

Tefft Meadows

Apartments

**8 Paul Street
Village of Marcellus
Onondaga County, NY
RZE# 21063**



**SWPPP
01/5/2022**

Prepared for:
8 Paul Street, LLC

RZ Engineering, PLLC

STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

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1.0 – SUMMARY

8 Paul Street, LLC proposes to redevelop an existing $6.5\pm$ acre parcel located at 8 Paul Street, in the Town of Marcellus, Onondaga County, NY. Currently existing on the parcel is $130,564\pm$ sf of asphalt parking, and existing buildings all of which is proposed for removal. Proposal for development will include a proposed 60-unit apartment building with associated parking and driveway entrances. Proposed development will result in an overall impervious coverage decrease per the watershed limits of 29%. The disturbed area of the site is $4.75\pm$ acres. An aerial photo and USGS Topographic Map have been provided in the report, see Figures 1 and 2.

2.0 – OBJECTIVE

The purpose of this Report is to describe the additional stormwater management and erosion control measures for the site and the rationale for their use. This Report has been prepared in accordance with the United States Department of Agriculture (USDA) - Soil Conservation Service (SCS) "NYS Standards and Specifications for Erosion and Sediment Control," the New York State Department of Environmental Conservation (NYSDEC) "NYS Stormwater Management Design Manual," and the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activities."

This report will provide a narrative description of the proposed site improvements including stormwater management structures and erosion control methods to be temporarily or permanently employed at the site.

A copy of this SWPPP shall be maintained on site by the owner/contractor for the duration of the construction process.

3.0 – EXISTING SITE CONDITIONS

Existing Site Use

8 Paul Street, LLC proposes to redevelop an existing parcel located at 8 Paul Street in the Village of Marcellus, Onondaga County, NY. Currently existing on the parcel is $130,564 \pm$ sf of asphalt parking, and existing buildings all of which is proposed for removal. There is one existing entrance from Paul Street.

The location of the site in relation to major roads and other points of reference are presented in Figures 1-3 along with an aerial photo of the site, general environmental mapping, and general vicinity.

For the purpose of analysis, one watershed was delineated in the existing condition. Water within EXDA-1 generally flows east to Nine Mile Creek. Figure 4 has been provided to show the drainage area and time of concentration for the existing site area. All stormwater runoff eventually discharges to Nine Mile Creek.

According to soil information provided by the National Cooperative Soil Survey, the site consists of Howard gravelly loam – HSG Type A. The existing land-surface cover descriptions and totals for this site within the site watershed are described as follows:

- Impervious Areas (Paved parking) – $2.997 \pm$ ac
- Grass Cover, Good, HSG Type A – $1.210 \pm$ ac
- Woods, Good, HSG Type A – $1.925 \pm$ ac
- Woods, Good, HSG Type D – $0.359 \pm$ ac

4.0 – PROPOSED SITE USE AND IMPROVEMENTS

Proposed Site Use

For purposes of analysis, the site disturbed area watersheds were analyzed under pre- and post-conditions to determine peak runoff conditions associated with the design of the stormwater control facilities. The post-development watersheds maintained similar acreage to the pre-development watershed. Further discussion of the analysis is discussed in the next few report sections.

Site Improvements

The proposed grading and drainage plan for the site is designed to maintain the existing site drainage ways. Stormwater runoff from site improvements will flow via sheet flow, shallow concentrated flow and channel flow to eventually discharge to Nine Mile Creek.

As stated in Section 1.0, the proposed development will remove all existing impervious pavement and propose a new building and asphalt parking and driveways. The proposed surface coverages for post-development conditions are provided below:

- Impervious Areas (Paved parking, Bldg, Concrete sidewalk, etc.) – $2.125 \pm$ ac
- Grass Cover, Good, HSG Type A – $3.267 \pm$ ac
- Woods, Good, HSG Type D – $1.149 \pm$ ac

5.0 – STORMWATER RUNOFF COMPUTATIONS

This section of the Report outlines the results of a stormwater runoff analysis that was conducted for the proposed site. The analysis includes a comparison of pre-development hydrologic conditions with those of the post-development conditions. This analysis is based on the site watershed's total area under both Pre- and Post-Development Conditions.

HydroCAD Version 10.00 was utilized in this Report for estimating runoff and peak discharges from the site disturbed area watershed. This computerized model was developed by the USDA-SCS to determine runoff volumes and peak rates of discharge, and takes into account watershed area, rainfall frequency, runoff coefficients

characterizing land surfaces, flow duration or time of concentration, and average watershed slopes. Pre- and post-development calculations were generated for a 1, 2, 5, 10, 25, 50 and 100-year frequency, 24-hour storm event. Exhibits outlining stormwater runoff information referenced from the New York Standards and Specifications for Erosion and Sediment Control are presented in Appendix I.

The SCS has developed curve numbers characterizing land surfaces for urban areas and agricultural lands, which were utilized in the computer modeling of this site.

The time of concentration (t_c) value is utilized in the modeling of stormwater runoff for a site. Time of concentration is the duration that it takes for runoff to travel from the hydraulically most distant point of the watershed to a point of interest (outfall) within the watershed. It is also the sum of the travel time from the various consecutive flow segments along the flow path of the watershed to the outfall. The time of concentration is dependent on the velocity of the runoff, and is a function of the surface roughness, slope of the surface, and flow segment length.

Pre-Development Analysis

For purposes of analysis, the disturbed site watershed was analyzed to determine the existing site peak runoff rate to the downstream discharge point. This peak runoff rate at the downstream discharge point was used as the limiting factor when comparing the post-development rates from the site.

The computer modeling results of the pre-development site conditions for a 1, 2, 5, 10, 25, 50 and 100-year, 24-hour storm event indicates that the following peak runoff rates in cubic feet per second (cfs) are anticipated to discharge from the pre-site condition drainage area. Calculations are presented in Appendix C.

Pre-Development Site Watershed

<u>Drainage Area</u>	<u>Area</u>	<u>1 Year 24-hr Storm</u>	<u>2 Year 24-hr Storm</u>	<u>5 Year 24-hr Storm</u>	<u>10 Year 24-hr Storm</u>	<u>25 Year 24-hr Storm</u>	<u>50 Year 24-hr Storm</u>	<u>100 Year 24-hr Storm</u>
(I.D.)	(Acres)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
DA-1	6.540	0.45	1.07	2.43	4.00	6.90	9.84	13.52

Post-Development Analysis

For purposes of analysis, the proposed site construction limits were analyzed under pre- and post-conditions to determine peak runoff conditions associated with the design of the stormwater control facilities. The computer modeling results of the post-development site conditions for a 1, 2, 5, 10, 25, 50 and 100-year 24-hour storm event

indicates that the following peak runoff rates are anticipated to discharge from the post-site condition drainage area. Calculations are presented in Appendix D.

Proposed post-development measures for the site have been outlined in Section 4.0. Stormwater measures for the site will utilize the redevelopment plan found in section 9.2.1.B.I of the NYS Stormwater Design Manual. This plan proposes a reduction of a minimum of 25% of the total disturbed impervious area. Given the site's existing total impervious cover of 130,564 sf, a 25% reduction would yield a required post-development impervious coverage of 97,861 sf. Planned development for the site proposes an impervious coverage in post-development conditions of 92,565± sf. This value achieves a 29±% reduction in impervious cover, exceeding the 25% minimum requirement.

Post-Development Site Watershed

<u>Drainage Area</u>	<u>Area</u>	<u>1 Year 24-hr Storm</u>	<u>1 Year 24-hr Storm</u>	<u>1 Year 24-hr Storm</u>	<u>10 Year 24-hr Storm</u>	<u>25 Year 24-hr Storm</u>	<u>50 Year 24-hr Storm</u>	<u>100 Year 24-hr Storm</u>
(I.D.)	(Acres)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
DA-1	6.540	0.24	0.65	1.67	2.90	5.29	7.77	10.91

Comparison of Pre- and Post-Development Runoff

The peak flow conditions for the pre- and post-development watershed areas of the project site are summarized in the table below:

Pre-Development Watershed vs. Post-Development Watershed (Pre-Routing)

Drainage Area	Drainage Area (ac)	<u>1 Year 24-hr Storm</u>		<u>2 Year 24-hr Storm</u>		<u>5 Year 24-hr Storm</u>		<u>10 Year 24-hr Storm</u>		<u>25 Year 24-hr Storm</u>		<u>50 Year 24-hr Storm</u>		<u>100 Year 24-hr Storm</u>		
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
		(I.D.)	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	
DA-1	6.54	6.54	0.45	0.24	1.07	0.65	2.43	1.67	4.00	2.90	6.90	5.29	9.84	7.77	13.52	10.91

The above table reflects a 46%-19% decrease in peak runoff conditions for the site watershed. Decrease in impervious areas also allows for more opportunities for infiltration on the site. Due to the 29 ±% impervious coverage reduction, there are no proposed storm water mitigation measures required onsite for quantity or quality control according to current NYSDEC Standards within the NYS Stormwater Design Manual in accordance with Section 9.2.B.I of the NYS Stormwater Design Manual.

6.0 – STORMWATER MITIGATION AND BMP'S

Due to impervious cover on the site being reduced by 29±% in the post development, quality and quantity criteria for the site are achieved. Therefore, there are no proposed storm water mitigation measures required on the site for quantity or quality control according to current NYSDEC Standards within Section 9.2.1.B.I of the NYS Stormwater Design Manual. Although they are not required, 3 Green Infrastructure practices have been provided on the site. Two grass filter strips have been provided, one to the west of the driveway, which will take runoff from the west side of the parking lot along with some of the rooftop. The other filter strip has been provided to the east of the site, which will take runoff from the parking lot as well as portions of the roof. The third practice, a pea gravel diaphragm, will be placed along the east side of the parking lot.

7.0 – PROPOSED STORMWATER DRAINAGE FACILITIES

Typically, all on site drainage facilities are designed to transmit flows from the 10-year storm event to downstream stormwater Best Management Practices. These calculations can be provided upon request.

8.0 – STORMWATER QUALITY VOLUME

Typically, the water quality volume (denoted as WQV) is designed to improve water quality, sized to capture and treat 90% of the average annual stormwater runoff volume.

It is assumed that by meeting the WQV requirements through the employment of practices outlined in table 5.1 of the “New York State Stormwater Management Design Manual”, a project will meet water quality objectives by default. Due to the reduction in overall runoff when comparing pre and post development watershed for the site and providing more than 25% impervious coverage reduction, there are no proposed storm water mitigation measures needed on the site for quantity or quality control according to current NYSDEC Standards within Section 9.2.1.B.I the NYS Stormwater Design Manual. Therefore, Appendix G has been omitted. Due to the site being in a TMDL, 25% of the 1-year 24-hour post development storm event has to be treated. According to HydroCad the 1-year 24-hour volume is 0.072 af or 3,136 cf, 25% treatment volume of this is 784 cf. A 1,000 cf bioretention facility has been proposed to remove the enhanced phosphorus.

9.0 – PHOSPHORUS REMOVAL

Chapter 10 of the NYS Stormwater Design Manual outlines the requirements for treatment of phosphorus in stormwater. Enhanced Phosphorus Removal requires calculation of the 1 year, 24-hour design storm in the post development watershed. The site is located in a TMDL Phosphorous watershed and therefore, additional phosphorus treatment volume for the 1-year storm event has been provided. A bioretention area has been proposed to treat 25% of the water quality volume based on the post development 1-year 24-hour storm in accordance with Section 10.4 of the NYS Stormwater Design

Manual. The proposed bioretention area is $1000\pm$ cf 1-foot deep.

10.0 – RUNOFF REDUCTION VOLUME AND GREEN PRACTICES

As this site is a redevelopment site, runoff reduction practices are recommended but do not need to be employed. Since the site is reducing impervious cover by $29\pm\%$, the peak flow and peak volume will correspondingly decrease. These reductions will achieve the necessary runoff reduction typically required. However, to be conservative, several practices were utilized and can be seen in the table below:

Green Practices

PRACTICE	WATERSHEDS	TYPE OF REDUCTION
• Grass Filter Strip	Post Development DA-1	Area reduction practice with RRv

Soil Restoration Requirements **

According to Section 5 of the NYS Stormwater Design Manual, soil restoration practices must be applied across the site in areas of soil disturbance. This is necessary to reclaim the original properties and porosity of the soil before construction. The benefits of soil restoration include but are not limited to:

- Less stormwater runoff
- Increased porosity on redevelopment sites where impervious cover is converted to pervious
- Achieves performance standards on runoff reduction practices
- Healthier, aesthetically pleasing landscapes
- Enhances direct groundwater recharge
- Promotes successful long term revegetation by restoring soil organic matter, permeability, drainage and water holding capacity for healthy root system development of trees, shrubs and deep-rooted ground covers, minimizing lawn chemical requirements, plant drowning during wet periods, and burnout during dry periods

** taken from the NYS Stormwater Management Manual (version 2010)

Table 5.3 Soil Restoration Requirements

Type of Soil Disturbance	Soil Restoration Requirement		Comments/Examples
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
Areas where topsoil is stripped only - no change in grade	HSG A &B	HSG C&D	Protect area from any ongoing construction activities.
	apply 6 inches of topsoil	Aerate* and apply 6 inches of topsoil	
Areas of cut or fill	HSG A &B	HSG C & D	
	Aerate and apply 6 inches of topsoil	Apply full Soil Restoration **	
Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundation walls)	Apply full Soil Restoration (de-compaction and compost enhancement)		
Areas where Runoff Reduction and/or Infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.		Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment projects	Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.		

*Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.

** Per “Deep Ripping and De-compaction, DEC 2008”.

Many of the Runoff Reduction practices will require soil restoration measures applied in and around the practice in order to reach the desired runoff reduction performance. Table 5.13 on page 5-22 of the NYS Stormwater Design Manual has been included below that highlights these requirements and provides guidance on when to implement soil restoration techniques. Also included is the NYS Stormwater Design Manual section on Practice implementation, Maintenance and Inspection.

Soil Restoration Practice Implementation:

During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following Soil Restoration steps applied:

1. Apply 3 inches of compost over subsoil
2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractormounted disc, or tiller, mixing, and circulating air and compost into subsoils
3. Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site
4. Apply topsoil to a depth of 6 inches

Figure 5. 16 Soil aerator implement



Figure 5. 17 Soil aerator implement



5. Vegetate as required by approved plan.

Figures 5.16 and 5.17 above show two attachments used for soil decompaction. Tilling (step 2 above) should not be performed within the drip line of any existing trees or over utility installations that are within 24 inches of the surface.

Soil Restoration Inspection:

At the end of the project an inspector should be able to push a 3/8" metal bar 12 inches into the soil just with body weight.

Compost Specifications:

Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

Soil Restoration Maintenance:

A simple maintenance agreement should identify where Soil Restoration is applied, where newly restored areas are/cannot be cleared, who the responsible parties are to ensure that routine vegetation improvements are made (i.e., thinning, invasive plant removal, etc.). Soil compost amendments within a filter strip or grass channel should be located in public right of way, or within a dedicated stormwater or drainage easement.

First Year Maintenance Operations Includes:

- Initial inspections for the first six months (once after each storm greater than half- inch)
- Reseeding to repair bare or eroding areas to assure grass stabilization
- Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
- Fertilization may be needed in the fall after the first growing season to increase plant vigor

Ongoing Maintenance:

Two points help ensure lasting results of decompaction:

1. Planting the appropriate ground cover with deep roots to maintain the soil structure
2. Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths. (Sometimes it may be necessary to de-thatch the turf every few years)

11.0 – POSSIBLE CONTAMINANTS FROM CONSTRUCTION ACTIVITIES

During construction contaminants from materials and equipment could enter the stormwater drainage system unintentionally. The contractor should store construction materials and equipment in the designated staging area and all possible contaminants should be stored to prevent damage.

This particular project will require construction equipment such as a backhoe, drum roller, dump trucks, a grader, and bull dozer. These vehicles use oil and petroleum products which if not treated carefully could enter the storm drainage system. Accidental spills should be reported to the Department of Environmental Conservation 24-hour spill response hotline at 1-800-457-7362. On site fueling of construction equipment shall be limited to a bermed/diked area located within the project staging area. The table below provides a guide for quantities that should be reported. Should a spill incident occur, the employee or party responsible for the spill should contain the spill, start cleanup and report the spill to his/ her superiors. The spill should be reported to the appropriate governing agency should the spill exceed the reportable quantity or enter surface waters.

Examples of Reportable Quantities		
<u>Material</u>	<u>Media Released To</u>	<u>Reportable Quantity</u>
Engine oil, fuel, hydraulic and brake fluid	Land	25 gallons
	Water	Visible Sheen
Antifreeze	Land	100 lbs. (13 gal.)
Battery Acid	Land, Water	100 lbs.
Refrigerant	Air	1 lb.
Gasoline	Air, Land, Water	100 lbs.
Engine Degreasers	Air, Land, Water	100 lbs.

All construction waste material such as housing materials and utility installation materials shall be disposed of as required by law.

Wastewater from concrete washout areas is prohibited from discharging directly to any site areas not managed by an appropriate stormwater control measure. Also prohibited are washouts from stucco, paint, form release oils, curing compounds, and other construction materials. Soaps, solvents, fuels, oils, or other pollutants used in vehicle operations or maintenance shall also be controlled by an appropriate stormwater control measure. Staging areas are designated on the plans for storage of equipment and vehicles. Locations subject to the above contaminants outside the staging area shall require additional measures and should be reviewed with the SWPPP inspector and MS4 representative prior to commencement of activities that may result in contamination.

12.0 – EROSION CONTROL MEASURES

Structural erosion and sediment control measures are classified as either temporary or permanent, according to how they are used. Temporary structural measures shall be used during construction of the site to prevent off-site sedimentation. Permanent structural measures shall be utilized following construction and shall be implemented to convey surface water safely to the existing drainage ways present in the pre-development condition. The permanent structural measures shall remain in-place and continue to function after the completion of construction. General construction notes and maintenance plan for implementing the temporary and permanent stormwater and erosion control structures during and after construction have been developed for the project.

Erosion control measures shall be inspected twice weekly by a Licensed Professional Engineer or Erosion Control Specialist until the site is completely stabilized. Inspections and maintenance of erosion control structures shall be in accordance with the NYS Pollution Discharge Elimination System for Construction Activities GP-0-20-001 (SPDES) program. The owner should file a Notice of Intent (NOI) with the NYS DEC prior to commencement of further construction activities. The NOI should be sent to:

NYSDEC- Notice of Intent
Bureau of Water Permits
625 Broadway
Albany, NY 12233-3505

Temporary Structural Measures

This subsection will describe the specific temporary control measures to be implemented to reduce and/or eliminate erosion and sedimentation during the construction phase of this project. Example details of the following erosion control measures are presented in Appendix I. As construction progresses more site areas may be opened after already constructed areas are permanently stabilized in accordance with the New York State Standards and Specifications for Erosion and Sediment Control.

Silt Fence

A temporary barrier of geotextile fabric (filter cloth) fence shall be used to intercept sediment-laden runoff along the borders of disturbed site areas during construction. A geotextile fabric fence shall also be placed around all permanent stormwater drainage structures, in the absence of straw bale dikes, (catch basins and manholes) to intercept sediment and protect the structure during construction. The geotextile filter fabric fence requires periodic maintenance and should be checked for tears or clogging with silt or debris. Silt can be removed from the woven filter cloth with a stiff brush if clogging occurs.

Stabilized Construction Entrance

A stabilized pad of aggregate underlain with filter cloth shall be positioned at points where traffic will be entering or leaving the construction site area onto public roads. This measure will reduce the tracking of soils onto public roads or streets.

Dust Control

Construction activities should be scheduled to minimize the amount of disturbed area at a single time. If vegetated areas can be left intact to serve as a buffer zone these areas should be maintained where practical. During dry conditions, open soil areas may require hosing down with water to prevent excessive dust. Spray adhesives may be utilized as outlined in the NYS Standards and Specifications for Erosion and Sediment Control. Fences or vegetation may be required to minimize dust pollution to adjacent properties and should be incorporated into the site erosion control plan as required.

Drop Inlet Protection (if required)

A temporary, somewhat permeable barrier shall be installed around inlets in the form of a fence, berm, or excavation around an opening, trapping water and to prevent heavily sediment laden water from entering a storm drain system through inlets. The barrier

should be inspected after each rain event and repairs shall be made as necessary. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the area around the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

Maintenance of Temporary and Permanent Control Structures

Temporary and Permanent Stormwater Facilities during Construction

Temporary stormwater and erosion control structures must be constructed in accordance with their design intent and maintained to prevent sediment-laden runoff from leaving the site during construction. In general, the temporary structures during construction should be inspected on a routine basis and maintained as follows:

- Temporary silt fences, straw bale dikes, and sediment interceptors shall be installed prior to earth disturbance to reduce runoff velocity and transportation of sediment. The stabilization structures shall be inspected weekly and after every rainfall; and the structures cleaned, repaired, or replaced as required. Temporary stabilization structures shall be removed when their contributory drainage area is stabilized.
- All permanent drainage structures, installed as part of the site improvements, shall be inspected weekly and after every rainfall to ensure structural integrity, detect vandalism and damage, and for cleaning. Permanent drainage structures shall be repaired or replaced, as required.
- All disturbed soil areas, upon final grading of topsoil, shall be seeded, and mulched. All seeded areas shall be inspected monthly and after every rainfall and the areas repaired and re-seeded, as required.
- Stabilized construction entrance shall be installed to control erosion at location where traffic will be entering or leaving the construction area. The temporary construction entrance shall be inspected periodically and after each rainfall; and the entrance cleaned, repaired, or replaced, as required. The temporary construction entrance shall be removed when construction is completed and all disturbed areas are stabilized.

Permanent Stormwater Facilities after Construction

Permanent stormwater control structures must be constructed in accordance with their design intent and maintained on a routine basis to remain effective. This site has employed stormwater management facilities. Prior to submission of the Notice of Termination to NYSDEC the contractor shall provide as built drawings of all stormwater best management practices and facilities to allow verification of construction in compliance with this SWPPP and the contract drawings. **It is the responsibility of the**

owner to maintain these facilities as required by the NYS Stormwater Design Manual. Maintenance requirements and design information is included in Appendix K of this report.

In general, the structures after construction should be inspected periodically and maintained as follows:

- Permanent stormwater drainage structures shall be inspected semi-annually and after every 0.5 inches of rainfall to ensure structural integrity, detect vandalism and damage, and for cleaning. The structures shall be repaired or replaced, as required.
- Permanent lawns and grassed areas shall be inspected and maintained on a regular basis, consistent with favorable plant growth, soil, and climatic conditions to insure soil protection and structural integrity of the site's plant cover. Maintenance involves regular seasonal work for mowing, fertilizing, liming, watering, pruning, fire controls, weed, and pest control, re-seeding, and timely repairs, as required. Maintenance of vegetative areas shall also include removal of debris and protection from unintended uses or traffic.
- **Stormwater Best Management Practices used on this site; their design intents and inspection and maintenance punch list forms have been included in Appendix K.**

Site Stabilization

The Owner/Contractor shall initiate stabilization measures as soon as practicable in a portion of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply in the following instances:

- a. Where the initiation of stabilization measures by the 7th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as possible;
- b. Where disturbed area is 5 acres or more, stabilization measures must be employed no more than 7 days after construction activities have temporarily or permanently ceased.

Site Assessment and Inspection

Initial Inspection

The Owner shall have a qualified professional conduct an assessment of the site prior to the commencement of construction. The qualified professional shall certify that the appropriate erosion and sediment controls described in this SWPPP and required by the permit have been adequately installed or implemented to ensure overall preparedness of the site for commencement of construction. The “qualified professional” shall meet the requirements of the SPDES General Permit for Stormwater Runoff from Construction Activity, GP-0-20-001.

Post Construction Inspection

The Owner shall have a qualified professional conduct an assessment of the site after construction is complete. The qualified professional shall be a Licensed Professional Engineer or possess the appropriate certifications for inspection. The qualified professional shall certify that the appropriate erosion and sediment controls and stormwater BMPs described in this SWPPP and required by the permit have been adequately installed or implemented to ensure overall preparedness of the site for commencement of construction. The “qualified professional” shall meet the requirements of the SPDES General Permit for Stormwater Runoff from Construction Activity, GP-0-20-001. If the site is located in an area governed by a traditional MS4, the MS4 must also make a final inspection and sign the Notice of Termination.

In addition, the owner must ensure that a properly qualified inspector is performing inspections of post construction stormwater practices as outlined in the NYS Stormwater Design Manual. The owner shall ensure that a binding maintenance agreement is in place for inspection and maintenance of all stormwater practices and ensure that the inspection and maintenance is performed by a qualified professional. The owner must then identify the responsible party for these inspections and maintenance on the Notice of Termination.

As-Builts

Prior to Submission of the Notice of Termination by a Licensed Professional Engineer and upon completion of the site, a surveyor or appropriate inspector shall be required to produce an AutoCAD or paper as-built map to the design engineer for verification that stormwater items and BMPs were installed as per the approved plans. Topographic as-builts of all overland drainage facilities shall be prepared and submitted to the Engineer for review and approval prior to the execution of the Notice of Termination.

Stormwater BMP Inspection and maintenance punch list forms are provided behind the appropriate design intent page in Appendix K.

Inspections and Records During Construction

Inspection Frequency

After commencement of construction, site inspections shall be conducted by the qualified professional at least twice per week as this site is in a TMDL watershed. Two consecutive working days shall be given between site inspections per week. **Inspection Reports shall be emailed to the City of Syracuse Facilities Engineer Mirza Malkoc at mmalkoc@syr.gov within 24 hours of conducting inspection.** Prior to filing a Notice of Termination (NOT) or at the end of the permit term, the owner shall have the qualified professional perform a final site inspection.

Records During Inspection

A site map shall be maintained on site indicating the extent of all disturbed onsite areas and drainageways throughout the duration of construction. The site map shall contain all areas expected to undergo initial disturbance or significant site work within every 7-day period. The map shall indicate all areas of the site that have undergone temporary or permanent stabilization. All disturbed areas that have not undergone active site work during the previous 7-day inspection period shall be noted on the map. All sediment control measures shall be inspected and the degree of accumulation as a percentage of the sediment storage volume shall be recorded. Inspector must describe and inspect all points of discharge to natural surface water bodies located within, or immediately adjacent to property boundaries. Photographic record of inspections and any deficiencies shall be included in the inspection reports and photos of corrective action must be recorded upon compliance. Any maintenance required for installed erosion and sediment control structures shall be noted, and documentation of areas where adjustments are needed to those measures shall be provided. Any deficiencies identified with the implementation of the SWPPP shall be recorded. Erosion control measures shall be inspected weekly by a Licensed Professional Engineer or Erosion Control Specialist until the site is completely stabilized. Inspections and maintenance of erosion control structures shall be in accordance with the NYS Pollution Discharge Elimination System for Construction Activities GP-0-20-001 (SPDES) program. These inspection reports should be in compliance with the requirements set forth under part IV.C-4 of the general permit. A copy of the general permit is included in Appendix J.

Inspection Log Book

The Owner/ contractor shall maintain an inspection logbook which shall contain a record of all inspection reports. The site logbook shall be maintained **on site** and shall be made available to the permitting authority upon request. The Owner shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis.

Certifications

At the final site inspection, the qualified professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods, and that all temporary erosion and sedimentation measures have been removed. Final certification requires completion of the Notice of Termination form. The Notice of Termination shall be signed by the qualified professional. The owner shall provide the qualified professional with **as built drawings in AutoCAD** format so that the qualified professional can verify that all stormwater practices have been installed in accordance with the approved plans, SWPPP and the General Permit. The owner shall certify that the requirements of the permit have been satisfied within 48 hours of actually meeting such requirements and sign the Notice of Termination.

RELIANCE

Engineer's Certification

The undersigned agrees that this SWPPP has been prepared in accordance with all applicable standards outlined in this report. The undersigned understands that the owner intends to use this SWPPP to support his application for a New York State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Runoff from Construction Activity, GP-0-20-001.

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

Prepared By: Cooper Koehl Date: 01/06/2022
Cooper Koehl
RZ Engineering, PLLC
6320 Fly Road, Suite 109
East Syracuse, NY 13057
(315) 432.1089

Reviewed By: Rudy L. Zona Date: 1/6/22
Rudy L. Zona, P.E.
RZ Engineering, PLLC
6320 Fly Road, Suite 109
East Syracuse, NY 13057
(315) 432.1089

Owner's Certification

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

Owner: _____

Owner's Representative: _____ Date: _____

Title: _____

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

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

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

Contractor's / Sub-Contractor's Certification

Contractor's/Sub-Contractor's Certification "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 New York State Pollution 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 State of New York and could subject me to criminal, civil and/or administrative proceedings."

Contractor: _____

Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date: _____

Contractor's "trained Date: _ : _____

(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)
Contractor is responsible for SWPPP components identified:

SWPPP Inspections

Address: _____

Phone: _____

Fax: _____

Sub-Contractor: _____

Sub-Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date: _____

Sub-Contractor's "trained Date: _ : _____

(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)

Sub-Contractor is responsible for SWPPP components identified:

Address: _____

Phone: _____

Fax: _____

Sub-Contractor: _____

Sub-Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date: _____

Sub-Contractor's "trained: _____

(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)

Sub-Contractor is responsible for SWPPP components identified:

Address: _____

Phone: _____

Fax: _____

Sub-Contractor: _____

Sub-Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date: _____

Sub-Contractor's "trained": _____

(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)

Sub-Contractor is responsible for SWPPP components identified:

Address: _____

Phone: _____

Fax: _____

Sub-Contractor: _____

Sub-Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date: _____

Sub-Contractor's "trained": _____

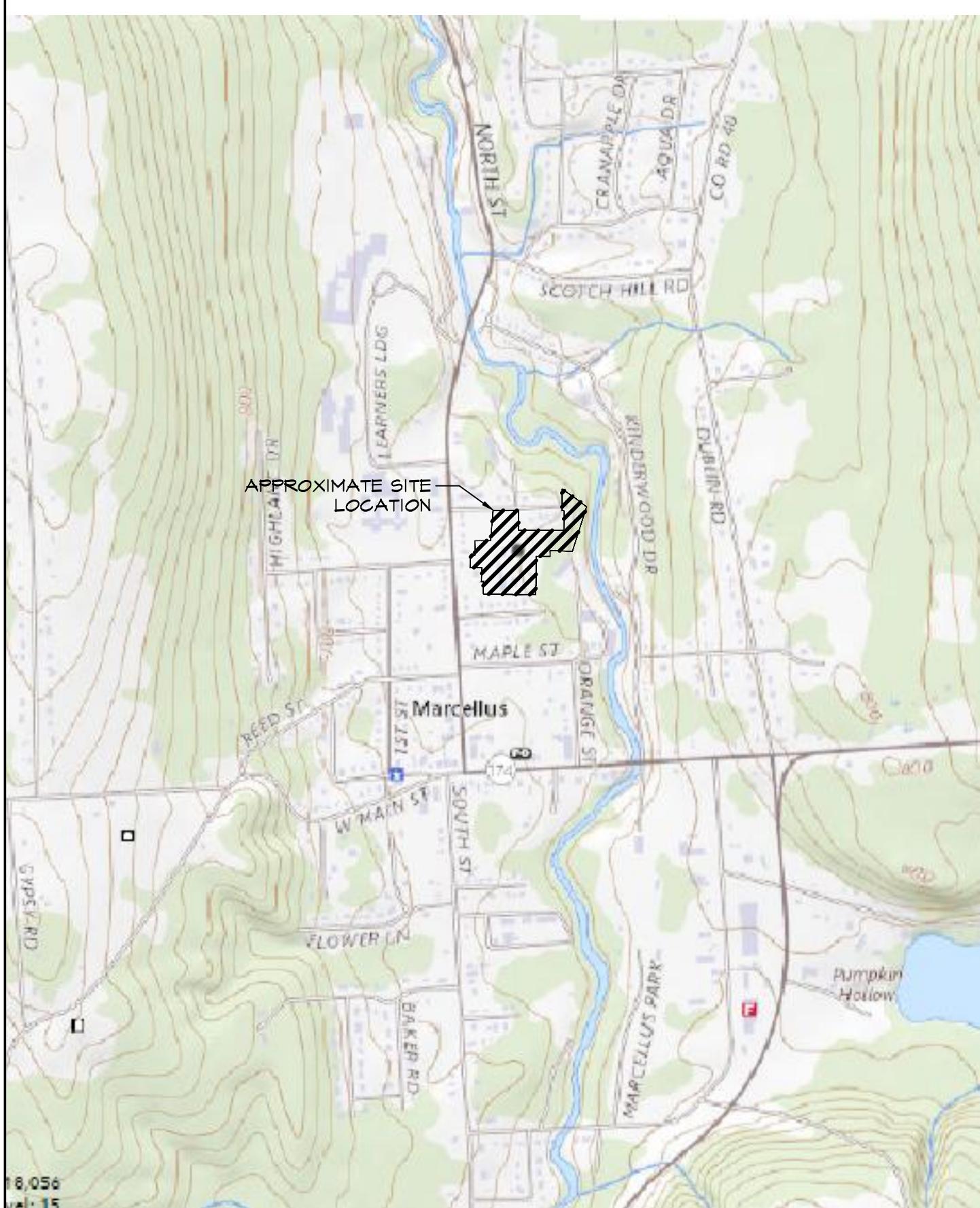
(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)

Sub-Contractor is responsible for SWPPP components identified:

Address: _____

Phone: _____

Fax: _____



RZ Engineering, PLLC

STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

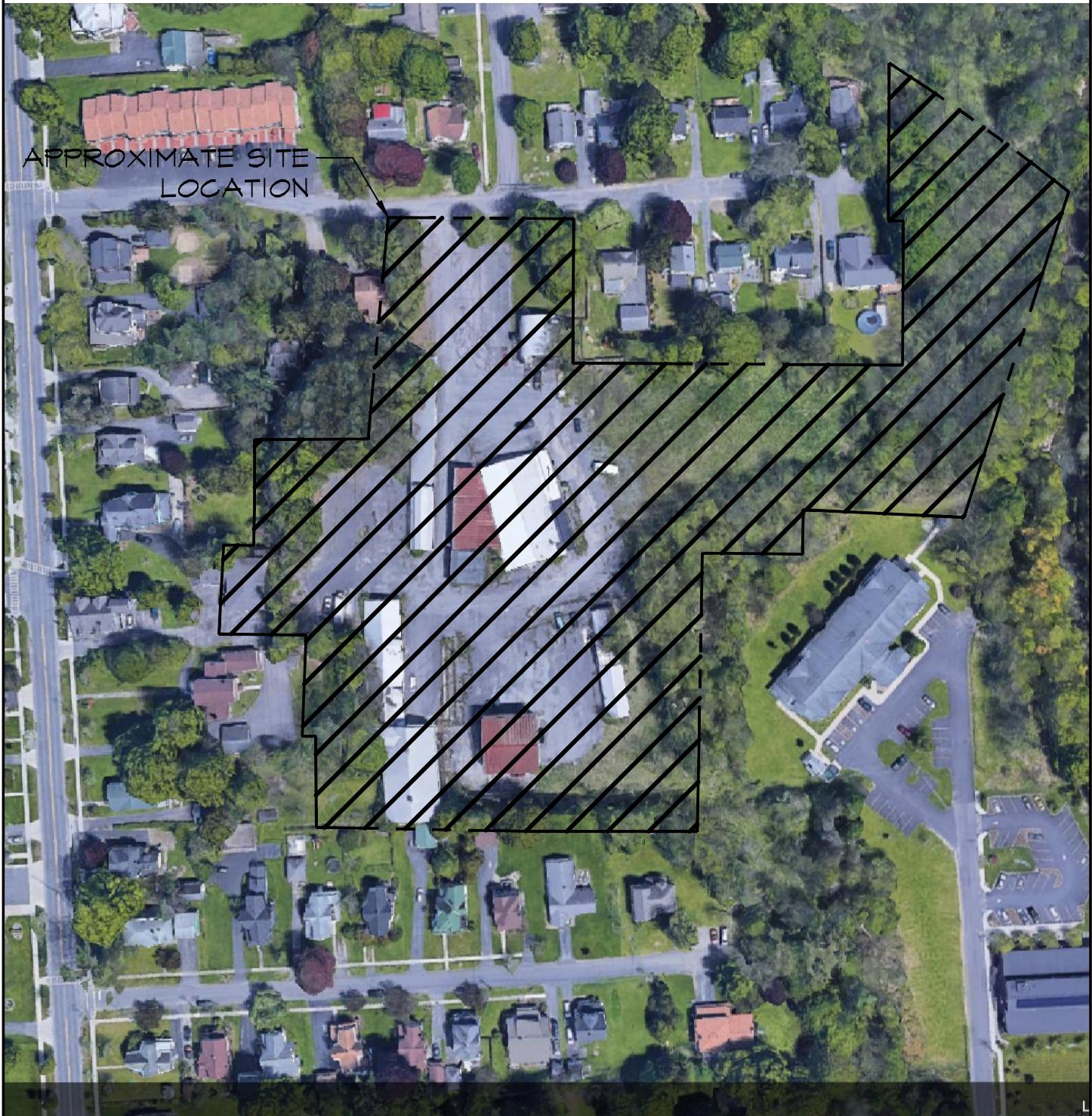


PAUL ST. HOUSING USGS MAP

SCALE 1:1000

FIG 1

FIGURE 1



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PAUL ST HOUSING
AERIAL MAP
SCALE 1:150

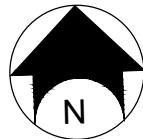
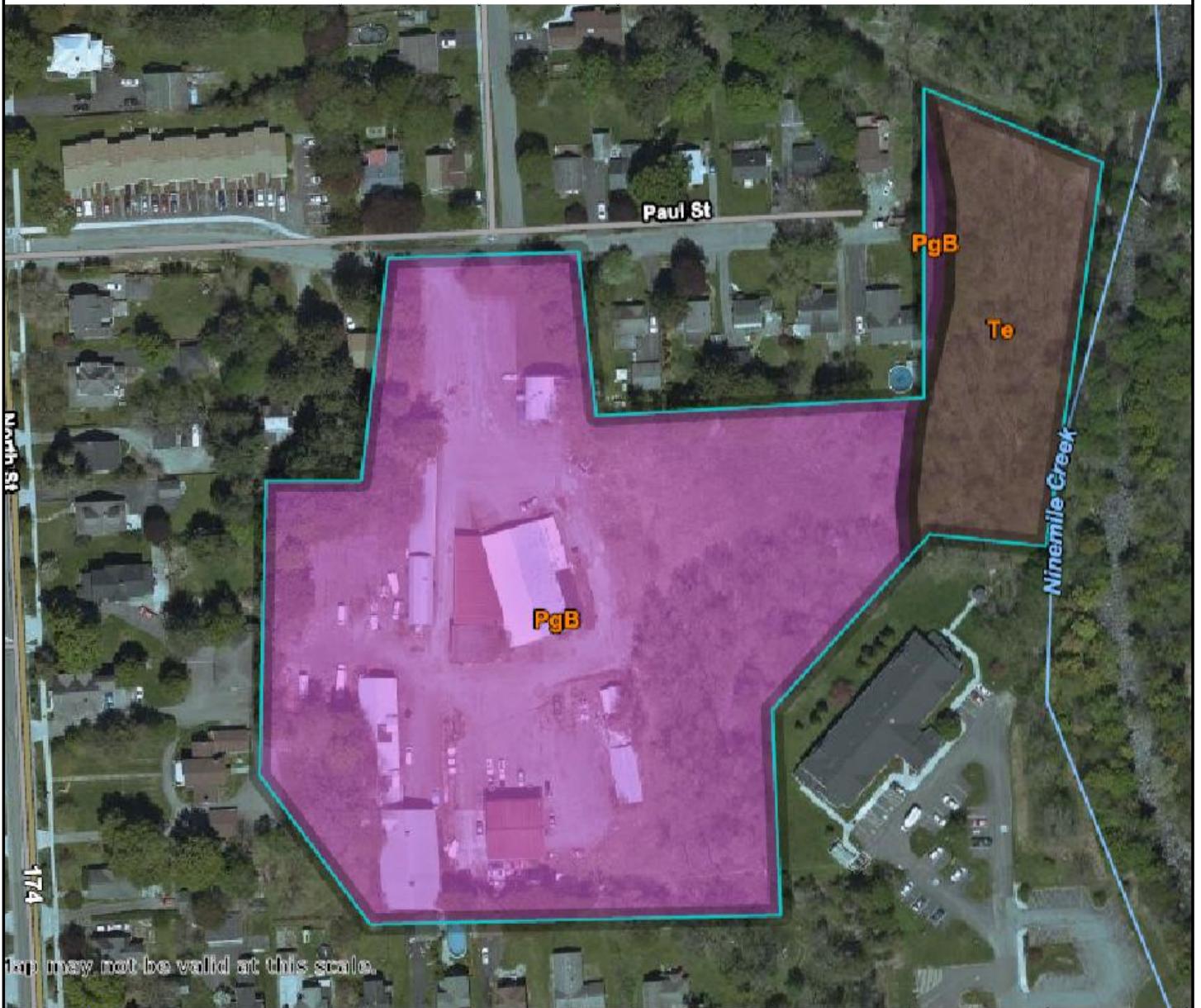


FIGURE 2



Map Scale: 1:2,050 if printed on A landscape (11" x 8.5") sheet.

0 30 60 120 180
Meters

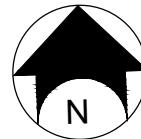
0 50 100 200 300
Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge bcs: UTM Zone 18N WGS84

RZ Engineering, PLLC

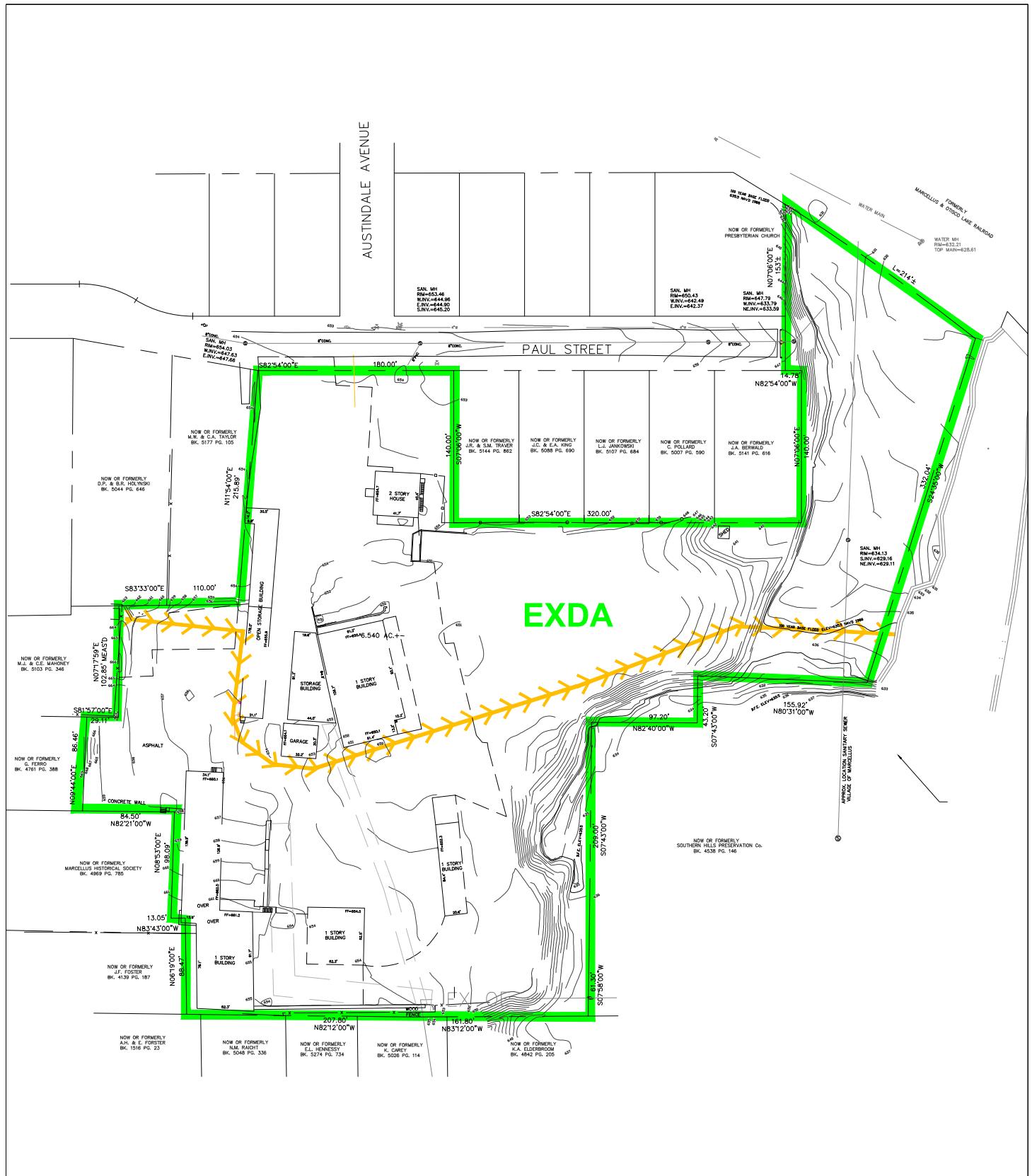
STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981



PAUL ST HOUSING
SOILS MAP
SCALE 1:150

FIGURE 3



Village of Marcellus, Onondaga County, NY

Figure 4: EXDA

Date: January 5,2022



SCALE: 1" = 1500'

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EAST SYRACUSE, NY

PH (315) 432-1089
FAX (315) 447-7221

FAX (315) 445-7981



Village of Marcellus, Onondage County, NY

Figure 5: Proposed Site Watershed

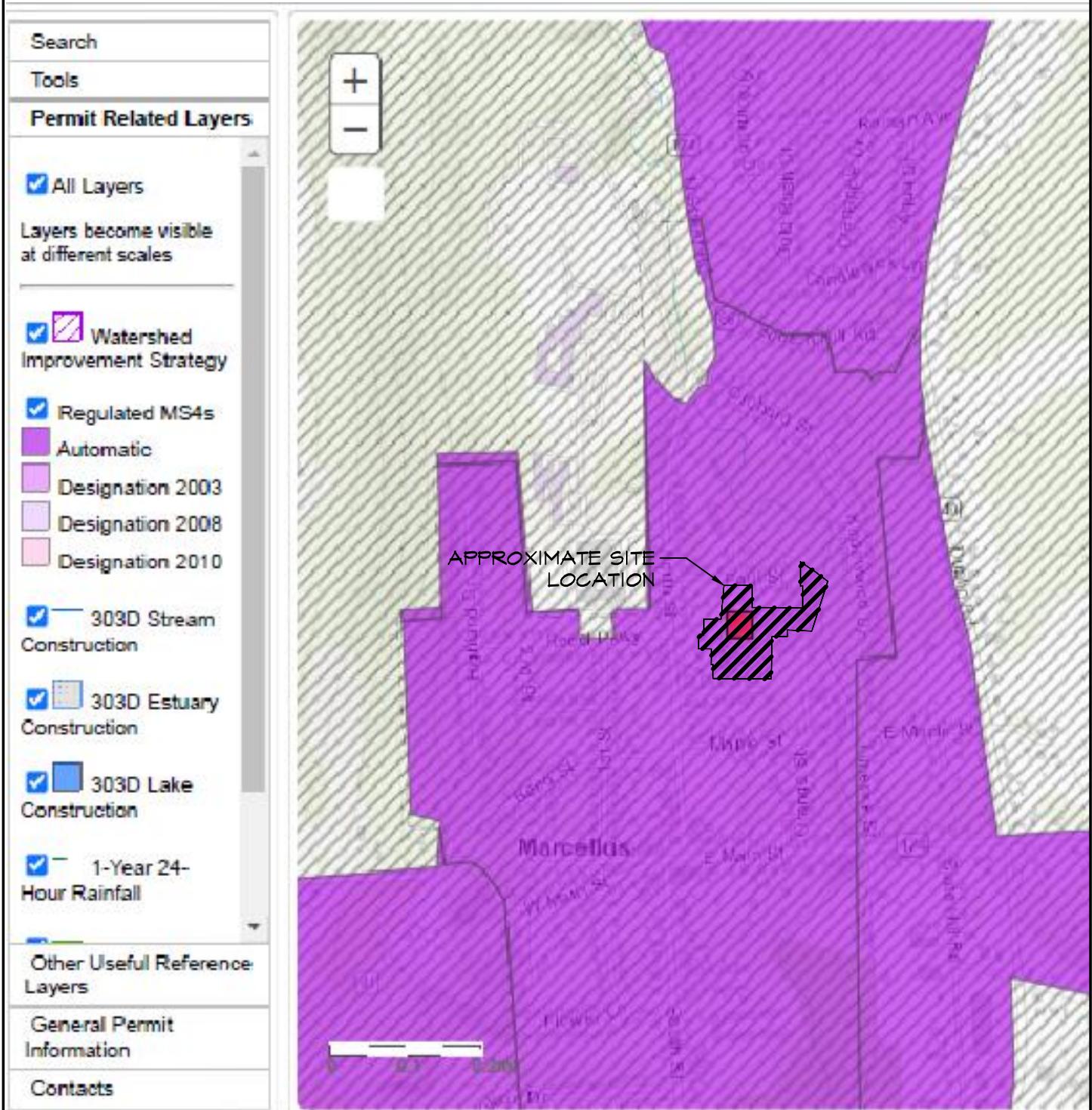


SCALE: 1:150

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STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

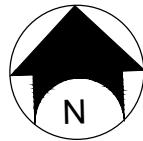
6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981



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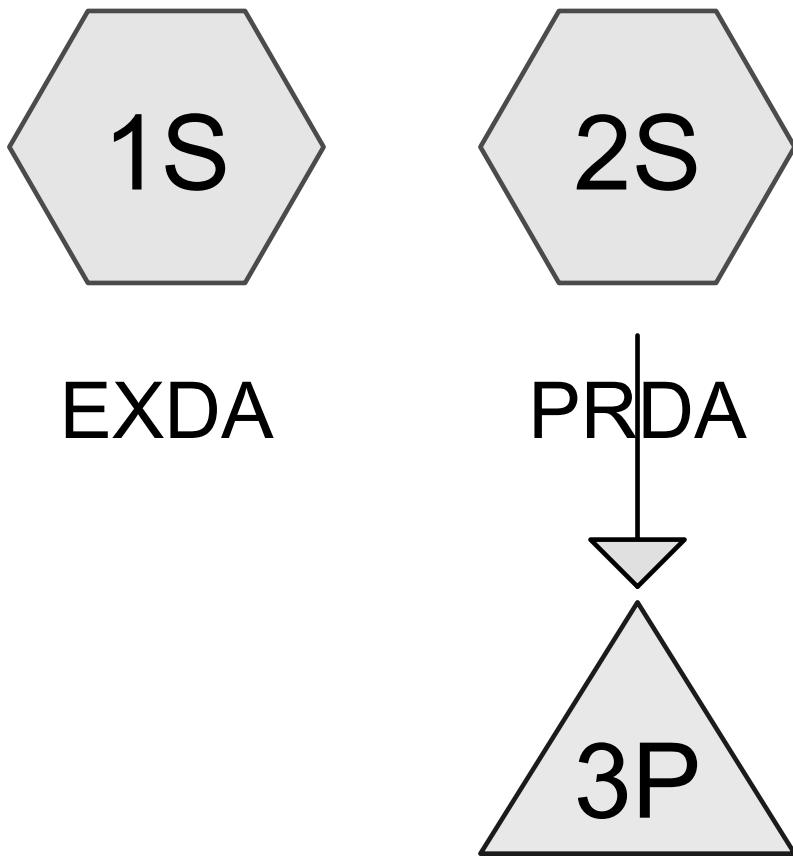
STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

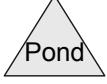


**PAUL ST HOUSING
NYSDEC STORMWATER MAP
SCALE 1:1000**

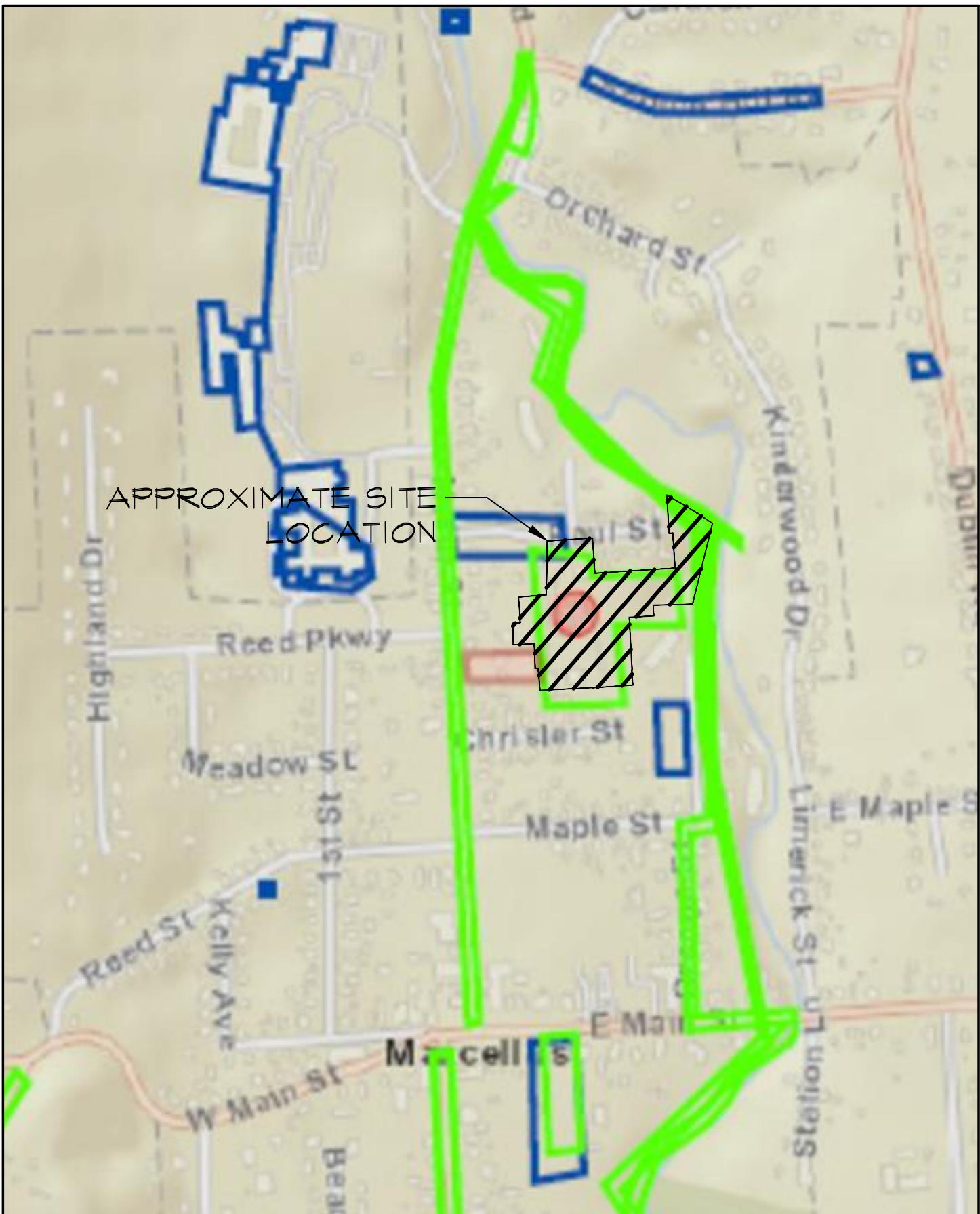
FIGURE 6



Detention Pond



Routing Diagram for 8 Paul Street
Prepared by RZ Engineering, PLLC, Printed 1/16/2015
HydroCAD® 10.00-13 s/n 05023 © 2014 HydroCAD Software Solutions LLC



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PAUL ST HOUSING
SHPO MAP
SCALE 1:500

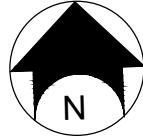


FIGURE 8

Search

Tools

Layers and Legend

All Layers

Unique Geological Features

Waterbody Classifications for Rivers/Streams 

Waterbody Classifications for Lakes

State Regulated Freshwater Wetlands
(Outside of the Adirondack Park) 

State Regulated Wetland Checkzone 

Imperiled Mussels

 Mussel Screening Ponded

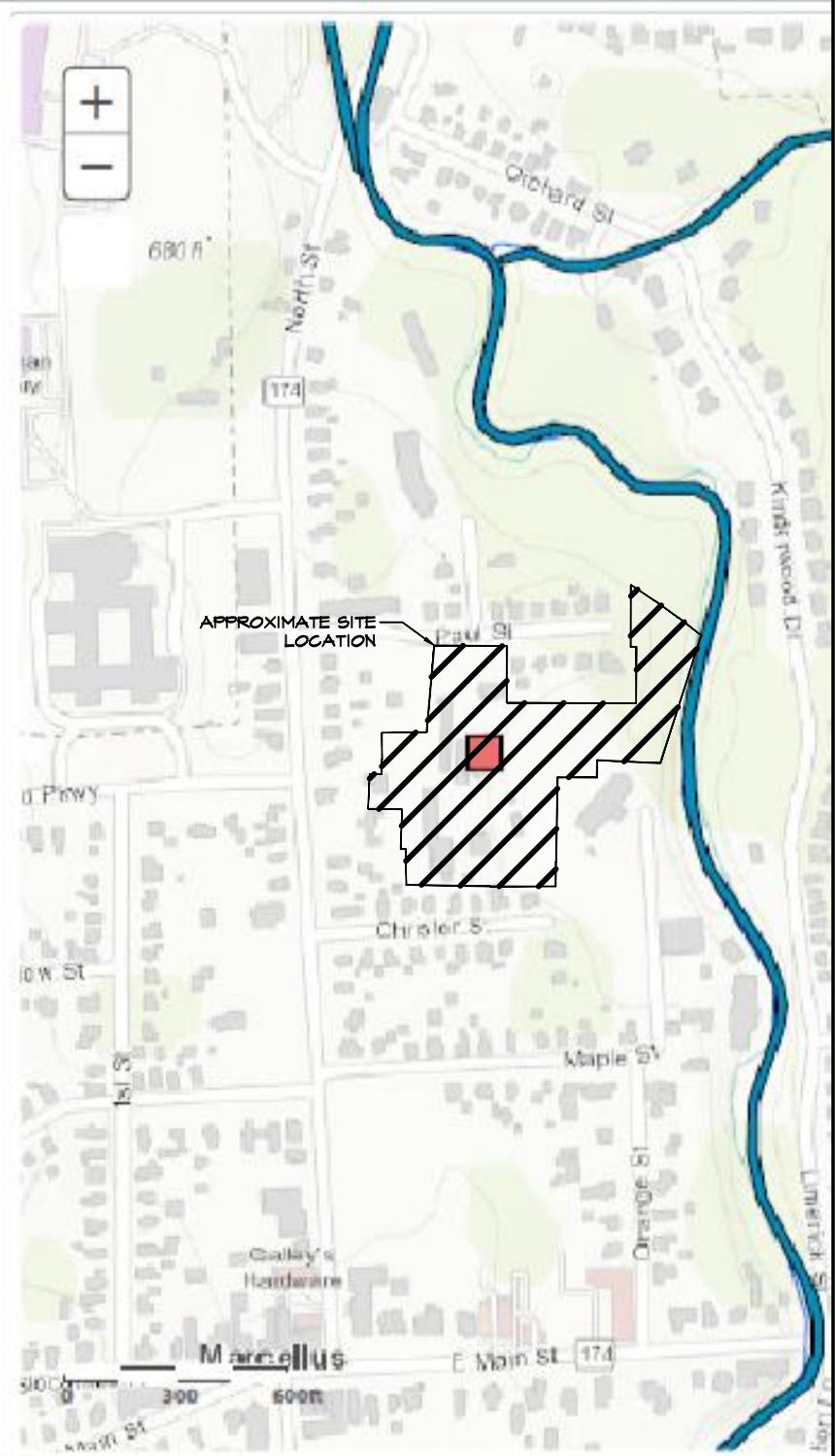
Other Wetland Layers

Reference Layers

Tell Me More...

Need A Permit?

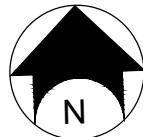
Contacts



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PAUL ST HOUSING
NYSDEC WETLANDS AND
ENDANGERED SPECIES MAP
SCALE 1:500

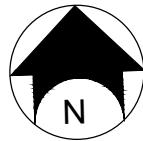
FIGURE 9



RZ Engineering, PLLC

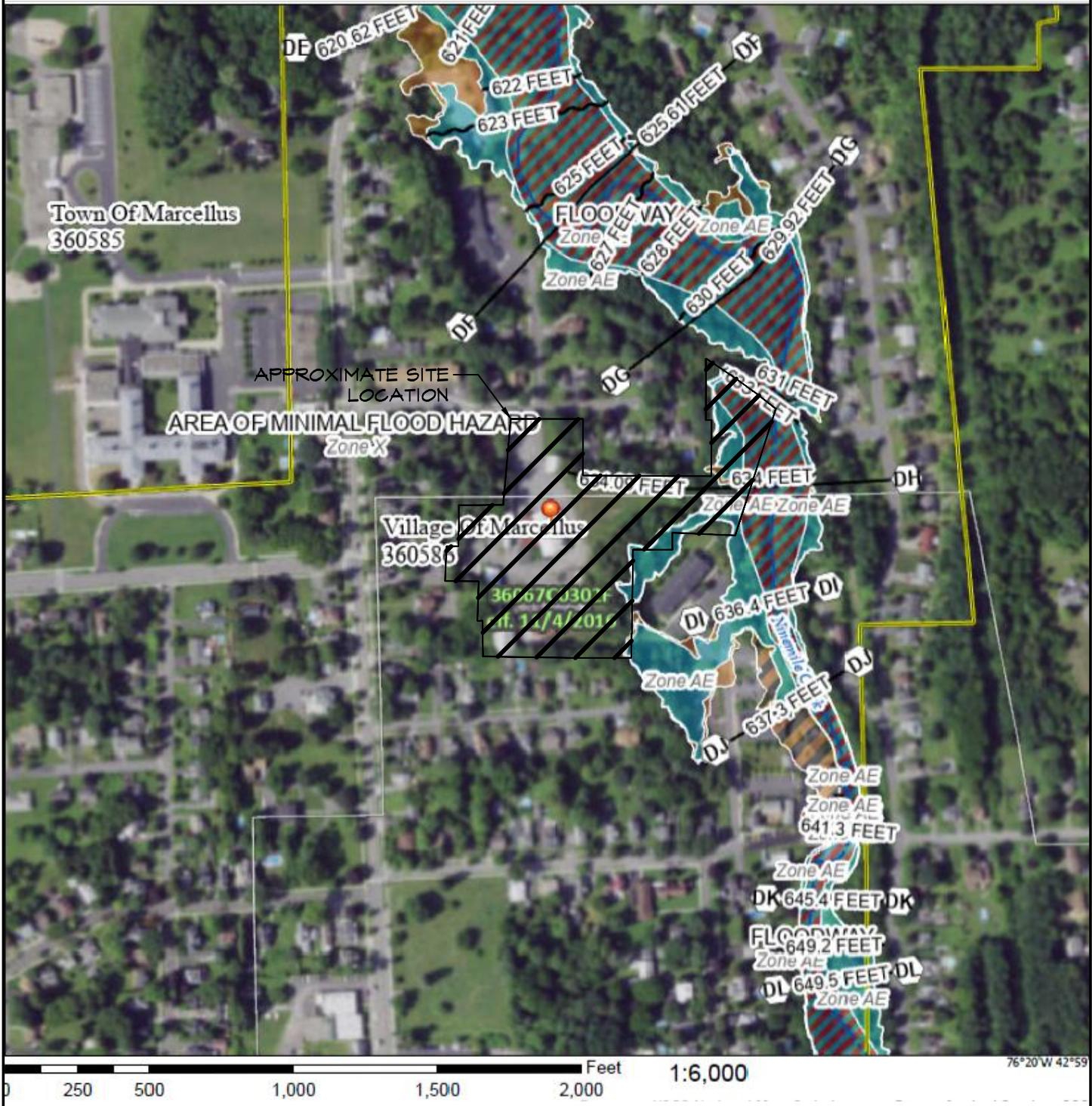
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EAST SYRACUSE, NY 13057
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PAUL ST HOUSING
FEDERAL WETLANDS MAP
SCALE 1:500

FIGURE 10



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PAUL ST HOUSING
NATIONAL FLOOD INSURANCE MAP
SCALE 1:500

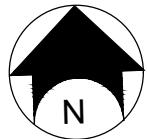


FIGURE 11

APPENDIX A

Hydrologic Soil Group—Onondaga County, New York



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

7/24/2013
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)		C		C/D
Soils		D		Not rated or not available
Soil Rating Polygons		A		A/D
		B		B/D
		C		C/D
		D		Not rated or not available
Water Features				Water Features
				Streams and Canals
Transportation		Rails		Interstate Highways
				US Routes
				Major Roads
				Local Roads
Soil Rating Lines		A		A/D
		B		B/D
		C		C/D
		D		Not rated or not available
Background		Aerial Photography		
Soil Rating Points		A		A/D
		B		B
		C		B/D
		D		Not rated or not available

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Onondaga County, New York
Survey Area Data: Version 6, Dec 20, 2011

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

Date(s) aerial images were photographed: Jun 2, 2010—Jun 15, 2011

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

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Onondaga County, New York (NY067)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
PgB	Palmyra gravelly loam, 3 to 8 percent slopes	A	17.8	91.6%
Te	Teel silt loam	B/D	1.6	8.4%
Totals for Area of Interest			19.5	100.0%

Description

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

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

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

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

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

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

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

Rating Options

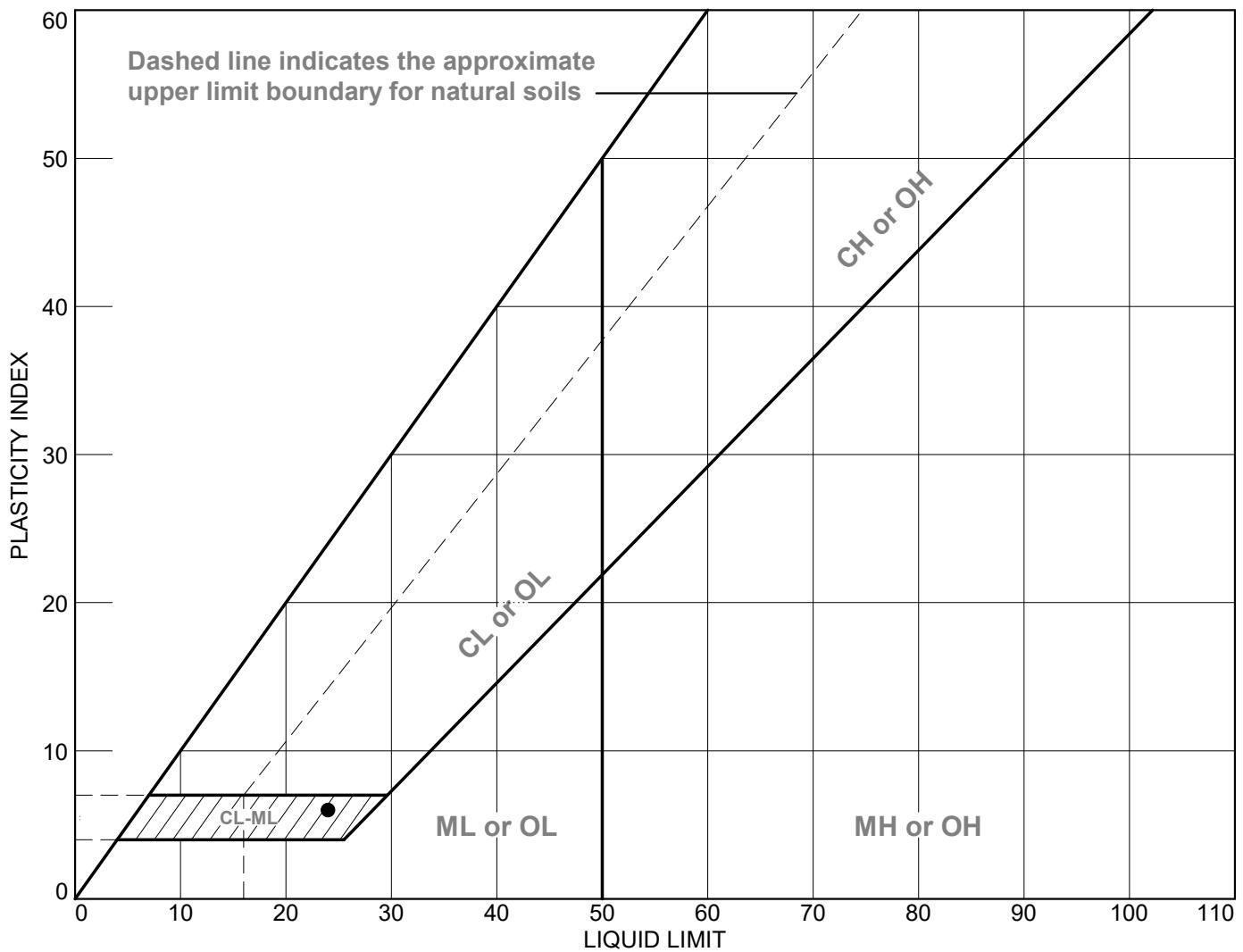
Aggregation Method: Dominant Condition



Component Percent Cutoff: None Specified

Tie-break Rule: Higher

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	B-1, 6-8	4	6-8	16.8	18	24	6	CL-ML



Client: Christopher Community, Inc.
Project: Paul Street Housing

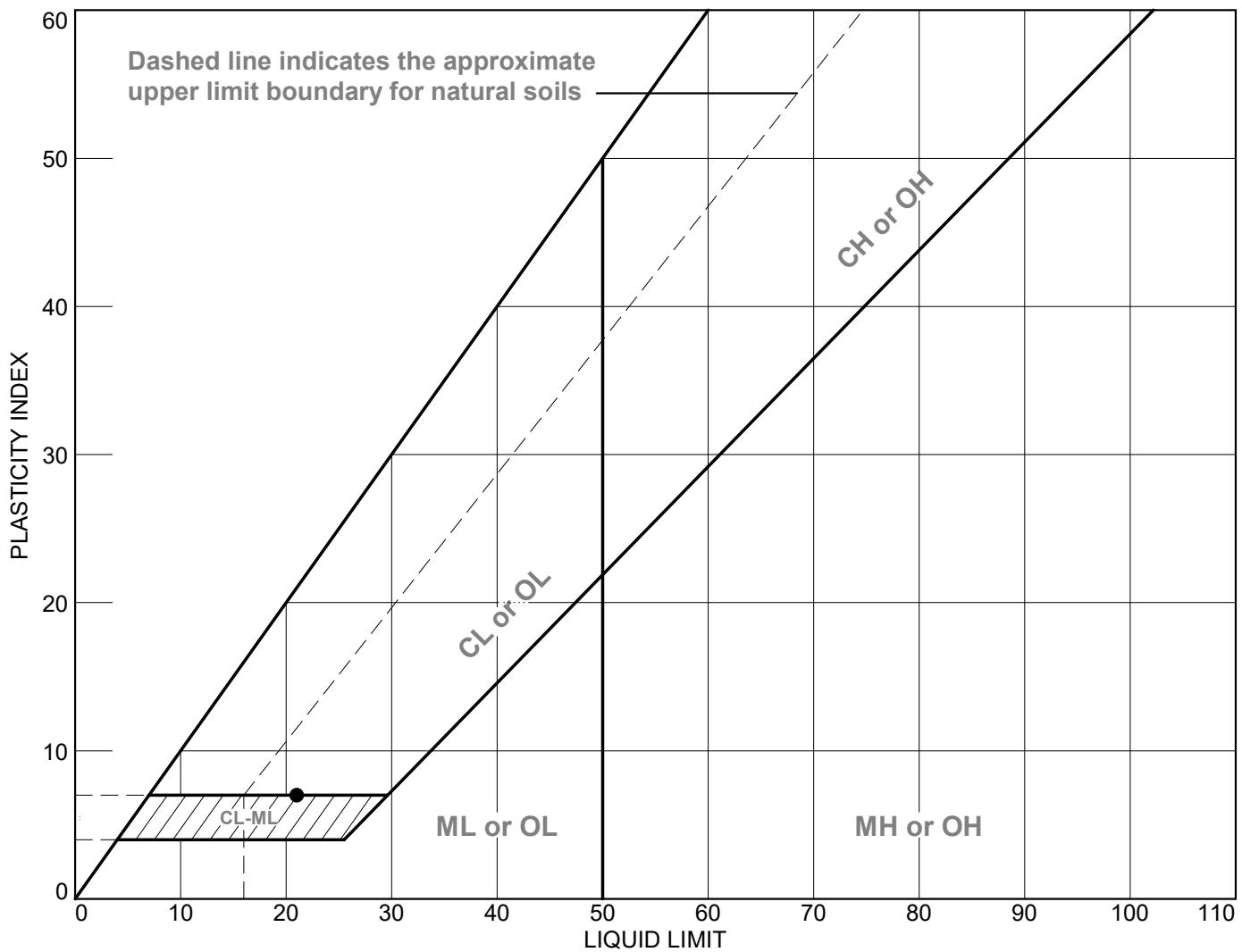
Project No.: 2021-204

Figure

Tested By: JK

Checked By: CMK

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	B-4, 13-15	6	13-15	14.6	14	21	7	CL-ML



Client: Christopher Community, Inc.
Project: Paul Street Housing

Project No.: 2021-204

Figure

Tested By: JK

Checked By: CMK

Geotechnical Boring Log

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	B-1
Client:		Christopher Community Inc.		Ground Elevation:	658.4'	Checked By:	CMK	Sheet:	1 of 2
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			18.0'
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			DRY
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			DRY
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)
			3			TOPSOIL			0.2
1	SPT	19.2	3		10	FILL: (SM) MEDIUM DENSE, BROWN SILTY SAND WITH GRAVEL			1.0
2			7			FILL: (MLS) LOOSE, GRAY SANDY SILT WITH GRAVEL, MOIST			
3			8			FILL: SIMILAR SOIL, MEDIUM DENSE, MOIST			4.0
4			8						
5	SPT	12	3		7	FILL: (CL-ML) MEDIUM STIFF, BROWN-GRAY SILTY CLAY WITH GRAVEL, MOIST			2.0
6			4						
7			3			FILL: (OL) SIMILAR SOIL WITH GRAVEL AND TRACE ORGANICS, MEDIUM STIFF, MOIST			1.5
8			3						16.8
9	SPT	12	1		4	FILL: (OL) SIMILAR SOIL WITH GRAVEL AND ORGANICS, SOFT, MOIST			1.0
10			1						
11									
12									
13									13.0
14	SPT	18	4		9	FILL: (OL) LOOSE, GRAY SILTY CLAYEY SAND WITH GRAVEL AND ORGANICS, MOIST			
15			4						
16			5						
17			4						
18									18.0
19	SPT	6	9		50	(GM) VERY DENSE, GRAY SILTY GRAVEL WITH SAND, WET			
20			19						
			31						
			50			(CONTINUED ONTO NEXT SHEET)			

Geotechnical Boring Log

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	B-1		
Client:		Christopher Community Inc.		Ground Elevation:	658.4'	Checked By:	CMK	Sheet:	2 of 2		
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:		18.0'			
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:		DRY			
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:		DRY			
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)
	SPT	1.2	50/0.1'		50+	FRESH LIMESTONE AUGER REFUSAL AT 21.5'					
						Refusal Depth: 21.5 FT.		Cave Depth: 17.5 FT.			

Geotechnical Boring Log

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	B-2		
Client:		Christopher Community Inc.		Ground Elevation:	661.6'	Checked By:	CMK	Sheet:	1 of 2		
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			23.0'		
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			23.9'		
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			DRY		
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)
			X			CONCRETE			0.3		
1	SPT	12	12		26	FILL: PEA STONE (SUBBASE)			0.4		
			14			FILL: (GWS) MEDIUM DENSE, RED-BROWN WELL-GRADED GRAVEL WITH SAND, MOIST			2.0		
2			19								
3			12			FILL: (SWG) MEDIUM DENSE, BROWN WELL-GRADED SAND WITH GRAVEL, MOIST					
4			14		30						
5			16			SIMILAR SOIL, DENSE, MOIST			5.8		
6			12			FILL: (CL-ML) HARD, BROWN SILTY CLAY, MOIST			6.0	2.5	
7			25								
8			19		35	FILL: ALTERNATING LAYERS OF DENSE (SP) BROWN POORLY-GRADED SAND, WET AND (GWS) BROWN WELL-GRADED GRAVEL WITH SAND, MOIST			8.0		
9			16								
10			14								
11			18								
12			18		46	FILL: (SC) DENSE, BROWN CLAYEY SAND, MOIST					
13			19						13.0		
14			15								
15			21								
16			25		56	FILL: (OL) VERY DENSE, BROWN CLAYEY SAND WITH ORGANICS, MOIST					
17			28								
18			28								
19			31								
20					34	GRAB-SAMPLE TAKEN FROM AUGER CUTTINGS (15'-20') (CLS) GRAY-BROWN SANDY CLAY					
21											
22						(SP) DENSE, BROWN POORLY-GRADED SAND, MOIST (CONTINUED TO NEXT SHEET)					
23											

**Geotechnical Boring Log**

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	B-2		
Client:		Christopher Community Inc.		Ground Elevation:	661.6'	Checked By:	CMK	Sheet:	2 of 2		
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:		23.0'			
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:		23.9'			
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:		DRY			
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)
21											
22											
23									23.0		
24	SPT	12	27 41 47 50/0.2'	88	(SM) VERY DENSE, SILTY SAND WITH GRAVEL, MOIST						6.4
25											
Refusal Depth: 24.7 FT.						Cave Depth: 6.8 FT.					

Geotechnical Boring Log

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	B-3	
Client:		Christopher Community Inc.		Ground Elevation:	661.2'	Checked By:	CMK	Sheet:	1 of 2	
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			23.5'	
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			DRY	
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			DRY	
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	
			8			ASPHALT			0.2	
1	SPT	21.6	10		20	FILL: (OL) MEDIUM DENSE, BROWN SILTY SAND WITH GRAVEL, BRICK AND TRACE ORGANICS, MOIST			7.7	
2			10							
3			11			FILL: SIMILAR SOIL WITH GRAVEL, MEDIUM DENSE, MOIST			7.6	
4			8							
5	SPT	19.2	8		17				4.0	
6			8			FILL: (SP) MEDIUM DENSE, BROWN POORLY GRADED SAND WITH GRAVEL, MOIST				
7			12						5.2	
8			17			FILL: SIMILAR SOIL, VERY DENSE, MOIST				
9	SPT	12	18		58				1.6	
10			40			FILL: SIMILAR SOIL WITH GRAVEL, VERY DENSE, MOIST				
11			47							
12			20							
13	SPT	21.6	41		70	FILL: SIMILAR SOIL WITH GRAVEL, VERY DENSE, MOIST			1.7	
14			29							
15			30							
16			17			SIMILAR SOIL, MEDIUM DENSE, MOIST				
17	SPT	21.6	14		26	(SP-SM) MEDIUM DENSE, BROWN-GRAY POORLY GRADED SAND WITH SILT, MOIST			4.3	
18			12							
19			17							
20			12			(GP) DENSE, GRAY POORLY-GRADED GRAVEL, MOIST				
			15		34	(CONTINUED ON NEXT SHEET)				
			19							
			31							

**Geotechnical Boring Log**

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	B-3	
Client:		Christopher Community Inc.		Ground Elevation:	661.2'	Checked By:	CMK	Sheet:	2 of 2	
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:		23.5'		
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:		DRY		
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:		DRY		
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description		Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)
21										
22										
23								23.0		
	SPT	18	12		29	(CL) VERY STIFF, RED CLAY WITH GRAVEL, MOIST		23.5	3.5	10.1
24			12			(SP-SM) MEDIUM DENSE, BROWN POORLY- GRADED SAND WITH SILT, WET				
			17							
25			19							
						Bottom of Boring: 25.0 FT.		Cave Depth: 16.6 FT.		

Geotechnical Boring Log

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	B-4					
Client:		Christopher Community Inc.		Ground Elevation:	662.6'	Checked By:	CMK	Sheet:	1 of 2					
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			18.0'					
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			17.1'					
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			DRY					
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)			
			X			ASPHALT			0.2					
1	SPT	12	7		14	FILL: (OL) STIFF, BLACK SANDY CLAY WITH ASPHALT, WOOD, BRICK AND ASH, MOIST			2.0	2.0	1.5			
2			7											
3			9			FILL: (CLS) STIFF, BROWN SANDY CLAY WITH GRAVEL, MOIST								
4			6											
5	SPT	0	5		11	NO RECOVERY			4.0	4.0	3.5			
6			6											
7			3											
8			4			POSSIBLE FILL: (CLS) STIFF, RED-BROWN SANDY CLAY, MOIST (WOOD IN AUGER CUTTING, BUT NOT OBSERVED IN SAMPLE)								
9	SPT	12	6		13	SIMILAR SOIL, STIFF, MOIST			4.5	4.5	14.6			
10			7											
11			6											
12			6											
13			5						13.0					
14	SPT	19.2	7		13	(CLS) STIFF, BROWN SANDY CLAY, MOIST			18.0	18.5	2.0			
15			6											
16			7											
17			6											
18			5			(SP) MEDIUM DENSE, BROWN POORLY-GRADED SAND, WET								
19	SPT	9.6	9		23	(CLS) VERY STIFF, BROWN SANDY CLAY WITH GRAVEL, MOIST			2.0	2.0				
20			14			(CONTINUED ON NEXT SHEET)								
			16											

**Geotechnical Boring Log**

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	B-4		
Client:		Christopher Community Inc.		Ground Elevation:	662.6'	Checked By:	CMK	Sheet:	2 of 2		
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:		18.0'			
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:		17.1'			
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:		DRY			
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)
	SPT	10.8				SIMILAR SOIL WITH GRAVEL, VERY STIFF, MOIST			2.5		
21											
22											
23											
24			10								
25			9								
			13								
			15		22						
Bottom of Boring: 25.0 FT.						Cave Depth: 15.2 FT.					



Geotechnical Boring Log

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	TP-1							
Client:		Christopher Community Inc.		Ground Elevation:	659.2'	Checked By:	CMK	Sheet:	1 of 1							
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			DRY							
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			DRY							
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			DRY							
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)					
	SPT	12	7		17	ASPHALT			0.32							
1			10			FILL: (OL) MEDIUM DENSE, GRAY SILTY GRAVEL WITH TRACE ORGANICS, MOIST			2.0							
			7													
2			6													
	SPT	0	6		10	NO RECOVERY			4.0							
3			5													
			5													
4			4													
	SPT	6	7		8	FILL: (SM) LOOSE, DARK BROWN SILTY SAND WITH ASH AND BRICK FRAGMENTS, MOIST										
5			5													
			3													
6			3													
	SPT	3.6	2		5	FILL: SIMILAR SOIL WITH ASH AND BRICK FRAGMENTS, LOOSE, MOIST										
7			2													
			3													
8			3													
	SPT	7.2	3		4	FILL: SIMILAR SOIL WITH ASH, GLASS, AND BRICK FRAGMENTS, VERY LOOSE, MOIST										
9			2													
			2													
10			3													
						Bottom of Boring: 10.0 FT.		Cave Depth: 6.2 FT.								

**Geotechnical Boring Log**

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	TP-2		
Client:		Christopher Community Inc.		Ground Elevation:	659.3'	Checked By:	CMK	Sheet:	1 of 1		
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			6.0'		
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			DRY		
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			DRY		
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)
	SPT	19.2	6		15	ASPHALT			0.2		
1			6			FILL: (OL) MEDIUM DENSE, GRAY SILTY SAND WITH GRAVEL AND TRACE ORGANICS, MOIST					
			9			SIMILAR SOIL, MEDIUM DENSE, MOIST					
2			20			(SP-SM) MEDIUM DENSE, BROWN POORLY-GRADED SAND WITH SILT, MOIST					
	SPT	20.4	9		16				3.0		
3			9								
			7								
4			6								
	SPT	12	4		6	(CLS) MEDIUM STIFF, RED-BROWN SANDY CLAY, MOIST					
5			3								
			3								
6			3								
	SPT	19.2	3		10	SIMILAR SOIL, STIFF, WET					
7			3								
			7								
8			14								
	SPT	9.6	30		50+	(SM) VERY DENSE, BROWN-GRAY SILTY SAND WITH GRAVEL, MOIST					
9			50/0.4'								
						Bottom of Boring: 10.0 FT.		Cave Depth: 7.3 FT.			



Geotechnical Boring Log

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	TP-3		
Client:		Christopher Community Inc.		Ground Elevation:	662.8'	Checked By:	CMK	Sheet:	1 of 1		
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			DRY		
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			DRY		
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			DRY		
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)
			X			ASPHALT			0.2		
1	SPT	18	8		15	(GM) MEDIUM DENSE, BROWN WELL-GRADED GRAVEL WITH SAND, MOIST			0.4		
2			7			(SM) MEDIUM DENSE, BROWN SILTY SAND WITH GRAVEL, MOIST					
3			6			SIMILAR SOIL, MEDIUM DENSE, MOIST					
4			6						4.0		
5	SPT	7.2	14		4	(SP-SM) VERY LOOSE, BROWN POORLY-GRADED SAND WITH SILT, MOIST					
6			2						6.0		
7			2								
8			1						8.0		
9	SPT	19.2	1		2	(SP) VERY LOOSE, BROWN POORLY-GRADED SAND, MOIST					
10			1								
			4								
			7								
			7								
			8								
			10								
						Bottom of Boring: 10.0 FT.		Cave Depth: 5.3 FT.			

**Geotechnical Boring Log**

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	TP-4		
Client:		Christopher Community Inc.		Ground Elevation:	658.7'	Checked By:	CMK	Sheet:	1 of 1		
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			7.0'		
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			DRY		
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			DRY		
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)
	SPT	19.2	8	(GW) MEDIUM DENSE, BROWN WELL-GRADED GRAVEL WITH SAND, MOIST	21	ASPHALT			0.2	2.0	2.0
1			9			(GW) MEDIUM DENSE, BROWN WELL-GRADED GRAVEL WITH SAND, MOIST					
			12			(SP) MEDIUM DENSE, BROWN POORLY-GRADED SAND, WET					
2			16			(CLS) STIFF, BROWN SANDY CLAY, MOIST			2.0		
	SPT	12	5	(GP) MEDIUM DENSE, GRAY POORLY-GRADED GRAVEL, MOIST	12	SIMILAR SOIL, STIFF, MOIST			3.0		
3			6			(SM) MEDIUM DENSE, BROWN-GRAY SILTY SAND WITH GRAVEL, MOIST			5.0		
4			6			(SP) MEDIUM DENSE, BROWN POORLY-GRADED SAND, MOIST			6.0		
5			7			SIMILAR SOIL, MEDIUM DENSE, MOIST					
6	SPT	1.2	12								
7			6								
8			8								
9			9								
10	SPT	12	9	(GP) MEDIUM DENSE, GRAY POORLY-GRADED GRAVEL, MOIST	18						
			8								
			10								
			10								
						Bottom of Boring: 10.0 FT.		Cave Depth: 5.2 FT.			



Geotechnical Boring Log

Project Name:		Paul Street Housing		Project Number:	2021-204	Logged By:	RS	Boring Number	TP-5							
Client:		Christopher Community Inc.		Ground Elevation:	654.9'	Checked By:	CMK	Sheet:	1 of 1							
Location:		Marcellus, NY		Drill Rig:	3100GT	Depth To Groundwater While Drilling:			20.0'							
Started:		12/7/2021		Drill Method:	3.25 HSA	Depth To Groundwater Before Auger Removal:			DRY							
Completed:		12/7/2021		Driller:	M.MARSHALL	Depth To Groundwater After Auger Removal:			4.2'							
Depth (ft)	Sample Type	Recovery (inch)	Blow Count Per 6 inches	Graphic Log	N (bpf)	USCS Material Description			Strata Change Depth (ft.)	Pocket Penet. (tsf)	Moisture Content (%)					
	SPT	9.6	6		15	TOPSOIL			0.3	1.0						
1			7			(GM) MEDIUM DENSE, BROWN SILTY GRAVEL WITH SAND, MOIST			2.0							
			8													
2			7													
	SPT	14.4	5		10	(SP) LOOSE, BROWN POORLY-GRADED SAND, WET			3.5							
3			5													
			5			(CLS) STIFF, BROWN SANDY CLAY, MOIST										
4			5													
	SPT	0	5		12	NO RECOVERY			6.0							
5			6													
			6													
6			8													
	SPT	12	8		15	(SM) MEDIUM DENSE, SILTY SAND WITH GRAVEL, MOIST			10.0							
7			9													
			6													
8			9													
	SPT	9.6	9		17	SIMILAR SOIL WITHOUT GRAVEL, MEDIUM DENSE, MOIST										
9			8													
			9													
10			9													
						Bottom of Boring: 10.0 FT.		Cave Depth: 4.2 FT.								



Kenney Geotechnical Engineering Services, PLLC
Office: 6901 Herman Road, Syracuse, NY 13209
Mail: P.O. Box 117 Warners, NY 13164

Project Name:	Paul Street Housing		
Project Number:	2021-204		
Location	Marcellus, NY		
Date of Test:	12/9/2021		
Summary of Infiltration Test Results			
Test	Stabilized Rate in/hr	Soil Conditions Encountered USCS	
-			
IT-1	20.0	SP-SM	
IT-2	0.0	CIS	
IT-3	0.8	CIS	

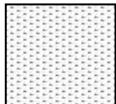
Infiltration Test Results						
Test	Hour 1	Hour 2	Hour 3	Hour 4	Stabilized Rate	USCS Soil
IT-1	20	20	0	0	20.00	SP-SM
IT-2	0	0	0	0	0.00	CIS
IT-3	0	1	1	1	0.75	CIS

Key to Symbols

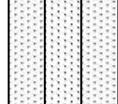
Project Name:	Paul Street Housing
Client:	Christopher Community, Inc.

Project Number:	2021-204
Location:	Marcellus, NY

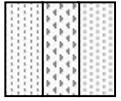
LITHOLOGIC SYMBOLS			
(UNIFIED SOIL CLASSIFICATION SYSTEM)			



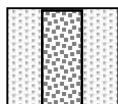
SP/SW: POORLY GRADED/WELL-GRADED SAND



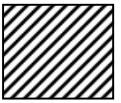
SP-SM: POORLY-GRADED SILTY SAND



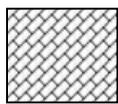
SM: SILTY SAND



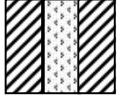
SWG: WELL-GRADED SAND WITH GRAVEL



CL: LEAN CLAY



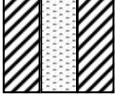
FILL/OL: FILL/ORGANICS



CL-ML: SILTY CLAY



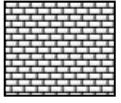
CONCRETE



CLS: LOW PLASTICITY SANDY CLAY



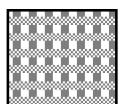
ASPHALT



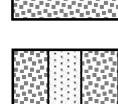
BEDROCK ANY TYPE



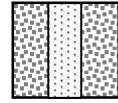
TOP SOIL



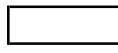
GM: SILTY GRAVEL



GW/GP: WELL-GRADED/Poorly-Graded Gravel



GWS: WELL-GRADED GRAVEL WITH SAND



NO RECOVERY

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE-GRAINED SOILS (major portions retained on No. 200 sieve): includes (1) clean gravel and sands and (2) silty or clayey gravels and sands. Condition is rated according to relative density as determined by laboratory tests or standard penetration resistance tests.

Descriptive Terms	Relative Density	SPT Blow Count
Very loose	0 to 15 %	< 4
Loose	15 to 35 %	4 to 10
Medium dense	35 to 65 %	10 to 30
Dense	65 to 85 %	30 to 50
Very dense	85 to 100 %	> 50

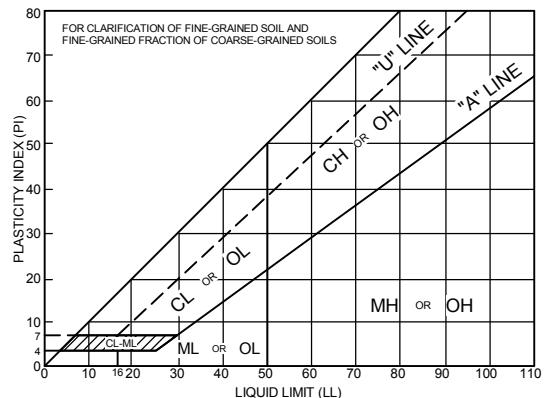
FINE-GRAINED SOILS (major portions passing on No. 200 sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings, SPT blow count, or unconfined compression tests.

Unconfined Compressive		
Descriptive Terms	Strength kPa	SPT Blow Count
Very soft	< 25	< 2
Soft	25 to 50	2 to 4
Medium stiff	50 to 100	4 to 8
Stiff	100 to 200	8 to 15
Very stiff	200 to 400	15 to 30
Hard	> 400	> 30

Major Divisions		Group Symbols	Typical Names	Laboratory Classification Criteria		Particle Size mm	Sieve sizes < #200	
Coarse-Grained soils (More than half the material is larger than No. 200 sieve size)	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	Not meeting all gradation requirements for GW			
Silts and Clays (Liquid limit less than 60)	Sands with fines (Appreciable amount of fines)	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols	d u	#200 to #40 #40 to #10 #10 to #4	
	Gravel with fines (Appreciable amount of fines)	GM*	Silty gravels, gravel-sand-silt mixtures	Atterberg limits above "A" line or P.I. greater than 7				
	Clean sands (Little or no fines)	GC	Clayey gravels, gravel-sand-silt mixtures	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	Not meeting all gradation requirements for SW	d u	#200 to #40 #40 to #10 #10 to #4	
	Clean gravel (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols	d u		
	Clean gravel (Appreciable amount of fines)	SP	Poorly-graded sands, gravelly sands, little or no fines	Atterberg limits above "A" line or P.I. greater than 7				
	Silts and Clays (Liquid limit greater than 60)	SM*	Silty sands, sand-silt mixtures	Not meeting all gradation requirements for SW	d u	d u	#200 to #40 #40 to #10 #10 to #4	
	Silts and Clays (Liquid limit less than 60)	SC	Clayey sands, sand-clay mixtures	Atterberg limits below "A" line or P.I. less than 4				
		ML	Inorganic silts and very fine sands, rock floor, silty or clayey fine sands or clayey silts with slight plasticity	Atterberg limits above "A" line or P.I. greater than 7	d u	d u	#200 to #40 #40 to #10 #10 to #4	
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	Atterberg limits below "A" line or P.I. less than 4				
		OL	Organic silts and organic silty clays of low plasticity	Atterberg limits above "A" line or P.I. greater than 7	d u	d u	#200 to #40 #40 to #10 #10 to #4	
		MH	Inorganic silts, micaceous or distomaceous fine sandy or silty soils, organic silts	Atterberg limits below "A" line or P.I. less than 4				
		CH	Inorganic clays of high plasticity, fat clays	Atterberg limits above "A" line or P.I. greater than 7	d u	d u	#200 to #40 #40 to #10 #10 to #4	
		OH	Organic clays of medium to high plasticity, organic silts	Atterberg limits below "A" line or P.I. less than 4				
Highly Organic Soils	Pt	Pt	Peat and other highly organic soils	Atterberg limits above "A" line or P.I. greater than 7	d u	d u	#200 to #40 #40 to #10 #10 to #4	

* Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg Limits: suffix d used when L.L. is 23 or less and the P.I. is 6 or less; the suffix u is used when L.L. is greater than 26.

** Borderline classifications used for soils possessing characteristics of two groups are designated by combinations of group symbols. For example; GW-GC, well-graded gravel-sand mixture with clay binder.



Plasticity Chart

Material	Particle Size mm	Sieve Material	Silt or clay	Sand	Fine	Medium	Coarse
Gravel	4.76 to 19.1	#4 to 3/4 in.					
Fine	19.1 to 76.2	3/4 in. to 3 in.					
Coarse	76.2 to 304.8	3 in. to 12 in.					
Cobble	304.8 to 914.4	12 in. to 36 in.					
Boulders							

Kenney Geotechnical Engineering Services, PLLC
 Office: 6901 Herman Road, Syracuse, NY 13209
 Mail :P.O. Box 117 Warriors, NY 13164
 Phone: (315) 638-2706 Fax: (315) 638-1544



Kenney Geotechnical
Services

Project No.:	2021-204	Date:	12/10/2021
Project Name:	Paul Street Housing		

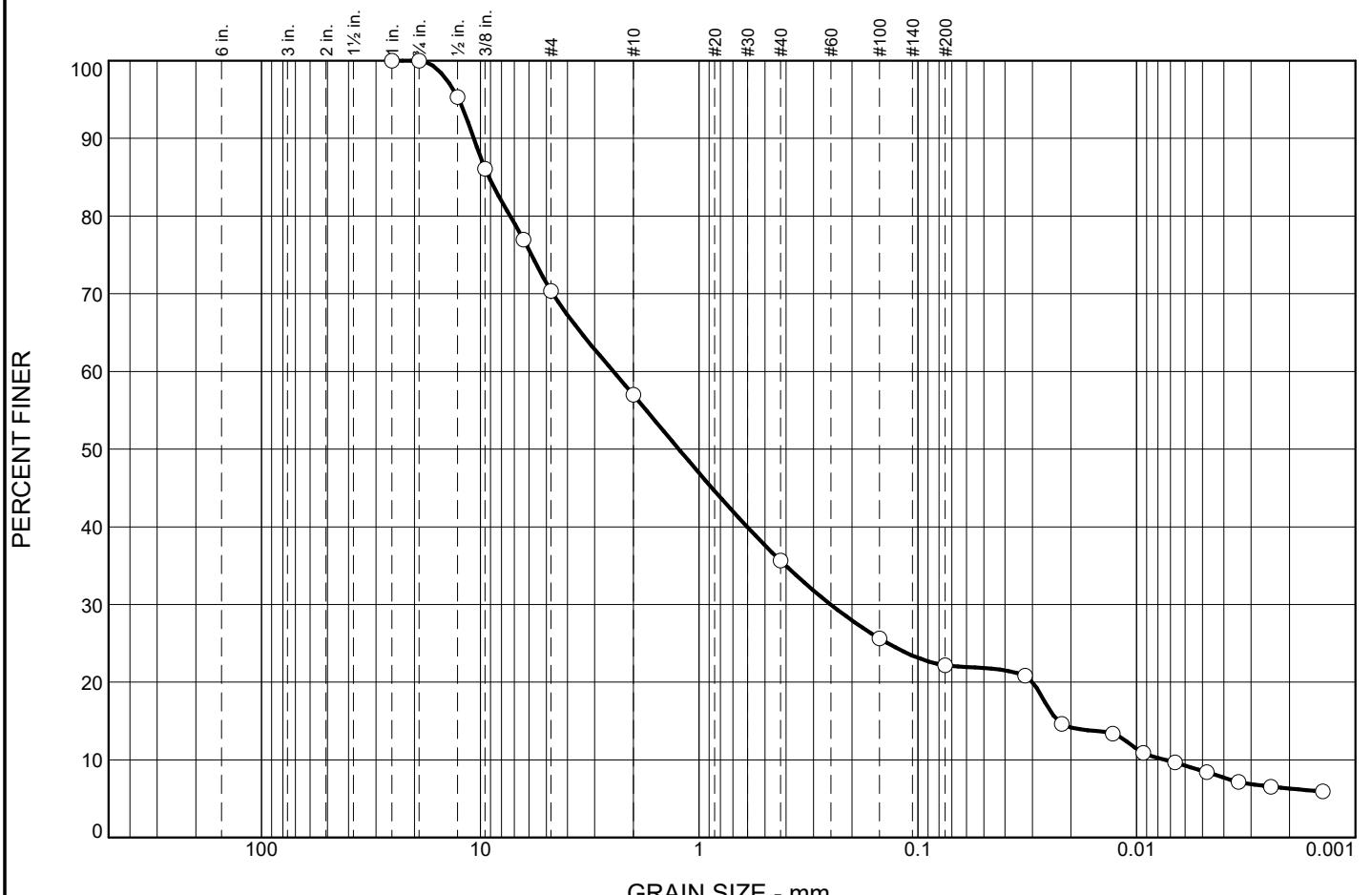
Natural Moisture Content
ASTM D2216

Sample:	B-3, 0-2	B-3, 2-4	B-3, 4-6	B-3, 6-8	B-3, 8-10
Tare Name:	Pike	Duck	Ball	Ray	CYS
Tare Weight:	14	14.2	14.3	14.3	14.3
Tare + Wet Sample Wt.:	33.5	30.6	34.6	32.7	31.2
Tare + Dry Sample Wt.:	32.11	29.44	33.59	32.41	30.92
H2O Wt.:	1.4	1.2	1.0	0.3	0.3
Dry Sample Wt.:	18.1	15.2	19.3	18.1	16.6
MC = (H2O Wt. / Dry Sample Wt.) x 100:	7.7	7.6	5.2	1.6	1.7

Sample:	B-3, 23-25	B-1, 6-8	B-4, 13-15	B-3, 13-15	B-2, 23-25
Tare Name:	Julu	CC-4	Town	CC-6	CC-7
Tare Weight:	13.9	134	119.4	133.9	168.7
Tare + Wet Sample Wt.:	28.3	371.3	333.4	408.1	483.3
Tare + Dry Sample Wt.:	26.98	337.2	306.1	396.7	464.3
H2O Wt.:	1.3	34.1	27.3	11.4	19.0
Dry Sample Wt.:	13.1	203.2	186.7	262.8	295.6
MC = (H2O Wt. / Dry Sample Wt.) x 100:	10.1	16.8	14.6	4.3	6.4

Particle Size Distribution Report

ASTM D422 & D1140



	% +3"		% Gravel		% Sand			% Fines		
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay			
<input type="radio"/>	0	0	30	13	21	14	13	9		
<input checked="" type="checkbox"/>	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>			9.1373	2.4663	1.2390	0.2505	0.0229	0.0074	3.44	333.24
Material Description								Test Date	USCS	NM
<input type="radio"/> Silty Sand with Gravel								10/16/2021	SM	6.4

Project No. 2021-204 **Client:** Christopher Community, Inc.

Project: Paul Street Housing

Source of Sample: B-2, 23-25 **Depth:** 23-25 **Sample Number:** 8

Remarks:

Kenney Geotechnical
Engineering Services, PLLC
6901 Herman Road
SYracuse, NY 13209
315-638-2706



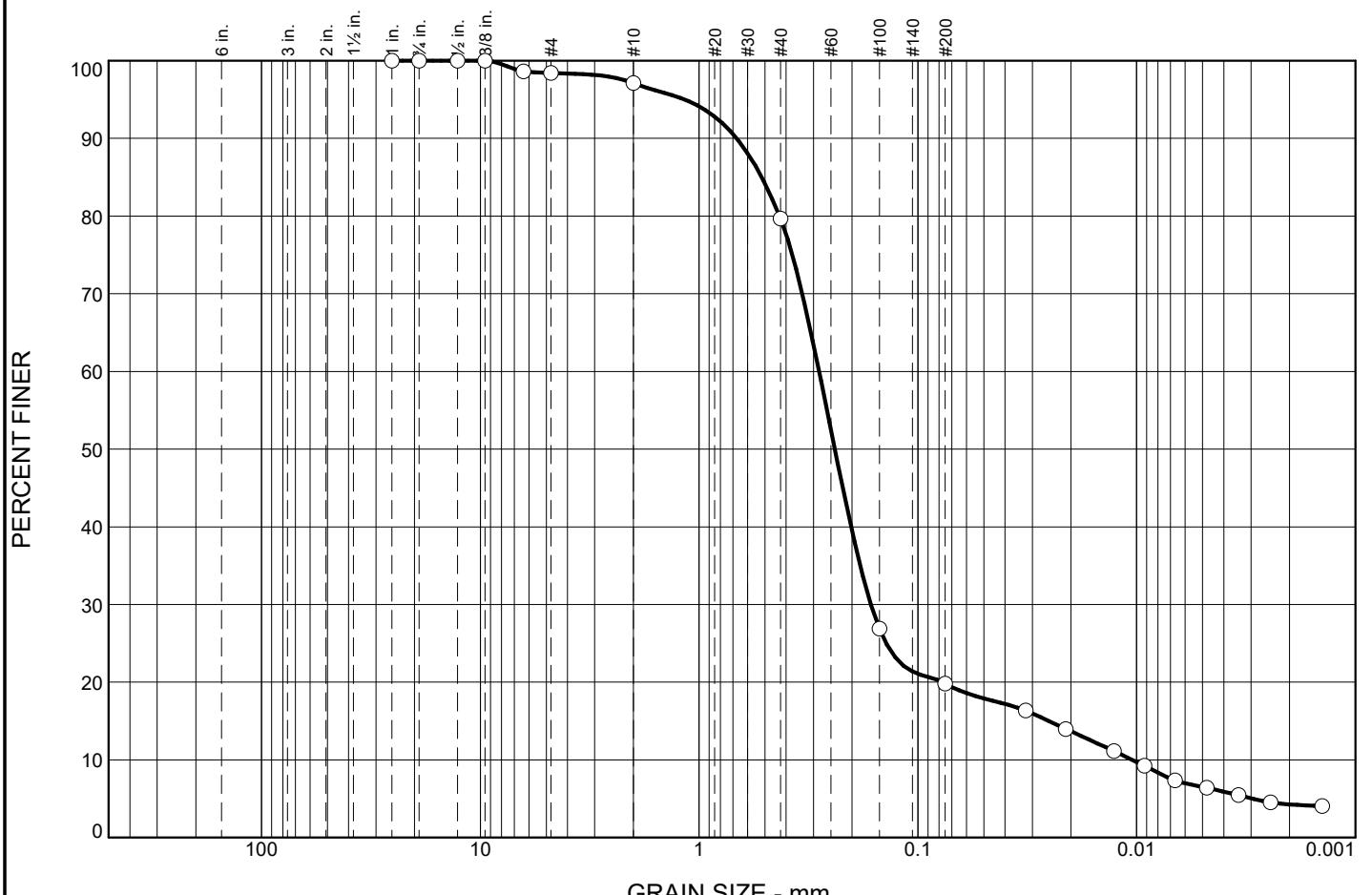
Figure

Tested By: JK

Checked By: CMK

Particle Size Distribution Report

ASTM D422 & D1140



GRAIN SIZE - mm.

% +3"	% Gravel		% Sand			% Fines		
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0	0	2	1	17	60	13	7	

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
0.5175	0.2828	0.2397	0.1640	0.0252	0.0105	9.08	27.03		

Material Description

Material Description	Test Date	USCS	NM
Poorly Graded Sand with Silt	12/10/2021	SP-SM	4.3

Project No. 2021-204 Client: Christopher Community, Inc.

Project: Paul Street Housing

Source of Sample: B-3, 13-15 Depth: 13-15 Sample Number: 6

Remarks:

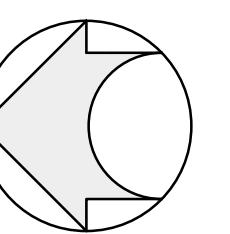
Kenney Geotechnical Engineering Services, PLLC
6901 Herman Road
Syracuse, NY 13209
(315) 638-2706



Figure

Tested By: JK

Checked By: CMK



SCALE IN FEET

OCTOBER 26, 2021

PAUL ST. HOUSING - CONCEPT SITE PLAN VILLAGE OF MARCELLUS, NY

PAUL STREET

NORTH STREET

FLOODPLAIN

WATER SUPPLY?
PUBLIC (EASEMENT)?
PRIVATE WITH RPZ?

TP-4

TP-3

TP-2

TP-1

TP-5

TP-4

APPENDIX B

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	No
State	New York
Location	
Longitude	76.339 degrees West
Latitude	42.988 degrees North
Elevation	0 feet
Date/Time	Wed, 29 Dec 2021 12:24:52 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.88	0.99	1yr	0.76	0.97	1.11	1.39	1.67	1.99	2.25	1yr	1.76	2.16	2.58	3.13	3.64	1yr
2yr	0.33	0.51	0.63	0.85	1.05	1.20	2yr	0.91	1.17	1.32	1.64	1.97	2.32	2.60	2yr	2.05	2.50	2.95	3.54	4.08	2yr
5yr	0.40	0.61	0.76	1.04	1.32	1.48	5yr	1.14	1.45	1.64	2.02	2.44	2.84	3.21	5yr	2.51	3.08	3.61	4.25	4.86	5yr
10yr	0.46	0.70	0.87	1.22	1.58	1.74	10yr	1.36	1.70	1.93	2.37	2.87	3.31	3.76	10yr	2.93	3.61	4.20	4.88	5.56	10yr
25yr	0.56	0.85	1.06	1.51	1.99	2.15	25yr	1.72	2.10	2.41	2.92	3.56	4.06	4.63	25yr	3.59	4.45	5.15	5.86	6.63	25yr
50yr	0.65	0.99	1.23	1.76	2.37	2.52	50yr	2.05	2.46	2.84	3.43	4.20	4.74	5.42	50yr	4.19	5.22	6.00	6.74	7.59	50yr
100yr	0.76	1.14	1.43	2.07	2.83	2.97	100yr	2.45	2.90	3.36	4.01	4.95	5.53	6.36	100yr	4.89	6.12	7.00	7.74	8.68	100yr
200yr	0.88	1.32	1.68	2.43	3.39	3.49	200yr	2.92	3.41	3.97	4.71	5.83	6.45	7.46	200yr	5.71	7.18	8.17	8.90	9.92	200yr
500yr	1.08	1.61	2.07	3.01	4.29	4.33	500yr	3.70	4.24	4.96	5.82	7.25	7.92	9.22	500yr	7.01	8.86	10.01	10.70	11.86	500yr

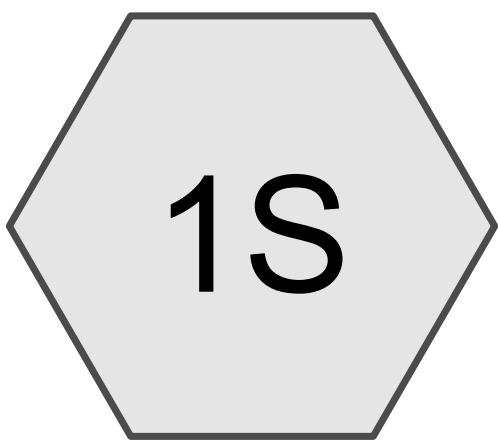
Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.25	0.39	0.47	0.64	0.78	0.87	1yr	0.68	0.86	0.91	1.08	1.39	1.59	2.02	1yr	1.41	1.94	2.38	2.91	3.31	1yr
2yr	0.32	0.50	0.62	0.83	1.03	1.15	2yr	0.89	1.13	1.28	1.57	1.90	2.25	2.53	2yr	1.99	2.43	2.89	3.46	3.99	2yr
5yr	0.37	0.57	0.70	0.96	1.23	1.37	5yr	1.06	1.34	1.51	1.88	2.29	2.65	3.01	5yr	2.35	2.90	3.39	4.02	4.59	5yr
10yr	0.40	0.62	0.77	1.07	1.38	1.55	10yr	1.19	1.52	1.72	2.12	2.58	3.03	3.43	10yr	2.68	3.29	3.84	4.48	5.11	10yr
25yr	0.46	0.69	0.86	1.23	1.62	1.83	25yr	1.40	1.79	2.04	2.49	3.00	3.58	4.08	25yr	3.17	3.92	4.47	5.17	5.88	25yr
50yr	0.49	0.75	0.93	1.34	1.80	2.07	50yr	1.56	2.03	2.31	2.79	3.34	4.06	4.64	50yr	3.60	4.47	5.13	5.77	6.53	50yr
100yr	0.54	0.81	1.02	1.47	2.02	2.35	100yr	1.75	2.30	2.64	3.13	3.72	4.62	5.30	100yr	4.09	5.10	5.83	6.44	7.25	100yr
200yr	0.59	0.89	1.13	1.63	2.28	2.68	200yr	1.96	2.62	3.00	3.50	4.14	5.25	6.07	200yr	4.65	5.83	6.62	7.18	8.06	200yr
500yr	0.73	1.09	1.40	2.04	2.90	3.19	500yr	2.50	3.12	3.57	4.08	4.78	6.23	7.26	500yr	5.52	6.98	7.84	8.31	9.25	500yr

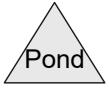
Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.30	0.47	0.57	0.77	0.95	1.07	1yr	0.82	1.04	1.20	1.54	1.83	2.14	2.42	1yr	1.89	2.33	2.76	3.31	3.85	1yr
2yr	0.35	0.54	0.67	0.90	1.11	1.25	2yr	0.96	1.22	1.37	1.72	2.08	2.39	2.67	2yr	2.12	2.57	3.04	3.66	4.20	2yr
5yr	0.42	0.65	0.81	1.11	1.41	1.61	5yr	1.22	1.57	1.76	2.20	2.62	3.04	3.40	5yr	2.69	3.27	3.81	4.51	5.16	5yr
10yr	0.50	0.77	0.95	1.32	1.71	1.98	10yr	1.48	1.94	2.14	2.70	3.21	3.68	4.09	10yr	3.26	3.93	4.55	5.31	6.04	10yr
25yr	0.62	0.95	1.18	1.69	2.22	2.61	25yr	1.91	2.55	2.76	3.56	4.21	4.70	5.23	25yr	4.16	5.03	5.66	6.60	7.47	25yr
50yr	0.74	1.12	1.40	2.01	2.70	3.20	50yr	2.33	3.13	3.36	4.38	5.15	5.65	6.29	50yr	5.00	6.05	6.87	7.78	8.76	50yr
100yr	0.88	1.33	1.66	2.40	3.30	3.92	100yr	2.85	3.83	4.09	5.41	6.31	6.81	7.56	100yr	6.03	7.27	8.19	9.16	10.28	100yr
200yr	1.04	1.57	1.99	2.88	4.02	4.82	200yr	3.47	4.71	4.96	6.69	7.75	8.20	9.09	200yr	7.26	8.74	9.78	10.79	12.06	200yr
500yr	1.35	2.01	2.59	3.76	5.35	6.33	500yr	4.62	6.19	6.41	8.84	10.18	10.48	11.59	500yr	9.27	11.14	12.34	13.41	14.92	500yr

APPENDIX C



EXDA



Routing Diagram for 8 Paul Street-21063
Prepared by Microsoft, Printed 1/5/2022
HydroCAD® 10.00-20 s/n 05023 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: EXDA

Runoff = 0.45 cfs @ 12.30 hrs, Volume= 0.093 af, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-yr Rainfall=1.99"

Area (ac)	CN	Description
* 2.997	98	Impervious Cover, Rooftops, and Roads
1.925	36	Woods, Fair, HSG A
1.259	39	>75% Grass cover, Good, HSG A
0.359	77	Woods, Good, HSG D
6.540	67	Weighted Average
3.543		54.17% Pervious Area
2.997		45.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.0060	0.09		Sheet Flow, Grass Sheet Flow Grass: Short n= 0.150 P2= 2.32"
2.3	85	0.0080	0.63		Shallow Concentrated Flow, Grass SCF Short Grass Pasture Kv= 7.0 fps
3.9	185	0.1000	0.79		Shallow Concentrated Flow, Woods SCF Forest w/Heavy Litter Kv= 2.5 fps
24.8	370	Total			

Summary for Subcatchment 1S: EXDA

Runoff = 1.07 cfs @ 12.26 hrs, Volume= 0.155 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 2-yr Rainfall=2.32"

Area (ac)	CN	Description
* 2.997	98	Impervious Cover, Rooftops, and Roads
1.925	36	Woods, Fair, HSG A
1.259	39	>75% Grass cover, Good, HSG A
0.359	77	Woods, Good, HSG D
6.540	67	Weighted Average
3.543		54.17% Pervious Area
2.997		45.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.0060	0.09		Sheet Flow, Grass Sheet Flow Grass: Short n= 0.150 P2= 2.32"
2.3	85	0.0080	0.63		Shallow Concentrated Flow, Grass SCF Short Grass Pasture Kv= 7.0 fps
3.9	185	0.1000	0.79		Shallow Concentrated Flow, Woods SCF Forest w/Heavy Litter Kv= 2.5 fps
24.8	370	Total			

Summary for Subcatchment 1S: EXDA

Runoff = 2.43 cfs @ 12.23 hrs, Volume= 0.277 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 5-yr Rainfall=2.84"

Area (ac)	CN	Description
* 2.997	98	Impervious Cover, Rooftops, and Roads
1.925	36	Woods, Fair, HSG A
1.259	39	>75% Grass cover, Good, HSG A
0.359	77	Woods, Good, HSG D
6.540	67	Weighted Average
3.543		54.17% Pervious Area
2.997		45.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.0060	0.09		Sheet Flow, Grass Sheet Flow Grass: Short n= 0.150 P2= 2.32"
2.3	85	0.0080	0.63		Shallow Concentrated Flow, Grass SCF Short Grass Pasture Kv= 7.0 fps
3.9	185	0.1000	0.79		Shallow Concentrated Flow, Woods SCF Forest w/Heavy Litter Kv= 2.5 fps
24.8	370	Total			

Summary for Subcatchment 1S: EXDA

Runoff = 4.00 cfs @ 12.22 hrs, Volume= 0.406 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
* 2.997	98	Impervious Cover, Rooftops, and Roads
1.925	36	Woods, Fair, HSG A
1.259	39	>75% Grass cover, Good, HSG A
0.359	77	Woods, Good, HSG D
6.540	67	Weighted Average
3.543		54.17% Pervious Area
2.997		45.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.0060	0.09		Sheet Flow, Grass Sheet Flow Grass: Short n= 0.150 P2= 2.32"
2.3	85	0.0080	0.63		Shallow Concentrated Flow, Grass SCF Short Grass Pasture Kv= 7.0 fps
3.9	185	0.1000	0.79		Shallow Concentrated Flow, Woods SCF Forest w/Heavy Litter Kv= 2.5 fps
24.8	370	Total			

Summary for Subcatchment 1S: EXDA

Runoff = 6.90 cfs @ 12.21 hrs, Volume= 0.644 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 25-yr Rainfall=4.06"

Area (ac)	CN	Description
* 2.997	98	Impervious Cover, Rooftops, and Roads
1.925	36	Woods, Fair, HSG A
1.259	39	>75% Grass cover, Good, HSG A
0.359	77	Woods, Good, HSG D
6.540	67	Weighted Average
3.543		54.17% Pervious Area
2.997		45.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.0060	0.09		Sheet Flow, Grass Sheet Flow Grass: Short n= 0.150 P2= 2.32"
2.3	85	0.0080	0.63		Shallow Concentrated Flow, Grass SCF Short Grass Pasture Kv= 7.0 fps
3.9	185	0.1000	0.79		Shallow Concentrated Flow, Woods SCF Forest w/Heavy Litter Kv= 2.5 fps
24.8	370	Total			

Summary for Subcatchment 1S: EXDA

Runoff = 9.84 cfs @ 12.20 hrs, Volume= 0.885 af, Depth= 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 50-yr Rainfall=4.74"

Area (ac)	CN	Description
* 2.997	98	Impervious Cover, Rooftops, and Roads
1.925	36	Woods, Fair, HSG A
1.259	39	>75% Grass cover, Good, HSG A
0.359	77	Woods, Good, HSG D
6.540	67	Weighted Average
3.543		54.17% Pervious Area
2.997		45.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.0060	0.09		Sheet Flow, Grass Sheet Flow Grass: Short n= 0.150 P2= 2.32"
2.3	85	0.0080	0.63		Shallow Concentrated Flow, Grass SCF Short Grass Pasture Kv= 7.0 fps
3.9	185	0.1000	0.79		Shallow Concentrated Flow, Woods SCF Forest w/Heavy Litter Kv= 2.5 fps
24.8	370	Total			

Summary for Subcatchment 1S: EXDA

Runoff = 13.52 cfs @ 12.19 hrs, Volume= 1.189 af, Depth= 2.18"

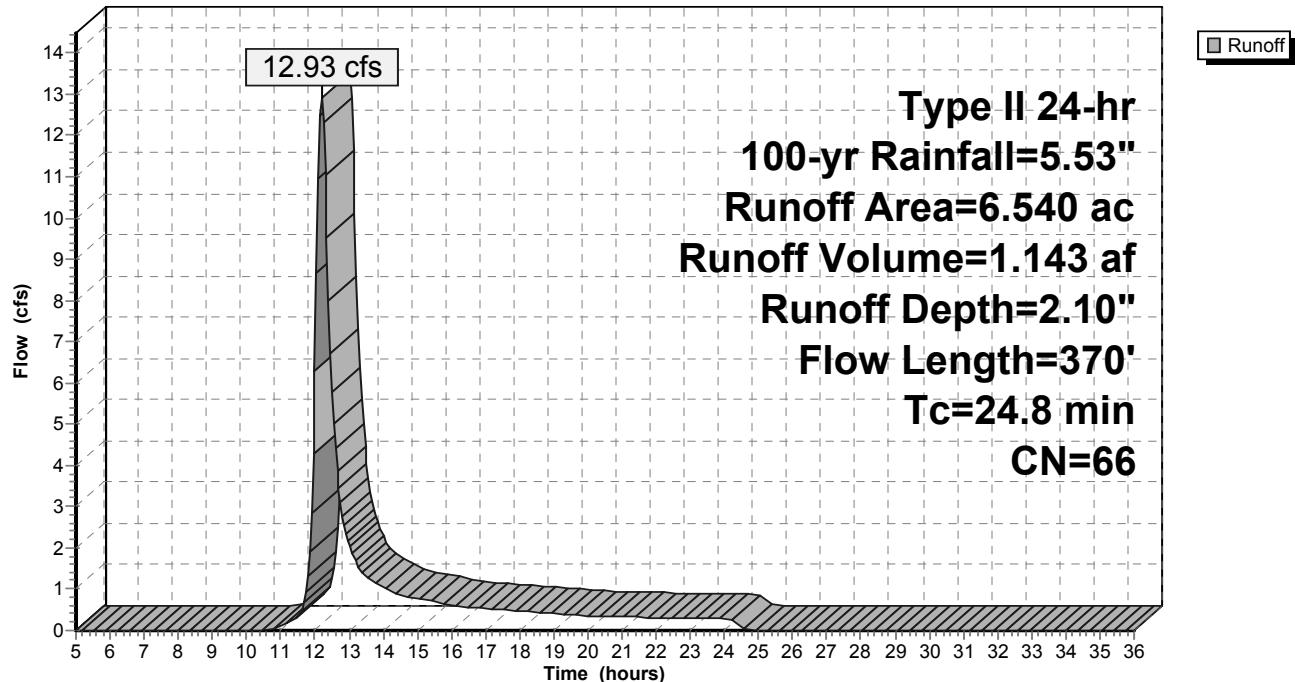
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=5.53"

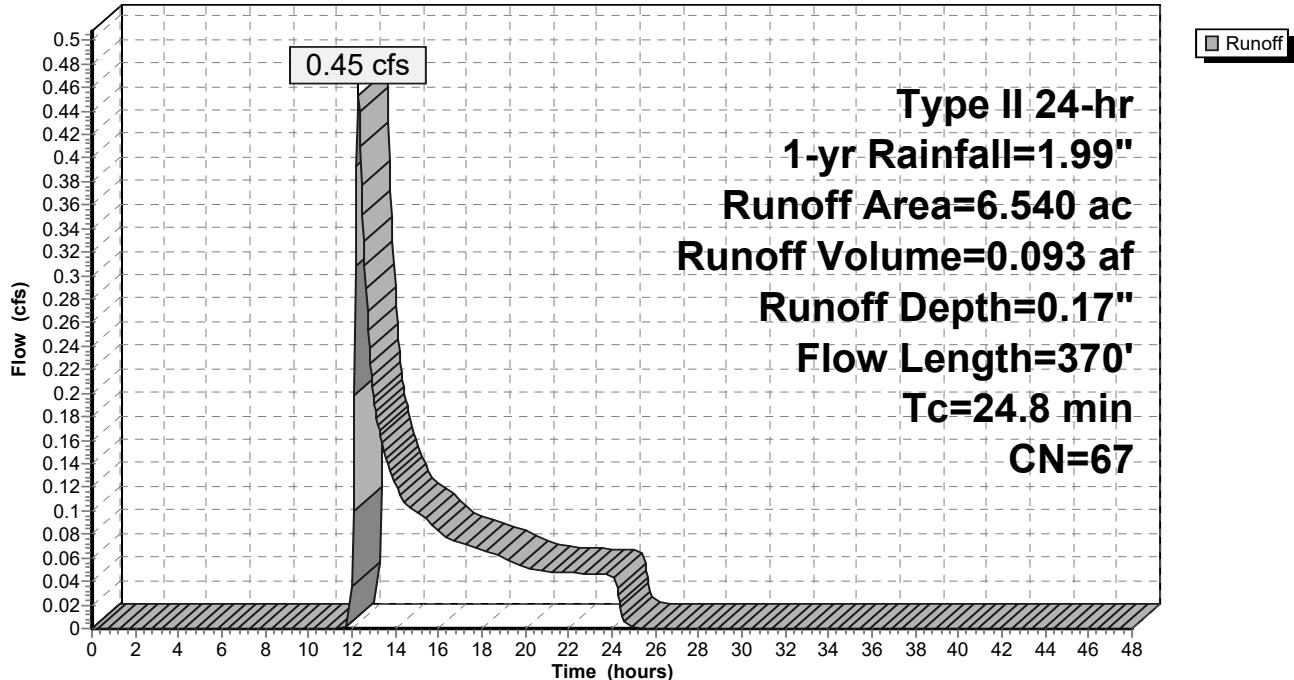
Area (ac)	CN	Description
* 2.997	98	Impervious Cover, Rooftops, and Roads
1.925	36	Woods, Fair, HSG A
1.259	39	>75% Grass cover, Good, HSG A
0.359	77	Woods, Good, HSG D
6.540	67	Weighted Average
3.543		54.17% Pervious Area
2.997		45.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.0060	0.09		Sheet Flow, Grass Sheet Flow Grass: Short n= 0.150 P2= 2.32"
2.3	85	0.0080	0.63		Shallow Concentrated Flow, Grass SCF Short Grass Pasture Kv= 7.0 fps
3.9	185	0.1000	0.79		Shallow Concentrated Flow, Woods SCF Forest w/Heavy Litter Kv= 2.5 fps
24.8	370	Total			

Subcatchment 1S: EXDA

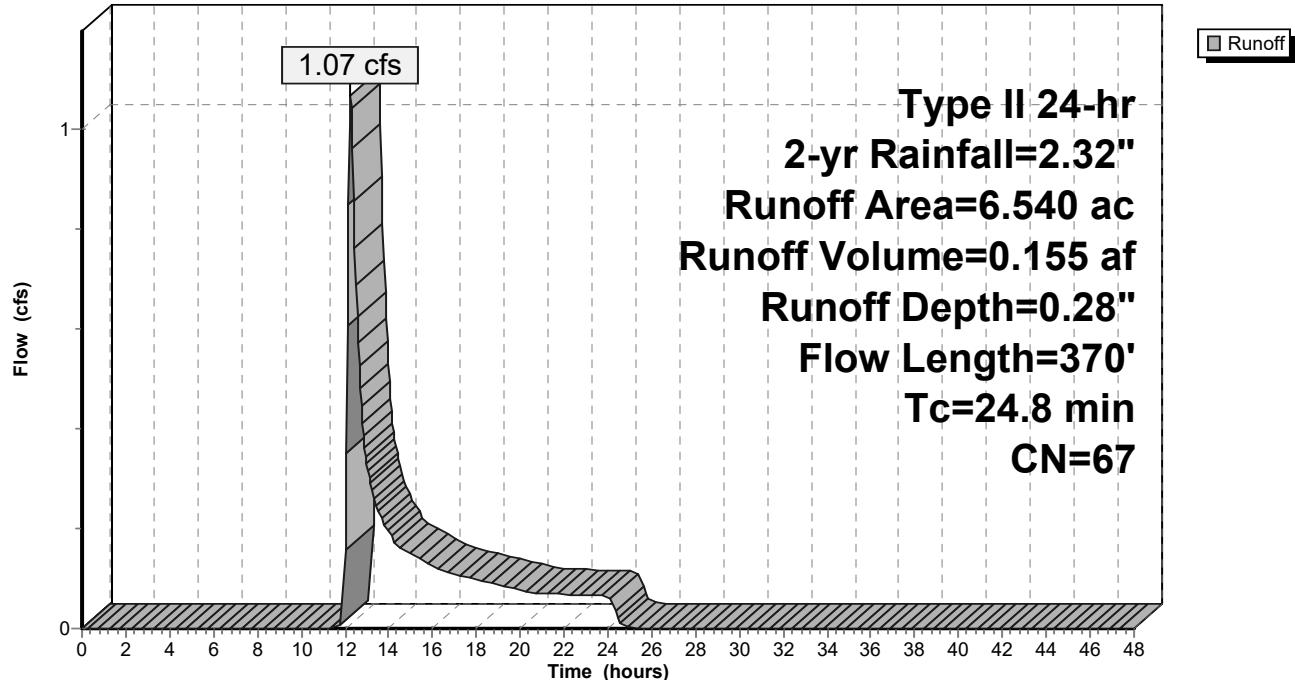
Hydrograph

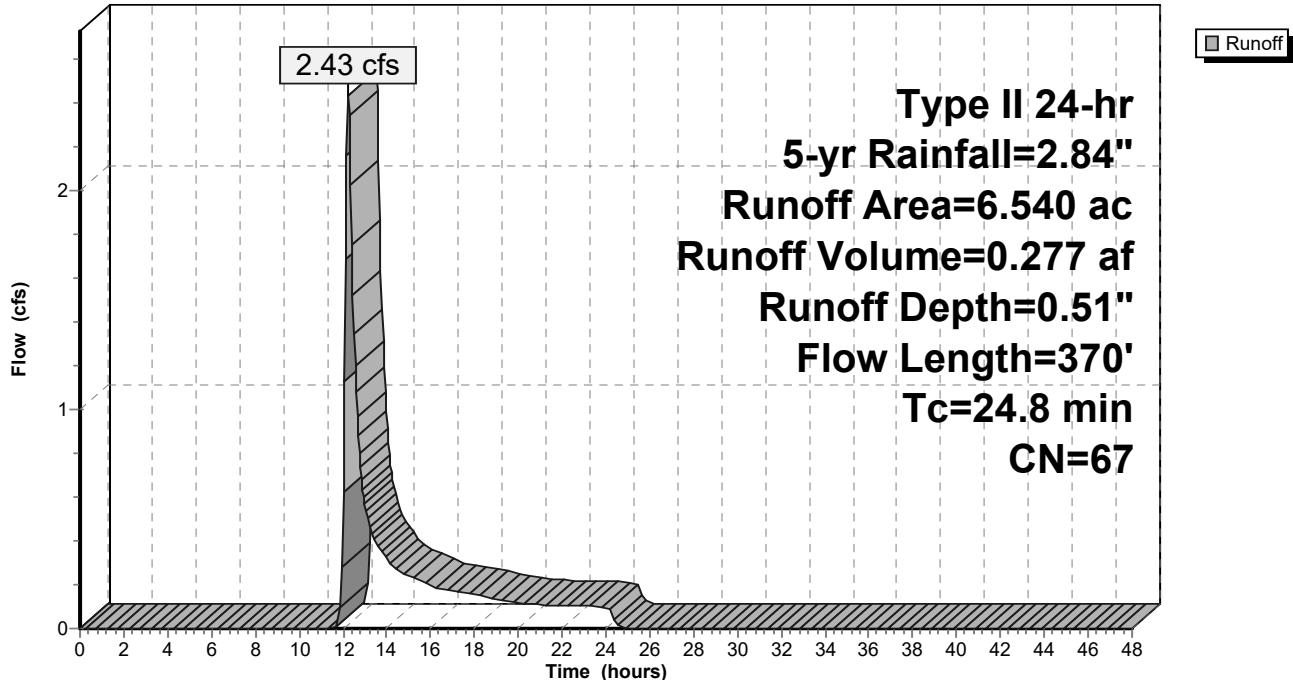


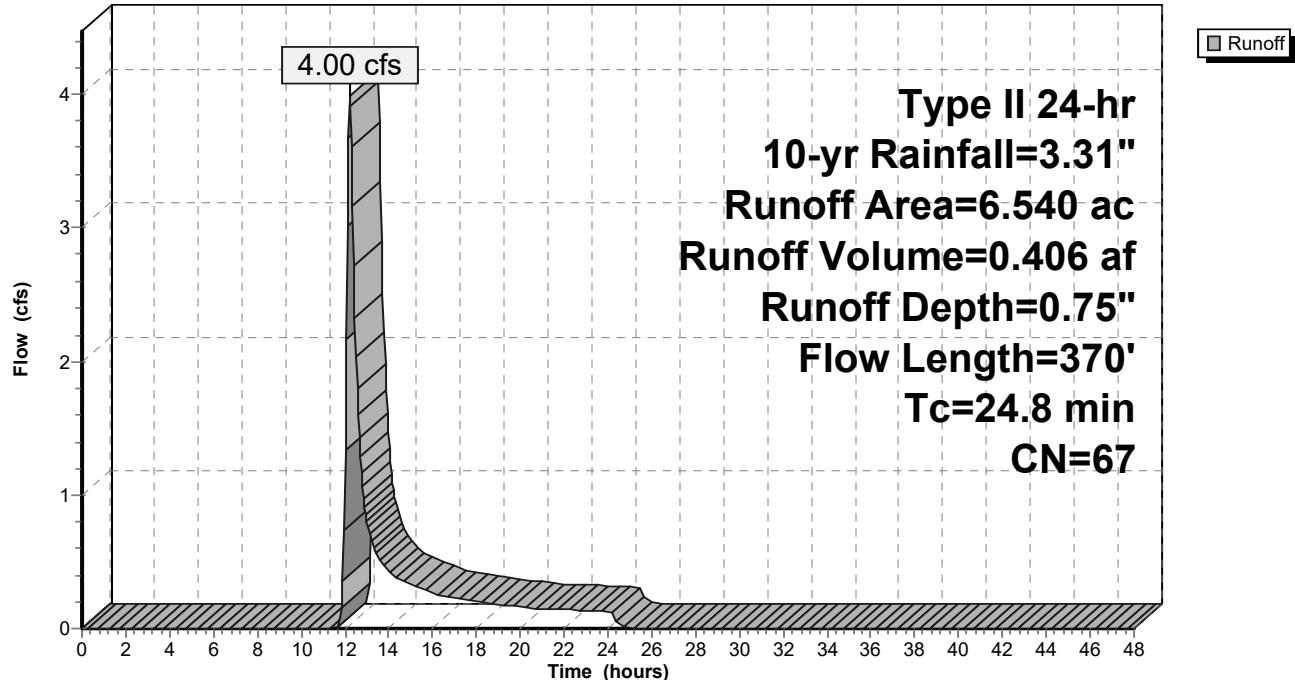
Subcatchment 1S: EXDA**Hydrograph**

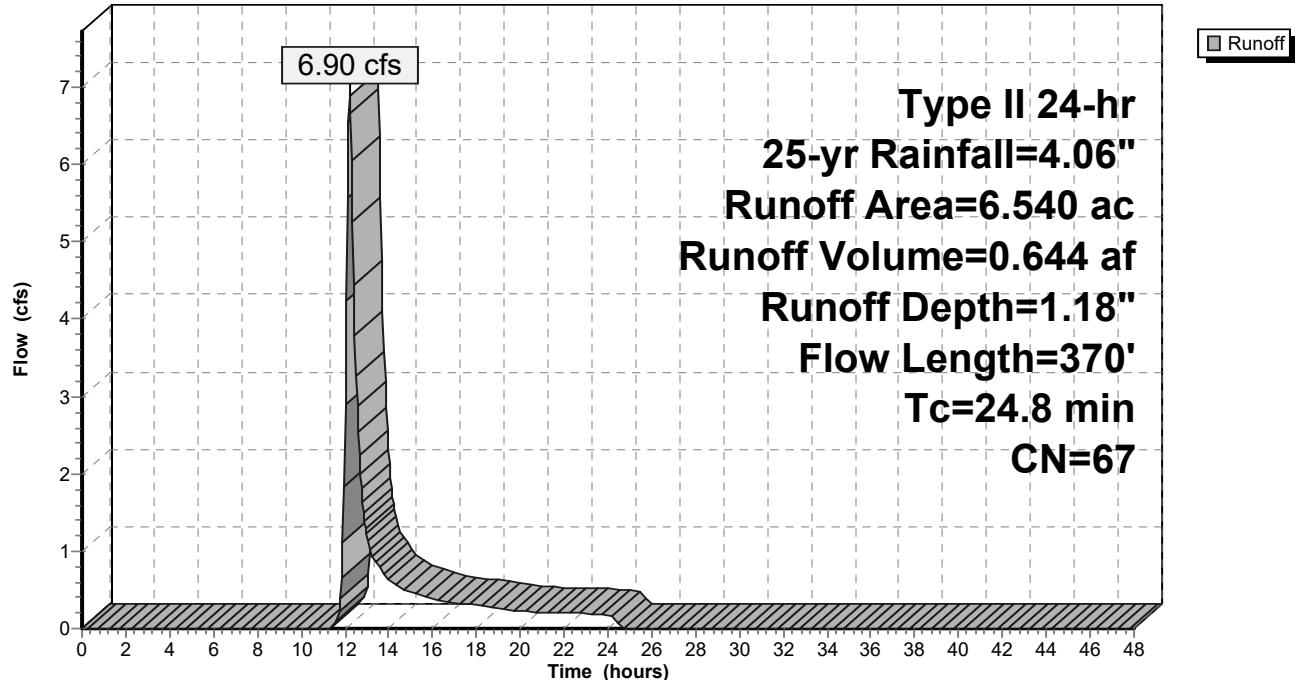
Subcatchment 1S: EXDA

Hydrograph



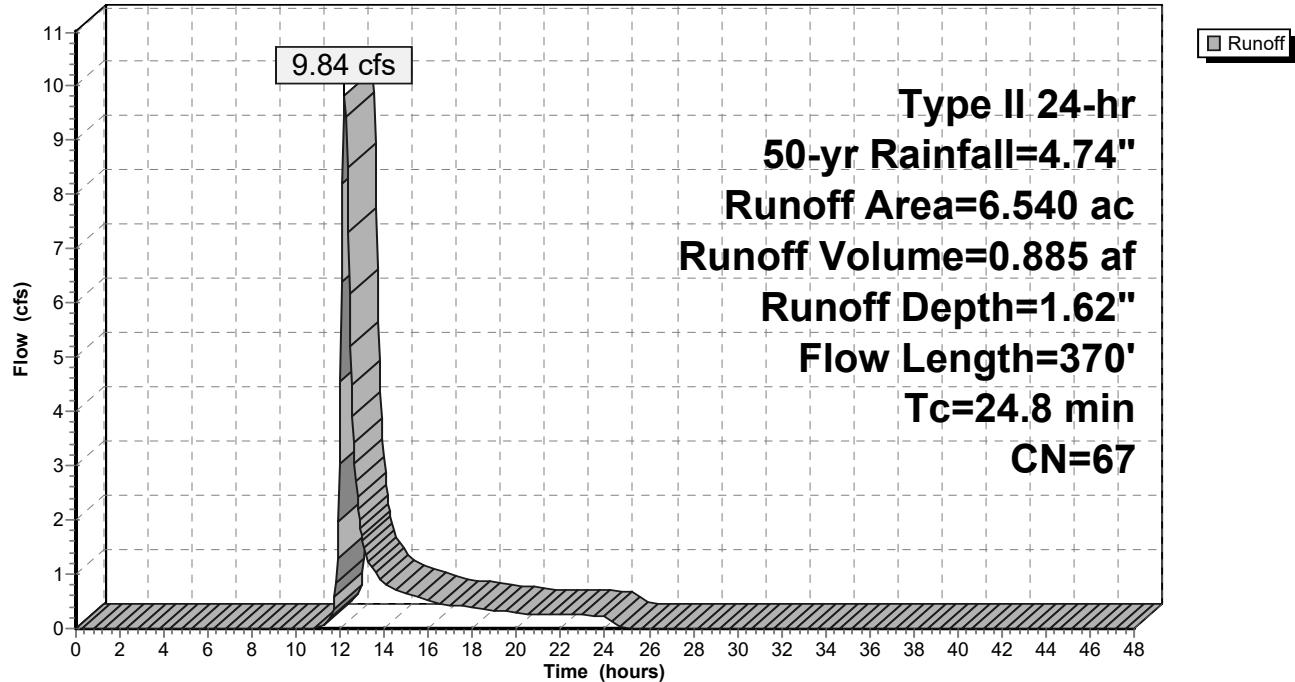
Subcatchment 1S: EXDA**Hydrograph**

Subcatchment 1S: EXDA**Hydrograph**

Subcatchment 1S: EXDA**Hydrograph**

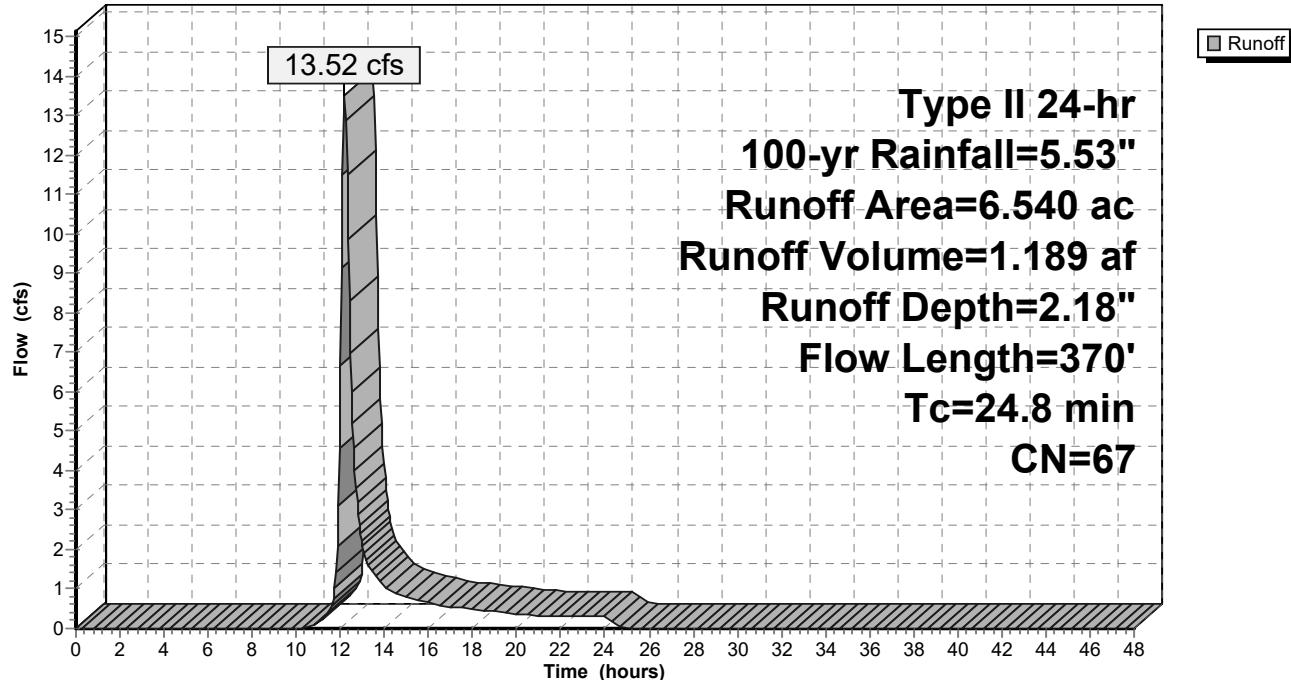
Subcatchment 1S: EXDA

Hydrograph



Subcatchment 1S: EXDA

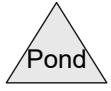
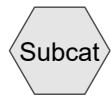
Hydrograph



APPENDIX D



PRDA-1



Routing Diagram for 8 Paul Street-21063
Prepared by Microsoft, Printed 1/5/2022
HydroCAD® 10.00-20 s/n 05023 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 2S: PRDA-1

Runoff = 0.24 cfs @ 12.44 hrs, Volume= 0.072 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-yr Rainfall=1.99"

Area (ac)	CN	Description
*	0.689	98 Roofs
*	0.207	98 Sidewalk
*	1.228	98 Road/Parking
	3.267	>75% Grass cover, Good, HSG A
	1.149	Woods/grass comb., Good, HSG D
6.540	65	Weighted Average
4.416		67.52% Pervious Area
2.124		32.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	250	0.0120	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.32"
0.5	145	0.0827	4.63		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
29.9	395	Total			

Summary for Subcatchment 2S: PRDA-1

Runoff = 0.65 cfs @ 12.36 hrs, Volume= 0.127 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 2-yr Rainfall=2.32"

Area (ac)	CN	Description
*	0.689	98 Roofs
*	0.207	98 Sidewalk
*	1.228	98 Road/Parking
	3.267	>75% Grass cover, Good, HSG A
	1.149	Woods/grass comb., Good, HSG D
6.540	65	Weighted Average
4.416		67.52% Pervious Area
2.124		32.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	250	0.0120	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.32"
0.5	145	0.0827	4.63		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
29.9	395	Total			

Summary for Subcatchment 2S: PRDA-1

Runoff = 1.67 cfs @ 12.32 hrs, Volume= 0.237 af, Depth= 0.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 5-yr Rainfall=2.84"

Area (ac)	CN	Description
*	0.689	98 Roofs
*	0.207	98 Sidewalk
*	1.228	98 Road/Parking
	3.267	>75% Grass cover, Good, HSG A
	1.149	Woods/grass comb., Good, HSG D
6.540	65	Weighted Average
4.416		67.52% Pervious Area
2.124		32.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	250	0.0120	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.32"
0.5	145	0.0827	4.63		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
29.9	395	Total			

Summary for Subcatchment 2S: PRDA-1

Runoff = 2.90 cfs @ 12.30 hrs, Volume= 0.357 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
*	0.689	98 Roofs
*	0.207	98 Sidewalk
*	1.228	98 Road/Parking
	3.267	>75% Grass cover, Good, HSG A
	1.149	Woods/grass comb., Good, HSG D
6.540	65	Weighted Average
4.416		67.52% Pervious Area
2.124		32.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	250	0.0120	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.32"
0.5	145	0.0827	4.63		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
29.9	395	Total			

Summary for Subcatchment 2S: PRDA-1

Runoff = 5.29 cfs @ 12.27 hrs, Volume= 0.580 af, Depth= 1.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 25-yr Rainfall=4.06"

Area (ac)	CN	Description
*	0.689	98 Roofs
*	0.207	98 Sidewalk
*	1.228	98 Road/Parking
	3.267	>75% Grass cover, Good, HSG A
	1.149	Woods/grass comb., Good, HSG D
6.540	65	Weighted Average
4.416		67.52% Pervious Area
2.124		32.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	250	0.0120	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.32"
0.5	145	0.0827	4.63		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
29.9	395	Total			

Summary for Subcatchment 2S: PRDA-1

Runoff = 7.77 cfs @ 12.27 hrs, Volume= 0.808 af, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 50-yr Rainfall=4.74"

Area (ac)	CN	Description
*	0.689	98 Roofs
*	0.207	98 Sidewalk
*	1.228	98 Road/Parking
3.267	39	>75% Grass cover, Good, HSG A
1.149	79	Woods/grass comb., Good, HSG D
6.540	65	Weighted Average
4.416		67.52% Pervious Area
2.124		32.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	250	0.0120	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.32"
0.5	145	0.0827	4.63		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
29.9	395	Total			

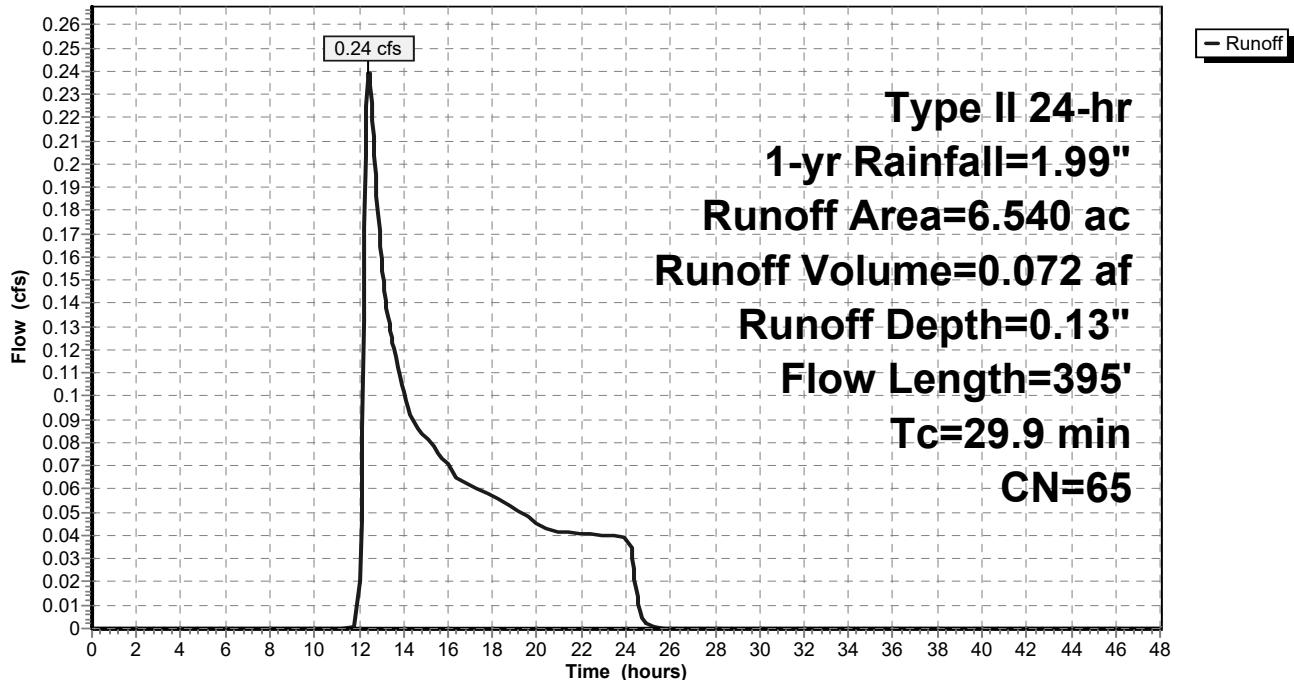
Summary for Subcatchment 2S: PRDA-1

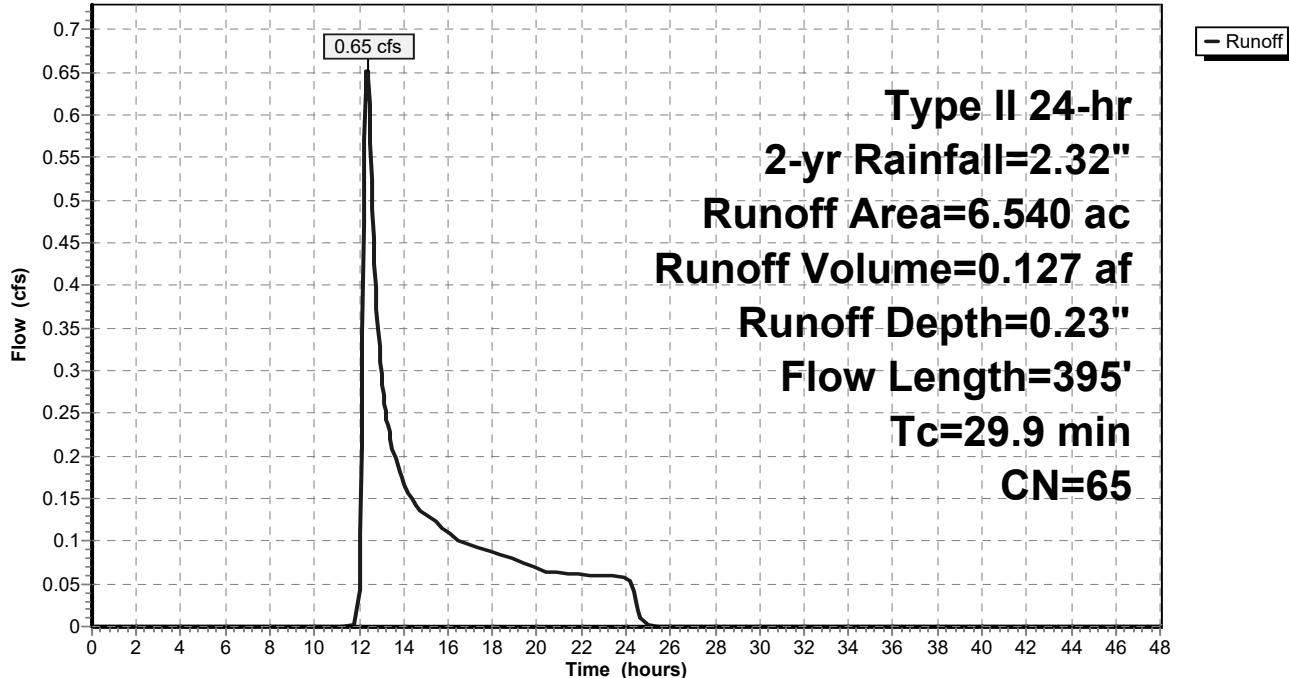
Runoff = 10.91 cfs @ 12.26 hrs, Volume= 1.099 af, Depth= 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=5.53"

Area (ac)	CN	Description
*	0.689	98 Roofs
*	0.207	98 Sidewalk
*	1.228	98 Road/Parking
	3.267	>75% Grass cover, Good, HSG A
	1.149	Woods/grass comb., Good, HSG D
6.540	65	Weighted Average
4.416		67.52% Pervious Area
2.124		32.48% Impervious Area

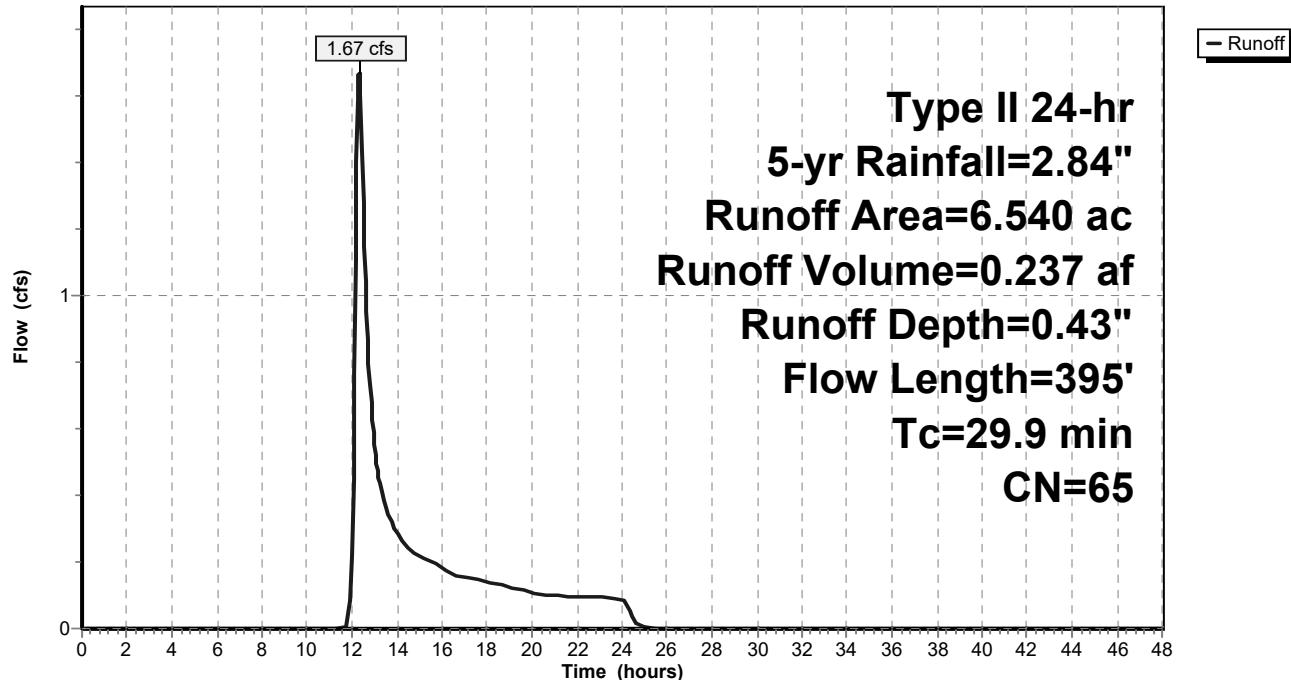
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	250	0.0120	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.32"
0.5	145	0.0827	4.63		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
29.9	395	Total			

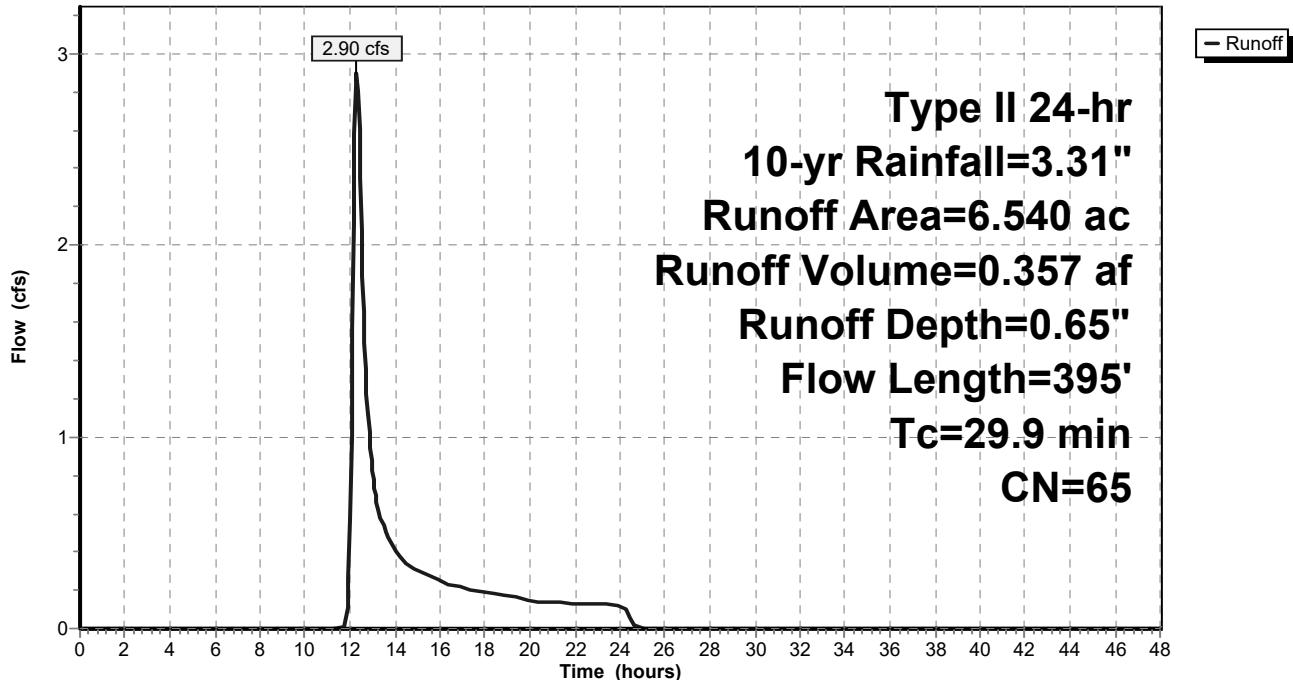
Subcatchment 2S: PRDA-1**Hydrograph**

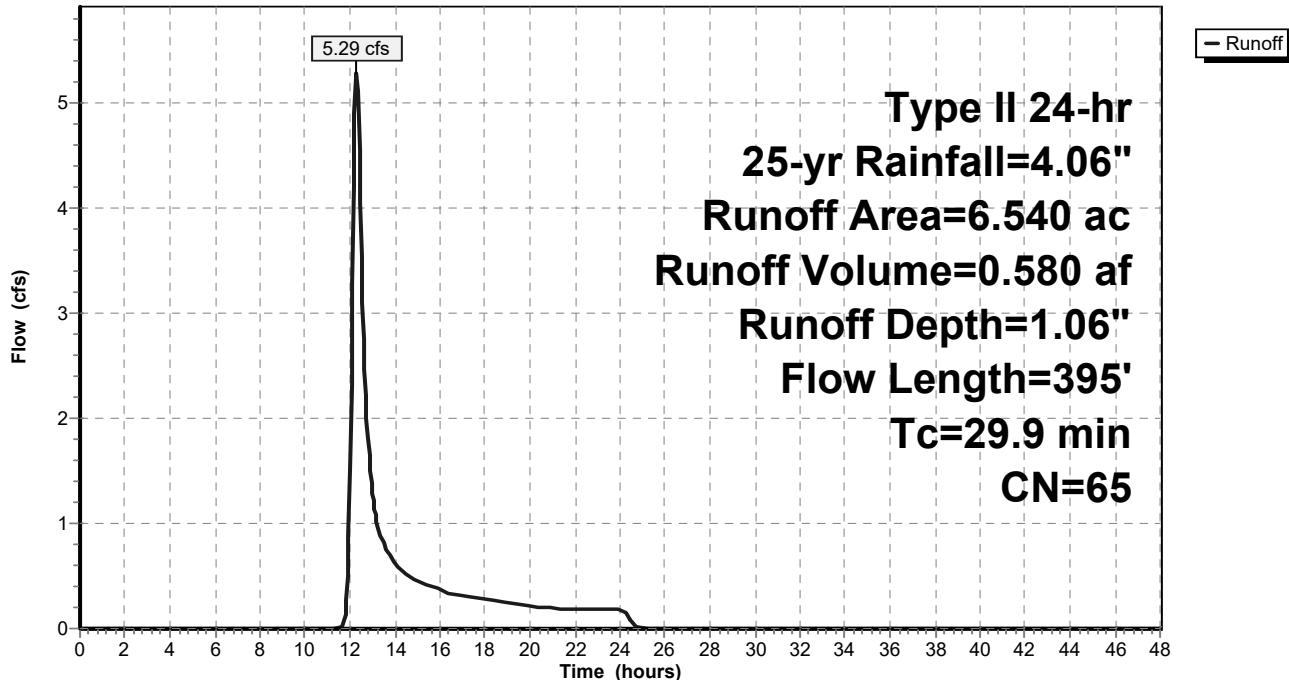
Subcatchment 2S: PRDA-1**Hydrograph**

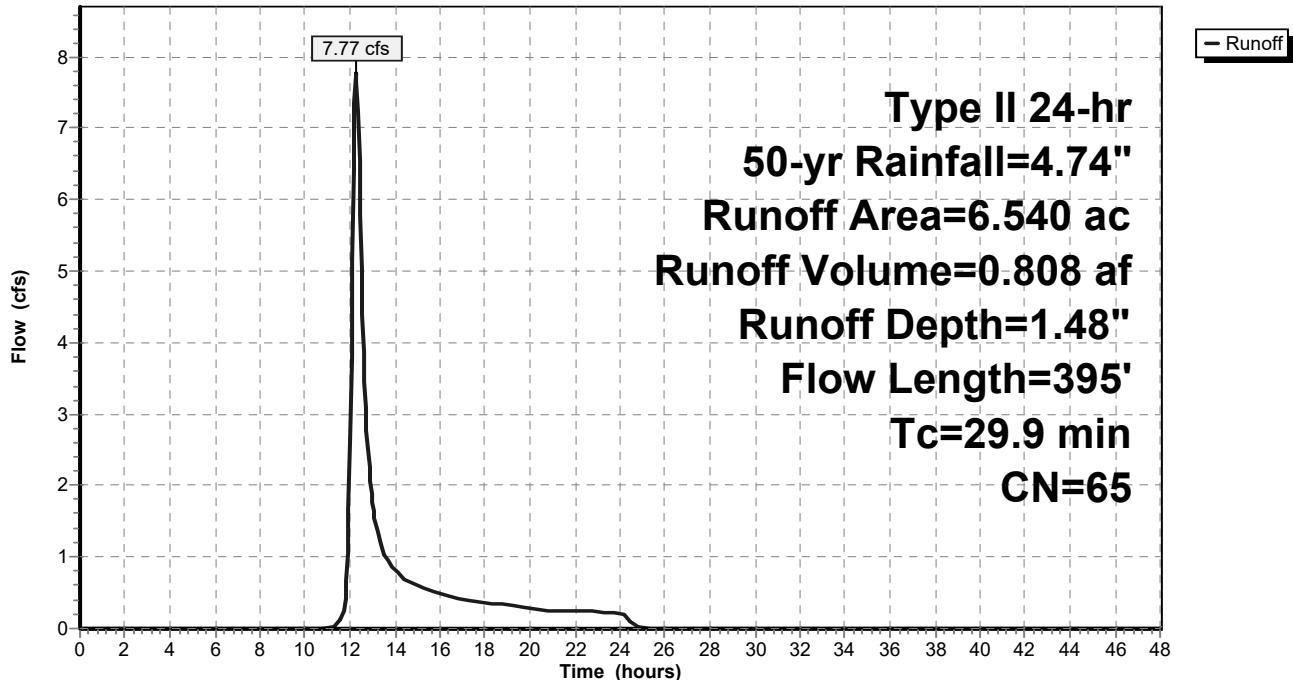
Subcatchment 2S: PRDA-1

Hydrograph



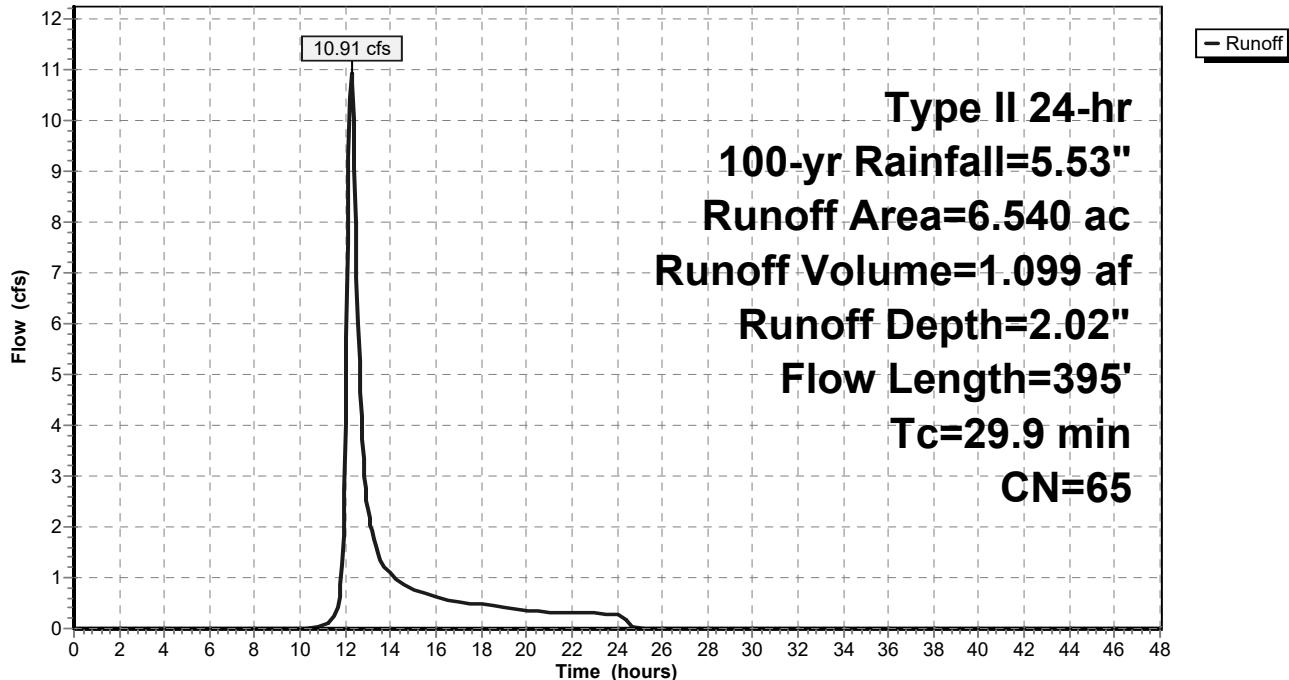
Subcatchment 2S: PRDA-1**Hydrograph**

Subcatchment 2S: PRDA-1**Hydrograph**

Subcatchment 2S: PRDA-1**Hydrograph**

Subcatchment 2S: PRDA-1

Hydrograph



APPENDIX E
(OMITTED)

APPENDIX F

storm, is common. The range of coefficients, classified with respect to the general character of the tributary area reported in use, is:

Description of Area	Runoff Coefficients
Business	
Downtown	0.70 to 0.95
Neighborhood	0.50 to 0.70
Residential	
Single-family	0.30 to 0.50
Multi-units, detached	0.40 to 0.60
Multi-units, attached	0.60 to 0.75
Residential (suburban)	0.25 to 0.40
Apartment	0.50 to 0.70
Industrial	
Light	0.50 to 0.80
Heavy	0.60 to 0.90
Parks, cemeteries	0.10 to 0.25
Playgrounds	0.20 to 0.35
Railroad yard	0.20 to 0.35
Unimproved	0.10 to 0.30

Downtown
= 0.95

Residential
= 0.40

It often is desirable to develop a composite runoff coefficient based on the percentage of different types of surface in the drainage area. This procedure often is applied to typical "sample" blocks as a guide to selection of reasonable values of the coefficient for an entire area. Coefficients with respect to surface type currently in use are:

Character of Surface	Runoff Coefficients
Pavement	
Asphaltic and Concrete	0.70 to 0.95
Brick	0.70 to 0.85
Roofs	0.75 to 0.95
Lawns, sandy soil	
Flat, 2 percent	0.05 to 0.10
Average, 2 to 7 percent	0.10 to 0.15
Steep, 7 percent	0.15 to 0.20
Lawns, heavy soil	
Flat, 2 percent	0.13 to 0.17
Average, 2 to 7 percent	0.18 to 0.22
Steep, 7 percent	0.25 to 0.35

The coefficients in these two tabulations are applicable for storms of 5- to 10-yr frequencies. Less frequent, higher intensity storms will require the use of higher coefficients because infiltration and other losses have a proportionally smaller effect on runoff. The coefficients are based on the assumption that the design storm does not occur when the ground surface is frozen.

(c) Coefficients Varying with Time.—Figure 11 shows the variation of the runoff coefficient with respect to length of time of prior wetting,

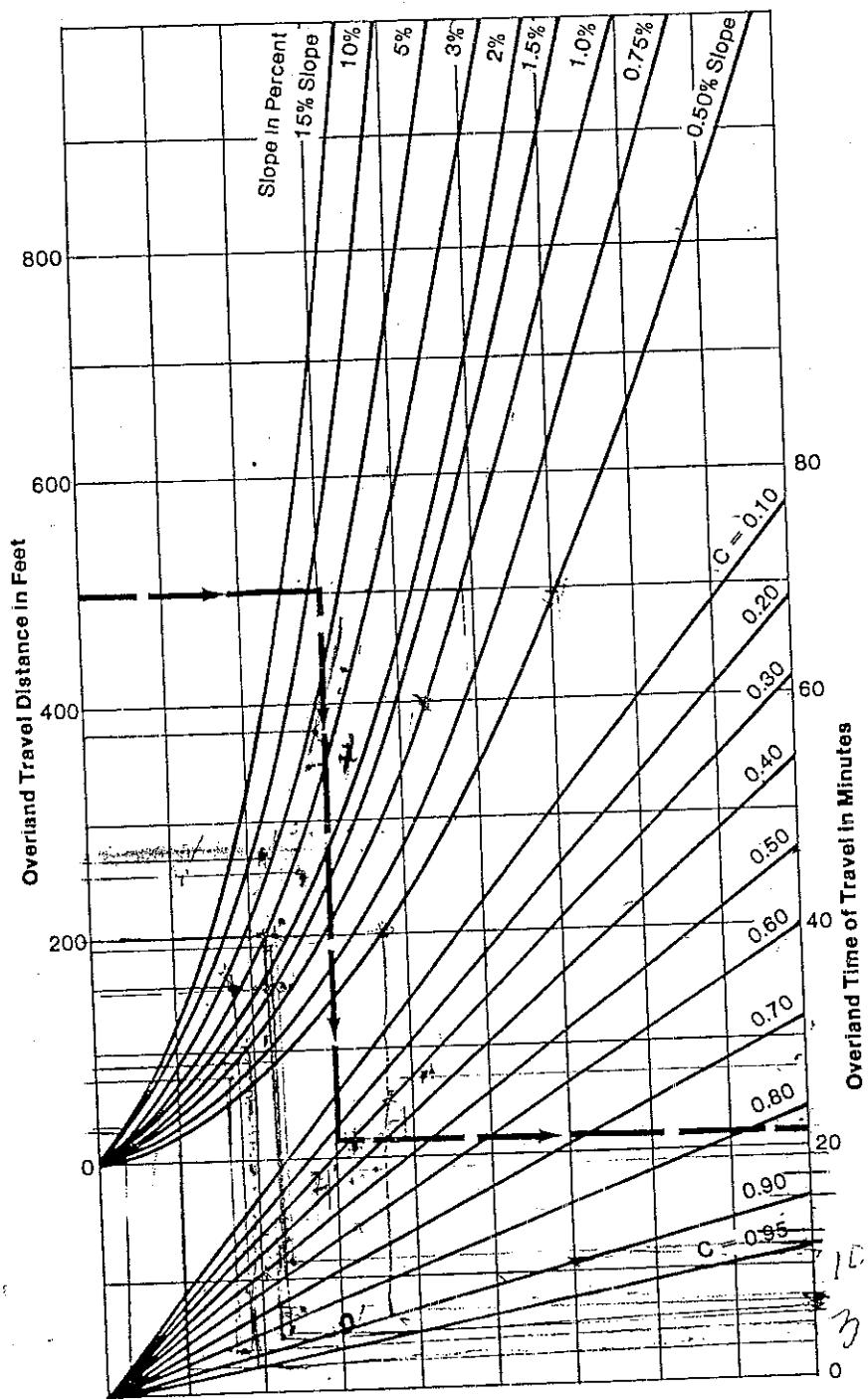
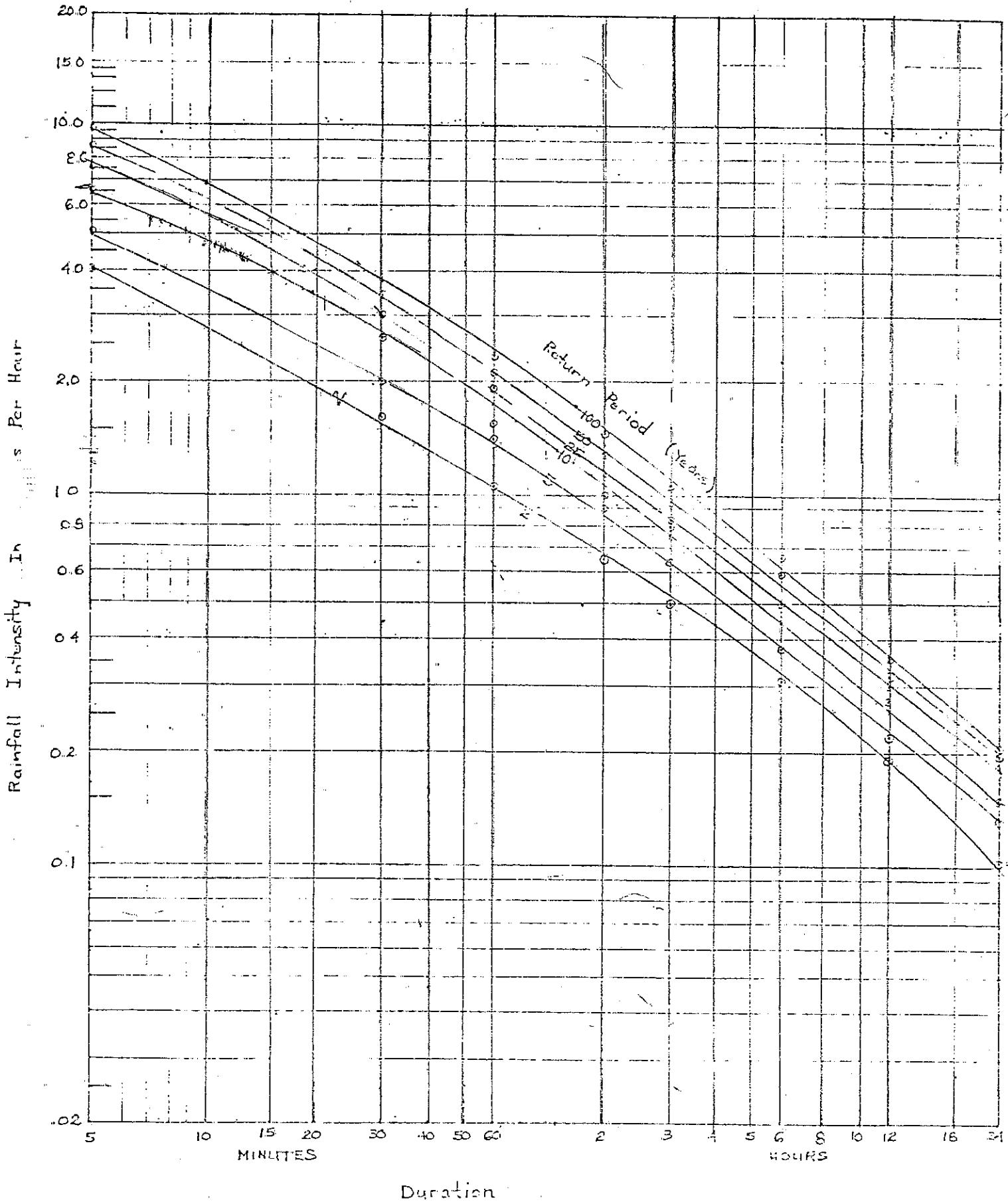


Figure 3-10 Overland time of flow graph.

Syracuse, New York 1903-1970



APPENDIX G
(OMITTED)

APPENDIX H

NOTICE OF INTENT

New York State Department of Environmental Conservation



Division of Water

625 Broadway, 4th Floor

Albany, New York 12233-3505

NYR

(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001
All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

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

8	P	a	u	l	S	t	r	e	e	t	L	L	C																		
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Owner/Operator Contact Person Last Name (NOT CONSULTANT)

F	a	r	w	a	g	i																							
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Owner/Operator Contact Person First Name

A	u	d	r	e	y																								
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Owner/Operator Mailing Address

9	9	0	J	a	m	e	s		S	t	r	e	e															
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City

S	y	r	a	c	u	s	e																					
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State

N	Y																										
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Zip

1	3	0	5	7	-				
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Phone (Owner/Operator)

3	1	5	-	4	4	5	-	7	9	8	0
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Fax (Owner/Operator)

			-				-			
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Email (Owner/Operator)

a	f		a	r	w		a	g	i	@	c	h	r	i	s	t	o	p	h	e	r	-	c	o	m	m	u	n	i	t	y	.o	r	g					
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FED TAX ID

1	6	-	1	0	0	6	7	2	7
---	---	---	---	---	---	---	---	---	---

(not required for individuals)

Project Site Information

Project/Site Name

T e f f t M e a d o w s A p a r t m e n t s

Street Address (NOT P.O. BOX)

8 Paul Street

Side of Street

North South East West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

M a r c e l l u s

State Zip

N Y 1 3 1 0 8 ■

County

DEC Region

7

Name of Nearest Cross Street

A u s t i n d a l e A v e

Distance to Nearest Cross Street (Feet)

Project In Relation to Cross Street

North South East West

Tax Map Numbers
Section-Block-Parcel

0 0 4 . - 0 2 - 5 4 . 1

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site. To do this, go to the NYSDEC Stormwater Interactive Map on the DEC website at:

<https://qisservices.dec.ny.gov/qis/stormwater/>

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located the centroid of your project site, go to the bottom right hand corner of the map for the X, Y coordinates. Enter the coordinates into the boxes below. For problems with the interactive map use the help function.

Y Coordinates (Northing)						
4	2		9	8	7	0
Ex. 42.652						

2. What is the nature of this construction project?

New Construction

- Redevelopment with increase in impervious area

- Redevelopment with no increase in impervious area

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Land Use

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

Post-Development Future Land Use

- SINGLE FAMILY HOME Number of Lots _____

SINGLE FAMILY SUBDIVISION

TOWN HOME RESIDENTIAL

MULTIFAMILY RESIDENTIAL

INSTITUTIONAL/SCHOOL

INDUSTRIAL

COMMERCIAL

MUNICIPAL

ROAD/HIGHWAY

RECREATIONAL/SPORTS FIELD

BIKE PATH/TRAIL

LINEAR UTILITY (water, sewer, gas, etc.)

PARKING LOT

CLEARING/GRAZING ONLY

DEMOLITION, NO REDEVELOPMENT

WELL DRILLING ACTIVITY *(Oil, Gas, etc.)

OTHER

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

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

Total Site
Area

Total Area To
Be Disturbed

**Existing Impervious
Area To Be Disturbed**

**Future Impervious
Area Within
Disturbed Area**

5. Do you plan to disturb more than 5 acres of soil at any one time? Yes No

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

A
8 0 %

B 0 %

C 0 %

D
2 0 %

7. Is this a phased project?

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

Start Date

The image consists of three separate groups of empty rectangular boxes. The first group contains two boxes side-by-side. A diagonal line with a small vertical tick at its center separates this from the second group, which also contains two boxes side-by-side. Another diagonal line with a small vertical tick at its center separates this from the third group, which contains four boxes arranged in a 2x2 grid.

End Date

The diagram consists of three groups of empty rectangular boxes. The first group contains two boxes side-by-side. A diagonal slash is positioned to the right of the second box. To the right of the slash is a second group of two boxes side-by-side. Another diagonal slash is positioned to the right of the second box in this group. To the right of the second slash is a third group of four boxes arranged in a single row.

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

Name _____

N i n e M i l e C r e e k

9a. Type of waterbody identified in Question 9?

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

9b. How was the wetland identified?

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

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?

- Yes No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?

- Yes No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?

- Yes No

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an F or E on the USDA Soil Survey?

If Yes, what is the acreage to be disturbed?

--	--	--	--

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?

- Yes No

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

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

[REDACTED]

[REDACTED]

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

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

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

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

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

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

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

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

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

SWPPP Preparer

R u d y Z o n a

Contact Name (Last, Space, First)

Z o n a R u d y

Mailing Address

6 3 2 0 F l y R o a d

City

E a s t S y r a c u s e

State Zip

N	Y	1	3	0	5	7	-		
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Phone

$$\begin{array}{r} 3 \ 1 \ 5 \\ - \ 4 \ 3 \\ \hline 2 \ 1 \ 0 \end{array}$$

Fax

$$\boxed{} \quad \boxed{} - \boxed{} \quad \boxed{} - \boxed{} \quad \boxed{}$$

Email

r z o n a @ r z e n g i n e e r i n g . c o m

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name

R u d y

MI

L

Last Name

Z o n a

Signature

Kry

Date

25. Has a construction sequence schedule for the planned management practices been prepared?

Yes No

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

Temporary Structural

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

Vegetative Measures

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

Permanent Structural

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

Other

Post-construction Stormwater Management Practice (SMP) Requirements

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

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

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

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

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

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

Total WQv Required

--	--	--

.

--	--	--

 acre-feet

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

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

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

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

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

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

<u>Alternative SMP</u>	<u>Total Contributing Impervious Area (acres)</u>
<input type="radio"/> Hydrodynamic	
<input type="radio"/> Wet Vault	
<input type="radio"/> Media Filter	
<input type="radio"/> Other	[15 columns]

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

Name _____

Manufacturer

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

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

Total RRv provided

• acre-feet

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

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

Yes No

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = $(P)(0.95)(A_i)/12$, $A_i = (S)(A_{ic})$]

Minimum RRv Required

[] . [] acre-feet

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

Yes No

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

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

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

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

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

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

WQv Provided

			.			
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acre-feet

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

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

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

If Yes, go to question 36.

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

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

CPv Required

			.			
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acre-feet

CPv Provided

			.			
--	--	--	---	--	--	--

acre-feet

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

- Site discharges directly to tidal waters or a fifth order or larger stream.
- Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

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

Total Overbank Flood Control Criteria (Qp)

Pre-Development

			.			
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CFS

Post-development

			.			
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CFS

Total Extreme Flood Control Criteria (Qf)

Pre-Development

			.			
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CFS

Post-development

			.			
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CFS

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

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

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?

Yes No

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

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

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

Air Pollution Control

○ Coastal Erosion

Hazardous Waste

○ Long Island Wells

Mined Land Reclamation

Solid Waste

○ Navigable Waters Protection / Article 15

Water Quality Certificate

© Dam Safety

Water Supply

© Freshwater Wetlands/Article 24

O Tidal Wetlands

Wild, Scenic and Recreational Rivers

Stream Bed or Bank Protection / Article 15

Endangered or Threatened Species (Incidental Take Permit)

○ Individual SPDES

○ SPDES Multi-Sector GP N Y R

Other

None

41. Does this project require a US Army Corps of Engineers
Wetland Permit?

Yes No

42. Is this project subject to the requirements of a regulated, traditional land use control MS4?

Yes No

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?

Yes No

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

• N Y R

Owner's Certification

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

Owner: Christopher Community Inc.

Owner's Representative: Audrey Farwagi Date: 1/10/22

Title: Audrey Farwagi, Development Manager



**New York State 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: **8 Paul Street LLC**

2. Contact Person: **Audrey Farwagi**

3. Street Address: **990 James Street**

4. City/State/Zip: **Syracuse, NY 13057**

II. Project Site Information

5. Project/Site Name: **Tefft Meadow Apartments**

6. Street Address: **8 Paul Street**

7. City/State/Zip: **Marcellus, NY 13108**

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

SITE PLAN/SKETCH

Inspector (print name)

Date of Inspection

Qualified Professional (print name)

Qualified Professional 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?
- [] [] Is there residue from oil and floating substances, visible oil film, or globules or grease?
- [] [] 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 and debris 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.

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.

2. Level 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

CONSTRUCTION DURATION INSPECTIONS

Runoff Control Practices (continued)

Page 3 of _____

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. Stabilized Construction Entrance

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?

2. Silt Fence

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)**3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated 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.

Sediment accumulation ____% of design capacity.

4. 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 accumulation is ____% of design capacity.

5. 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 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.
Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.



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:	
5. 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, the deed of record has been modified to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.
- For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, 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:
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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:
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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:
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APPENDIX I

STANDARD AND SPECIFICATIONS FOR TOPSOILING



Definition

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

Purpose

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

Conditions Where Practice Applies

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

Design Criteria

1. Preserve existing topsoil in place where possible, thereby reducing the need for added topsoil.
2. Conserve by stockpiling topsoil and friable fine textured subsoils that must be stripped from the excavated site and applied after final grading where vegetation will be established.
3. Refer to USDA Soil Conservation Service (presently Natural Resource Conservation Service) soil surveys or soil interpretation record sheets for further soil texture information for selecting appropriate design topsoil depths.

Site Preparation

1. As needed, install erosion control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.
2. Complete rough grading and final grade, allowing for depth of topsoil to be added.
3. Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be decompacted to a minimum depth of 12 inches with a deep ripper or chisel plow prior to topsoiling.
4. Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

Topsoil Materials

1. Topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.
2. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.
3. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.
4. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.
5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.

Application and Grading

1. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.
2. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by “tracking” with suitable equipment.

3. Apply topsoil in the following amounts:

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

STANDARD AND SPECIFICATIONS FOR MULCHING



Definition

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

Purpose

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

Conditions Where Practice Applies

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

Criteria

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

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

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

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

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

Select appropriate mulch anchoring material.

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

Table 3.7
Guide to Mulch Materials, Rates, and Uses

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

Table 3.8
Mulch Anchoring Guide

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

STANDARD AND SPECIFICATIONS FOR STABILIZATION WITH SOD



Definition

Stabilizing silt producing areas by establishing long term stands of grass with sod.

Purpose

To stabilize the soil; reduce damage from sediment and runoff to downstream areas; enhance natural beauty.

Conditions Where Practice Applies

On exposed soils that have a potential for causing off site environmental damage where a quick vegetative cover is desired. Moisture, either applied or natural, is essential to success.

Design Criteria

1. Sod shall be bluegrass or a bluegrass/red fescue mixture or a perennial ryegrass for average sites. (CAUTION: Perennial ryegrass has limited cold tolerance and may winter kill.) Use turf type cultivars of tall fescue for shady, droughty, or otherwise more critical areas. For variety selection, contact Cornell Cooperative Extension Turf Specialist.
2. Sod shall be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch. Measurement for thickness shall exclude top growth and thatch.
3. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.
4. Sod shall be free of weeds and undesirable coarse weedy grasses. Wild native or pasture grass sod shall not be used

unless specified.

5. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
6. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be inspected and approved by the contracting officer or his designated representative prior to its installation.

Site Preparation

Fertilizer and lime application rates shall be determined by soil tests. Under unusual circumstances where there is insufficient time for a complete soil test and the contracting officer agrees, fertilizer and lime materials may be applied in amounts shown in subsection 2 below. Slope land such as to provide good surface water drainage. Avoid depressions or pockets.

1. Prior to sodding, the surface shall be smoothed and cleared of all trash, debris, and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.
2. **The soil should be tested to determine the amounts of amendments needed.** Where the soil is acid or composed of heavy clays, ground limestone shall be spread to raise the pH to 6.5. If the soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 20 lbs. of 5-10-10 (or equivalent) and mix into the top 3 inches of soil with the required lime for every 1,000 square feet. Soil should be moist prior to sodding. Arrange for temporary storage of sod to keep it shaded and cool.

Sod Installation

1. For the operation of laying, tamping, and irrigating for any areas, sod shall be completed within eight hours. During periods of excessively high temperature, the soil shall be lightly moistened immediately prior to laying the sod.
2. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to, and tightly wedged against, each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots. On sloping areas where erosion may be a problem, sod shall be laid with the long edges parallel to the contour and with staggered joints.

3. Secure the sod by tamping and pegging, or other approved methods. As sodding is completed in any one section, the entire area shall be rolled or tamped to ensure solid contact of roots with the soil surface.
4. Sod shall be watered immediately after rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Keep sod moist for at least two weeks.

Sod Maintenance

1. In the absence of adequate rainfall, watering shall be performed daily, or as often as deemed necessary by the inspector, during the first week and in sufficient quantities to maintain moist soil to a depth of 4 inches. Watering should be done in the morning. Avoid excessive watering during applications.
2. After the first week, sod shall be watered as necessary to maintain adequate moisture and ensure establishment.
3. The first mowing should not be attempted until sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2 and 3 inches unless

otherwise specified. Avoid heavy mowing equipment for several weeks to prevent rutting.

4. If the soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply fertilizer three to four weeks after sodding, at a rate of 1 pound nitrogen/1,000 sq.ft. Use a complete fertilizer with a 2-1-1 ratio.
5. Weed Control: Target herbicides for weeds present. Consult current Cornell Pest Control Recommendations for Commercial Turfgrass Management or consult the local office of Cornell Cooperative Extension.
6. Disease Control: Consult the local office of the Cornell Cooperative Extension.

Additional References

1. Home Lawns, Establishment and Maintenance, CCE Information Bulletin 185, Revised November 1994. Cornell University, Ithaca, NY.
2. Installing a Sod Lawn. CCE Suffolk County, NY. Thomas Kowalsick February 1994, Revised January 1999. www.cce.cornell.edu/counties/suffolk/grownet

Figure 5A.8
Silt Fence

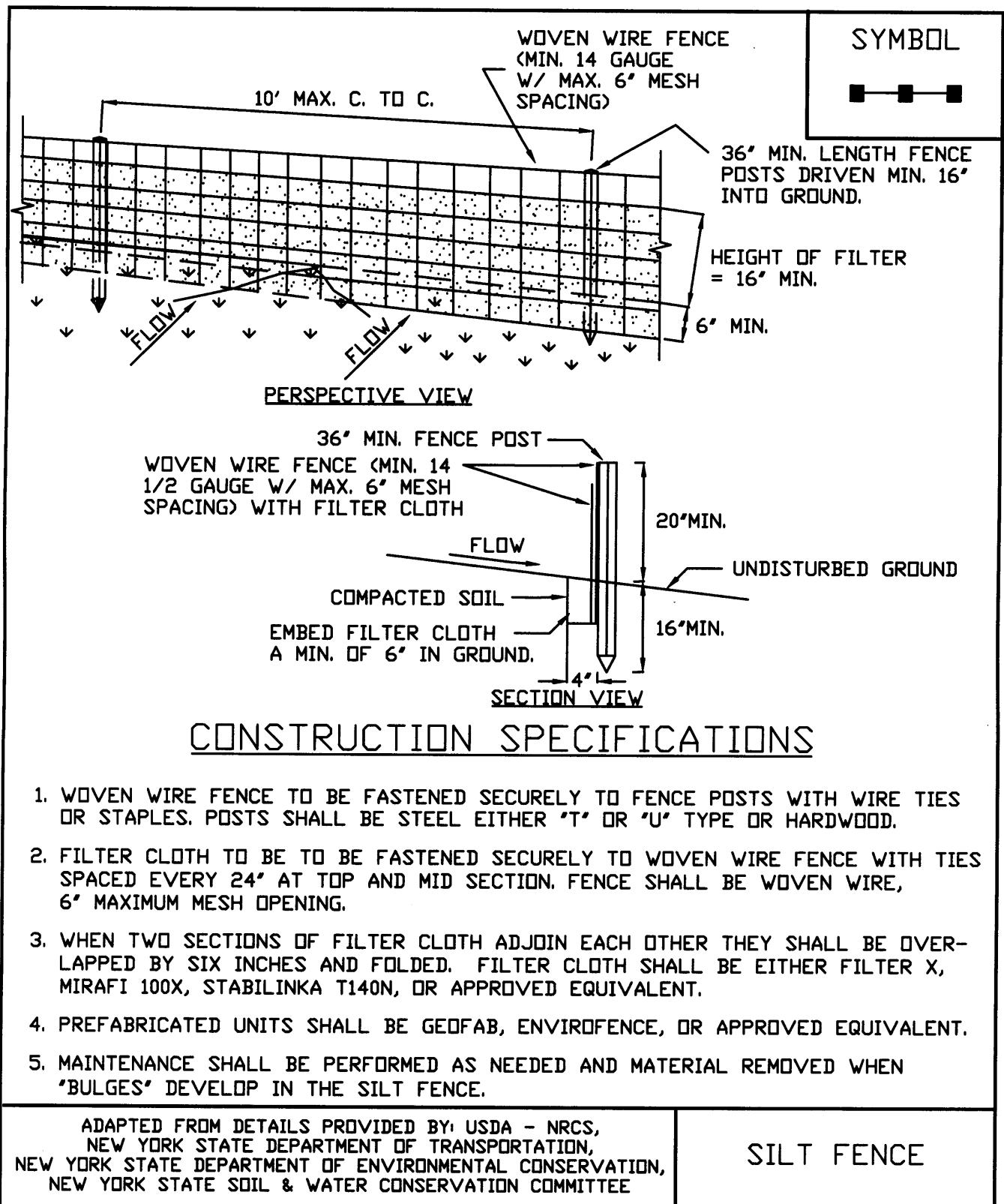


Figure 5A.9
Check Dam

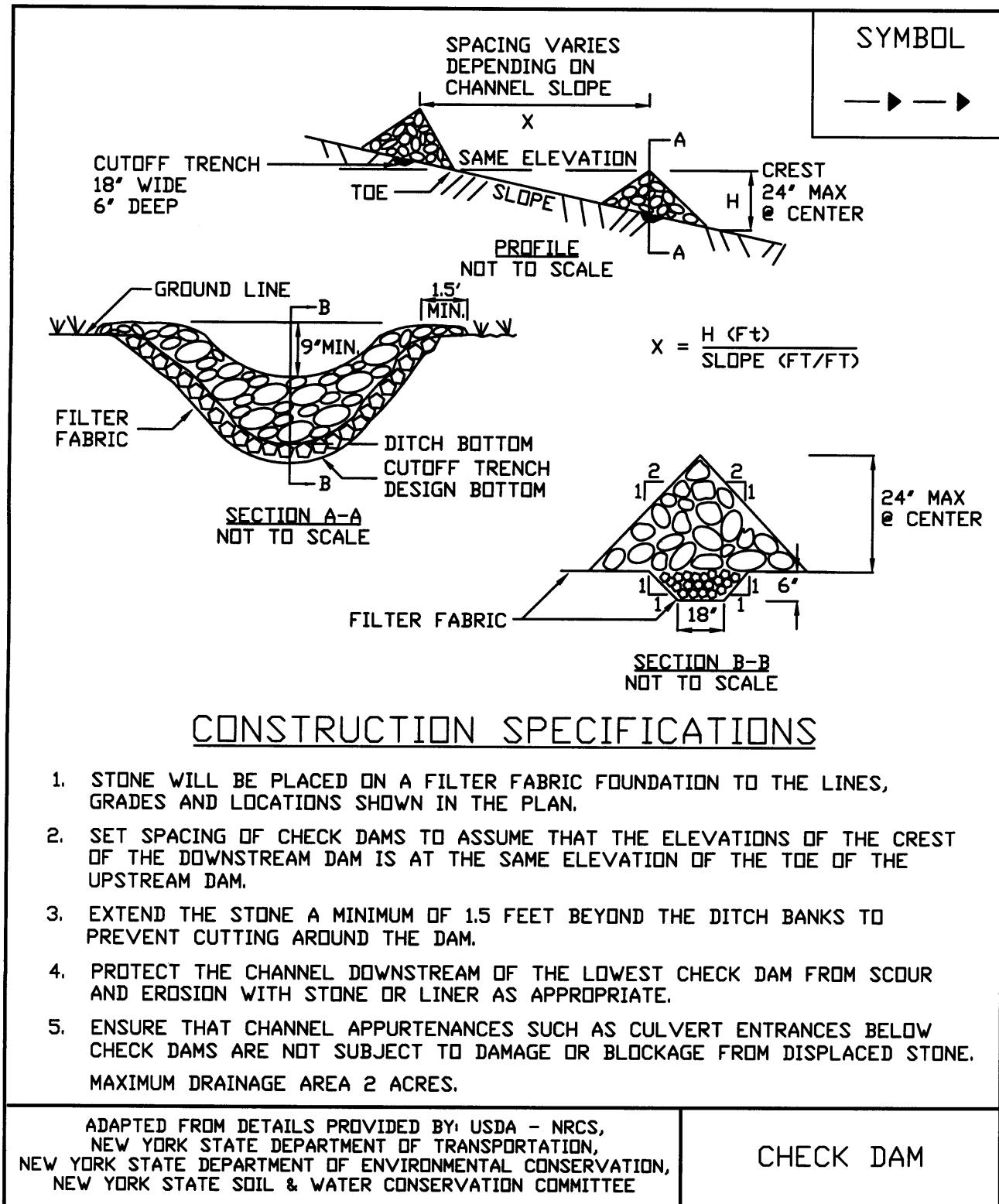


Figure 5A.11
Excavated Drop Inlet Protection

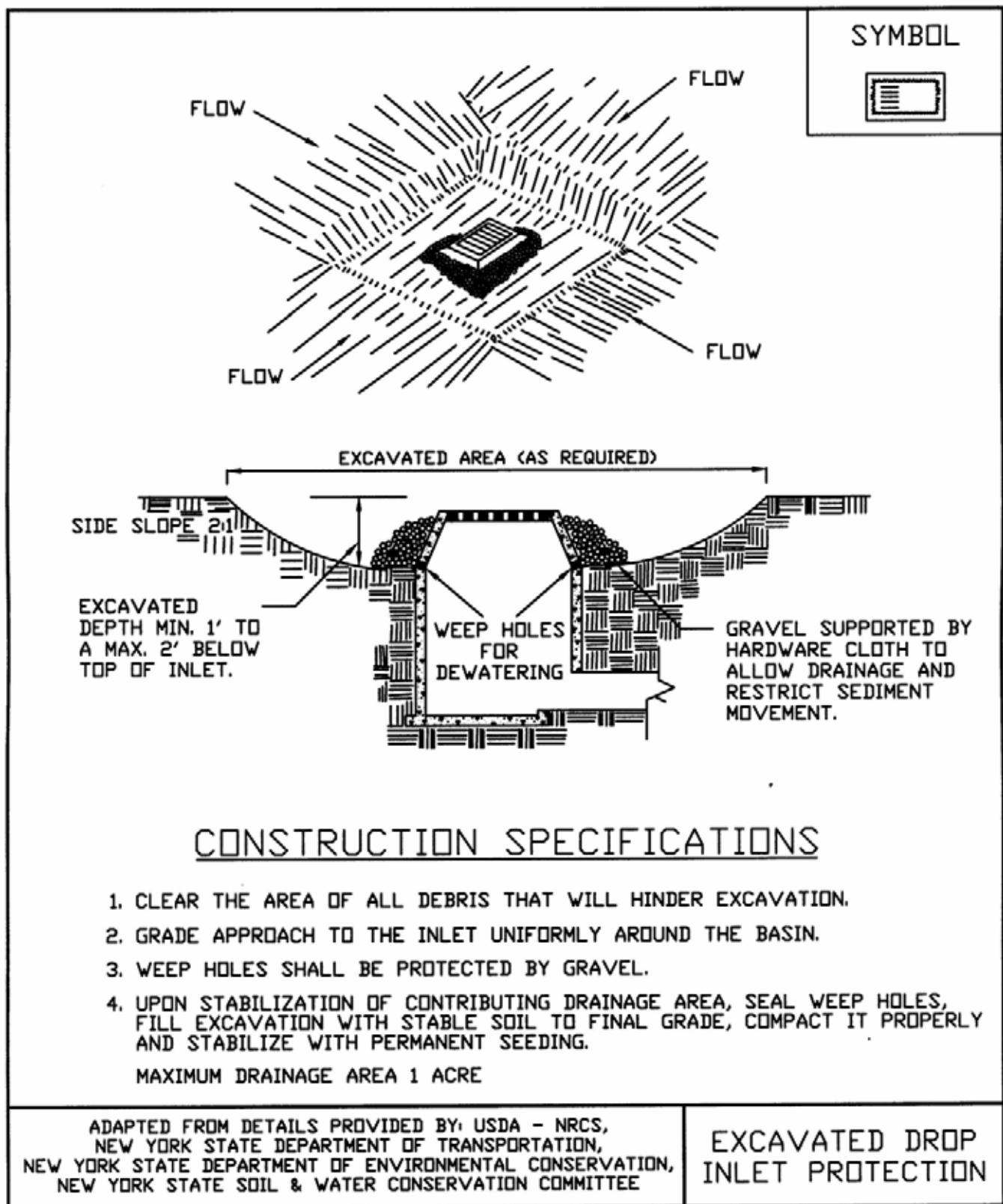


Figure 5A.12
Filter Fabric Drop Inlet Protection

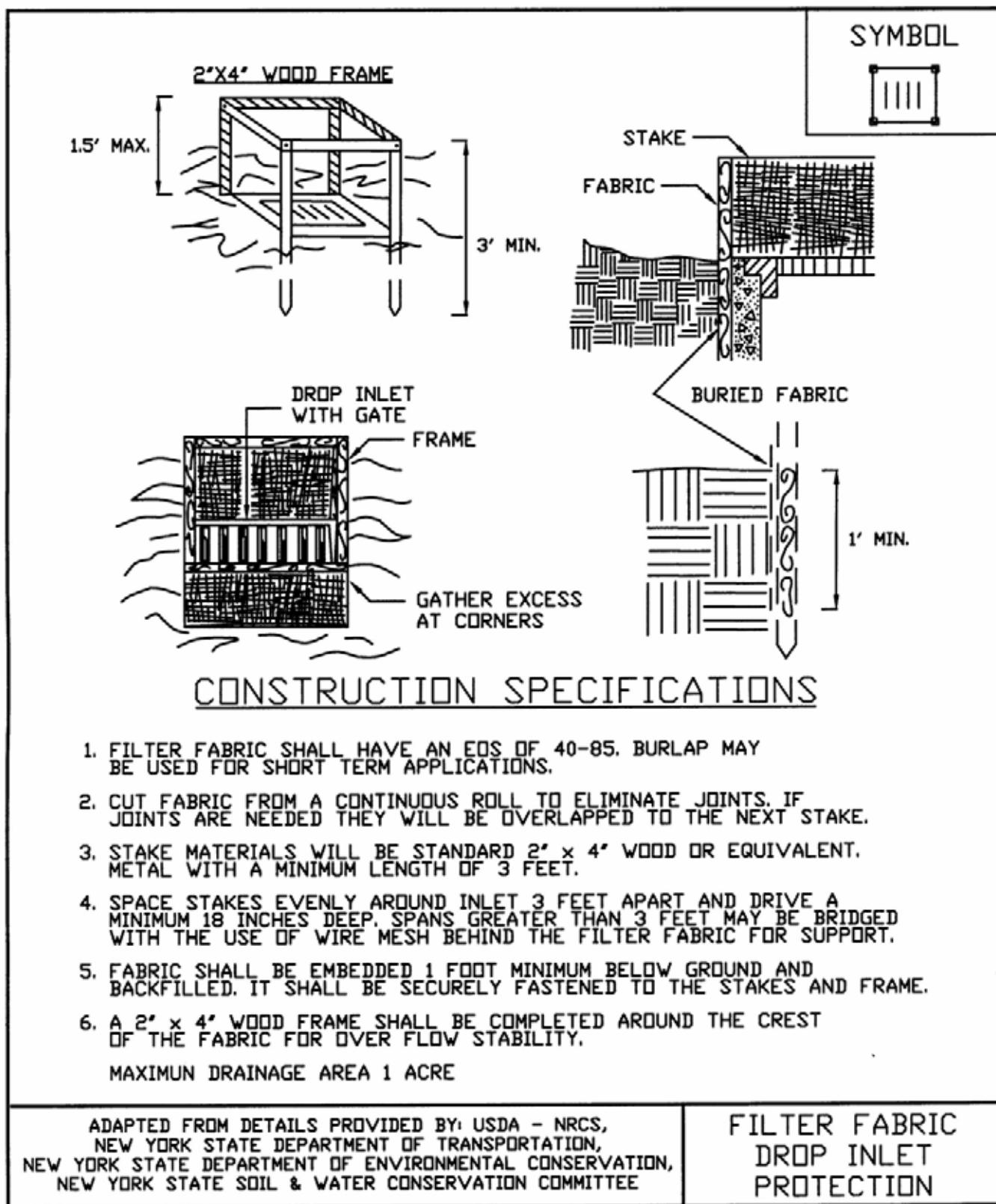


Figure 5A.13
Stone & Block Drop Inlet Protection

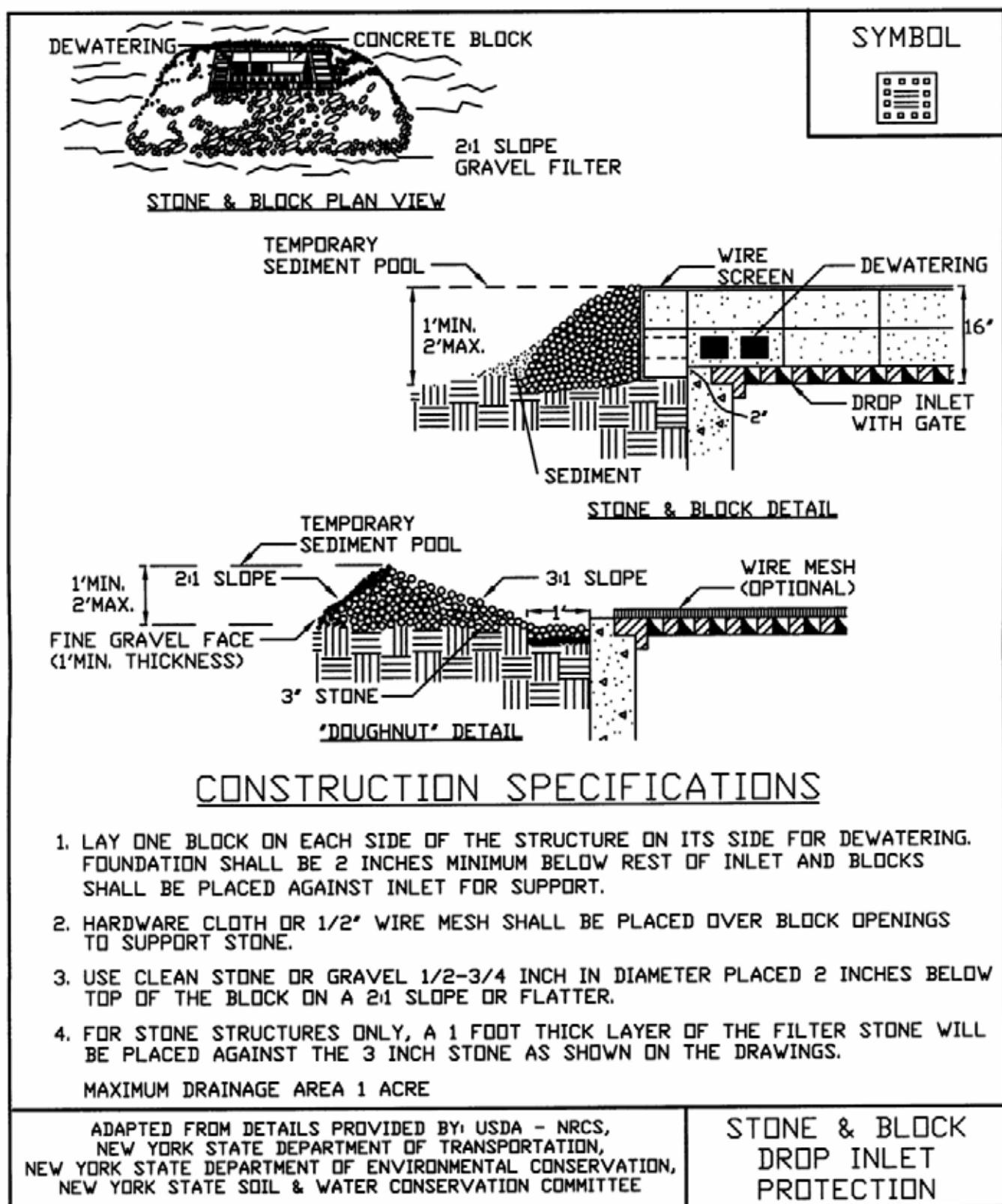


Figure 5A.13
Stone & Block Drop Inlet Protection

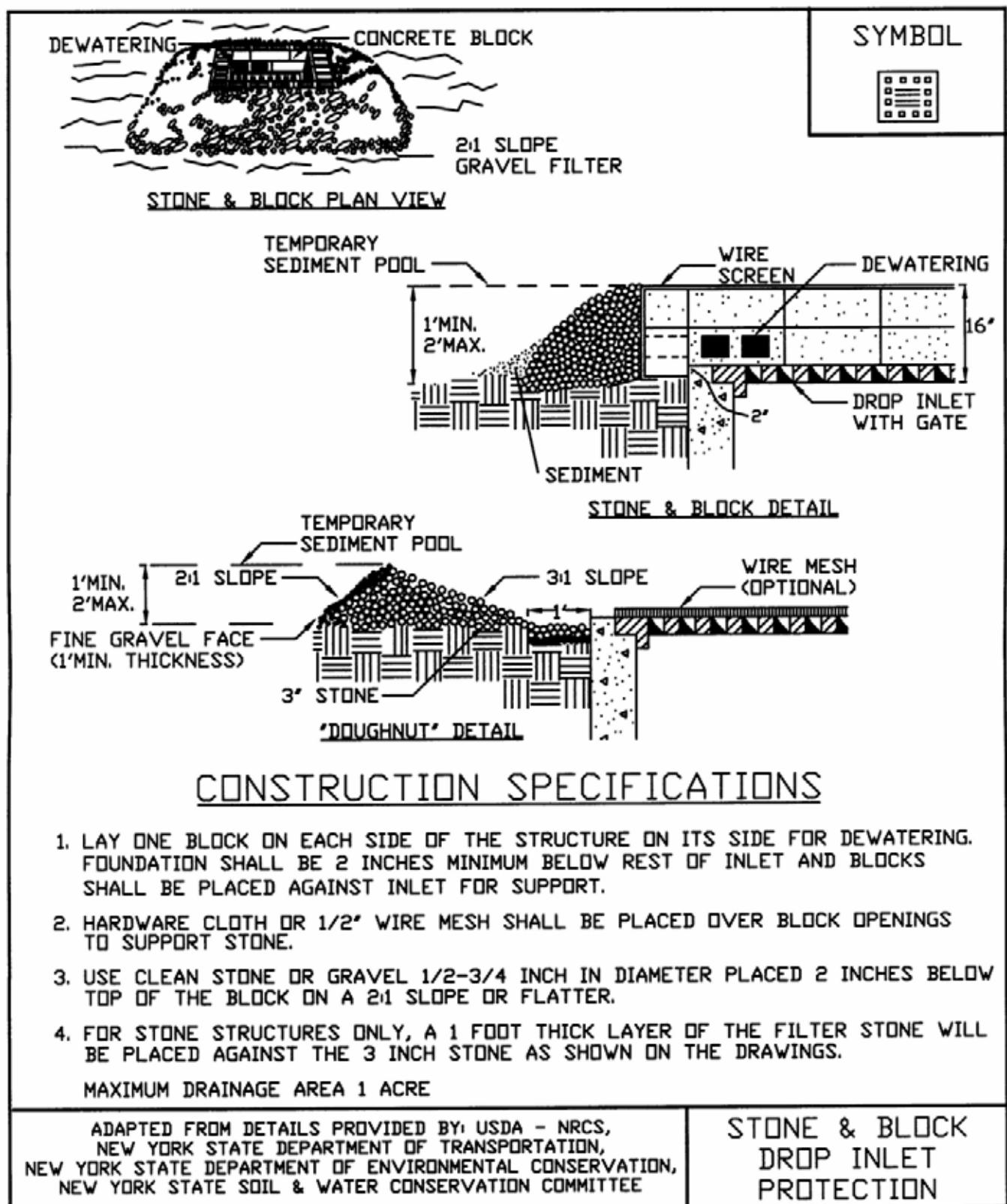


Figure 5A.32
Anti-Seep Collar Design

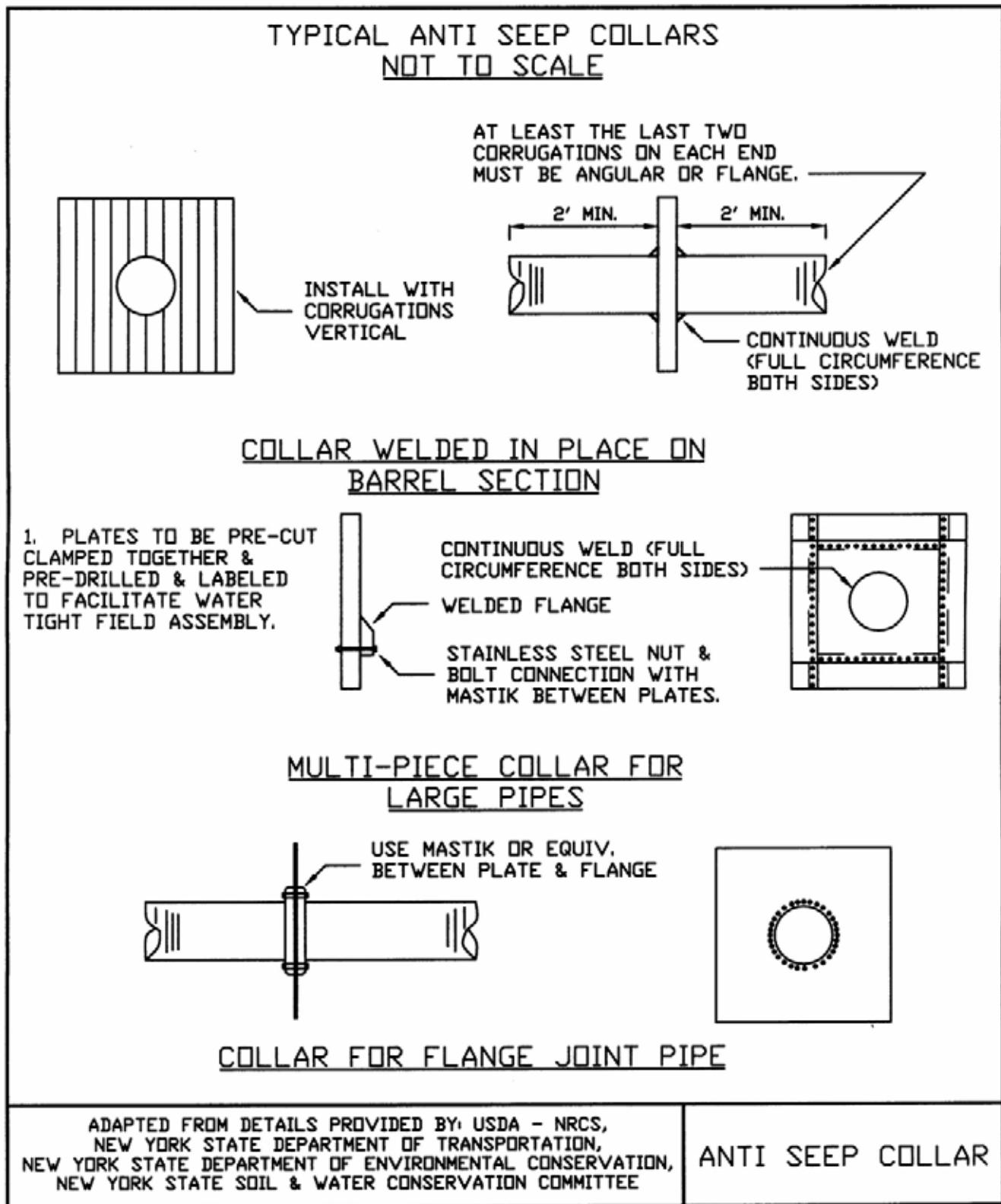
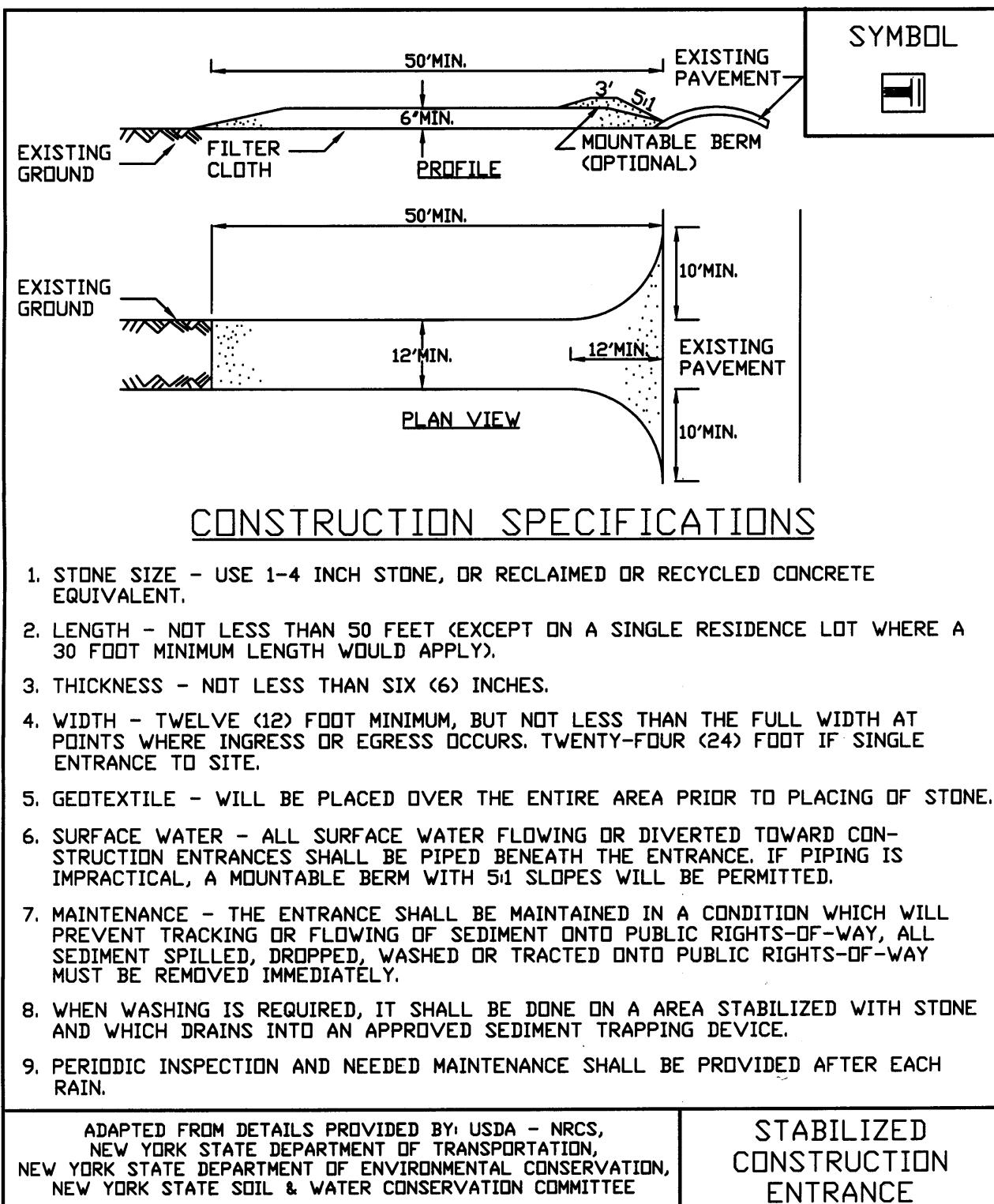


Figure 5A.35
Stabilized Construction Entrance



STANDARD AND SPECIFICATIONS FOR DUST CONTROL



Definition

The control of dust resulting from land-disturbing activities.

Purpose

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

Conditions Where Practice Applies

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

Design Criteria

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

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

Construction Specifications

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

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

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

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

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

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

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

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

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

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

Maintenance

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

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

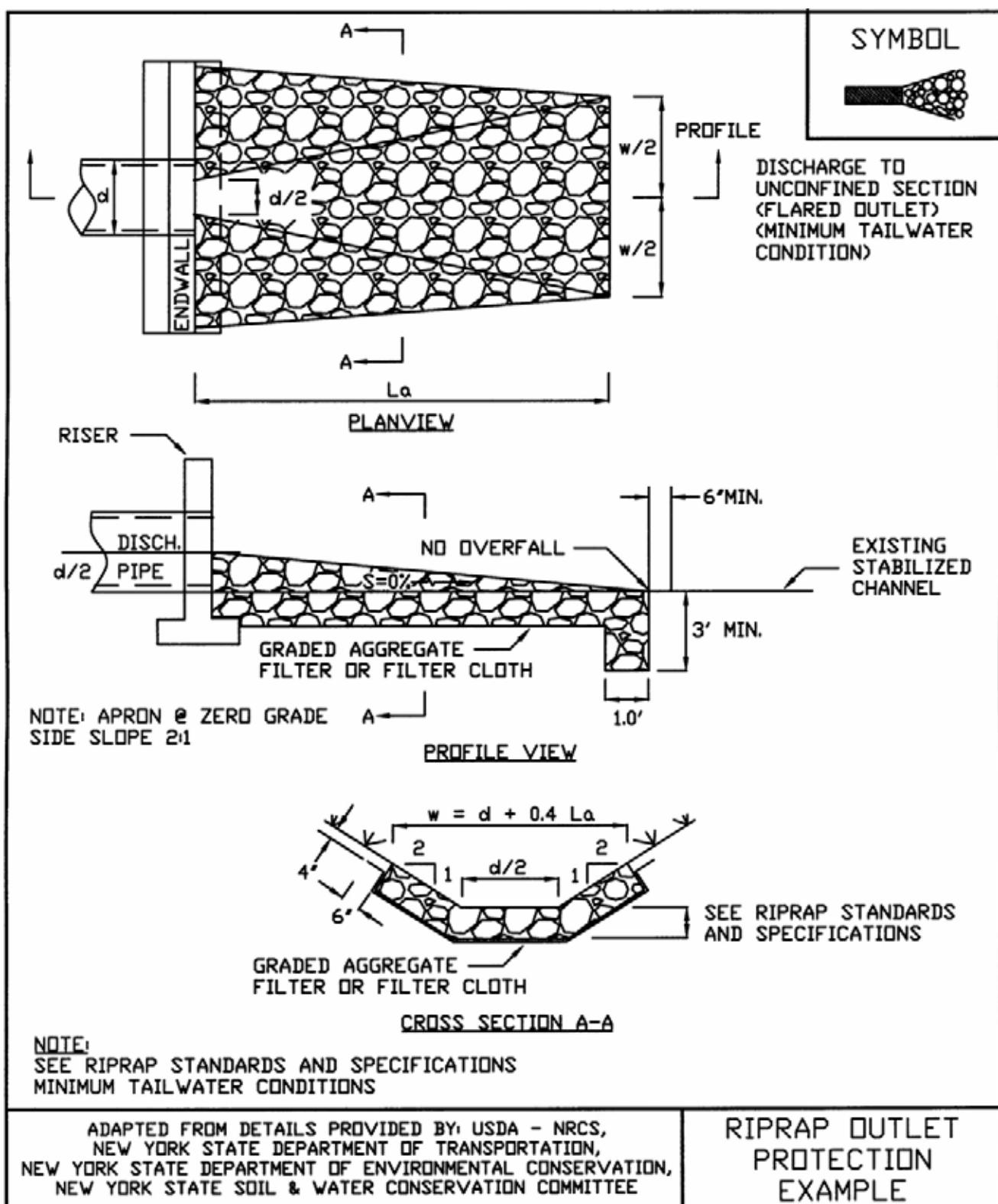
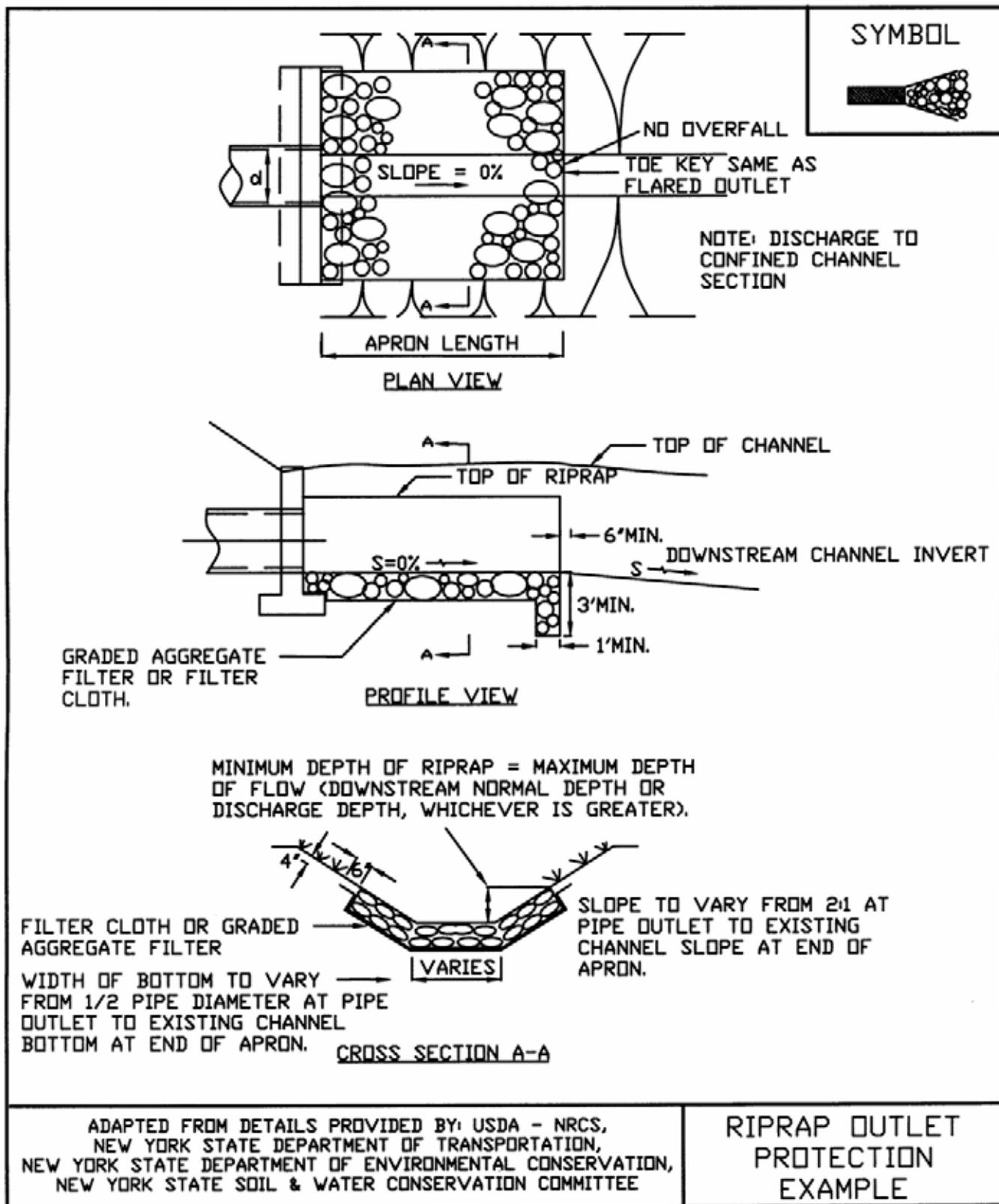


Figure 5B.15
Riprap Outlet Protection Detail (2)



STANDARD AND SPECIFICATIONS FOR LANDGRADING



Definition

Reshaping of the existing land surface in accordance with a plan as determined by engineering survey and layout.

Purpose

The purpose of a landgrading specification is to provide for erosion control and vegetative establishment on those areas where the existing land surface is to be reshaped by grading according to plan.

Design Criteria

The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measures for drainage and water removal, and vegetative treatment, etc.

Many counties have regulations and design procedures already established for land grading and cut and fill slopes. Where these requirements exist, they shall be followed.

The plan must show existing and proposed contours of the area(s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, reverse slope benches (include grade and cross section), grade stabilization structures, retaining walls, and surface and subsurface drains. The plan shall also include phasing

of these practices. The following shall be incorporated into the plan:

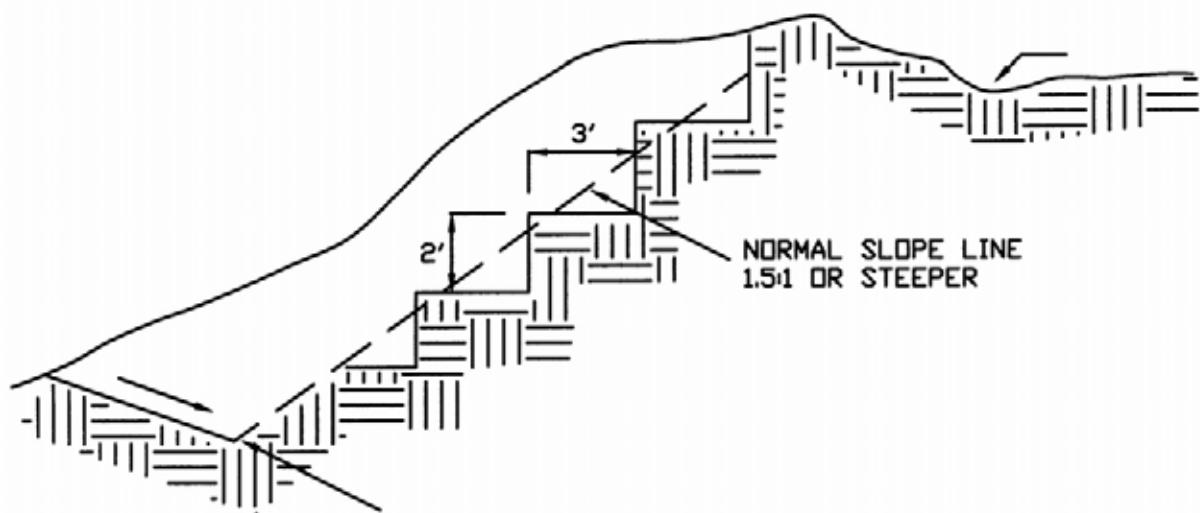
1. Provisions shall be made to safely conduct surface runoff to storm drains, protected outlets, or to stable water courses to ensure that surface runoff will not damage slopes or other graded areas; see standards and specifications for Grassed Waterway, Diversion, Grade Stabilization Structure.
2. Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1. When slopes exceed 2:1, special design and stabilization consideration are required and shall be adequately shown on the plans. (Note: Where the slope is to be mowed, the slope should be no steeper than 3:1, although 4:1 is preferred because of safety factors related to mowing steep slopes.)
3. Reverse slope benches or diversion shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slope it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Soils, seeps, rock outcrops, etc., shall also be taken into consideration when designing benches.
 - A. Benches shall be a minimum of six feet wide to provide for ease of maintenance.
 - B. Benches shall be designed with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 3 percent, unless accompanied by appropriate design and computations.
 - C. The flow length within a bench shall not exceed 800 feet unless accompanied by appropriate design and computations; see Standard and Specifications for Diversion on page 5B.1
4. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of diversions, ditches and swales or conveyed downslope by the use of a designed structure, except where:
 - A. The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected from surface runoff until they are stabilized.

- B. The face of the slope shall not be subject to any concentrated flows of surface water such as from natural drainage ways, graded swales, downspouts, etc.
- C. The face of the slope will be protected by special erosion control materials, sod, gravel, riprap, or other stabilization method.
- 5. Cut slopes occurring in ripable rock shall be serrated as shown in Figure 5B.23 on page 5B.51. The serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps cut at nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is 1 ½: 1. These steps will weather and act to hold moisture, lime, fertilizer, and seed thus producing a much quicker and longer-lived vegetative cover and better slope stabilization. Overland flow shall be diverted from the top of all serrated cut slopes and carried to a suitable outlet.
- 6. Subsurface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.
- 7. Slopes shall not be created so close to property lines as to endanger adjoining properties without adequately protecting such properties against sedimentation, erosion, slippage, settlement, subsidence, or other related damages.
- 8. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It should be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers or over eight (8) inches in diameter where compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.
- 9. Stockpiles, borrow areas, and spoil shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.
- 10. All disturbed areas shall be stabilized structurally or vegetatively in compliance with the Standard and Specifications for Critical Area Treatment in Section 3.
- 1. All graded or disturbed areas, including slopes, shall be protected during clearing and construction in accordance with the erosion and sediment control plan until they are adequately stabilized.
- 2. All erosion and sediment control practices and measures shall be constructed, applied and maintained in accordance with the sediment control plan and the "New York Standards and Specifications for Erosion and Sediment Control."
- 3. Topsoil required for the establishment of vegetation shall be stockpiled in amount necessary to complete finished grading of all exposed areas.
- 4. Areas to be filled shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots, or other objectionable material.
- 5. Areas that are to be topsoiled shall be scarified to a minimum depth of four inches prior to placement of topsoil.
- 6. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence, or other related problems. Fill intended to support buildings, structures, and conduits, etc., shall be compacted in accordance with local requirements or codes.
- 7. All fill shall be placed and compacted in layers not to exceed 9 inches in thickness.
- 8. Except for approved landfills or nonstructural fills, fill material shall be free of frozen particles, brush, roots, sod, or other foreign objectionable materials that would interfere with, or prevent, construction of satisfactory fills.
- 9. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills.
- 10. Fill shall not be placed on saturated or frozen surfaces.
- 11. All benches shall be kept free of sediment during all phases of development.
- 12. Seeps or springs encountered during construction shall be handled in accordance with the Standard and Specification for Subsurface Drain on page 5B.44 or other approved methods.
- 13. All graded areas shall be permanently stabilized immediately following finished grading.
- 14. Stockpiles, borrow areas, and spoil areas shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

Construction Specifications

See Figures 5B.23 and 5B.24 for details.

Figure 5B.23
Typical Section of Serrated Cut Slope

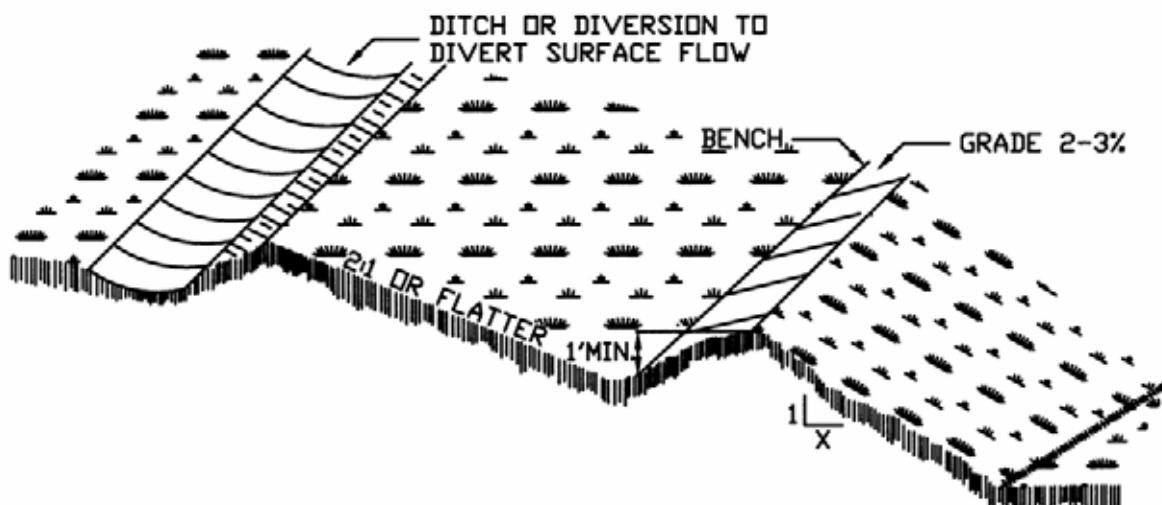
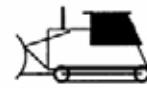


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NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

TYPICAL SECTION
OF SERRATED CUT
SLOPE

Figure 5B.24 (1)
Landgrading

SYMBOL



X	Y(MAX)
2	20'
3	30'
4	40'

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NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

**LANDGRADING
DETAIL**

Figure 5B.24 (2)
Landgrading — Construction Specifications

CONSTRUCTION SPECIFICATIONS

1. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN UNTIL THEY ARE PERMANENTLY STABILIZED.
2. ALL SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN AND THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS".
3. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNT NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS.
4. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL.
5. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF FOUR INCHES PRIOR TO PLACEMENT OF TOPSOIL.
6. ALL FILLS SHALL BE COMPAKTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPAKTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
7. ALL FILL TO BE PLACED AND COMPAKTED IN LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
8. EXCEPT FOR APPROVED LANDFILLS, FILL MATERIAL SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
9. FROZEN MATERIALS OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED IN FILLS.
10. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
11. ALL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
12. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
13. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.
14. STOCKPILES, BORROW AREAS AND SPOIL AREAS SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS STANDARD AND SPECIFICATION.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	LANDGRADING SPECIFICATIONS
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APPENDIX J



**Department of
Environmental
Conservation**

**NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES**

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

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

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson
Chief Permit Administrator

A handwritten signature in black ink, appearing to read "John J. Ferguson". It is written over a horizontal line.

Authorized Signature

1-23-20

Date

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

PREFACE

Pursuant to Section 402 of the Clean Water Act (“CWA”), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System* (“NPDES”) permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of “*construction activity*”, as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
CONSTRUCTION ACTIVITIES**

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

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

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

B. Effluent Limitations Applicable to Discharges from Construction Activities

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

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

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

- a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:
 - (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
 - (ii) Control stormwater *discharges*, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;
 - (iii) *Minimize* the amount of soil exposed during *construction activity*;
 - (iv) *Minimize* the disturbance of *steep slopes*;
 - (v) *Minimize* sediment *discharges* from the site;
 - (vi) Provide and maintain *natural buffers* around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
 - (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;
 - (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and
 - (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.
- b. **Soil Stabilization.** In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

- c. **Dewatering.** Discharges from *dewatering* activities, including *discharges* from *dewatering* of trenches and excavations, must be managed by appropriate control measures.
- d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge of pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:
 - (i) *Minimize* the *discharge of pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;
 - (ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge of pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and
 - (iii) Prevent the *discharge of pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.
- e. **Prohibited Discharges.** The following *discharges* are prohibited:
 - (i) Wastewater from washout of concrete;
 - (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(Part I.B.1.e.iii)

- (iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;
 - (iv) Soaps or solvents used in vehicle and equipment washing; and
 - (v) Toxic or hazardous substances from a spill or other release.
- f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices (“SMPs”) are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

- (i) Runoff Reduction Volume (“RRv”): Reduce the total Water Quality Volume (“WQv”) by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

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

The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

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

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

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

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

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

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

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

c. Sizing Criteria for Redevelopment Activity

- (i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.
 - (1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or
 - (2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or
 - (3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or
 - (4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

- (ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge rate* from the project site.
- (iii) Overbank Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge rate* from the project site.
- (iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge rate* from the project site

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

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

D. Maintaining Water Quality

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

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

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

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges*; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharges* from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

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

All of the following are not authorized by this permit:

1. *Discharges after construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

(Part I.F.4)

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*; and
 - c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture (“USDA”) Soil Survey as Soil Slope Phase “D”, (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase “E” or “F” (regardless of the map unit name), or a combination of the three designations.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*; and
 - c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase “D” (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase “E” or “F” (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:
 - a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.
 - 1-5 acres of disturbance - 20 feet
 - 5-20 acres of disturbance - 50 feet
 - 20+ acres of disturbance - 100 feet, or
 - b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
 - (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
 - (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
 - (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
 - (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or
 - c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

- (i) No Affect
 - (ii) No Adverse Affect
 - (iii) Executed Memorandum of Agreement, or
- d. Documentation that:
- (i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.
9. *Discharges from construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.
2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.
3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of Owner or Operator) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*. This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (<http://www.dec.ny.gov/>). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

**NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505**

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.
3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.
2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (<http://www.dec.ny.gov/>) for more information,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act* ("UPA") (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). Owners or operators of *construction activities* that are required to obtain UPA permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

- c. the final SWPPP has been prepared, and
 - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:
- a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or
 - (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3; or;
 - (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "MS4 SWPPP Acceptance" form, or
 - (ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.
4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the regulated, traditional land use control MS4 (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

- a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..
 5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
 6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of a *construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4*, the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.
2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.
3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new owner or operator.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:
 - a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

- b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge of pollutants*;
 - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority; and
 - d. to document the final construction conditions.
5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.
 6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

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

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

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

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

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:
 - a. Background information about the scope of the project, including the location, type and size of project

- b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge(s)*;
- c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
- d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;
- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;
 - k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and
 - l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

The post-construction stormwater management practice component of the SWPPP shall include the following:

- a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. A Stormwater Modeling and Analysis Report that includes:
 - (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;
 - (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;
 - (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;
 - (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;
 - (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and
 - (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;
- d. Soil testing results and locations (test pits, borings);
- e. Infiltration test results, when required; and
- f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria*, Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.
2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.
3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization and* all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

- in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
- b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:
- a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
 - b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

- d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the “*Final Stabilization*” and “Post-Construction Stormwater Management Practice” certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.
- e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.
4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
- f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;
- g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
- k. Identification and status of all corrective actions that were required by previous inspection; and

- I. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.
2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:
 - a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

- b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;
 - c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.
 - d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.
3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the “*Final Stabilization*” and “Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.
 4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the “*MS4 Acceptance*” statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*’s final site inspection certification(s) required in Part V.A.3. of this permit.
 5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:
 - a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

- b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
- c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,
- d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:
 - a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
- b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or
- c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
- (i) the chief executive officer of the agency, or
 - (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

- c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.
3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.
4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. Owners or operators must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated.

Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge(s)*, the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner's or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.
4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.
2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both “sewage” and “stormwater”.

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for “Construction Activity(ies)” also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for “*Commence (Commencement of) Construction Activities*” and “*Larger Common Plan of Development or Sale*” also.

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a *combined sewer*; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the “Required Elements” sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), Overbank Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture (“USDA”) Soil Survey as Soil Slope Phase “D”, (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint* sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint* sources, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, 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).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only
Includes Erosion and Sediment Controls

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

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

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

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

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

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

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

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

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area and do not alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State”, excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2

**CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES
POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES**

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

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)**CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES
POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES**

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

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development conditions*
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover*, and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area or alter the hydrology from pre to post development conditions*, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where owners or operators of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

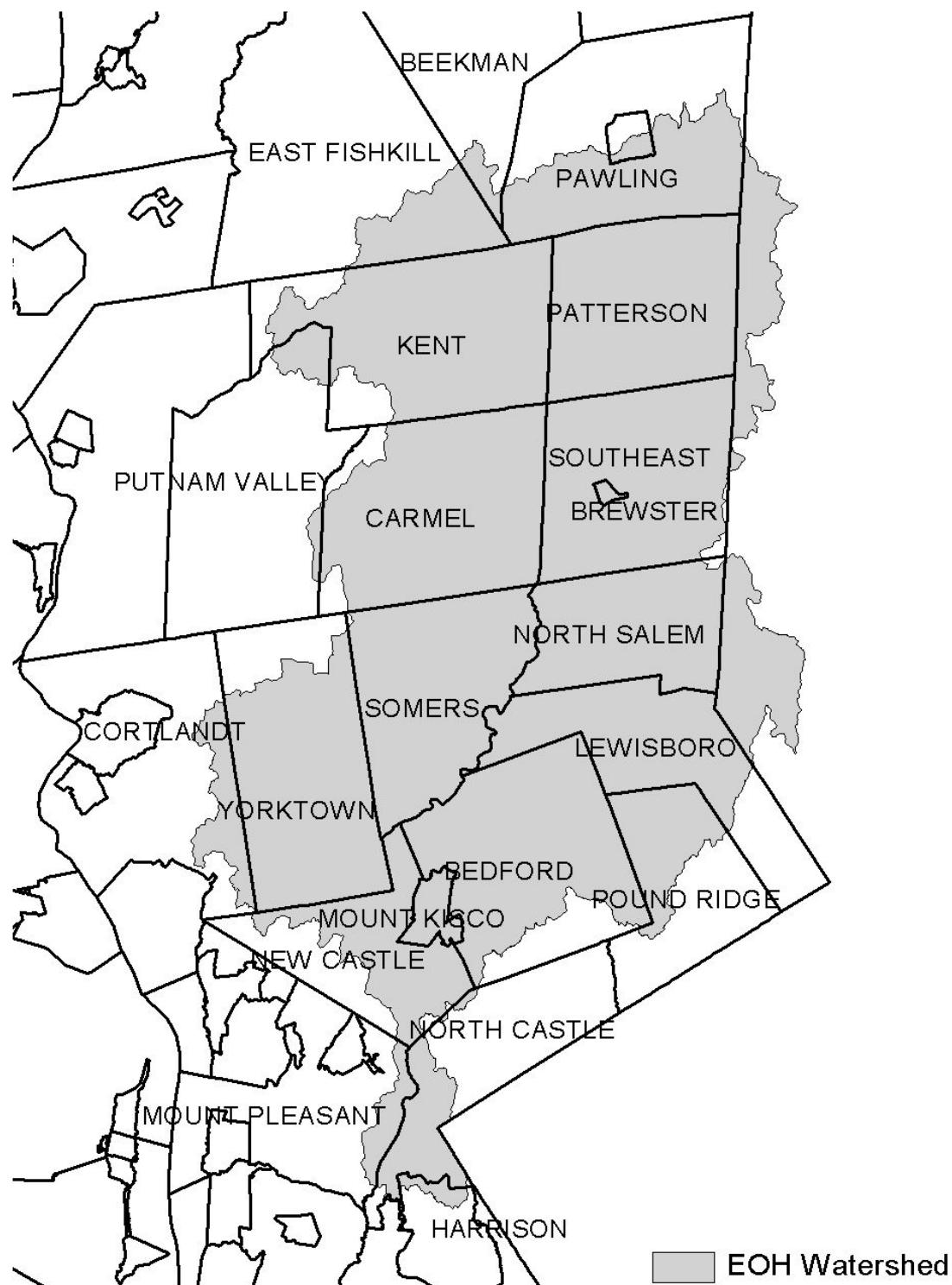


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

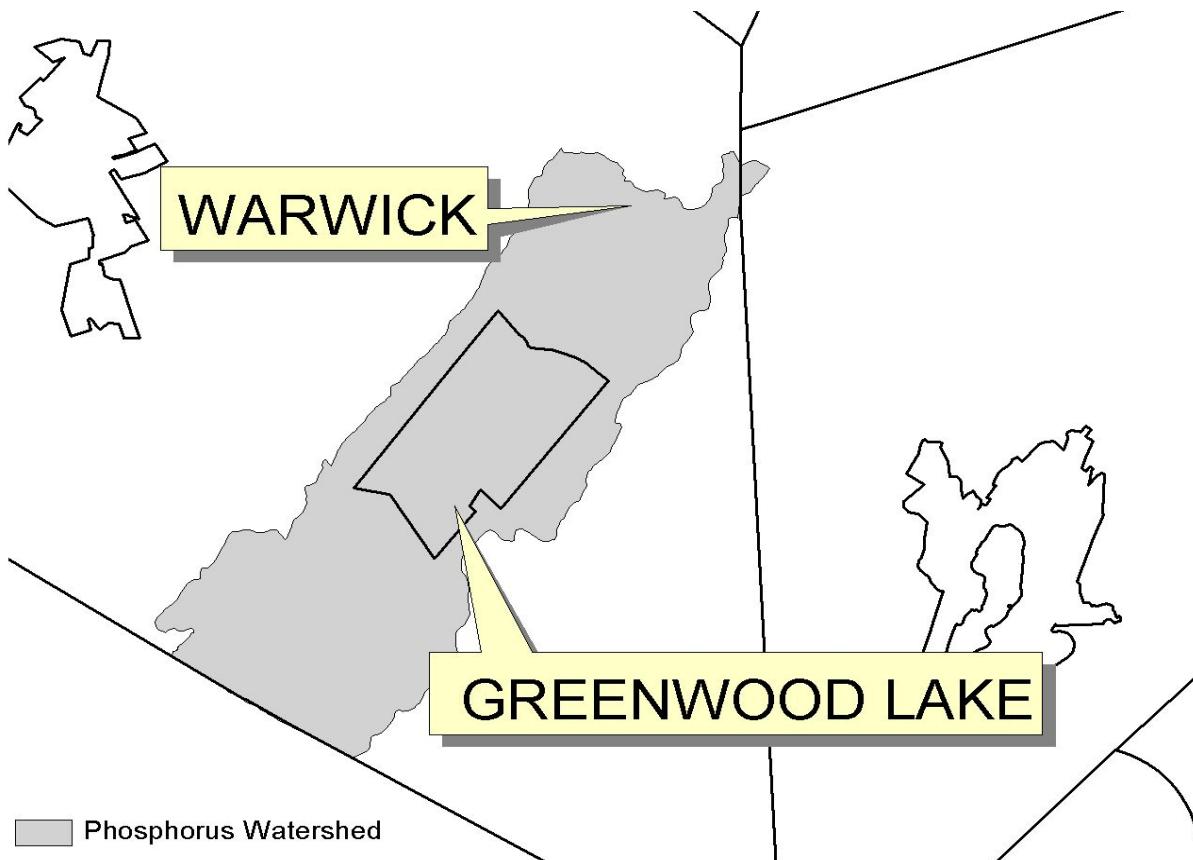


Figure 4 - Oscawana Lake Watershed

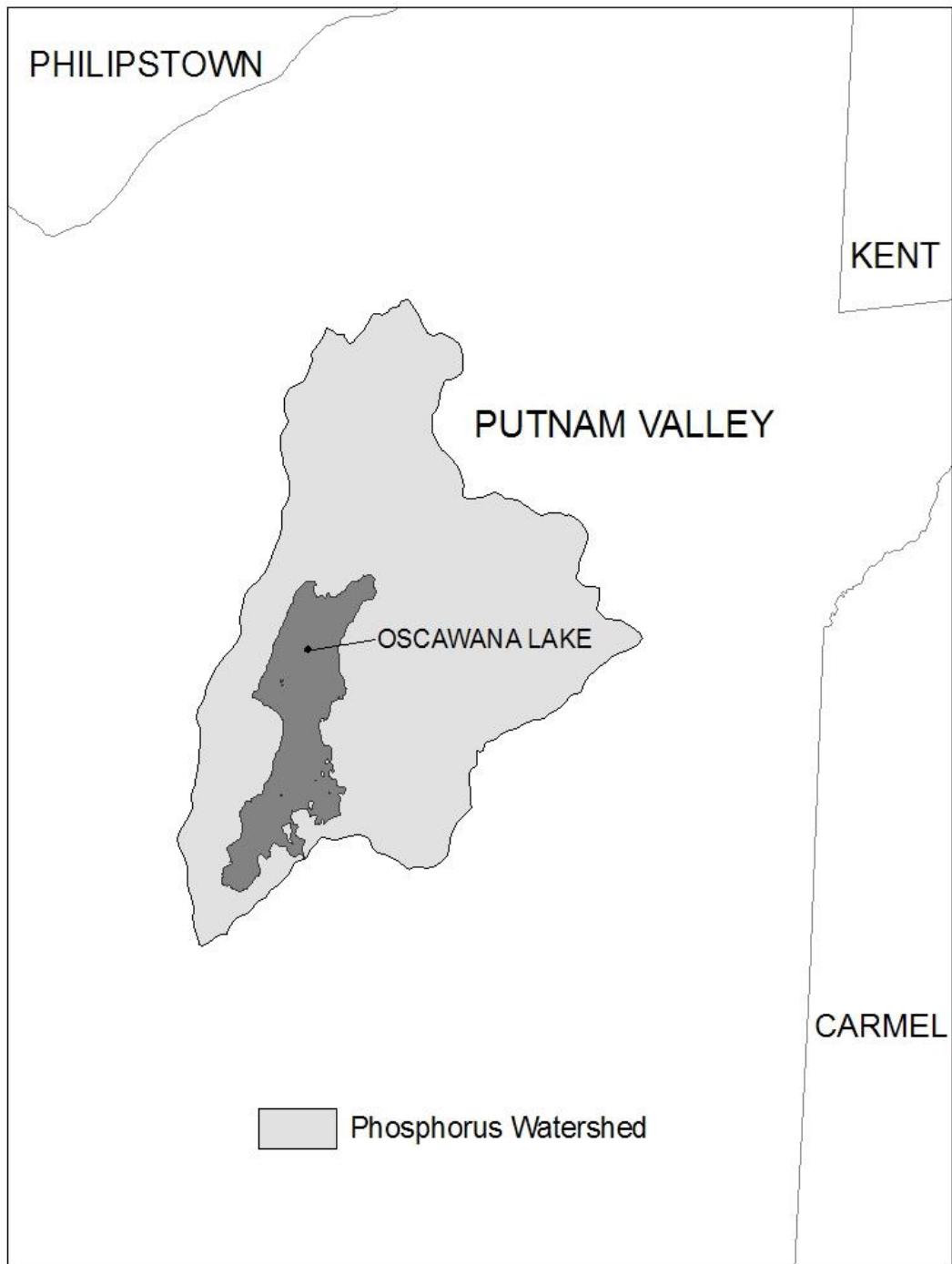
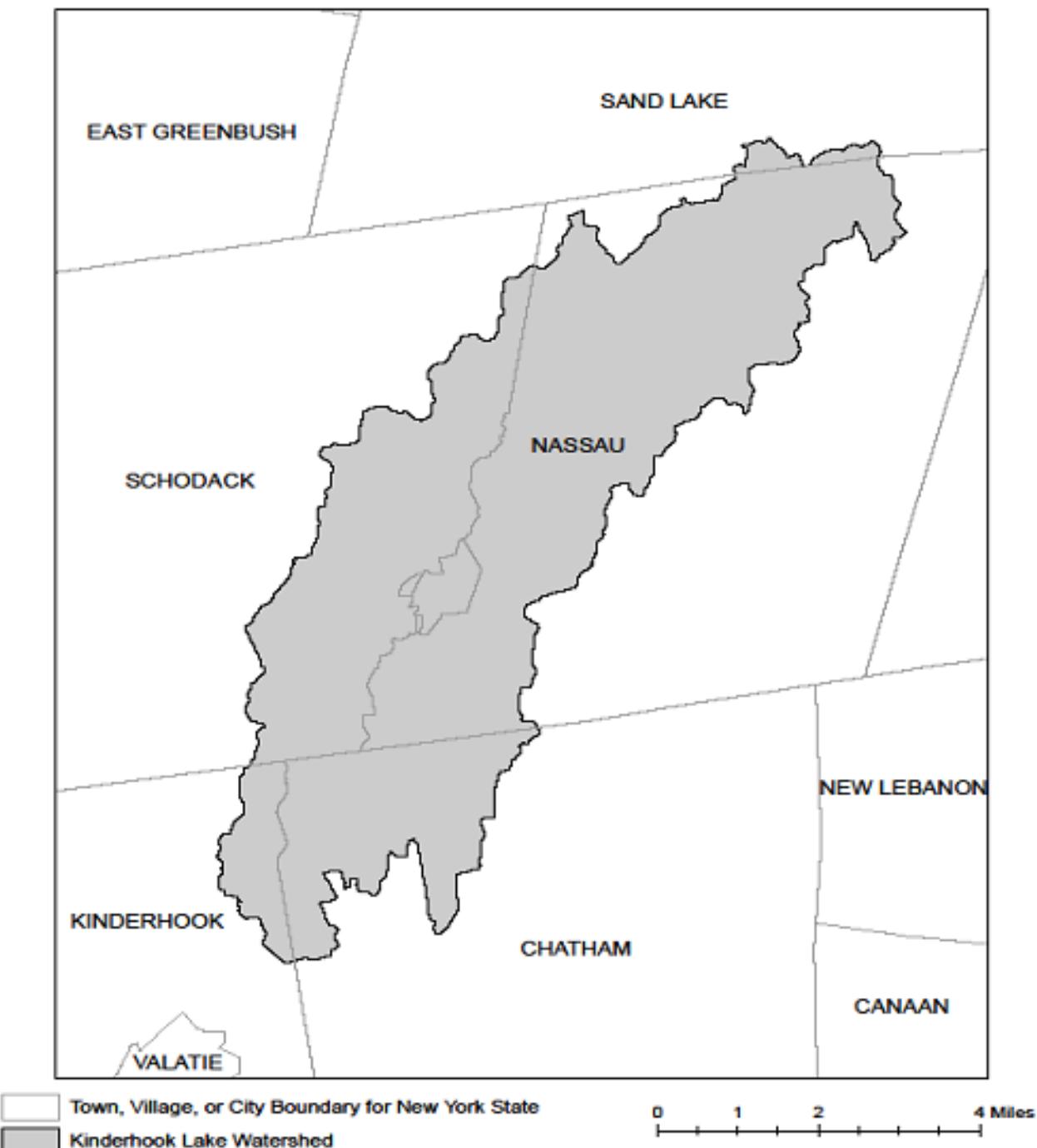


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where owners or operators of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. Owners or operators of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulbert/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and trib	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and trib	Nutrients
Erie	Ellicott Creek, Lower, and trib	Silt/Sediment
Erie	Ellicott Creek, Lower, and trib	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and trib	Nutrients
Erie	Murder Creek, Lower, and trib	Nutrients
Erie	Rush Creek and trib	Nutrients
Erie	Scajaquada Creek, Lower, and trib	Nutrients
Erie	Scajaquada Creek, Middle, and trib	Nutrients
Erie	Scajaquada Creek, Upper, and trib	Nutrients
Erie	South Branch Smoke Cr, Lower, and trib	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and trib	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and trib	Nutrients
Genesee	Black Creek, Middle, and minor trib	Nutrients
Genesee	Black Creek, Upper, and minor trib	Nutrients
Genesee	Bowen Brook and trib	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and trib	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek trib	Silt/Sediment
Herkimer	Steele Creek trib	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and trib	Nutrients
Livingston	Christie Creek and trib	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor trib	Silt/Sediment
Monroe	Black Creek, Lower, and minor trib	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and trib	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and trib	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and trib	Nutrients
Monroe	Thomas Creek/White Brook and trib	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and trib	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and trib	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and trib	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and trib	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and trib	Nutrients
Onondaga	Harbor Brook, Lower, and trib	Nutrients
Onondaga	Ley Creek and trib	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and trib	Nutrients
Onondaga	Onondaga Creek, Lower, and trib	Nutrients
Onondaga	Onondaga Creek, Middle, and trib	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor trib	Silt/Sediment
Ontario	Great Brook and minor trib	Nutrients
Ontario	Hemlock Lake Outlet and minor trib	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and trib	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and trib (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and trib	Silt/Sediment
Saratoga	Dwaas Kill and trib	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and trib	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor trib	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and trib	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal trib	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal trib to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and trib	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor trib	Silt/Sediment
Warren	Hague Brook and trib	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and trib	Silt/Sediment
Warren	Indian Brook and trib	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor trib	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and trib	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor trib	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and trib	Nutrients
Westchester	Saw Mill River, Middle, and trib	Nutrients
Westchester	Sheldrake River and trib	Silt/Sediment
Westchester	Sheldrake River and trib	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS	DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, Po Box 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD WARRENSBURG, NY 12885-1172 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIoga AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX K

Bioretention Areas (F-5)



Description: Shallow stormwater basin or landscaped area which utilizes engineered soils and vegetation to capture and treat runoff. The practice is often located in parking lot islands, and can also be used to treat residential areas.

<u>KEY CONSIDERATIONS</u>		<u>STORMWATER MANAGEMENT SUITABILITY</u>
CONVEYANCE		<input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Channel Protection <input type="checkbox"/> Overbank Flood Protection <input type="checkbox"/> Extreme Flood Protection
<ul style="list-style-type: none"> Provide overflow for the 10-year storm to the conveyance system. Conveyance to the system is typically overland flow delivered to the surface of the system, typically through curb cuts or over a concrete lip. 		Accepts Hotspot Runoff: Yes <i>(requires impermeable liner)</i>
PRETREATMENT		IMPLEMENTATION CONSIDERATIONS
<ul style="list-style-type: none"> Pretreatment consists of a grass channel or grass filter strip, a gravel diaphragm, and a mulch layer, sized based on the methodologies described in Section 6.4.2. 		<input checked="" type="checkbox"/> Capital Cost <input checked="" type="checkbox"/> Maintenance Burden
TREATMENT		Residential Subdivision Use: Yes High Density/Ultra-Urban: Yes Drainage Area: 5 acres max. Soils: <i>Planting soils must meet specified criteria; No restrictions on surrounding soils</i>
<ul style="list-style-type: none"> Treatment area should have a four foot deep planting soil bed, a surface mulch layer, and a 6" ponding layer. Size the treatment area using equations provided in Chapter 6. 		Other Considerations: <ul style="list-style-type: none"> <i>Use of native plants is recommended</i>
LANDSCAPING		Key: L=Low M=Medium H=High
<ul style="list-style-type: none"> Detailed landscaping plan required. 		
MAINTENANCE		
<ul style="list-style-type: none"> Inspect and repair/replace treatment area components Stone drop (at least 6") provided at the inlet Remulch annually 		
POLLUTANT REMOVAL		
<input checked="" type="checkbox"/> Phosphorus		
<input checked="" type="checkbox"/> Nitrogen		
<input checked="" type="checkbox"/> Metals - Cadmium, Copper, Lead, and Zinc removal		
<input checked="" type="checkbox"/> Pathogens – Coliform, Streptococci, E.Coli removal		
Key: G=Good F=Fair P=Poor		

Bioretention Construction Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Facility area cleared		
If designed as exfilter, soil testing for permeability		
Facility location staked out		
2. Excavation		
Size and location		
Lateral slopes completely level		
If designed as exfilter, ensure that excavation does not compact susoils.		
Longitudinal slopes within design range		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
3. Structural Components		
Stone diaphragm installed correctly		
Outlets installed correctly		
Underdrain		
Pretreatment devices installed		
Soil bed composition and texture		
4. Vegetation		
Complies with planting specs		
Topsoil adequate in composition and placement		
Adequate erosion control measures in place		
5. Final Inspection		
Dimensions		
Proper stone diaphragm		
Proper outlet		
Soil/ filter bed permeability testing		
Effective stand of vegetation and stabilization		
Construction generated sediments removed		
Contributing watershed stabilized before flow is diverted to the practice		

Comments:

Actions to be Taken:

Bioretention Operation, Maintenance and Management Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

Inspector:

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

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

Comments:

Actions to be Taken:

APPENDIX L

*Phase IA Archaeological Background and Literature
Review and Phase IB Archaeological Field Reconnaissance
Report of the Proposed Development at 8 Paul Street in
the Village of Marcellus, Onondaga County, New York*

OPRHP # 13PRO3601

Final report prepared by:

Alliance Archaeological Services



*Final report date:
October 8th, 2014*

Reports of Investigations 14FR10

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Phase IA Archaeological Background and Literature Review and Phase IB Archaeological Field
Reconnaissance Report of the Proposed Development at 8 Paul Street in the Village of Marcellus,
Onondaga County, New York

OPRHP # 13PR03601

Final report prepared by:
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60 East Main Street, Marcellus, NY 13108

October 8th, 2014

Reports of Investigations 14FR10

Management Summary

Involved State and Federal Agencies: Village of Marcellus, OPRHP

OPRHP Project Number: 13PR03601

Phase of Survey: Phase IA and IB

Survey Size: ~2.4 hectares (~6 acres)

Location Information: The project area is located to the immediate south of Paul Street in the Village of Marcellus in central New York State. The current work scope was defined as a phase IA background and literature review of the overall project area and a phase IB archaeological field reconnaissance of all to-be-disturbed portions of the this area. The Area of Potential Effect (APE) therefore includes all portions of the project area except for the undisturbed floodplain of Nine Mile Creek within the extreme northeastern project corner.

Minor Civil Division: Village of Marcellus
County: Onondaga

U.S.G.S. 7.5' Quadrangle Map: 1955 Marcellus, New York, photo-revised 1978, Copyright 2008 Maptech, Inc.

Archaeological Survey Overview:

Number and interval of shovel tests: 26 at 15 meters (50 foot)

Number and size of units: not applicable

Width of plowed strips: not applicable

Surface survey transect interval: not applicable

Results of the Archaeological Survey:

Number and name of pre-contact sites identified: 0

Number and name of historic sites identified: 0

Number and name of sites recommended for Phase II/Avoidance: 0

Results of the Architectural Survey:

Number of buildings/structures/cemeteries within the project area: 0

Number of buildings/structures/cemeteries adjacent the project area: 1, Tefft-Steadman House

Number of National Register Listed buildings/structures/cemeteries/districts: 1, Tefft-Steadman House

Number of National Register Eligible buildings/structures/cemeteries/districts: 0

Recommendations: Although the cultural background review indicated that the APE had the potential to contain previously unidentified pre-contact and/or historic archaeological sites, no cultural materials or cultural features were identified during the phase IB field investigation. Instead, indications of widespread previous significant disturbance were identified. As a result, the current APE does not appear to have been the focus of any pre-contact or historic activities which could have left an archaeological trace. No further archaeological investigations appear warranted at this time and cultural resource clearance for the APE as documented in Figure 11 of this report is recommended.

This recommendation of cultural resource clearance is made with the understanding that if the APE boundaries should change, additional archaeological investigations may be required. In particular, if the alluvial floodplain soils to the east of the existing sewer line within the northeastern portion of the overall project area will be subject to ground-disturbance, deep subsurface testing may be required. As such, this recommendation is only valid

for the APE boundaries as documented in this report (Figure 11). In addition, if construction within the narrow alluvial area at the base of the slope within northeastern portion of the APE will exceed the depth of previous disturbance related to the existing Village of Marcellus sewer line, additional archaeological investigations may be required. This recommendation of cultural resource clearance is also made with the understanding that if any archaeological materials, human remains or associated mortuary goods are uncovered during construction or earth-moving activities within the current APE, work within the area will immediately cease and the OPRHP will be notified.

Report Author and Affiliation: Nikki A. Waters, M.A., Principal Investigator. Alliance Archaeological Services, 4160 Watervale Road, Manlius, New York 13104066.

Report Date: October 8th, 2014

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Introduction

In response to a request from McClurg Construction, LLC, Alliance Archaeological Services has completed a phase IA archaeological background and literature review and phase IB archaeological field reconnaissance of the proposed development at 8 Paul Street in the Village of Marcellus, Onondaga County, New York.

The purpose of a phase IA archaeological background and literature review is to identify and describe all previously recorded pre-EuroAmerican contact and historic archaeological sites and resources within and around the boundaries of the proposed project area. This information is then combined with a review of the natural setting of the project area in order to develop a regionally specific pre-contact and historic context. This context is then used to evaluate the project area's sensitivity to contain additional pre-contact and/or historic archaeological sites. The results of the phase IA evaluation are then used to evaluate the necessity of any additional archaeological investigations, and if necessary, to formulate a project-specific phase IB archaeological field reconnaissance methodology. The results of both investigations are then used to evaluate the eligibility of any archaeological sites within the project area for nomination to the State and/or National Registers of Historic Places. All aspects of the phase I archaeological survey conducted for this project conform to the New York Archaeological Council's (*NYAC Standards for Cultural Resource Investigations* (1994) as adopted and required by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), as well as to the *Phase I Archaeological Report Format Requirements* as published and required by the OPRHP (2005, revised 2013).

The following report details the results of the phase IA background and literature review and phase IB archaeological field reconnaissance, and presents Alliance Archaeological Services' conclusions and recommendations concerning the necessity of any additional archaeological investigations.

Project Description

The proposed project plan calls for the development of approximately 6 acres of land to the immediate south of Paul Street in the Village of Marcellus in Onondaga County, New York. This development will include the construction of 23 buildings with associated parking and access drives, as well as a stormwater management area. This area is currently industrial and contains 10 existing buildings with associated paved parking. Nine Mile Creek borders the overall project area to the east. The current work scope was defined as a phase IA background and literature review of the overall project area and a phase IB archaeological field reconnaissance of all to-be-disturbed portions of the proposed project area. The Area of Potential Effect (APE) therefore includes all portions of the project area except for the undisturbed floodplain of Nine Mile Creek within the extreme northeastern project corner. Although a small portion of this floodplain at the base of the existing slope will be included in the stormwater management area, this area has already been disturbed by the existing Village of Marcellus sewer line. As long as construction within this area does not exceed the depth of this previous disturbance, no additional archaeological investigations are recommended. Representative photographs of the APE were taken at the time of the phase I investigation and are provided in Appendix A.

Project Location

The project area is located to the immediate south of Paul Street in the Village of Marcellus in central New York State (Figure 1). Figure 2 shows the location of the project area as shown on a portion of the 1955 Marcellus, New York 7.5' quadrangle, photo-revised 1976, Copyright 2008, Maptech, Inc. Figure 3 shows the project location as shown on a map produced on the Web Soil Survey. Historic maps of the project area are provided as figures 4 through 9. Figure 10 shows the location of the APE and all proposed improvements. Figure 11 shows the location of all phase IB testing. Figure 12 shows the location and orientation of all project photographs. Photographs (Appendix A) provide representative views of the APE at the time of the phase I investigation.

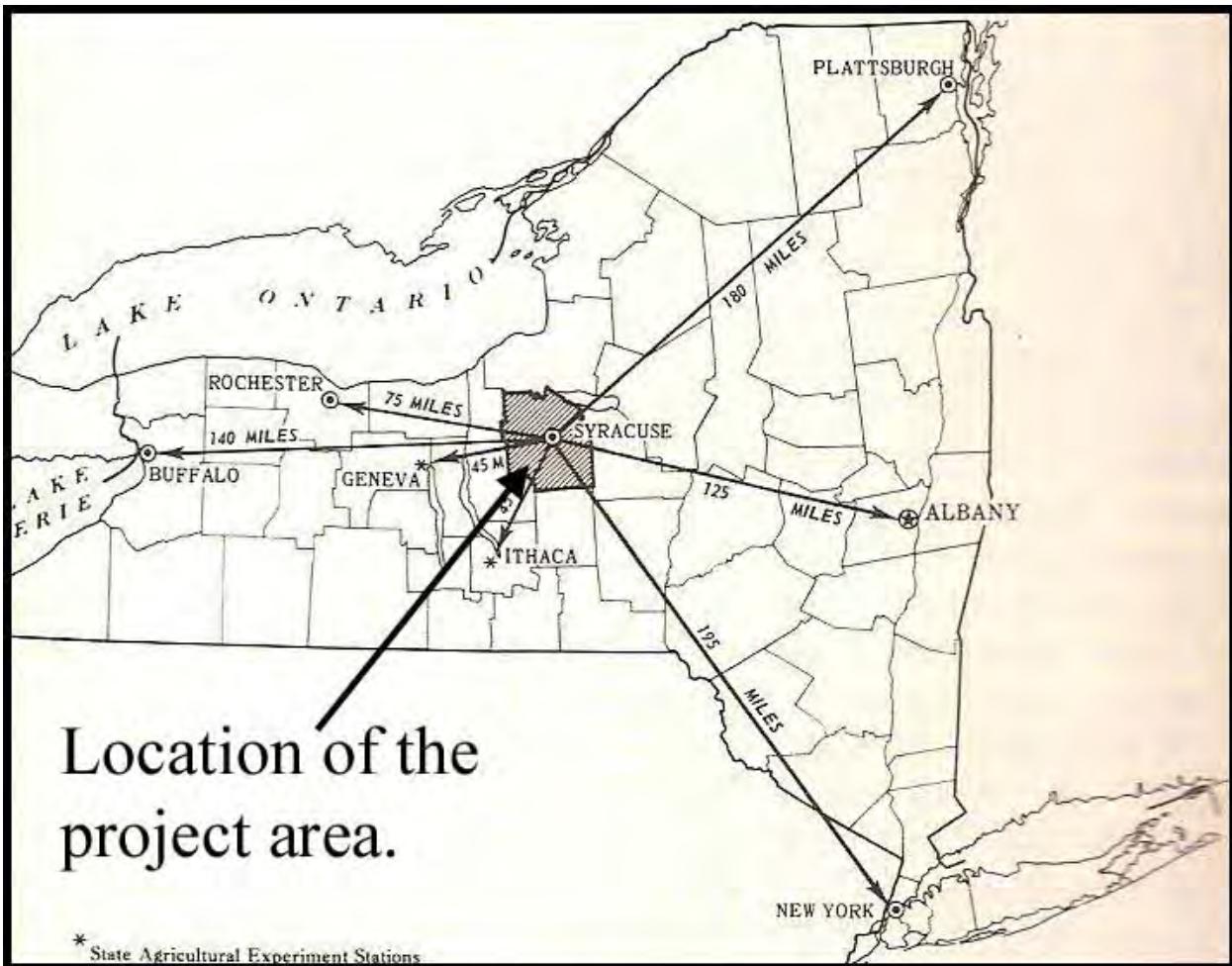


Figure 1. General location of the project area within New York State (Adapted from a base map provided in Hutton and Rice 1977).

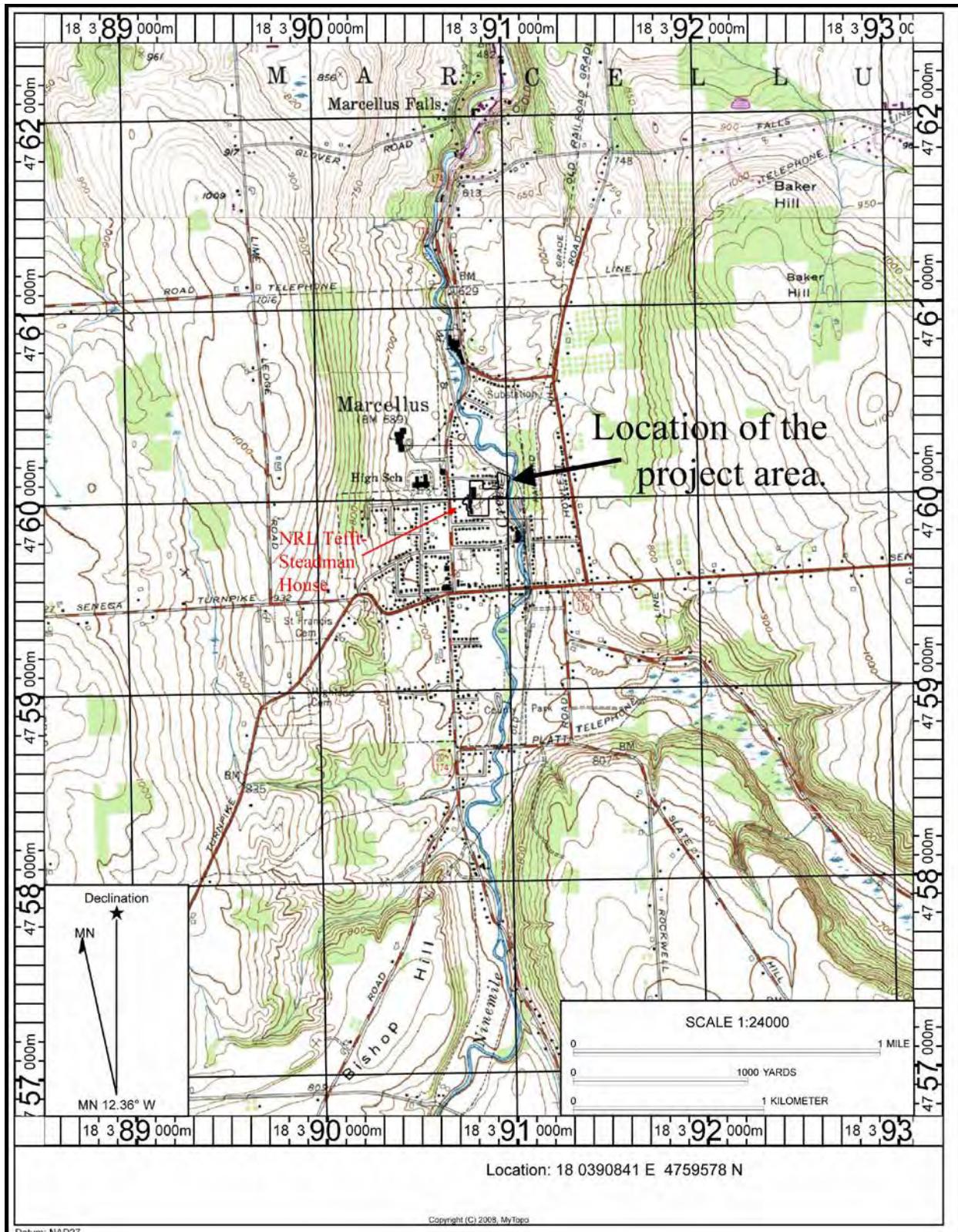


Figure 2. Location of the project area as shown on a portion of the 1955 Marcellus, New York 7.5' quadrangle, photo-revised 1976 Copyright 2008 Maptech, Inc. The location of the National Register Listed Tefft-Steadman House to the west of the project area is shown in red.



Figure 3. Location of the project area as shown on the Web Soil Survey. The National Register Listed Tefft-Steadman House to the west of the project area is shown in red.

Background Research

Environmental Setting

The following represents a brief synthesis of the available information regarding the physical and environmental setting of the current project area. This information is provided in order to place this area within a context conducive to assessing its potential to contain significant archaeological resources.

Past and Present Land Use and Current Conditions

The project area is bordered to the north by Paul Street and existing residential housing, to the east by standing woodland and Nine Mile Creek, and to the south and west by additional existing residential housing. The majority of the project area is dominated by an existing industrial complex of 10 buildings with associated paved parking. This complex covers approximately the western half of the overall project area. However, a small area of maintained lawn is also present to the north of the frame building within the northern portion of this industrial area to the immediate south of Paul Street. The eastern half of the project area is dominated by a scrub grass meadow surrounded by a border of standing woodland. A short steep slope within this woodland leads down to the floodplain of Nine Mile Creek within the northeastern project portion and onto a lower terrace within the southeastern project portion. Alluvial soils are mapped within the floodplain portion of the overall project area.

Although the majority of the previous disturbances were found to be related to the construction, maintenance and use of the existing industrial complex, a buried gas and electric corridor is reported within the southwestern project portion and a buried cable line is reported along the southern project border. The existing sewer line for the Village of Marcellus also runs within the northeastern project border within and adjacent to the alluvial soil area. The proposed storm water management area is within the existing slope of the non-depositional landform as well as within the alluvial area previously disturbed by the installation of the sewer line. The proposed building and access road within this portion of the APE are also within the slope of the non-depositional landform and the area previously disturbed by the sewer line. Although a small portion of the alluvial soils at the base of the existing slope are therefore included in the APE, this area has already been disturbed by the existing Village of Marcellus sewer line. Therefore, as long as all construction within this area does not exceed the depth of this previous disturbance, no deep subsurface testing is recommended. A concrete block wall and wooden fence also run along the southern project border and a stone wall runs along the southwestern project border. This stone wall marks the bottom of the slope separating the paved portion of the APE from the border of standing woodland which lies along the western overall project border. Private residences, including the NRL Tefft-Steadman House, border the overall project area to the west.

The historic literature indicated that the current project area was originally a part of the Tefft-Steadman House property. Although this house and the remaining 0.63 acres are listed on the *National Register of Historic Places*, no structures associated with the Tefft-Steadman House are reported to have been within the current project boundaries. The portion of the Tefft-Steadman property that contains the current project area instead appears to have originally been vacant land. When the Tefft family sold the property in the late 19th century, this area was cleared and used for farming. However, by the turn of the 20th century this area was being used as a lumber yard, and from the mid to late 20th century to the time of the current investigation had been adapted for storage and small scale industrial use.

For example, the western half of the project area is currently covered either by existing buildings or by pavement. The two westernmost buildings in the current industrial complex are first shown on the 1955 map (Figure 9). Although three additional storage buildings/barns are shown on the 1976 photo-revisions (Figure 2), the southernmost of these additions was subsequently replaced by three separate structures. Disturbances related to the existing industrial complex included grading and building construction as well as the installation of pavement. Blacktop is now present around and extending between all of the existing buildings. The scrub grass areas were also found to have been previously graded and scraped into the subsoil. The only portion of the project area which did not exhibit obvious signs of previous significant disturbance was the small area of maintained lawn to the immediate south of Paul Street.

An evaluation of the available historic maps (figures 4 through 9) shows no map-documented structures (MDS) within the APE from 1852 through 1902. Although one MDS (the L.I. Tefft residence) is shown as roughly adjacent the western project border from 1852 onward (Figure 4) this structure is beyond the current APE and overall project boundaries. Although the scale of the 1874 insert map (Figure 6b) would appear to show that this structure is within the western project border, this errant location is a result of the discrepancies and errors of 19th century map scales. Later maps, as well as visual field inspection, clearly show this structure well beyond the project boundaries to the west. The rear yard of this MDS is also separated from the APE by mature trees and a stone wall. All adjacent portions of the APE are also covered in pavement. No additional MDS and no undocumented foundations were identified. An evaluation of the available historic maps (figures 4 through 9) indicates that an established roadway has been present at the location of North Street since at least 1852 (Figure 4). However, Paul Street is not shown until 1955 (Figure 9). Representative photographs of the project area are provided in Appendix A.

Soils

The APE is almost exclusively within the Palmyra Series soil association. Although a small portion of Teel Series soils is within and extends beyond the northeast overall project corner, the majority of this floodplain area will not be disturbed by any earth-moving or ground disturbing activities. The only exception is a small portion along the border of the Teel soils at the base of the existing, non-depositional slope. However, this area has already been disturbed by the existing Village of Marcellus sewer line. As long as all construction within this area does not exceed the depth of this previous disturbance, no deep subsurface testing is recommended.

Palmyra Series soils are deep, well drained to excessively drained soils with a high gravel content. They formed in gravelly and sandy glacial outwash deposits consisting primarily of limestone, sandstone and shale. They are found on glacial outwash terraces and kames within the larger valleys (Hutton and Rice 1977: 93-96). Teel Series soils are deep, moderately well drained to somewhat poorly drained soils which formed in recent alluvial deposits of silt and very fine sand. They are nearly level and are found on the floodplains of larger streams (Hutton and Rice 1977: 99-100). The specific soils within the overall project area are Palmyra gravelly loam, 3 to 8% slopes (PgB) and Teel silt loam (Te) (Web Soil Survey; Hutton and Rice 1977: 93-96, 99-100; Figure 3). The key properties of these soils are illustrated in Table 1 below.

Table 1:
Soils Within the Overall Project Area

Name	Soil Horizon Depth (cm/in)	Color	Texture, Inclusions	Slope	Drainage	Landform
Palmyra gravelly loam, (PgB)	A _p : 0-23 cm (0-9 in) A2: 23-36 cm (9-14 in) AB: 36-48 cm (14-19 in) B21 _t : 48-64 cm (19-25 in) B22 _t : 64-79 cm (25-31 in) IIC: 79-152 cm (31-60 in)	VDkGrBrn Brn Brn Brn DkGrBrn GrBrn	GrvLo GrvLo GrvLo GrvHLo GrvHLo StrGrvSa	3-8	WD to ED	On glacial outwash terraces and kames.
Comments: this soil has a profile described as representative of the series; however it is often thinner to the underlying sand and gravel. Erosion is not typically a hazard.						
Teel silt loam (Te)	A _p : 0-25 cm (0-10 in) B21: 25-53 cm (10-21 in) B22: 53-71 cm (21-28 in) C: 71-152 cm (28-60 in)	DkBrn DkBrn DkGrBrn DkYBrn	SiLo SiLo SiLo SiLo	Level to nearly level.	MWD to SWPD	On floodplains along larger streams.
Comments: this soil has a profile described as representative of the series. Wetness can be a limiting factor.						

COLOR/TEXTURE KEY:

Brn-Brown	cm-centimeters	Dk-Dark	Gr-Grayish	Grv-Gravelly
H-Heavy	Lo-Loam	Sa-Sandy	Si-Silt	Str-Stratified
V-Very	Y-Yellowish			

DRAINAGE KEY:

ED-Excessively Drained	MWD-Moderately Well Drained
SWPD-Somewhat Poorly Drained	WD-Well Drained

The APE is almost exclusively within well drained to excessively drained soils which formed in gravelly and sandy glacial outwash material. These soils are deep and not typically subject to erosion. As a result, cultural materials, if present, are expected to be within the upper and central portions of the soil profile: i.e. less than 40 cm (16 inches) below the ground surface. A comparison of the results of the phase IB soil evaluation with the published soil information is provided in the *Results* section.

Although the floodplain of Nine Mile Creek is within the northeastern overall project portion, the majority of this area is not scheduled for disturbance by the current project. The only exception is a small portion along the border of the alluvial Teel soils at the base of the existing, non-depositional slope. However, this area has already been disturbed by the existing Village of Marcellus sewer line. Therefore, although suitably drained alluvial soils with a potential to contain deeply buried archaeological deposits are present within this overall area, they are largely outside of the proposed construction zone. As long as all construction within the APE does not exceed the depth of the previous disturbance associated with the sewer line, no deep subsurface testing is recommended. However, if the remainder of this overall area is planned for use in the future, deep subsurface testing should be conducted to test for the presence of deeply buried cultural remains. This deep testing should be designed in consultation with the OPRHP.

Drainage

The project area is drained by Nine Mile Creek which borders the overall northeast project corner. Although a small patch of wetlands is shown approximately 457 meters (1,500 feet) to the north (Figure 2), no wetland tracts are shown within or adjacent to the APE. Likewise, no ponded or saturated soils were identified outside the floodplain during the phase IB investigation. A large tract of wetlands is also shown approximately 853 meters (2,800 feet) to the south. As a result, no portions of the APE were eliminated from the investigations on the basis of drainage.

Site File Search

Evaluated site files included the currently available New York State Museum (NYSM) site file records, the currently available OPRHP site file records and the currently available OPRHP previous archaeological survey report files. Available *National Register of Historic Places Building Inventories* were also evaluated to identify both National Register Listed (NRL) and National Register Eligible (NRE) structures within or adjacent to the current project area. Historic map evaluation included the 1852 Fagan *Map of Onondaga County*, the 1860 Dawson *Map of Onondaga County*, the 1874 Sweet *Map of Onondaga County*, the 1889 Clarke *Map of Onondaga County*, and the 1902 and 1955 Skaneateles, New York quadrangles. The file search also included an evaluation of any pre-EuroAmerican contact sites documented by early investigators of the region, such as Beauchamp (1900) and Parker (1922), as well as an evaluation of the Town of Marcellus and Onondaga County histories for information relevant to the current project. These data were then combined with the results of the natural and environmental setting review in order to construct a regionally specific archaeological sensitivity assessment for the current project area. The results of this file search are presented below.

Previously Recorded Archaeological Sites

A review of the currently available NYSM and OPRHP site files indicated that one pre-contact is recorded within, adjacent and extending beyond the current project area and one additional pre-contact site is recorded nearby to the south. Three historic archaeological sites have also been recorded within approximately one mile. Each of these pre-recorded sites is summarized in Table 2 and discussed in more detail below.

Table 2:
Pre-recorded Archaeological Sites Reported Within/Near the Overall Project Area

NYS OPRHP Site #	Additional Site #s and/or Names	Dist./Direction (meters/feet)*	Time Period	Site Type
---	ACP No #; NYSM Site #4270	223 meters; 730 feet; S	indeterminate pre or early contact	traces of occupation
---	WB ONDA #57; ACP ONDA #33C;	Within & extending beyond.	indeterminate pre or early contact	traces of occupation

	NYSM Site #4271			
A067.11.0033	NYSM Site #11239; Holcomb Site	122 meters; 400 feet; W	early 20 th century	historic residence
A067.11.0034	NYSM Site #11240; Austin Site	372 meters; 1,220 feet; N	early 20 th century	historic residence
A067.11.0035	NYSM Site #11241; Reed/Utley Site	183 meters; 600 feet; SW	mid 19 th to early 20 th century	historic residence

*Minimum distance provided. ACP = Arthur C. Parker WB = William Beauchamp

NYSM Site #4270

NYSM Site #4270 is shown on the state records approximately 223 meters (730 feet) to the south of the current project area along both banks of Nine Mile Creek. This site is contiguous with NYSM Site #4271 discussed below and may therefore be a duplication of the original site. For example, this site was first recorded by Parker as traces of pre-contact occupation along the banks of Nine Mile Creek. No specific county site number was assigned and no textural description was provided (Parker 1922: Plate 196). No further information or indications of any subsequent archaeological investigations are provided on the NYSM site form. Parker recorded numerous similar trace areas throughout New York State and used them to represent zones where widely scattered cultural remains could often be found. These trace areas had very wide, amorphous boundaries and were used to categorize a region where several smaller, more discrete sites were likely to be located. Since no indications of further archaeological investigations were identified, the exact nature and extent of the archaeological materials within this trace area are unknown. However, as the current project area is just to the north of the overall area recorded for these traces, there is a chance for related archaeological materials to be present within the current APE. As a result, further archaeological investigations of this site related to the current project were conducted.

NYSM Site #4271

NYSM Site #4271 is shown on the state records within and extending beyond the current overall project area along both banks of Nine Mile Creek. This site is contiguous with NYSM Site #4270 to the south and may represent a duplicate recording of the same resource. This site was first recorded by William Beauchamp as his Onondaga County Site #57, which describes "A few years since some graves were opened on lot 72, Otisco which contained several long stone tubes. This was near Amber east of Otisco Lake, and several caches of flint pieces have been found in that vicinity. Arrowheads occur all along Nine Mile creek to Onondaga Lake" (Beauchamp 1900: 121). Parker's description (1922: Plate 196, p. 640) is identical. No further information is provided on the NYSM site form and no indications of subsequent archaeological investigations were identified.

The majority of this site description refers to archaeological resources located more than 6 miles to the south and is therefore not directly relevant to the current investigation. However, both Beauchamp and Parker indicate that traces of pre-contact activity could be identified along the banks of Nine Mile Creek from Otisco Lake to Onondaga Lake. This activity was most likely related to resource extraction and included processing sites as well as camp sites and other kinds of short-term habitation and use sites. Parker recorded numerous similar trace areas throughout New York State and used them to represent zones where widely scattered cultural remains could often be found. These trace areas had very wide, amorphous boundaries and were used to categorize a region where several smaller, more discrete sites were likely to be located. Since no indications of further archaeological investigations were identified, the exact nature and extent of the archaeological materials within this trace area are unknown. However, as the current APE is within the overall area reported for this site, there is a possibility for associated archaeological materials to be present within the current APE. As a result, further archaeological investigations of this site related to the current project were conducted.

OPRHP Site #A067.11.00033

OPRHP Site #A067.11.00033 (also recorded as the Holcomb Site) is shown on the state records approximately 122 meters (400 feet) to the west of the current project area along the west side of North Street. This site was identified by the New York State Museum in 1999 during a phase I evaluation of the PIN 3013.07.121 (Horton and LoRusso 2002). This site consisted of a light to moderate density of debris related to the demolition of an early 20th century residence. Recovered cultural materials consisted of a variety of domestic wares as well as

architectural debris. However, given the degree of previous disturbance the research potential of the portion of the site within the APE was considered to be very limited and no further archaeological investigations were recommended. Although the distribution of artifact densities did suggest that additional features may be present within the portions of the site beyond the 1999 APE, the current APE is well removed from any portion of this site area. As a result, the probability for any associated archaeological materials to be within the current APE is very low and no further archaeological investigations related to the current project were conducted.

OPRHP Site #A067.11.00034

OPRHP Site #A067.11.00034 (also recorded as the Austin Site) is shown on the state records approximately 372 meters (1,220 feet) to the southwest of the current project area along the east side of North Street. This site was also identified by the New York State Museum in 1999 during a phase I evaluation of the PIN 3013.07.121 (Horton and LoRusso 2002). This site consisted of a light density architectural sheet midden related to the demolition of an early 20th century residence. However, given the degree of previous disturbance the research potential of this site was considered to be very limited and no further archaeological investigations were recommended. As a result, no further archaeological investigations related to the current project were conducted.

OPRHP Site #A067.11.00035

OPRHP Site #A067.11.00035 (also recorded as the Reed/Utley Site) is shown on the state records approximately 183 meters (600 feet) to the southwest of the current project area along the west side of North Street. This site was identified by the New York State Museum in 1999 during a phase I evaluation of the PIN 3013.07.121 (Horton and LoRusso 2002). This site consisted of a residential sheet midden associated with a mid-19th to early 20th century domestic occupation. Recovered cultural materials consisted of a variety of domestic wares and kitchen debris, as well as architectural debris. The degree of previous disturbance within the 1999 APE limited the research potential of that portion of the site and no further archaeological investigations were recommended. However, the distribution of artifact densities did suggest that additional features may be present within the portions of the site beyond the 1999 APE and phase II testing was recommended should this area be impacted. However, as the current APE is well removed from any portion of this site area the potential for any associated archaeological materials to be within the current APE is very low. As a result, no further archaeological investigations related to the current project were conducted.

Previous Professional Archaeological Investigations

A review of the available survey files indicated that although the current APE has never been the subject of professional archaeological field investigations, at least six phase I investigations and one phase IA investigation have already been conducted within approximately one mile. One of these phase I surveys included a limited evaluation of the floodplain within the northeast overall project corner, and another phase I survey covered an area to the immediate southeast of the current overall project area. Each of these surveys is discussed in more detail below.

The first phase I survey was primarily conducted along the major roadways to the immediate north, west and south of the current project area by the Department of Anthropology at Cornell University. However, a small portion of this survey was also conducted within the western floodplain of Nine Mile Creek within the northeast overall project portion. This survey consisted of a phase I archaeological evaluation of the proposed Sewer Expansion Project in the Village and Town of Marcellus (Edmondson 1977). The testing map for this survey shows a series of 6 shovel tests within the floodplain along the western bank of Nine Mile Creek. At least two of these tests would have been within the floodplain portion of the overall current project area. However, no potentially significant cultural materials were reported and no further archaeological investigations were recommended. The second phase I survey was conducted to the immediate southeast of the current project area by Pratt and Pratt Archaeological Consultants, Inc. and consisted of a phase I evaluation of the proposed Marcellus Senior Housing project in the Village of Marcellus. However, no potentially significant cultural materials and/or indications of cultural features were identified, and no further archaeological investigations were recommended (Pratt and Pratt 1999).

The third phase I survey was conducted to the west of the current project area by the New York State Museum Anthropological Survey and consisted of a phase I evaluation and subsequent phase I addendum of PIN 3013.07.121/BIN 1-03922-0, North Street from Main Street to Scotch Hill Road in the Village and Town of Marcellus. The initial phase I survey was completed in 1999 and an addendum evaluation was completed in 2001. Although no pre-contact archaeological sites were identified, three historic archaeological sites (all discussed above) were recorded. Although no phase II testing was recommended in conjunction with this project, two of the sites (Holcomb and Reed/Utley) were recommended for additional testing if the North Street project area was ever expanded (Horton and LoRusso 2002). Although this testing has not yet been completed, the current overall project area and APE are at least 122 and 183 meters (400 and 600 feet) from these sites, respectively. As a result, the potential for the current project to impact any associated archaeological deposits was considered to be very low and no further testing related to the current project was conducted.

The fourth phase I survey was conducted to the south of the current project area along portions of Main Street and South Street by Hartgen Archaeological Associates, Inc. and consisted of a phase I evaluation of the proposed South Street Rehabilitation Project and Main Street Improvements in the Village of Marcellus. However, no potentially significant cultural materials and/or indications of cultural features were identified, and no further archaeological investigations were recommended (Hartgen 2003). The fifth phase I survey was conducted to the northwest of the current project area by Panamerican Consultants, Inc. and consisted of a phase I evaluation of the proposed Marcellus Central School Athletic Field in the Village of Marcellus. However, no potentially significant cultural materials and/or indications of cultural features were identified, and no further archaeological investigations were recommended (Hanley, Emans, Steinback and Button 2005). The phase IA survey was conducted to the east of the current project area along Nine Mile Creek from Orchard Street to Marcellus Park by Hartgen Archaeological Associates, Inc. No phase IB fieldwork was conducted and the overall area was considered to have a moderate to high potential to contain both pre-contact and historic archaeological sites. As a result, phase IB archaeological testing was recommended (Hartgen 2007). The sixth and final phase I survey was conducted to the west of the current project area along the major roadways and continued beyond the one mile evaluation interval. This survey was conducted by the Rochester Museum and Science Center and consisted of a phase I evaluation of the proposed Limeledge Water District in the Towns of Marcellus and Skaneateles. Although one historic archaeological site was identified, it was recorded beyond the one mile evaluation interval investigated for the current project. However, this site was considered ineligible for the *National Register of Historic Places* and no further archaeological investigations were recommended (Graupman and Ewing 2008).

Pre-contact Sensitivity Assessment

The review of archaeological sites indicated that although one pre-contact archaeological site has already been recorded within, adjacent and extending beyond the current APE, and a potential second pre-contact site has been recorded just to the south, neither of these sites refer to discrete archaeological loci. Instead, both sites refer to traces of occupation along both banks of Nine Mile Creek. Although all but two of the six phase I surveys previously conducted within one mile of the current project area were also within these generalized trace boundaries, no discrete pre-contact cultural materials have yet been identified. Therefore, although neither of these sites document specific pre-contact use of the APE or immediate vicinity, they do suggest general pre-contact use of Nine Mile Creek. Beauchamp and Parker's reference to "arrowheads" suggests that this use may have been primarily related to hunting and resource extraction and processing. Although the procurement of floral and faunal resources does not always produce a visible archaeological trace, there is a potential for activities which transcended this threshold to have taken place within the current project boundaries. Given the general proximity of Nine Mile Creek, these activities could also have been related to riverine resource extraction. As a result, the current APE was considered to have a moderate potential to contain previously unidentified pre-contact sites.

National Register Listed and Eligible Properties

A review of the available *National Register of Historic Places Building Inventories* indicated no National Register Eligible (NRE) resources are present within or adjacent to the current overall project area and APE. Although this review did indicate that up to 8 NRE properties and up to 35 structures included on the *Building and Structures Inventory List* are located within the overall Marcellus area, none of these resources are close enough to be directly impacted by the proposed project. The closest resource is the Upper Crown Mill, which is located approximately 183 meters (600 feet) to the southeast along the western bank of Nine Mile Creek. The Lower Crown

Mill is located approximately 579 meters (1,900 feet) to the northwest at the intersection of North Street and Scotch Hill Road. Although both of these resources are well removed from the current APE and will not be impacted by the proposed project, their history is still relevant to the current project and is therefore discussed in more detail below.

Although this review did not identify any National Register Listed (NRL) resources within the project area or APE, the NRL Tefft-Steadman House is adjacent to the west. This property is therefore also discussed in more detail below.

The Crown Mill

The Crown Mill was an important component in the early history and development of Marcellus and was begun in 1812 as the Robert and Thomas Dryer Woolen Mill. It carded and dressed cloth and produced woolens. Although this mill burnt down in 1847 or 1848 it was re-built the following year as a linen mill. However, the linen mill proved unsustainable and the property was purchased in 1855 by Chester Moses who re-opened it as the Marcellus Woolen Mill. A sketch of the Marcellus Woolen Mills can be seen in the local histories (Clayton 1878: 284-285). Chester Moses also served as the president of the Village of Marcellus in 1861 and again from 1865 to 1866, and in 1868. The 1852 map (Figure 4) shows the Machan and Moses Woolen Factory at this location and shows a C. Moses as the owner of a residential structure to the immediate south. The 1860 insert map (Figure 5b) now identifies this structure as the C. Moses & Co. Woolen Factory. A private residence belonging to C. Moses is also still shown to the immediate south. The structures to the immediate west along the north side of Factory Street (modern day Maple Street) are identified as belonging to C.M & Co. and W.J. Machan, respectively. By 1874 (Figure 6b) the mill is now identified as the L. Moses & Co. Woolen Mill and the private residence to the south is identified as belonging to L. Moses. The properties to the west along Factory Street are now listed as W.J. Machan. The town and county histories published in 1878 describe the mill as the Lucius Moses Woolen Mills and indicate that it was established in 1849 by Willliam J. Machan and Chester Moses. This description therefore appears to include the short-lived linen mill. The histories indicate that the brick buildings were constructed in 1849, 1864 and 1871, and that the mills were run by water power provided by a dam across Nine Mile Creek (Clayton 1878: 285). The 1889 map (Figure 7) shows two MDS belong to the Crown Mills further to the northwest at the intersection with Scotch Hill Road. By the late 19th century this mill complex was known as the Upper Crown Woolen Mill Company. Despite several changes in ownership and leadership, the Crown Mill was a well-known and respected processing and manufacturing plant for wool, and employed nearly half of the population of the Village of Marcellus. However, by the mid-20th century, the rise of synthetic fabrics forced the mill to close and the mill structures were abandoned.

The 1989 *Building and Structures Inventory Form* includes a photograph and map of the Lower Mill only and indicates that this portion was constructed sometime between 1878 and 1880. However, the Lower Crown Mill was once a much larger complex that included a weave shed, a wool washing and storage building, a boiler room, an underwater pump room, a machine and carpenter's shop, a dye room and another complete mill building. As of 1989, the only remaining buildings were the office, the main mill, and the picking, twisting and winding building. Although the Crown Mill complex is therefore of vital importance to our understanding of the history and development of Marcellus, as both the Upper and Lower mill portions are well removed from the current overall project area and APE, no further archaeological investigations were conducted.

Tefft-Steadman House

The adjacent NRL resource is the Tefft-Steadman House which is located to the immediate west of the APE along the east side of North Street. Although the house itself is at least 37 meters (120 feet) from the closest project border, the rear of the overall property shares a border with the current project area. As can be seen from Figure 11, an L. Steadman is identified as a property owner to the west of the southern portion of the project area. However, as all portions of this area have been previously significantly disturbed by the construction and use of the existing industrial complex, and all portions of this area without standing buildings are also covered by pavement, direct impacts from the current project should be minimal.

At the time of the current investigation, the Tefft-Steadman House was owned and in use by the Marcellus Historical Society, and was in excellent and well maintained condition. It was included on the National Register on

October 31st, 2007 under Criterion C as an excellent, intact example of a Greek Revival residence built in central New York during the second quarter of the 19th century. However, its significance is enhanced by the near perfect association of the Tefft-Steadman House façade elevation and first floor plan with the structure shown on the cover of Minard LaFever's 1833 *The Modern Builders Guide*. The Tefft-Steadman House was built between 1834 and 1835, shortly after this book's publication.

The Tefft-Steadman House was built by Dr. Luke I. Tefft who was born in Washington County, New York on March 16th, 1797. Following his marriage to Hattie Carrington in 1822 he settled in Marcellus in 1823 and took over the medical practice of Dr. Erastus Humphrey. Dr. Tefft continued to practice medicine in Marcellus until 1849. Luke Tefft and his brother, Dr. Nathan R. Tefft, were among the original founders of the Onondaga Medical Society. Luke Tefft was also the president of the Village of Marcellus in 1855. In 1834 he purchased the land which would become the Tefft-Steadman property at auction, and the house was built between 1834 and 1835. The 1855 census identifies a Luke and Hetty Tefft (ages 58 and 56) as living in a brick house valued at \$3,500.00 and states that they had been in residence in Marcellus for 31 years. By 1860 the census shows the value of the house as \$18,000 and the 1860 insert map (Figure 5b) shows the Tefft property as extending eastward from North Street all the way to Nine Mile Creek and the contemporary village line on the east and north, and southward to the northern boundaries of the properties lying along the northern side of Factory Street. The Tefft property therefore shared a border with the properties of the C. Moses and Co. Woolen Factory, C.M. & Co., W.J. Machan, and Mrs. Machan. A narrow strip of land marked L.I.T., between the W.J. Machan, and Mrs. Machan properties looks to have provided access to the Tefft property from Factory Road (Figure 5b). However, in 1863 ill health forced Dr. Tefft to move to Syracuse to live with his daughter and son-in-law. He sold the house and property on April 1st, 1864 to Robert F. and Mary Rhodes North and remained in Syracuse until his death in 1880 at the age of 83. As can be seen from the 1874 insert map (Figure 6b), following this sale the property boundaries remained unchanged except for a parcel in the extreme northwest corner which was sold to Isaac. N. Sherman. Sherman, who served as president of the village from 1875 to 1876, built a private residence on the property.

On February 20th, 1880 the remaining property was sold to Thomas Hill who sold it just over a year later on March 28th, 1881 to Johnathon Chrysler. Chrysler farmed the land for several years before selling smaller parcels to other individuals and family members. For example, the parcel to the north of the original house was purchased in 1889 by his son, Dwight Chrysler, who built a private residence. A private historic residence is still present at this location today. Additional private residential parcels, including one owned by his daughter Mae Chrysler Edwards, were purchased along both sides of what is today known as Chrisler Street. Some years later the portion of the property to the rear of the house was sold to L.D. Paul for continued use as a lumber yard. This latter area would have included the current APE.

In 1934 the house and what land remained of the original estate were purchased by Prof. Robert Foster Steadman who was a professor at Syracuse University's Maxwell School. The Steadman family took up residence in the home in February of 1935 and remained there until 1947. In 1947 the house and property were sold to Wesley C. Clark, who was a Dean at the Syracuse University School of Journalism. Professor Clark and his wife lived at the house through the 1960s. However, during the following decades the property went through a number of owners and fell into a state of disrepair. A new owner in 1993 began restorations and when the fully repaired property was placed up for sale in 1996 the Steadmans re-purchased it in celebration of their 50th wedding anniversary. They then completed the historic re-fitting by restoring the columns and portico to their original appearance by using the original limestone bases which had been left on the property. In order to preserve the house the Steadmans then donated the property to the Marcellus Historical Society in 2006, and the Society pursued the National Register listing shortly thereafter. The property now consists of the house and 0.63 acres. In the National Register listing, the Tefft-Steadman House is described as having a two-story center pavilion with a full height portico and one-story flanking wings. Access to the portico is provided by a full-width staircase and a wide porch lies between the columns and the front wall of the house. The basement walls are made of rough stone and are separated from the brick walls by a dressed stone water table. The basement stone and all trim are the locally available Onondaga limestone. The circular pattern of the access drive is consistent with early 19th century design. Along the east side of the house is a one and a half story wing with clapboard siding and cornices which suggest it pre-dates the main brick structure. An associated barn and well house were also once located to the north but are now the property of the adjacent land owner. A two-story garage was added to the south of the house in 1995.

In regards to potential impacts related to the current project, no structures associated with the Tefft-Steadman House are reported to have been within the overall current project boundaries. This area instead appears to have been vacant land which was subsequently cleared for farming and later put to use as a lumber yard. However, the western half of the overall project area is covered either by existing buildings or by pavement. Although historic midden deposits related to 19th century agriculture may once have been present within the APE, they were most likely removed and/or destroyed by the later industrial construction and use. Likewise, any materials related to the properties subsequent use as a lumber yard were also likely removed and/or destroyed. However, since the eastern half of the overall project area does not show any overt signs of previous significant disturbance, it is possible that archaeological materials related to this 19th century agricultural and industrial use may still be present. Further archaeological investigations of this possibility were therefore conducted.

Map-documented Historic Structures

The review of available historic maps (figures 4 through 9) indicated that although no map-documented structures (MDS) are shown within the overall project area or APE between 1852 and 1902, one is shown as roughly adjacent to the west. This MDS is identified as the L.I. Tefft residence from 1852 to 1860, and as the R.F. North residence in 1874. Although the scale of the 1874 insert map (Figure 6b) would appear to show that this structure is within the western project border, this errant location is a result of the discrepancies and errors of 19th century map scales. Later maps, as well as visual field inspection, clearly show this structure well beyond the project boundaries to the west. For example, although no property owners are identified, a private residence is still shown at this location in 1902 and 1955, and a residence still stands at this location today. This residence was nominated to the National Register in 2007 as the Tefft-Steadman House and is discussed in detail above. However, as the rear yard of this MDS is separated from the APE by mature trees and a stone wall and all adjacent portions of the APE are covered in pavement, impacts from the current project should be minimal. No additional MDS and no undocumented foundations were identified.

The 1902 map shows at least two private residential MDS along Chrisler Street to the south, which is consistent with the history of the area discussed above. By 1955 six residential MDS are shown along the north side of Chrisler Street and five are shown along the south side. Two of the industrial buildings along the western side of the current project area are also shown, as well as three of the private residences which border the project area to the north along the south side of Paul Street. By the time of the 1976 photo-revisions (Figure 2), six residential MDS are shown along the north side of Chrisler Street, eight are shown along the south side, and four are shown just to the north of the current project area along the south side of Paul Street. Three buildings marked as storage or barns are also now shown just to the east of the two industrial buildings identified previously. A private residence (still extant at the time of the phase IB investigation) is also shown in 1955 to the west of the northwest project border. Both industrial buildings and the two northernmost storage barns shown within the current project area between 1955 and 1976 were still extant at the time of the phase IB field investigation. However, the middle storage barn has since had several additions. The southernmost storage building/barn shown as of 1976 also appears to have been replaced by two separate structures sometime after 1976.

All of the adjacent private MDS are outside of the current APE and will not be impacted by the proposed construction. At the time of the current investigation, the residential MDS to the north along Paul Street were separated from the APE by a wood and chainlink fence. The residential MDS to the west of the northwest APE border is not sheltered by a fence but all adjacent portions of the project area are covered by pavement. The NRL Tefft-Steadman House is separated from the current APE by a vertical stone wall, steep drop off and mature trees. All adjacent portions of the APE within this area are also covered by pavement. The private residences to the south along the north side of Chrisler Street are protected by a concrete block wall and wooden fence. As a result, impacts to these MDS from the current project should be minimal.

In 1852 (Figure 4), the closest commercial MDS is the Machan & Moses Woolen Factory, which is also discussed in detail above. A cemetery (still extant today) is also shown to the southwest of the current project area to the immediate southeast of the intersection of North and Factory streets. Numerous additional residential MDS are shown further away along both sides of the established roadways. Commercial properties within the overall area include a clock factory, a paper mill, a saw mill and the Norton, Coon & Co. Distillery to the north, an Episcopal Church to the southwest, a tannery and two stores to the south, and a schoolhouse to the east. By 1860 (figures 5a and 5b) the paper mill, saw mill and distillery are still shown to the north, and the church and cemetery are still

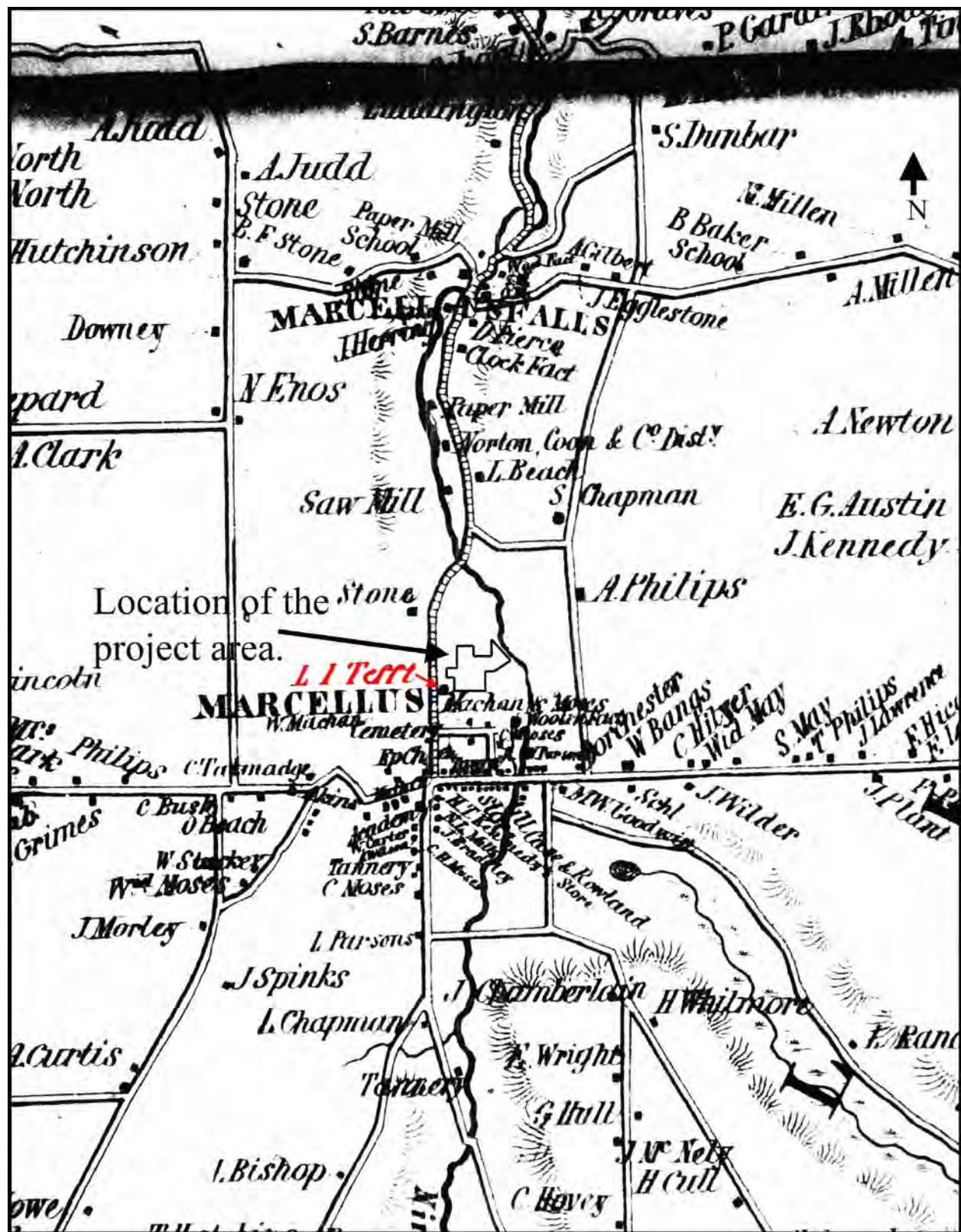


Figure 4. Location of the project area as shown on a portion of the 1852 Map of Onondaga County, New York.

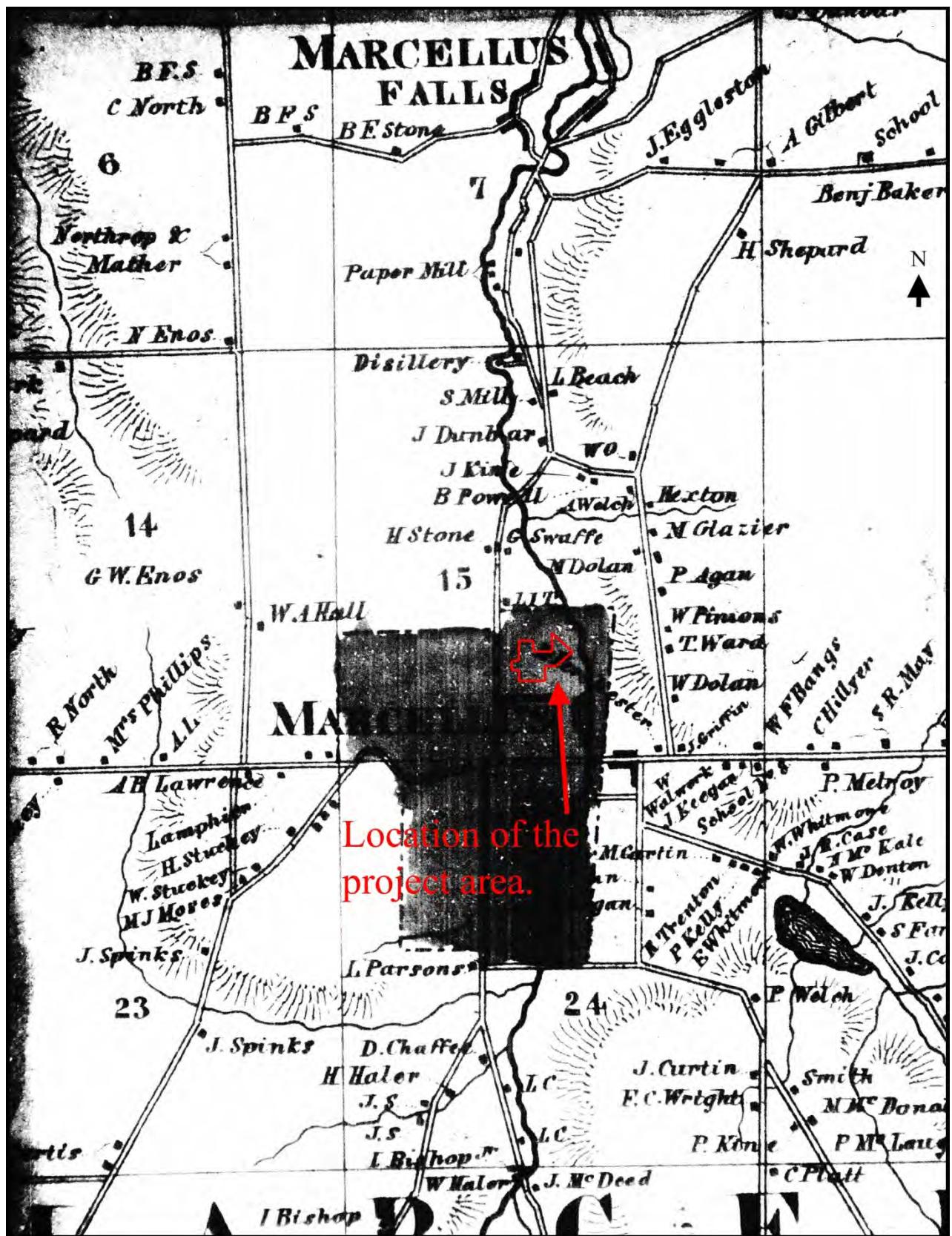


Figure 5a. Location of the project area as shown on a portion of the 1860 Map of Onondaga County, New York.

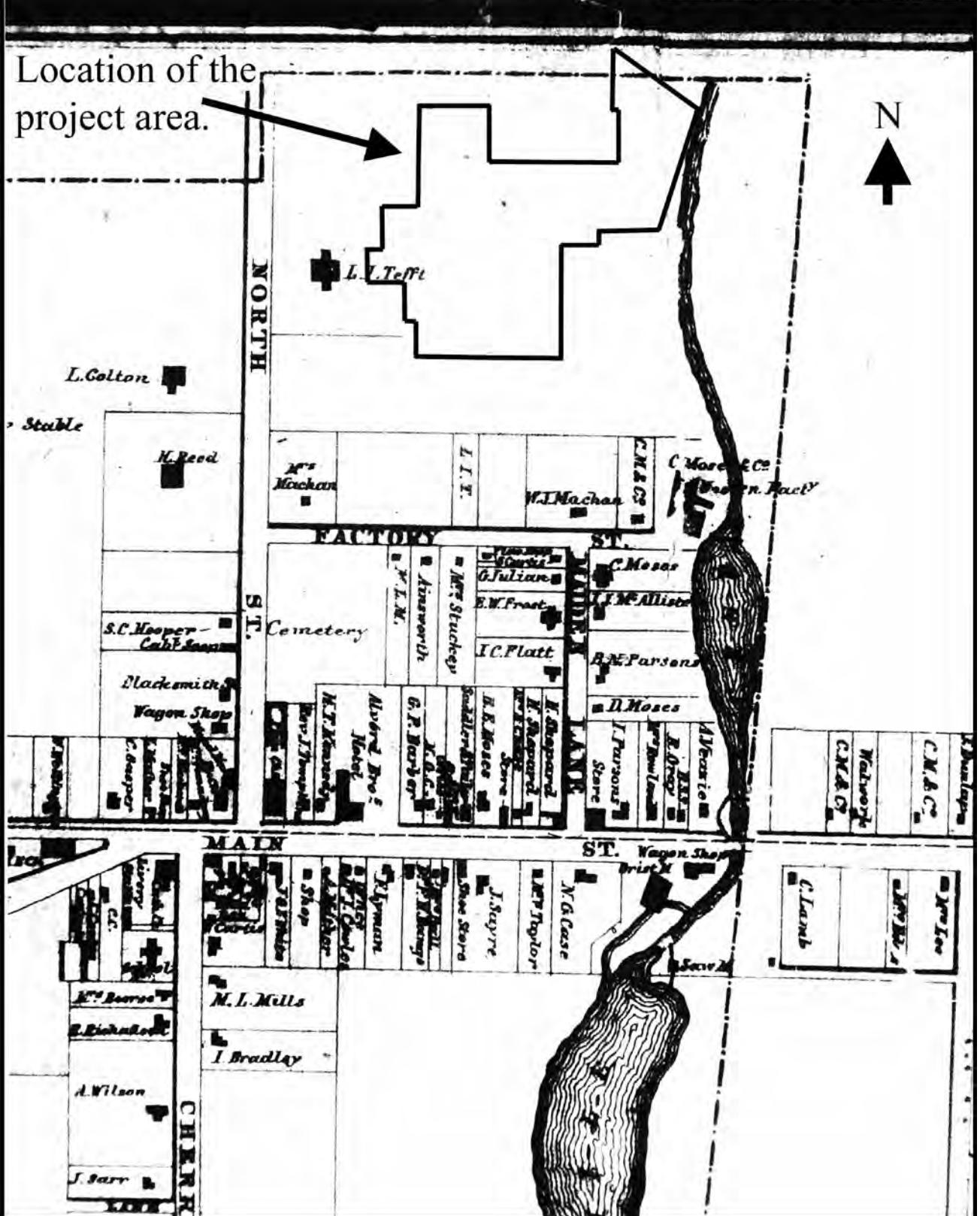


Figure 5b. Location of the project area as shown on a portion of the 1860 insert *Map of Onondaga County, New York*.

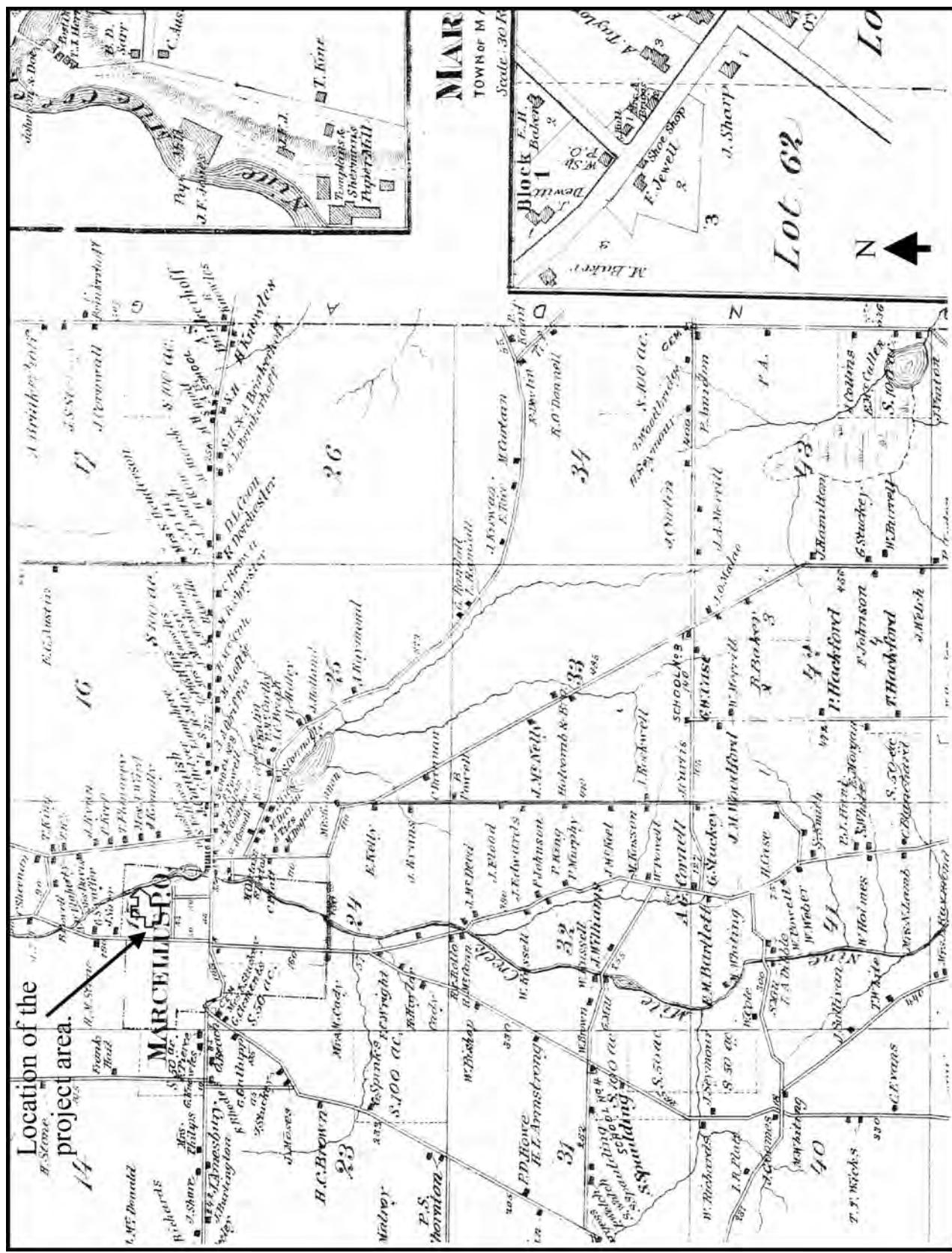


Figure 6a. Location of the project area as shown on a portion of the 1874 *Map of Onondaga County, New York*.

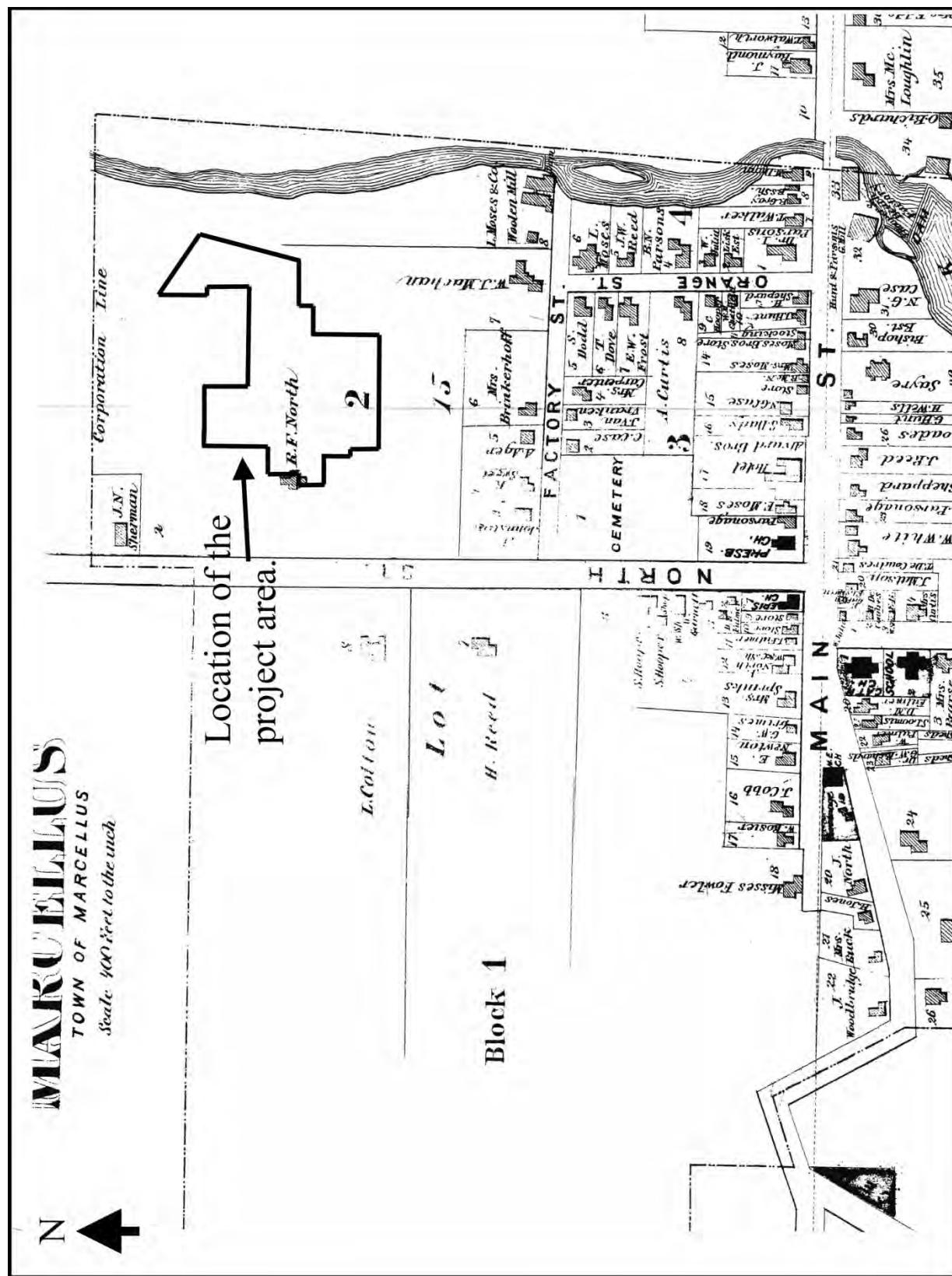


Figure 6b. Location of the project area as shown on a portion of the 1874 insert *Map of Onondaga County, New York*.

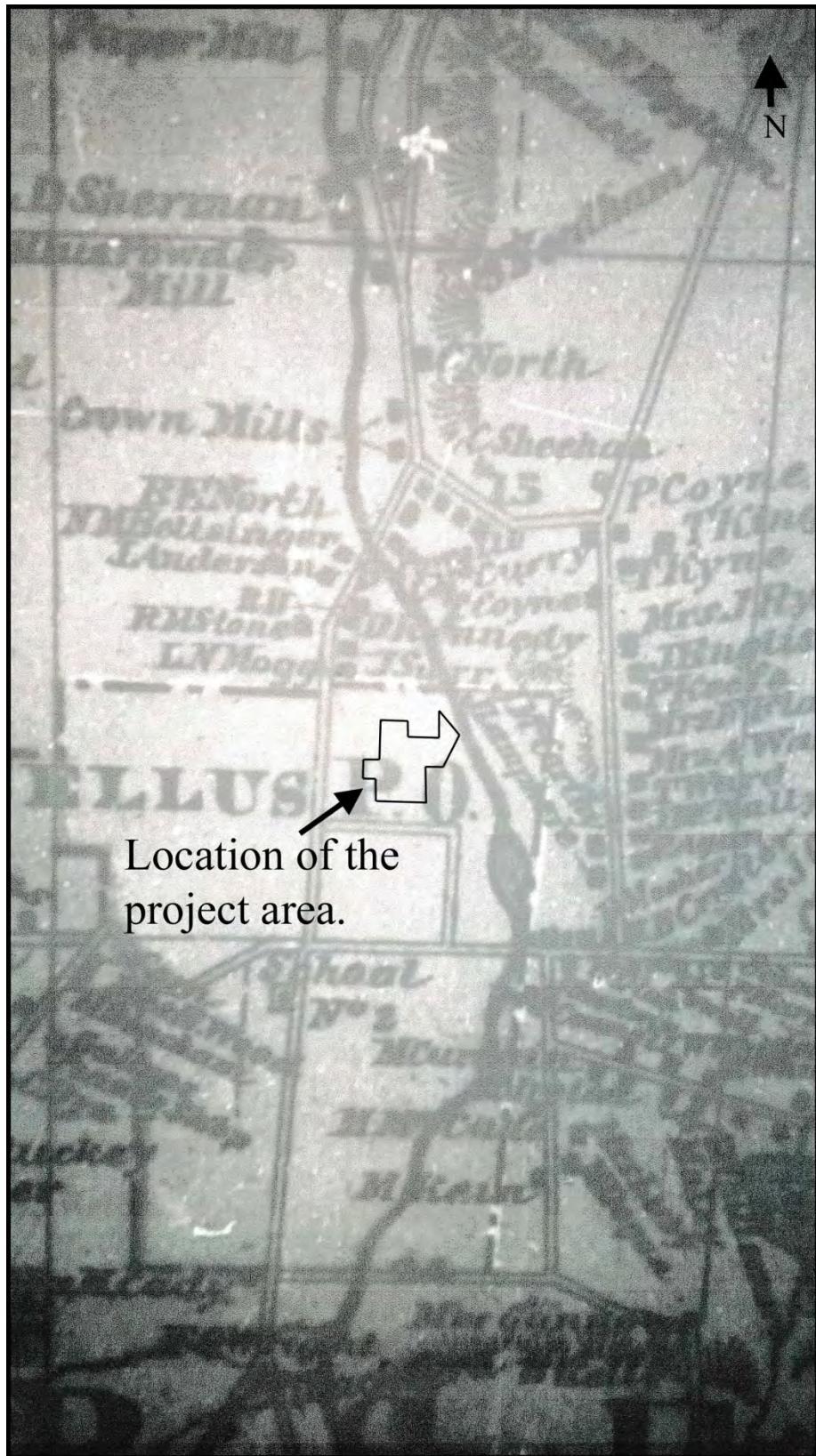


Figure 7. Location of the project area as shown on a portion of the 1889 *Map of Onondaga County, New York*.

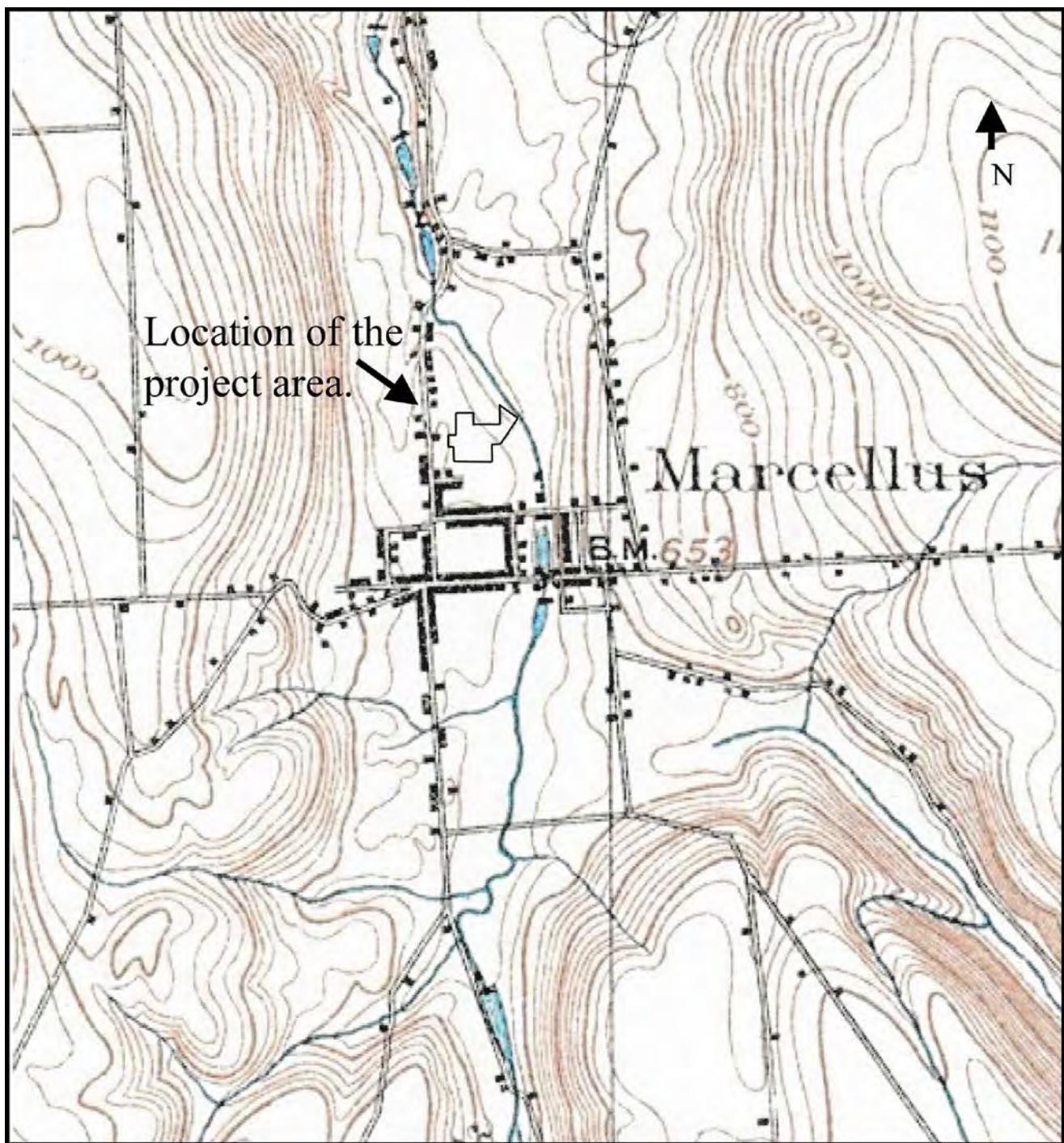


Figure 8. Location of the project area as shown on a portion of the 1902 Skaneateles, New York 15' quadrangle.

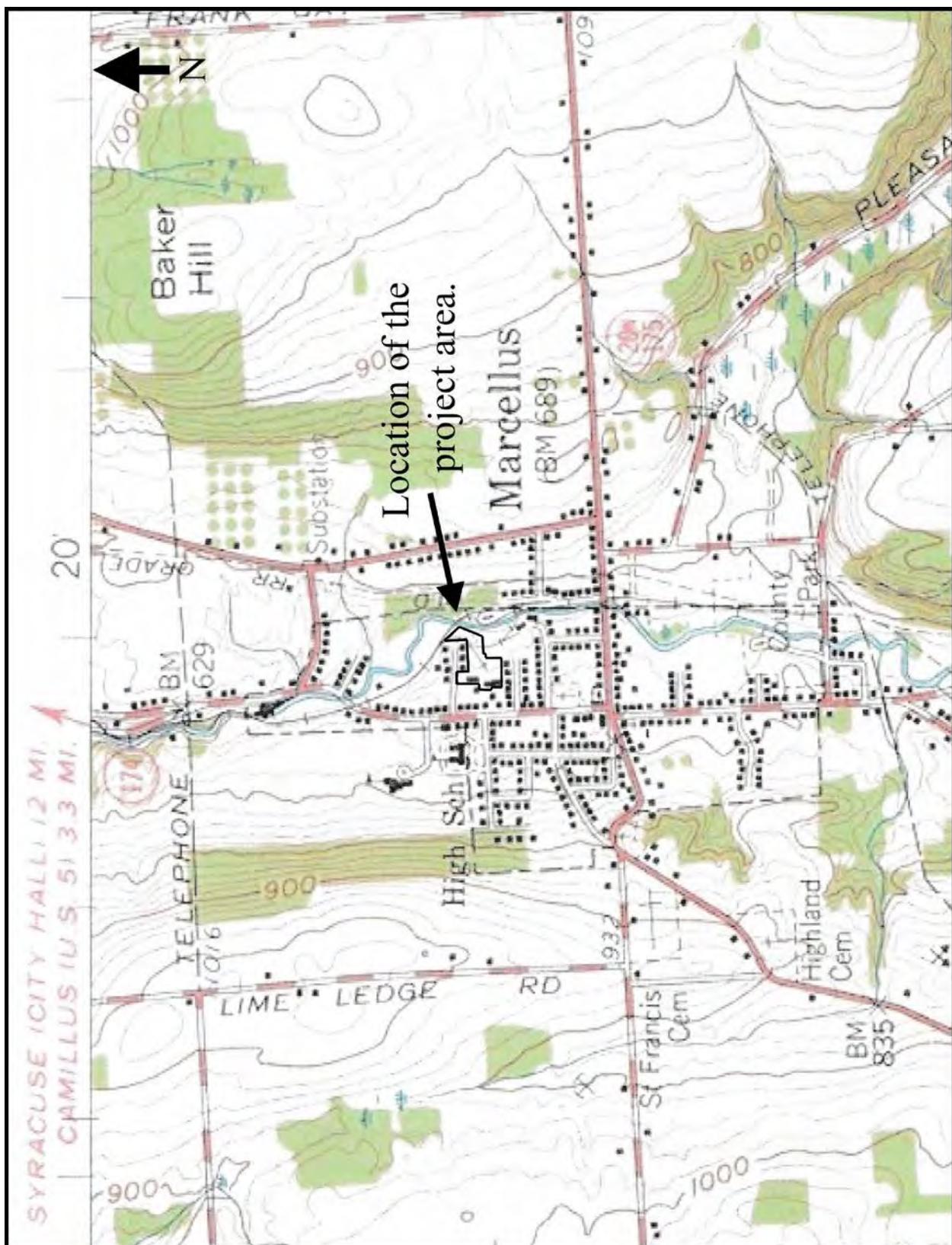


Figure 9. Location of the project area as shown on a portion of the 1955 Skaneateles, New York 15' quadrangle.

shown to the southwest. A Presbyterian Church is shown to the immediate east of the Episcopal Church along the east side of North Street, and Schoolhouse No. 8 is still shown along the south side of Main Street to the east. The 1860 insert map (Figure 5b) shows numerous additional businesses along North and Main streets. For example, a blacksmith and wagon shop is now shown to the west of the cemetery and the Alvord Bros. Hotel is shown to the south of the cemetery along Main Street. A saddler and tailor, another blacksmith shop, three indeterminate shops and a shoe store are also shown along Main Street. A livery stable is also present just to the west of the intersection with Cherry Street and a schoolhouse is shown just to the south of the stable. By 1874 (figures 6a and 6b), the cemetery, the churches, the hotel and the schoolhouse are all still shown as extant. However, the saddler and tailor has been replaced by an indeterminate store and the shoe store is no longer shown. Although the school is still extant, the livery stable has been replaced by a Catholic Church. However, as all of these MDS are well beyond the current project boundaries, no associated archaeological deposits will be impacted by the proposed project. As a result, no further archaeological investigations were conducted.

Historic Sensitivity Assessment

A review of the available historic literature indicated that the Town of Marcellus was laid out in 1794 and was one of the original eleven towns within the county. Onondaga was separated off in 1798, Camillus in 1799, a portion of Otisco in 1806, and Skaneateles in 1830. A portion of Sempronius in Cayuga County was annexed in 1804 and a portion of Stafford was annexed in 1840. By 1878 only thirty lots of the original Township No. 9 of the Military Tract remained (Clayton 1878: 283).

Nine Mile Creek is the principal stream within the town and serves as the outlet to Otisco Lake which lies approximately 5 miles to the south. The creek therefore flows from south to north within the town. William Cobb was the first known white settler within the town and he settled east of Nine Mile Creek in 1794. Cyrus Holcomb and Samuel Tyler arrived later that same year. The first permanent settlers were Dan Bradley and Samuel Rice in the fall of 1795 and Dr. Elnathan Beach in the winter of 1796. Dr. Beach built the first frame house near the later dwelling place of Curtis Moses, which suggests that his settlement may have been somewhere to the southeast of the current project area. By 1806 there were nine permanent dwellings in the village. Settlement was rapid thereafter.

The first store within the village was opened by Elnathan Beach in 1796 and specialized in dry goods, groceries and medicines. Dr. Beach also served as the first postmaster with the first post office in the village being opened in 1799. Dr. Beach maintained the store until his death in 1801 at which point it was taken over by Lemuel Johnson who built a new store. The first tavern was opened by Deacon Samuel Rice with additional taverns opened later by General Humphreys and William Goodwin. The village lies at the intersection of two major early thoroughfares: Nine Mile Creek and Seneca Turnpike. Seneca Turnpike itself follows the path of a major Native American Trail that stretches east-west across the state and was the major east-west route prior to the completion of the Erie Canal in 1825. Stagecoach traffic along the turnpike helped to promote settlement and growth within Marcellus and helped the valley of Nine Mile Creek to become a major trading and manufacturing center. The Alvord House, built within the village along the north side of the turnpike (current Main Street) in 1815 was a popular stop over and is still shown in use on the 1860 and 1874 maps (figures 5 and 6). Growth within the village was steady during the early 19th century but had begun to taper off by the 1830s and 40s. However, new local industries in the 1850s spurred a second population growth which led to the village's incorporation in June of 1853. The original village boundaries encompassed 282 acres, and the 1860 and 1874 maps show these original incorporation boundaries. However, the boundary was extended northward in 1906 and southward in 1978. The modern topographic map (Figure 2) shows these new and final village boundaries. The original village common along Main Street remains open today.

In regards to potential impacts related to the current project, no structures associated with the Tefft-Steadman House are reported to have been within the overall current project boundaries. This area instead appears to have been vacant land which was subsequently cleared for farming and later put to use as a lumber yard. However, the western half of the overall project area is covered either by existing buildings or by pavement. Although historic midden deposits related to 19th century agriculture may once have been present, they were most likely removed and/or destroyed by the later industrial construction and use. Likewise, any materials related to the properties subsequent use as a lumber yard were also likely removed and/or destroyed. However, the eastern half of the overall project area does not show any overt signs of previous significant disturbance. As a result, it is possible that archaeological materials related to this 19th century agricultural and industrial use may still be present. As a

result, the potential for the APE to contain previously unidentified historic archaeological deposits was considered to be moderate and further archaeological investigations were conducted.

Archaeological Survey Methodology

All aspects of the phase IB field evaluation of the proposed development at 8 Paul Street in the Village of Marcellus were conducted by and under the direct supervision of Nikki A. Waters, M.A., Principal Investigator. Field crew consisted of Reda A. Korkor. Fieldwork was completed on September 10th, 2014. Project photography was conducted during fieldwork. Conditions at the time of the phase IB field investigation were warm and dry with highs in the mid-60s. As a result, no fieldtime was lost due to adverse weather or field conditions.

All aspects of this evaluation were conducted in accordance with the New York Archaeological Council's *Standards for Cultural Resource Investigations* (1994) as adopted and required by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), as well as to the *Phase I Archaeological Report Format Requirements* as published and required by the OPRHP (2005; revised 2013). The specific field methodology employed is discussed in more detail below.

Surface Inspection

A non-systematic pedestrian survey was first conducted in order to gather data relevant to 1) assessing the nature and extent of the previous disturbance, 2) evaluate the boundaries of the alluvial area in relationship to the APE, 3) gather data relevant to formulating an effective systematic subsurface testing strategy, and 4) identify any obvious surface indications of pre-contact and/or historic archaeological materials and/or features. This non-systematic survey was conducted by walking the perimeter of the project area, as well as several transects which cut across and through it (Figure 10). Optimal locations for shovel test transects, based upon their potential to provide the widest possible sample set, were also selected. All final shovel test locations were recorded on the project map (Figure 11).

If cultural materials or indications of cultural features had been identified within the APE, a pin flag would have been placed at each findspot until the full distribution of the surface scatter or feature could be identified. All artifact findspots or features would then have been recorded on the project map and the materials bagged by pin flag and GPS coordinates. Radial shovel tests would then have been excavated in the area surrounding each positive findspot or feature in order to further evaluate the soil stratigraphy and assess the potential for additional and/or buried cultural materials and/or features to be present. If any undisturbed portions of the floodplain were found to be within the APE, supplemental auger probes would also have been excavated to help evaluate the potential for deeply buried archaeological deposits and/or soil horizons to be present.

Subsurface Inspection

Given that the available ground surface visibility throughout the APE was less than 10%, no surface indications of pre-contact and/or potentially significant historic archaeological sites were identified within the APE during the non-systematic surface inspection, and no undisturbed portions of the floodplain along the northeastern border of the overall project area were found to be within the APE, only a standard, subsurface investigation was conducted (Appendix B). The systematic subsurface investigation involved the hand excavation of shovel tests at no greater than 15 meter (50 foot) intervals within all areas not covered by pavement. Although shovel tests were attempted within all open areas, those shovel tests which immediately produced evidence of previous significant soil removal were not included in the final shovel test count. These failed shovel test locations are marked on the project map by an "X." All fully excavated shovel tests were a minimum of 30 cm (12 inches) in diameter, excavated a minimum of one cubic foot of soil, and were continued into undisturbed or non-artifact bearing subsoil. All excavated soils were then screened through 6mm (1/4 inch) mesh hardware cloth. The exposed soil profile was then visually examined to aid in the identification of cultural features, deposits and/or buried cultural horizons. If cultural materials had been identified, the recovered artifacts would have been bagged by shovel test location and relative depth below surface, if applicable. Radial shovel tests would then have been excavated in each of the cardinal and subcardinal directions at 3 and 7.5 meter (10 and 25 foot) intervals, respectively. If indications of cultural features had been noted, the relevant portion of the shovel test would have been profiled, the exposed feature described and documented, and then covered with plastic prior to backfilling. Additional radial shovel tests, as described above,

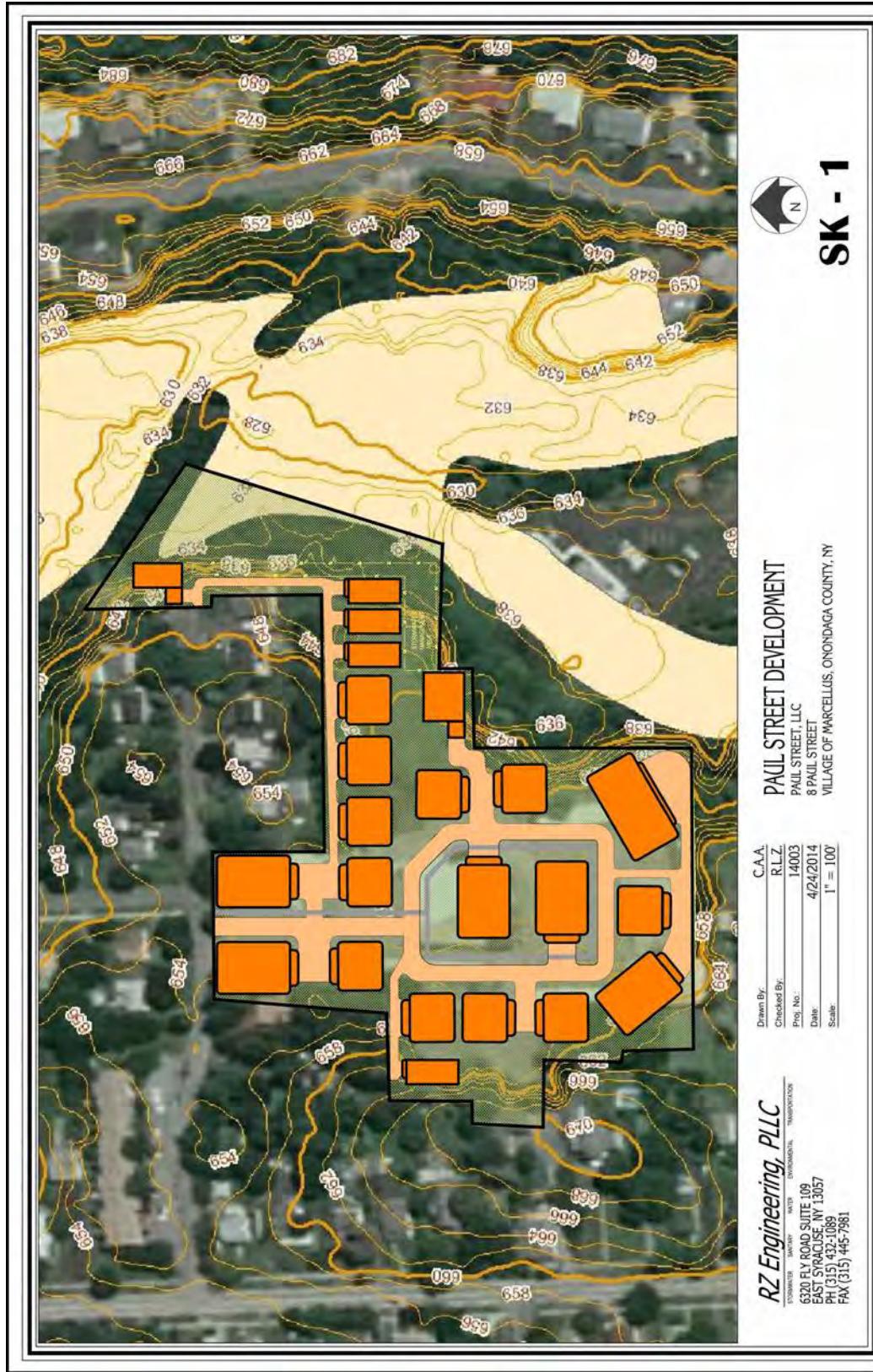


Figure 10. Location of the APE and all proposed project improvements (Adapted from a base map provided by RZ Engineering, PLLC).

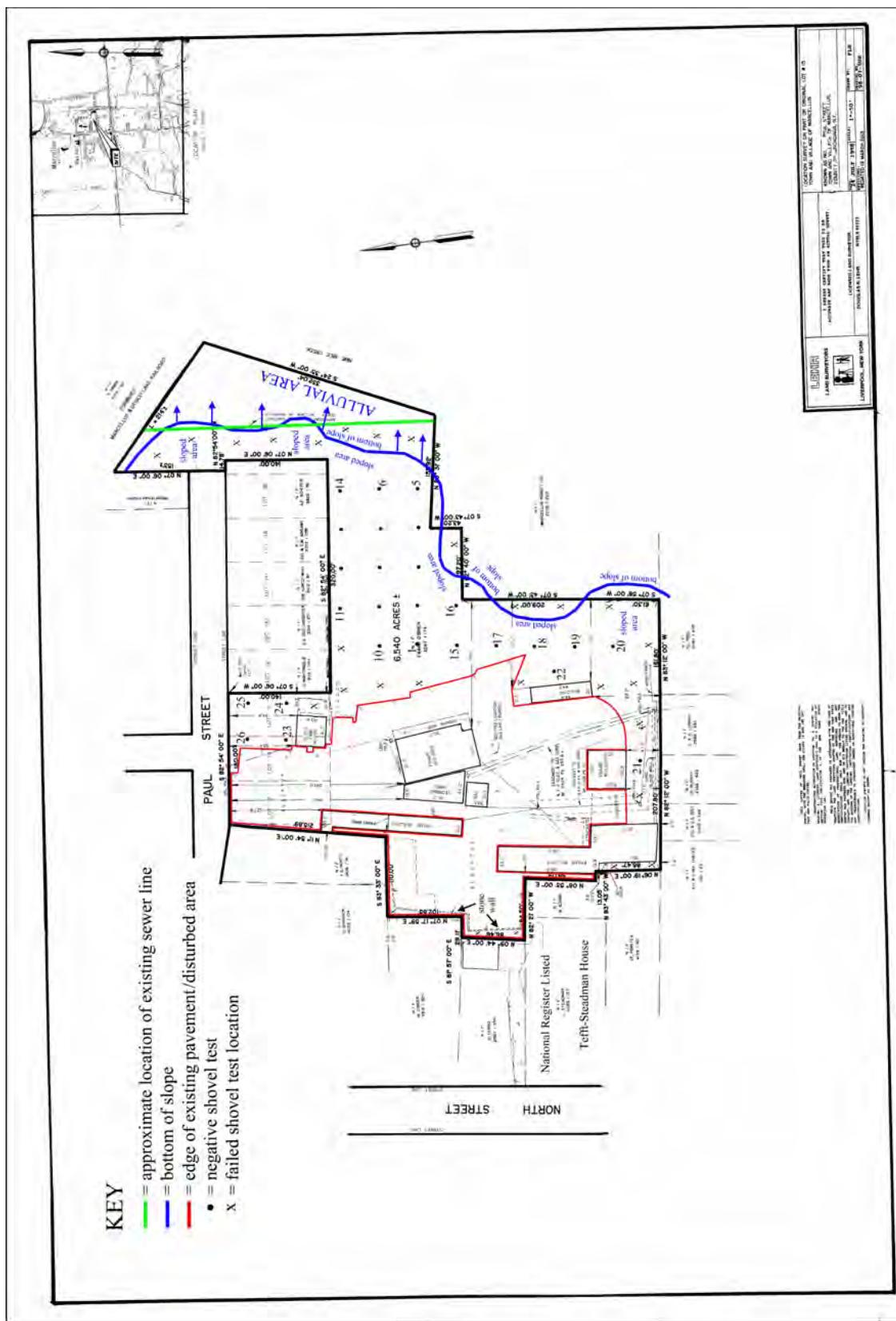


Figure 11. Location of all subsurface testing (Adapted from a base map provided by LEHR Land Surveyors).

would then have been excavated. All positive shovel test locations would then have been photographed and their location recorded on the project map (Figure 11). A detailed soil profile, including Munsell color and soil texture analyses, was obtained for each excavated probe. Upon completion of each investigation, all shovel tests were backfilled and their location recorded on the project map (Figure 11).

Additional Excavation

Although suitably drained alluvial soils within the floodplain of Nine Mile Creek are present within the northeastern overall project portion, the majority of this area is not scheduled for disturbance by the current project. The only exception is a small portion along the western border of the alluvial soils at the base of the existing, non-depositional slope. However, this area has already been disturbed by the existing Village of Marcellus sewer line. Therefore, although suitably drained alluvial soils with a potential to contain deeply buried archaeological deposits are present within this overall area, they are largely outside of the proposed construction zone. As long as all construction within the APE does not exceed the depth of the previous disturbance associated with the sewer line, no deep subsurface testing is recommended. However, if the remainder of this overall area is planned for use in the future, deep subsurface testing should be conducted to test for the presence of deeply buried cultural remains. This deep testing should be designed in consultation with the OPRHP.

Archaeological Phase IB Survey Results

Summary of the Background and Literature Review

The background and literature review indicated that although one pre-contact archaeological site has already been recorded within, adjacent and extending beyond the current APE, and a potential second pre-contact site has been recorded just to the south, neither of these sites refer to discrete archaeological loci. Instead, both sites refer to traces of occupation along both banks of Nine Mile Creek. Although all but two of the six phase I surveys previously conducted within one mile of the current project area were also within these generalized trace boundaries, no discrete pre-contact cultural materials have yet been identified. Therefore, although neither of these sites document specific pre-contact use of the APE or immediate vicinity, they do suggest pre-contact use of the general Nine Mile Creek area. Beauchamp and Parker's reference to "arrowheads" suggests that this use may have been primarily related to hunting and resource extraction and processing. Although the procurement of floral and faunal resources does not always produce a visible archaeological trace, there is a potential for activities which transcended this threshold to have taken place within the current project boundaries. Given the general proximity of Nine Mile Creek, these activities could also have been related to riverine resource extraction. As a result, the current APE was considered to have a moderate potential to contain previously unidentified pre-contact sites.

In addition, no structures associated with the Tefft-Steadman House are reported to have been within the overall current project boundaries. This area instead appears to have been vacant land which was subsequently cleared for farming and later put to use as a lumber yard. However, the western half of the overall project area is covered either by existing buildings or by pavement. Although historic midden deposits related to 19th century agriculture may once have been present, they were most likely removed and/or destroyed by the later industrial construction and use. Likewise, any materials related to the properties subsequent use as a lumber yard were also likely removed and/or destroyed. However, the eastern half of the overall project area does not show any overt signs of previous significant disturbance. As a result, it is possible that archaeological materials related to this 19th century agricultural and industrial use may still be present. As a result, the potential for the APE to contain previously unidentified historic archaeological deposits was considered to be moderate.

Summary of the Surface Inspection

The non-systematic pedestrian survey confirmed that the majority of the project area is dominated by an existing industrial complex of 10 buildings with associated paved parking which covers approximately the western half of the overall project area. The eastern half is dominated by a scrub grass meadow surrounded by a border of standing woodland. A short steep slope within this woodland leads down to the floodplain of Nine Mile Creek within the northeastern project portion and onto a lower terrace within the southeastern project portion. A small area of maintained lawn is also present to the north of the frame house within the northern portion of the project area to the immediate south of Paul Street. Although the majority of the previous disturbances were found to be related to

the construction, maintenance and use of the existing industrial complex, a buried gas and electric corridor was identified within the southwestern project portion and a buried cable line was noted along the southern project border. The existing sewer line for the Village of Marcellus was also identified running within the northeastern overall project border within and adjacent to the alluvial soil area. The proposed storm water management area was therefore found to be either within the existing slope of the non-depositional landform or within the area previously disturbed by the installation of the Village of Marcellus sewer line. Although shovel tests were still attempted within this area no intact soils were identified. The proposed building and access road within this portion of the APE were also found to be either within the slope of the non-depositional landform or within the area previously disturbed by the sewer line. Therefore, as long as construction within this area does not exceed the depth of this previous disturbance, no additional archaeological investigations are recommended.

Disturbances related to the existing industrial complex were observed to include grading and building construction as well as the installation of pavement around and extending between all of the existing buildings. The scrub grass areas were also found to contain visual surface evidence of previous grading and scraping into the subsoil. This visual evidence was confirmed through the excavation of shovel tests. The only portion of the project area which did not exhibit signs of previous significant disturbance was the small area of maintained lawn to the immediate south of Paul Street. No visual indications of the pre-contact and/or historic archaeological sites were identified within the APE. The concrete and stone walls were also confirmed to mark the base of the slope separating the paved portion of the APE from the private residences beyond the project borders to the west and south.

Summary of the Subsurface Investigations

A total of 26 standard interval (15 meter/50feet) (Figure 11) shovel tests were excavated across the unpaved portions of the APE in order to obtain data relevant to adequately assessing the past cultural use of this area, assess the nature and extent of the previous significant disturbance, provide relevant information on the local stratigraphy and drainage, and further assess the potential for the APE to contain previously unidentified archaeological resources. Although shovel tests were attempted at this interval within all unpaved portions, several shovel tests produced B_t or C soils just below the scrub grass. As a result, excavation at these locations was terminated and although the location of the failed probe was recorded on the project map, they were not included in the final shovel test count. These failed shovel test locations included the small area to the west of the stone wall along the western project border. Although shovel tests were also attempted within and adjacent the short, steep slope along the eastern project border, no intact soils were identified. In addition, although the proposed stormwater management area lies partly within the western edge of the alluvial soils within the extreme northeastern project portion, this area was found to be within the area previously disturbed by the installation of the Village of Marcellus sewer line. The proposed building and access road within this portion of the APE were also found to be either within the non-depositional slope or within the area disturbed by the sewer line. Therefore, as long as construction within this area does not exceed the depth of this previous disturbance, no additional archaeological investigations are recommended. Since all project impacts will therefore either be restricted to non-depositional soils or to previously disturbed portions of the floodplain, no additional shovel or auger tests were excavated.

No positive shovel tests were identified so no radial shovel tests were excavated. Likewise, no indications of undocumented MDS or features were identified. Given the mid to late 20th century date of all current standing structures within the project area, no closer interval shovel tests were excavated surrounding the foundations or within the yard. All excavated soils were consistent in their remaining portions with the mapped profiles of the region (Web Soil Survey; Hutton and Rice 1977: 93-96, 99-100; Figure 3). All shovel test results are provided in Appendix B.

A typical profile within the scrub meadow and bordering woodland (STP #s 1 through 17) consisted of a highly variable dark brown to very dark brown to very dark grayish brown to dark yellowish brown, sandy loam to very fine sandy loam A-horizon. The average depth was 3.5 cm (1.4 inches) below the current surface. The B-horizon soils consisted of an equally variable, brown to yellowish brown to dark yellowish brown to dark grayish brown, sandy loam to very fine sandy loam. Depth of excavation within the subsoil ranged from 6 to 24 cm (2 to 9 inches) below the current surface.

A typical profile within the southeastern scrub area (STP #s 18 through 22) consisted of a very thin and highly variable very dark brown to very dark grayish brown, sandy loam A-horizon. The average depth was 2 cm (0.8 inches) below the current surface. The B-horizon soils consisted of an equally variable, brown to dark grayish brown, sandy loam. Depth of excavation within the subsoil ranged from 12 to 20 cm (5 to 8 inches) below the current surface.

A typical profile within the small yard to the immediate south of Paul Street along the northern project border (STP #s 23 through 26) consisted of a slightly deeper, dark brown to dark yellowish brown, sandy loam A-horizon. The average depth was 8 cm (3 inches) below the current surface. The B-horizon soils consisted of a dark yellowish brown, sandy loam. Depth of excavation within the subsoil ranged from 21 to 32 cm (8 to 13 inches) below the current surface.

Although a series of 6 shovel tests were excavated in 1977 within and adjacent the floodplain portion of the current overall project area, no potentially significant cultural materials were reported and no further archaeological investigations were recommended (Edmondson 1977).

Although the APE had originally been part of a prominent local estate, and had also been historically farmed and used as a lumber yard, no cultural materials or indications of cultural features related to these activities were identified. If archaeological data had once been present, they appear to have been destroyed by the latter mid to late 20th century pavement and use of the area for storage and light industrial use. Although only half of the current APE contained existing mid to late 20th century buildings and paved parking areas, the shovel test evaluation within the remainder of the APE produced widespread evidence of previous soil excavation and scraping. As a result, the APE was found to lack integrity and no further archaeological investigations were conducted.

Conclusions and Recommendations

In response to a request from McClurg Construction, LLC, Alliance Archaeological Services has completed a phase IA archaeological background and literature review and phase IB archaeological field reconnaissance of the proposed development at 8 Paul Street in the Village of Marcellus, Onondaga County, New York.

Although the cultural background review indicated that the APE had the potential to contain previously unidentified pre-contact and/or historic archaeological sites, no cultural materials or cultural features were identified during the phase IB field investigation. Instead, indications of widespread previous significant disturbance were identified. As a result, the current APE does not appear to have been the focus of any pre-contact or historic activities which could have left an archaeological trace. No further archaeological investigations appear warranted at this time and cultural resource clearance for the APE as documented in Figure 11 of this report is recommended.

This recommendation of cultural resource clearance is made with the understanding that if the APE boundaries should change, additional archaeological investigations may be required. In particular, if the alluvial floodplain soils to the east of the existing sewer line within the northeastern portion of the overall project area will be subject to ground-disturbance, deep subsurface testing may be required. As such, this recommendation is only valid for the APE boundaries as documented in this report (Figure 11). In addition, if construction within the narrow alluvial area at the base of the slope within northeastern portion of the APE will exceed the depth of previous disturbance related to the existing Village of Marcellus sewer line, additional archaeological investigations may be required. This recommendation of cultural resource clearance is also made with the understanding that if any archaeological materials, human remains or associated mortuary goods are uncovered during construction or earth-moving activities within the current APE, work within the area will immediately cease and the OPRHP will be notified.

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1900 Baldwinsville, New York quadrangle map. Department of the Interior.

1957 Baldwinsville, New York quadrangle map. Department of the Interior.

Appendix A: Photographs of the Project Area

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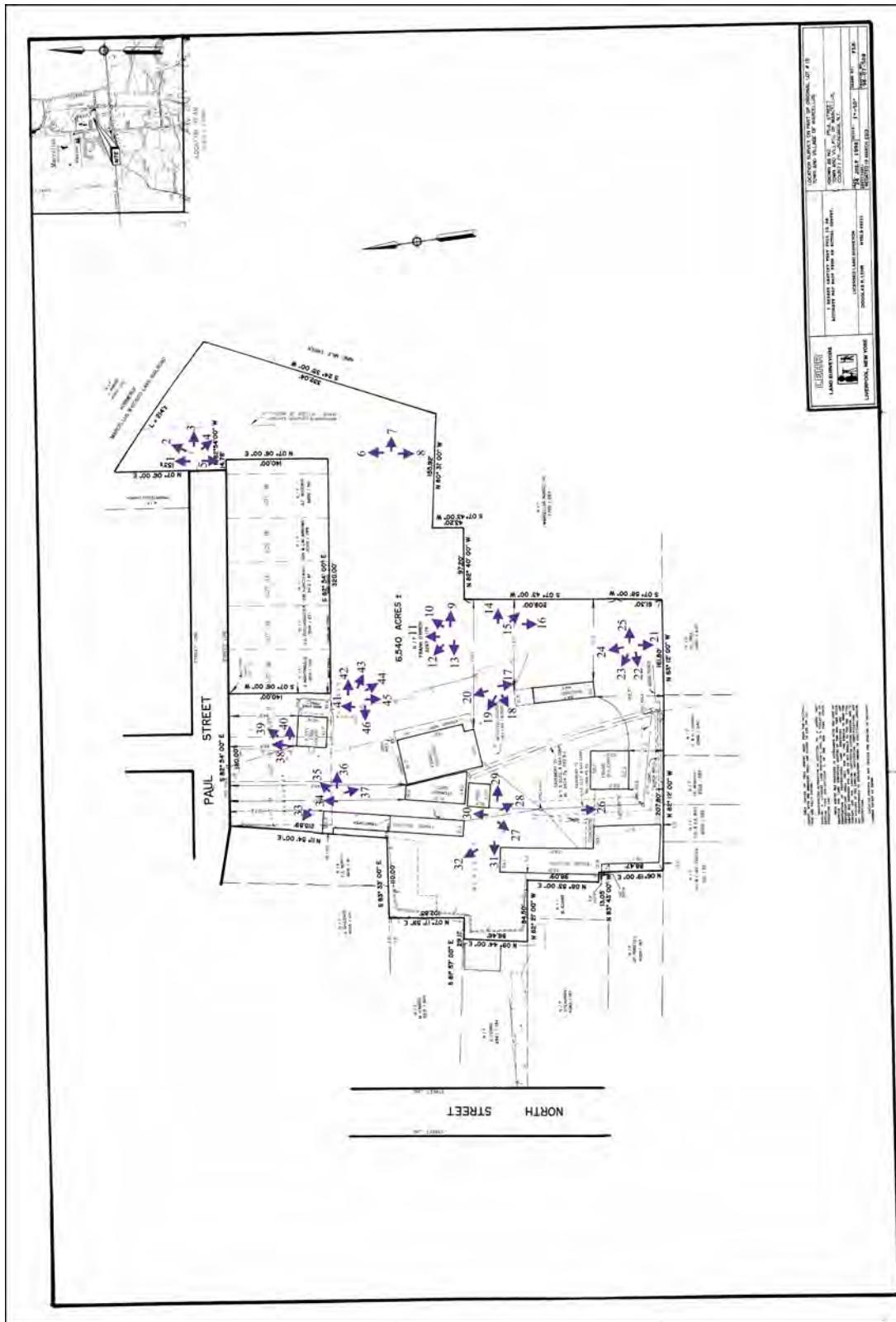


Figure 12. Location and orientation of all project photographs (Adapted from a base map provided by LEHR Land Surveyors).



Photograph 1. Looking north across the APE within the extreme northeastern overall project portion. The proposed construction area is within the slope.



Photograph 2. Looking northeast from the APE across the extreme northeastern overall project portion.



Photograph 3. Looking east from the APE within the extreme northeastern overall project portion towards the alluvial floodplain portion of the overall project area.



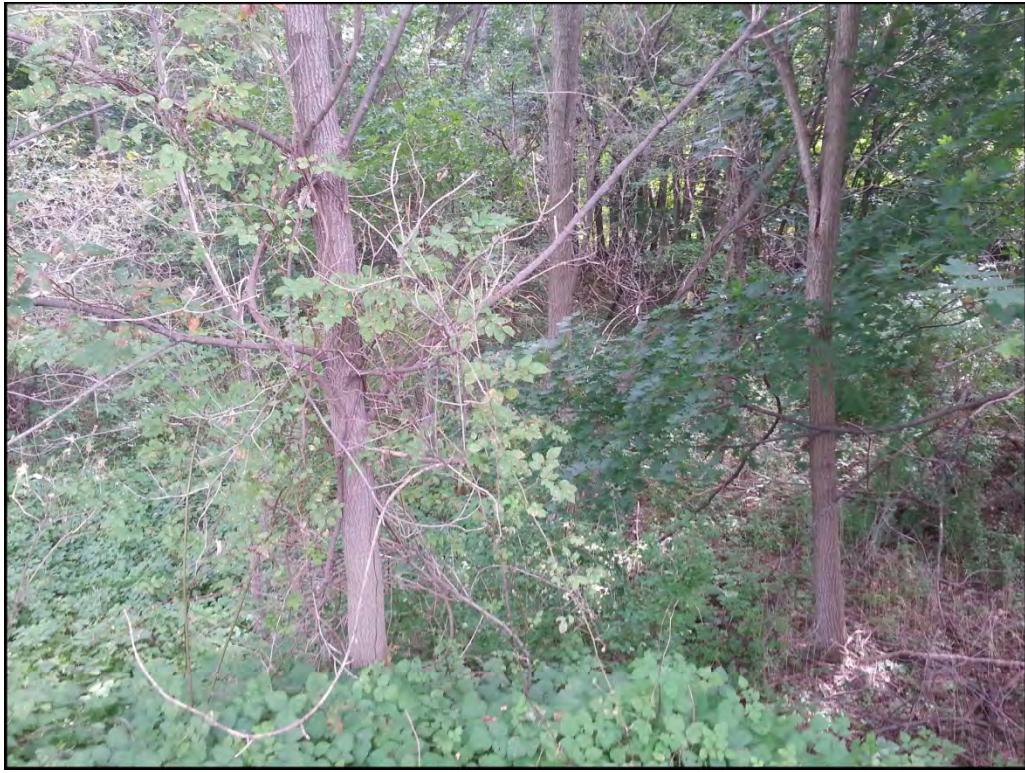
Photograph 4. Looking southeast from the APE across the extreme northeastern overall project portion.



Photograph 5. Looking south across the APE within the extreme northeastern overall project portion. The proposed construction area is within the slope.



Photograph 6. Looking north across the eastern border of the APE within the eastern overall project portion.



Photograph 7. Looking east from the eastern border of the APE across the overall eastern project portion.



Photograph 8. Looking south across the eastern border of the APE within the eastern overall project portion.



Photograph 9. Looking east across the scrub meadow within the eastern portion of the APE.



Photograph 10. Looking northeast across the scrub meadow within the eastern portion of the APE. The houses bordering Paul Street are in the background.



Photograph 11. Looking north across the scrub meadow within the eastern portion of the APE. The houses bordering Paul Street are in the background.



Photograph 12. Looking northwest towards the existing industrial complex within the western portion of the APE.



Photograph 13. Looking west from the scrub meadow towards the existing industrial complex.



Photograph 14. Looking east across the standing woodland towards the slope leading down to Nine Mile Creek.



Photograph 15. Looking southeast across the standing woodland along the slope leading down to Nine Mile Creek.



Photograph 16. Looking south across the standing woodland within the southeastern portion of the APE.



Photograph 17. Looking south along the eastern edge of the existing buildings within the southeastern APE.



Photograph 18. Looking west across the southern half of the existing industrial complex.



Photograph 19. Looking northwest at the building within the east-central portion of the existing industrial complex.



Photograph 20. Looking north across the border between the scrub meadow and the existing industrial complex.



Photograph 21. Looking south at the wood fence along the southern border of the APE.



Photograph 22. Looking west across the southern border of the APE. The wood fence and concrete block wall are along the border between the APE and the residences along Chrisler Street.



Photograph 23. Looking northwest at the southern portion of the existing industrial complex.



Photograph 24. Looking north along the eastern edge of the existing buildings within the southeastern APE.



Photograph 25. Looking east at the southeastern corner of the APE.



Photograph 26. Looking south between the buildings within the southern portion of the existing industrial complex.



Photograph 27. Looking southwest at the buildings within the southern portion of the existing industrial complex.



Photograph 28. Looking southeast at the buildings within the southern portion of the existing industrial complex.



Photograph 29. Looking east across the buildings within the central portion of the existing industrial complex.



Photograph 30. Looking north between the buildings within the central portion of the existing industrial complex.



Photograph 31. Looking west across the paved parking area within the west-central portion of the industrial complex. The stone wall is along the border between the current project area and the private residences to the west.



Photograph 32. Looking northwest across the paved area within the west-central portion of the industrial complex.



Photograph 33. Looking northwest across the northwest border of the APE towards the private residence.



Photograph 34. Looking north across the northern portion of the existing industrial complex.



Photograph 35. Looking northeast across the paved parking area towards the building within the northern portion of the existing industrial complex.



Photograph 36. Looking east towards the scrub meadow from the northern portion of the industrial complex.



Photograph 37. Looking south towards the buildings within the central portion of the existing industrial complex.



Photograph 38. Looking north across the small yard area to the south of Paul Street.



Photograph 39. Looking northeast across the small yard area to the south of Paul Street.



Photograph 40. Looking east across the small yard area to the south of Paul Street.



Photograph 41. Looking north along the northeast border of the overall project area and APE.



Photograph 42. Looking east across the northern border of the overall project area and APE at the scrub meadow.



Photograph 43. Looking southeast across the scrub meadow within the eastern portion of the APE.



Photograph 44. Looking southeast across the scrub meadow within the eastern portion of the APE.



Photograph 45. Looking south across the border between the scrub meadow and the existing industrial complex.



Photograph 46. Looking west from the scrub meadow across the northern portion of the existing industrial complex.

Appendix B: Shovel Test Pit Summary and Soil Profile Analysis

STP #	Depth (cm)	Soil Color	Soil Texture	Artifact Summary	Excavator(s)	Date
1	0-2	VDkBrn (10 YR 2/2)	VFSaLo	---	NAW/RAK	09/10/2014
	2-18	Ybrn (10 YR 5/4)	VFSaLo	---	NAW/RAK	09/10/2014
2	0-1	VDkBrn (10 YR 2/2)	VFSaLo	---	NAW/RAK	09/10/2014
	1-22	Brn (10 YR 4/3)	SaLo	---	NAW/RAK	09/10/2014
3	0-4	DkBBrn (10 YR 3/3)	SaLo	---	NAW/RAK	09/10/2014
	4-15	DkYBrn (10 YR 4/4)	SaLo	---	NAW/RAK	09/10/2014
4	0-6	DkBBrn (10 YR 3/3)	SaLo	---	NAW/RAK	09/10/2014
	6-14	Brn (10 YR 4/3)	SaLo	---	NAW/RAK	09/10/2014
5	0-6	DkBBrn (10 YR 3/3)	VFSaLo	---	NAW/RAK	09/10/2014
	6-21	Brn (10 YR 4/3)	VFSaLo	---	NAW/RAK	09/10/2014
6	0-4	DkBBrn (10 YR 3/3)	VFSaLo	---	NAW/RAK	09/10/2014
	4-15	Brn (10 YR 4/3)	FmVFSaLo	---	NAW/RAK	09/10/2014
7	0-1	DkYBrn (10 YR 3/4)	SiLo	---	NAW/RAK	09/10/2014
	1-14	DkYBrn (10 YR 4/4)	SiLo	---	NAW/RAK	09/10/2014
8	0-4	VDkGrBrn (10 YR 3/2)	VFSaLo	---	NAW/RAK	09/10/2014
	4-22	Brn (10 YR 4/3)	SaLo	---	NAW/RAK	09/10/2014
9	0-3	DkBBrn (10 YR 3/3)	SaLo	---	NAW/RAK	09/10/2014
	3-21	DkGrBrn (10 YR 4/2)	SaLo	---	NAW/RAK	09/10/2014
10	0-1	VDkGrBrn (10 YR 3/2)	SaLo	---	NAW/RAK	09/10/2014
	1-7	DkGrBrn (10 YR 4/2)	SaLo	---	NAW/RAK	09/10/2014
11	0-1	VDkGrBrn (10 YR 3/2)	SaLo	---	NAW/RAK	09/10/2014
	1-6	DkGrBrn (10 YR 4/2)	SaLo	---	NAW/RAK	09/10/2014
12	0-4	DkBBrn (10 YR 3/3)	SaLo	---	NAW/RAK	09/10/2014
	4-16	DkGrBrn (10 YR 4/2)	SaLo	---	NAW/RAK	09/10/2014
13	0-10	DkBBrn (10 YR 3/3)	SaLo	---	NAW/RAK	09/10/2014
	10-20	Brn (10 YR 4/3)	SaLo	---	NAW/RAK	09/10/2014
14	0-6	DkBBrn (10 YR 3/3)	SaLo	---	NAW/RAK	09/10/2014
	6-24	Brn (10 YR 4/3)	SaLo	---	NAW/RAK	09/10/2014
15	0-2	VDkGrBrn (10 YR 3/2)	SaLo	---	NAW/RAK	09/10/2014
	2-18	DkGrBrn (10 YR 4/2)	SaLo	---	NAW/RAK	09/10/2014
16	0-3	VDkGrBrn (10 YR 3/2)	SaLo	---	NAW/RAK	09/10/2014
	3-20	DkGrBrn (10 YR 4/2)	SaLo	---	NAW/RAK	09/10/2014
17	0-1	VDkBrn (10 YR 2/2)	SaLo	---	NAW/RAK	09/10/2014

STP #	Depth (cm)	Soil Color	Soil Texture	Artifact Summary	Excavator(s)	Date
18	1-10	DkGrBrn (10 YR 4/2)	SaLo	---	NAW/RAK	09/10/2014
	0-3	VDkBrn (10 YR 2/2)	SaLo	---		
	3-20	Brn (10 YR 4/3)	SaLo	---		
19	0-2	VDkBrn (10 YR 2/2)	SaLo	---	NAW/RAK	09/10/2014
	2-12	DkGrBrn (10 YR 4/2)	SaLo	---		
20	0-2	VDkGrBrn (10 YR 3/2)	SaLo	---	NAW/RAK	09/10/2014
	2-20	DkGrBrn (10 YR 4/2)	SaLo	---		
21	0-1	VDkBrn (10 YR 2/2)	SaLo	---	RAK	09/10/2014
	1-13	DkGrBrn (10 YR 4/2)	SaLo	---		
22	0-3	VDkGrBrn (10 YR 3/2)	SaLo	---	NAW	09/10/2014
	3-17	DkGrBrn (10 YR 4/2)	SaLo	---		
23	0-12	DkYBrn (10 YR 3/4)	SaLo	---	NAW	09/10/2014
	12-32	DkYBrn (10 YR 4/4)	SaLo	---		
24	0-9	DkBm (10 YR 3/3)	SaLo	---	RAK	09/10/2014
	9-21	DkYBrn (10 YR 4/4)	SaLo	---		
25	0-6	DkBm (10 YR 3/3)	SaLo	---	NAW	09/10/2014
	6-26	DkYBrn (10 YR 4/4)	SaLo	---		
26	0-8	DkBm (10 YR 3/3)	SaLo	---	RAK	09/10/2014
	8-25	DkYBrn (10 YR 4/4)	SaLo	---		
KEY		Brn-Brown Lo-Loam	Dk-Dark Sa-Sandy	F-Fine Si-Silt	Fm-Firm V-Very	Gr-Grayish Y-Yellowish