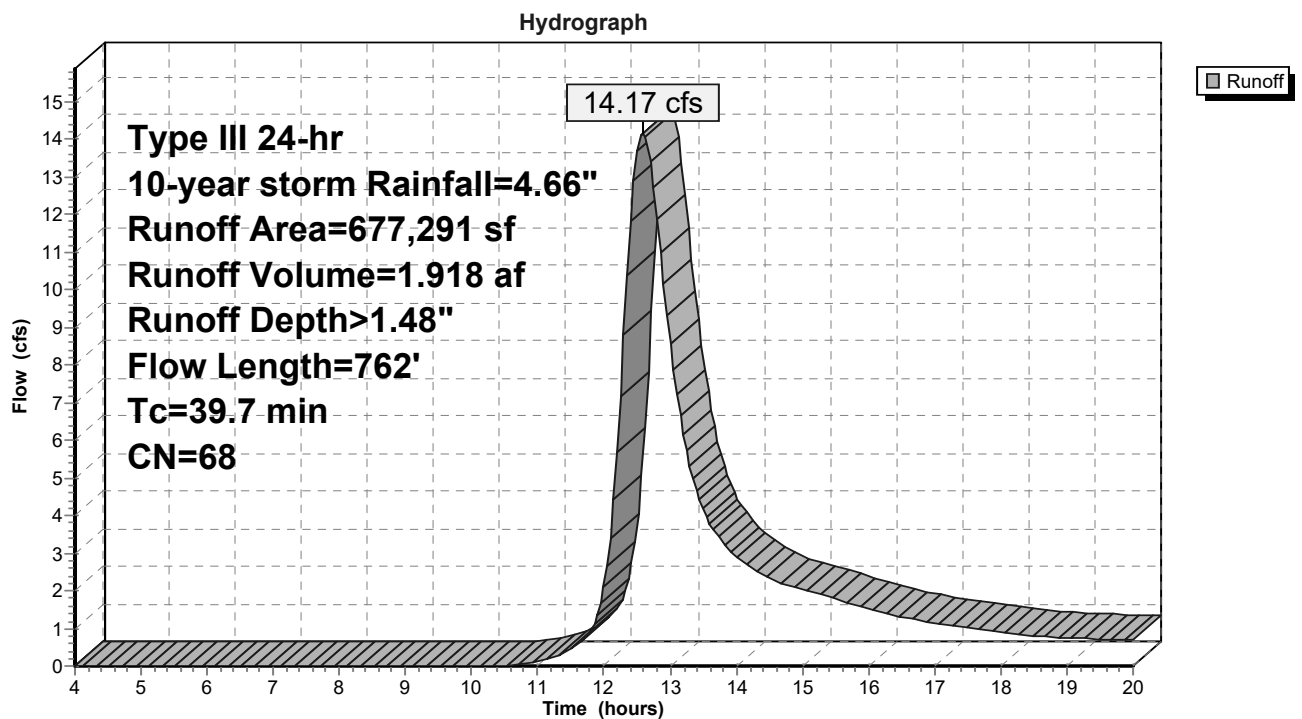
Runoff = 14.17 cfs @ 12.59 hrs, Volume= 1.918 af, Depth> 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year storm Rainfall=4.66"

Area (sf)	CN	Description
35,132	98	Paved parking, HSG A
75,272	55	Woods, Good, HSG B
53,771	61	>75% Grass cover, Good, HSG B
513,116	68	1 acre lots, 20% imp, HSG B
677,291	68	Weighted Average
539,536		79.66% Pervious Area
137,755		20.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	100	0.0200	0.08		Sheet Flow, SEGMENT 1 Woods: Light underbrush n= 0.400 P2= 3.16"
8.0	239	0.0100	0.50		Shallow Concentrated Flow, SEGMENT 2 Woodland Kv= 5.0 fps
10.1	423	0.0100	0.70		Shallow Concentrated Flow, SEGMENT 3 Short Grass Pasture Kv= 7.0 fps
39.7	762	Total			

Subcatchment DA10: DA10



SUBEN LLC POST CONDITIONS

Type III 24-hr 10-year storm Rainfall=4.66"

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Page 6

Summary for Pond 1P: Onsite Wetland

Inflow Area = 15.548 ac, 20.34% Impervious, Inflow Depth > 1.48" for 10-year storm event
 Inflow = 14.17 cfs @ 12.59 hrs, Volume= 1.918 af
 Outflow = 6.78 cfs @ 13.14 hrs, Volume= 1.910 af, Atten= 52%, Lag= 33.1 min
 Primary = 6.78 cfs @ 13.14 hrs, Volume= 1.910 af

Routing by Dyn-Stor-Ind method, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 170.73' @ 13.14 hrs Surf.Area= 17,766 sf Storage= 18,729 cf

Plug-Flow detention time= 24.6 min calculated for 1.910 af (100% of inflow)
 Center-of-Mass det. time= 23.2 min (863.3 - 840.1)

Volume	Invert	Avail.Storage	Storage Description
#1	168.00'	177,174 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
168.00	400	0	0
169.00	2,046	1,223	1,223
170.00	11,475	6,761	7,984
171.00	20,035	15,755	23,739
172.00	26,355	23,195	46,934
173.00	32,322	29,339	76,272
174.00	46,128	39,225	115,497
175.00	77,225	61,677	177,174

Device	Routing	Invert	Outlet Devices
#1	Primary	168.00'	15.0" Round Culvert L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 168.00' / 166.00' S= 0.0333 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=6.78 cfs @ 13.14 hrs HW=170.73' (Free Discharge)

↑**1=Culvert** (Inlet Controls 6.78 cfs @ 5.52 fps)

SUBEN LLC POST CONDITIONS

Prepared by Hudson Land Design

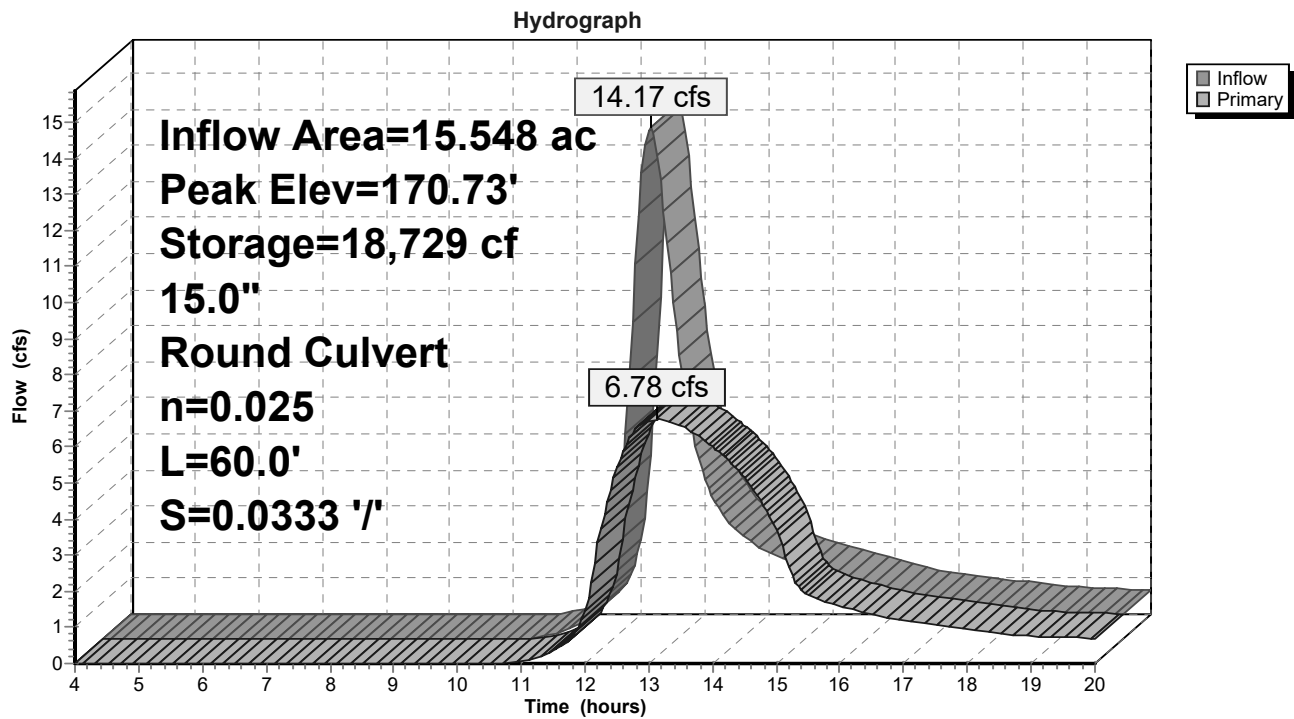
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Type III 24-hr 10-year storm Rainfall=4.66"

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Page 7

Pond 1P: Onsite Wetland



SUBEN LLC POST CONDITIONS

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Type III 24-hr 100-year storm Rainfall=8.19"

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Page 8

Summary for Subcatchment DA10: DA10

Runoff = 39.55 cfs @ 12.55 hrs, Volume= 5.241 af, Depth> 4.04"

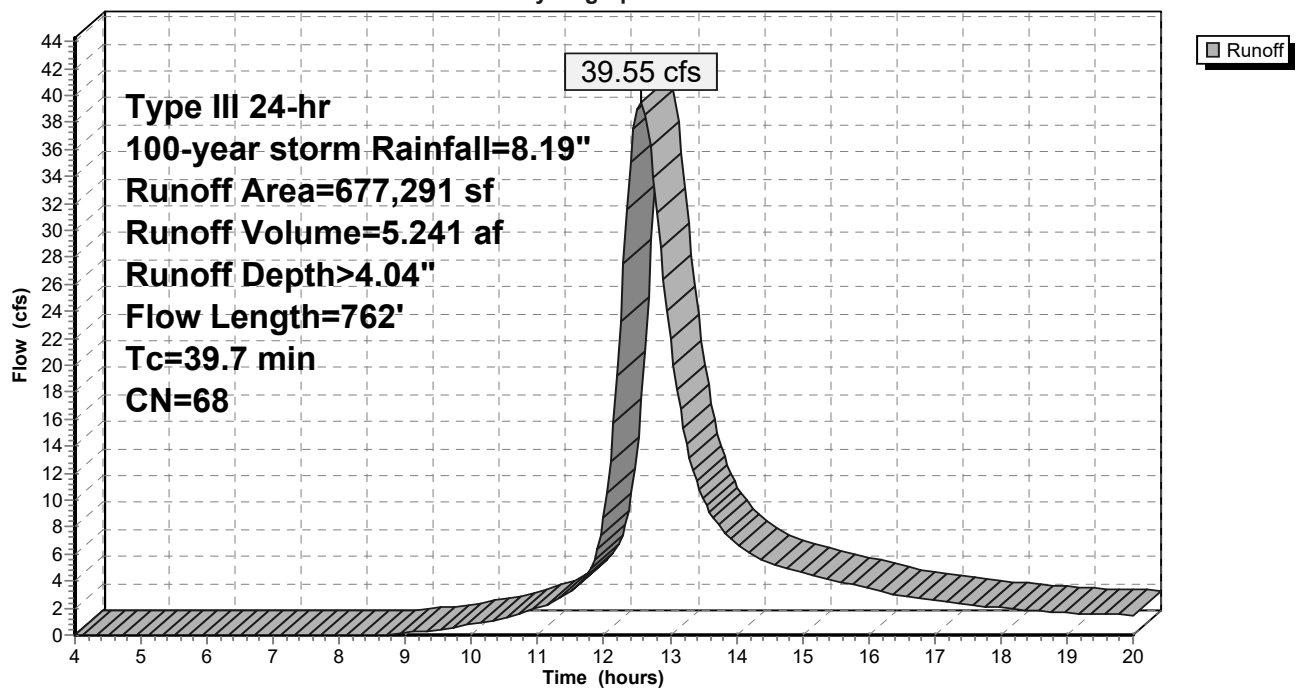
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year storm Rainfall=8.19"

Area (sf)	CN	Description
35,132	98	Paved parking, HSG A
75,272	55	Woods, Good, HSG B
53,771	61	>75% Grass cover, Good, HSG B
513,116	68	1 acre lots, 20% imp, HSG B
677,291	68	Weighted Average
539,536		79.66% Pervious Area
137,755		20.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	100	0.0200	0.08		Sheet Flow, SEGMENT 1 Woods: Light underbrush n= 0.400 P2= 3.16"
8.0	239	0.0100	0.50		Shallow Concentrated Flow, SEGMENT 2 Woodland Kv= 5.0 fps
10.1	423	0.0100	0.70		Shallow Concentrated Flow, SEGMENT 3 Short Grass Pasture Kv= 7.0 fps
39.7	762	Total			

Subcatchment DA10: DA10

Hydrograph



SUBEN LLC POST CONDITIONS

Type III 24-hr 100-year storm Rainfall=8.19"

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Page 9

Summary for Pond 1P: Onsite Wetland

Inflow Area = 15.548 ac, 20.34% Impervious, Inflow Depth > 4.04" for 100-year storm event
 Inflow = 39.55 cfs @ 12.55 hrs, Volume= 5.241 af
 Outflow = 9.17 cfs @ 13.59 hrs, Volume= 5.226 af, Atten= 77%, Lag= 62.3 min
 Primary = 9.17 cfs @ 13.59 hrs, Volume= 5.226 af

Routing by Dyn-Stor-Ind method, Time Span= 4.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 173.38' @ 13.59 hrs Surf.Area= 37,612 sf Storage= 89,671 cf

Plug-Flow detention time= 98.0 min calculated for 5.210 af (99% of inflow)
 Center-of-Mass det. time= 96.6 min (915.1 - 818.5)

Volume	Invert	Avail.Storage	Storage Description
#1	168.00'	177,174 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
168.00	400	0	0
169.00	2,046	1,223	1,223
170.00	11,475	6,761	7,984
171.00	20,035	15,755	23,739
172.00	26,355	23,195	46,934
173.00	32,322	29,339	76,272
174.00	46,128	39,225	115,497
175.00	77,225	61,677	177,174

Device	Routing	Invert	Outlet Devices
#1	Primary	168.00'	15.0" Round Culvert L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 168.00' / 166.00' S= 0.0333 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=9.17 cfs @ 13.59 hrs HW=173.38' (Free Discharge)

↑**1=Culvert** (Barrel Controls 9.17 cfs @ 7.47 fps)

SUBEN LLC POST CONDITIONS

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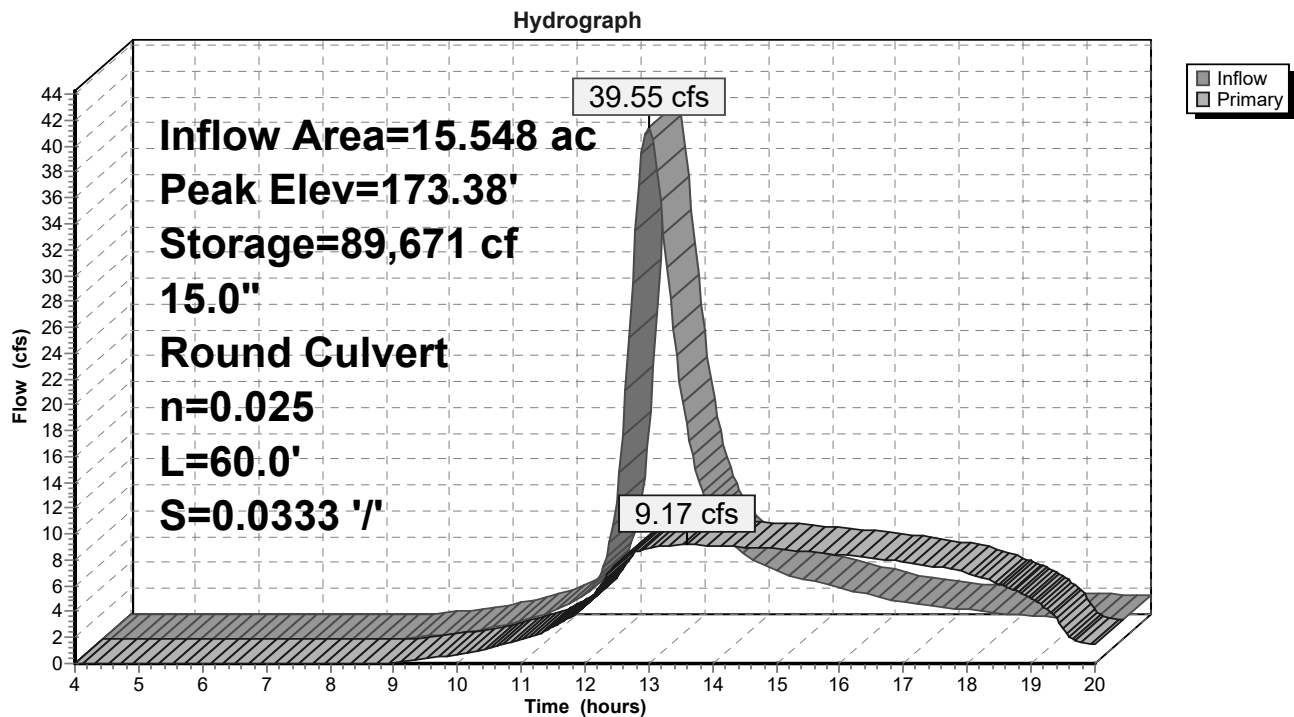
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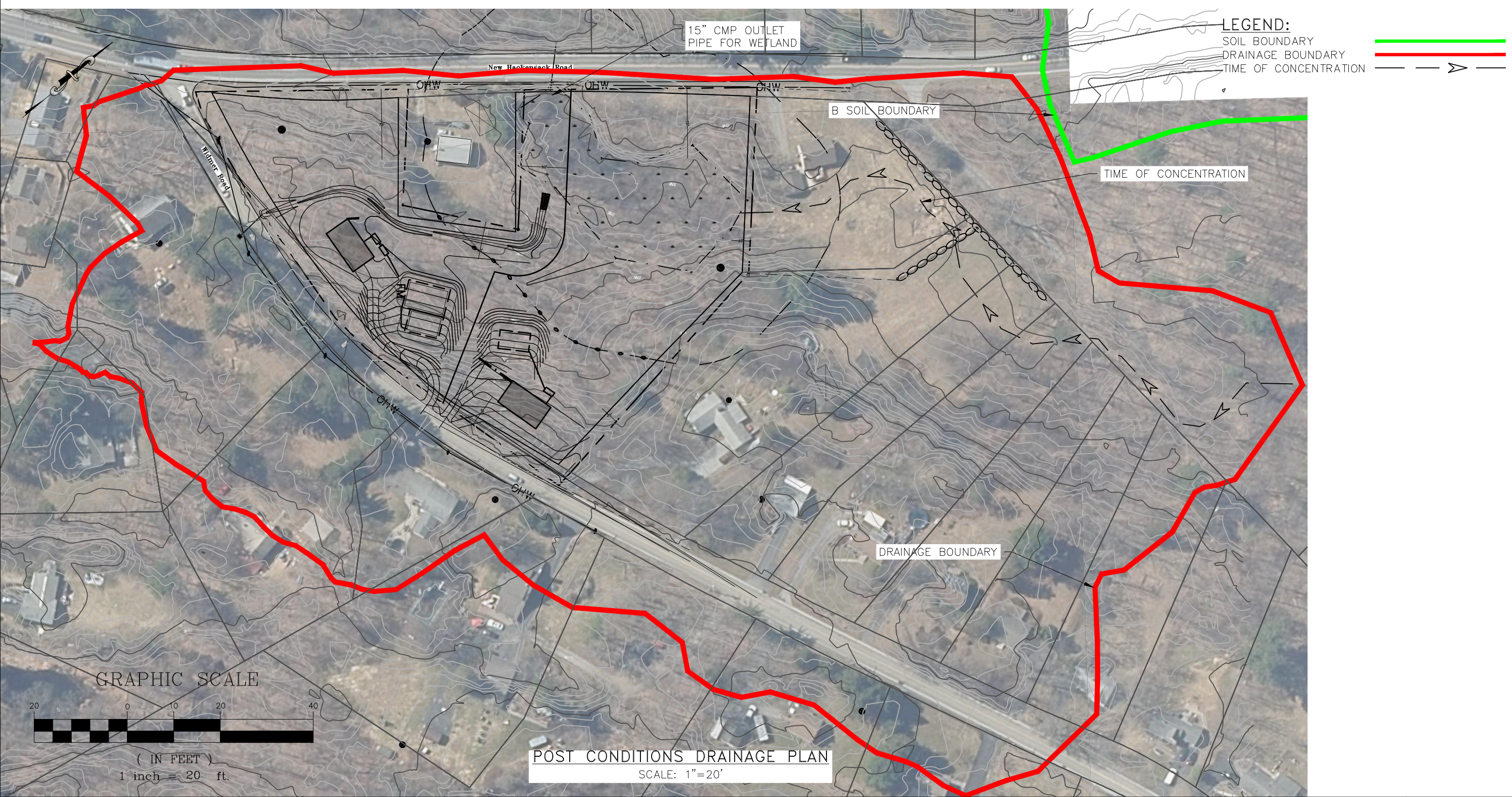
Type III 24-hr 100-year storm Rainfall=8.19"

Revised 1/30/23 Printed 3/17/2024

Page 10

Pond 1P: Onsite Wetland





DRAWN BY: CMB		CHECKED BY: MAB	
REVISIONS:			
NO.	DATE	DESCRIPTION	BY





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PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926

SEAL

POST CONDITIONS DRAINAGE PLAN

SUBEN, LLC SUBDIVISION

WIDMER ROAD
TOWN OF WAPPINGER
DUTCHESS COUNTY, NEW YORK
TAX ID:

JOB #:	2023:031
DATE:	3/18/24
SCALE:	1"=100'
TITLE:	DR2
SHEET:	2 OF 2

APPENDIX F

PRE-CONSTRUCTION SITE ASSESSMENT CHECKLIST

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____
Permit No. _____ **Date of Authorization** _____
Name of Operator _____
Prime Contractor _____

a. Preamble to Site Assessment and Inspections

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector¹ conduct an assessment of the site prior to the commencement of construction² and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization³ using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist

(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

- ☐ ☐ ☐ Has a Notice of Intent been filed with the NYS Department of Conservation?
- ☐ ☐ ☐ Is the SWPPP on-site? Where? _____
- ☐ ☐ ☐ Is the Plan current? What is the latest revision date? _____
- ☐ ☐ ☐ Is a copy of the NOI (with brief description) onsite? Where? _____
- ☐ ☐ ☐ Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

- ☐ ☐ ☐ Are construction limits clearly flagged or fenced?
- ☐ ☐ ☐ Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
- ☐ ☐ ☐ Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

- ☐ ☐ ☐ Clean stormwater runoff has been diverted from areas to be disturbed.
- ☐ ☐ ☐ Bodies of water located either on site or in the vicinity of the site have been identified and protected.
- ☐ ☐ ☐ Appropriate practices to protect on-site or downstream surface water are installed.
- ☐ ☐ ☐ Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

- ☐ ☐ ☐ A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
- ☐ ☐ ☐ Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
- ☐ ☐ ☐ Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

- ☐ ☐ ☐ Silt fence material and installation comply with the standard drawing and specifications.
- ☐ ☐ ☐ Silt fences are installed at appropriate spacing intervals
- ☐ ☐ ☐ Sediment/detention basin was installed as first land disturbing activity.
- ☐ ☐ ☐ Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

- ☐ ☐ ☐ The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
- ☐ ☐ ☐ The plan is contained in the SWPPP on page _____
- ☐ ☐ ☐ Appropriate materials to control spills are onsite. Where? _____

APPENDIX G

CONTRACTOR & SUBCONTRACTOR CERTIFICATIONS

CERTIFICATION STATEMENT

“I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from 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 referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.”

Contractor:

Name: _____

Signature: _____

Title: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Site Address: _____

Specific SWPPP Responsibilities:

Date of Certification: _____

Name and Title of Trained Contractor for SWPPP
Implementation: _____

CERTIFICATION STATEMENT

“I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from 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 referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.”

Sub-Contractor:

Name: _____

Signature: _____

Title: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Site Address: _____

Specific SWPPP Responsibilities:

Date of Certification: _____

Name and Title of Trained Contractor for SWPPP
Implementation: _____

APPENDIX H

QUALIFIED PROFESSIONAL CERTIFICATION

QUALIFIED PROFESSIONAL'S CERTIFICATION

"I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the Pre-Construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (Print):_____

Title:_____

Date:_____

Company Name:_____

Company Address:_____

Company Phone Number:_____

Company Email:_____

Signature:_____

APPENDIX I

OWNER / OPERATOR CERTIFICATION

CERTIFICATION STATEMENT

“I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, I am acknowledging that this SWPPP has been developed and will be implemented as the first element of construction and agree to comply with all the terms and conditions of the general permit for which the NOI is being submitted.”

Name (Print): _____

Title: _____

Date: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Company Email: _____

Signature: _____

APPENDIX J

POST MAINTENANCE CHECKLIST

Open Channel Operation, Maintenance, and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Contributing areas clean of debris		
2. Check Dams or Energy Dissipators (Annual, After Major Storms)		
No evidence of flow going around structures		
No evidence of erosion at downstream toe		
Soil permeability		
Groundwater / bedrock		
3. Vegetation (Monthly)		
Mowing done when needed		
Minimum mowing depth not exceeded		
No evidence of erosion		
Fertilized per specification		
4. Dewatering (Monthly)		
Dewaterers between storms		

MAINTENANCE ITEM	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Sediment deposition (Annual)		
Clean of sediment		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repairs		
No evidence of erosion		

Comments:

Actions to be Taken:

APPENDIX K

CONSTRUCTION INSPECTION REPORT

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

- 1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
- 2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;
- 3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
- 4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);
- 5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and
- 6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)

Date of Inspection

Qualified Inspector (print name)

Qualified Inspector Signature

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

Maintaining Water Quality**Yes No NA**

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

Housekeeping

1. General Site Conditions

Yes No NA

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

2. Temporary Stream Crossing

Yes No NA

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

3. Stabilized Construction Access

Yes No NA

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

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

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

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

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

3. Interceptor Dikes and Swales

Yes No NA

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

4. Stone Check Dam

Yes No NA

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

5. Rock Outlet Protection

Yes No NA

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

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

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

2. Revegetation

Yes No NA

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

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

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

Sediment accumulation is ____% of design capacity.

Sediment Control Practices (continued)

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

Yes No NA

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

Sediment accumulation ____% of design capacity.

3. Temporary Sediment Trap

Yes No NA

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

Sediment accumulation is ____% of design capacity.

4. Temporary Sediment Basin

Yes No NA

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

Sediment accumulation is ____% of design capacity.

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

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

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
 - a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
 - b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:[illegible]

APPENDIX L

NOTICE OF TERMINATION

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

(NOTE: Submit completed form to address above)

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

Please indicate your permit identification number: NYR ____

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

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

9b. ☐ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____

(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. ☐ Other (Explain on Page 2)

IV. Final Site Information:

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

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

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

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

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

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

- ☐ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- ☐ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- ☐ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.
- ☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

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

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? ☐ yes
☐ no
(If Yes, complete section VI - "MS4 Acceptance" statement)

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

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

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

Printed Name:

Title/Position:

Signature:

Date:

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

VII. Qualified Inspector Certification - Final Stabilization:

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

Printed Name:

Title/Position:

Signature:

Date:

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

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

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

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

Printed Name:

Title/Position:

Signature:

Date:

(NYS DEC Notice of Termination - January 2015)