



## Yorktown A Solar Farm

### STORMWATER POLLUTION PREVENTION PLAN



Town of Yorktown  
Westchester County, New York  
October 26, 2020  
Revised: January 28, 2021

#### PREPARED FOR:

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# Stormwater Pollution Prevention Plan (SWPPP)

## YORKTOWN A SOLAR FARM – TOWN OF YORKTOWN

### INSTRUCTIONS TO OWNER/OPERATOR/OPERATOR'S ENGINEER AND CONTRACTORS

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#### **Responsibilities for Compliance with Storm Water Discharge Permit Regulations at Construction Sites**

##### Operator's Engineer's Responsibilities:

1. Prepare the SWPPP using good engineering practices, Best Management Practices, and in compliance with all federal, state and local permit requirements. This preparation shall also include providing a description of the Project as it relates to site ownership and development responsibilities. The Operator's Engineer shall also prepare the SWPPP Ledger for use in the implementation and documentation of the SWPPP at the Project during Construction Activities.
2. Prepare the NOI form for the Operator's signature and forward to Operator for signature; submit the signed form to the appropriate regulatory agency along with any required fees and attachments. SWPPP must be complete prior to NOI submittal.
3. Include a signed NOI in the SWPPP prepared for the Project.
4. Participate at the pre-construction meeting with Contractor and appropriate subcontractors, which should include a review with all parties of the requirements of the SWPPP, if requested by Operator.
5. Review Contractor's SWPPP records on a periodic basis to ensure compliance with requirements for reports and inspection and maintenance logs, if requested by Operator.
6. Certify to Operator the Contractor's compliance with SWPPP record keeping requirements, if requested by Operator.

##### Operator's Responsibilities:

1. Have an authorized corporate officer sign the NOI and SWPPP Certification Statement.
2. Schedule and conduct a SWPPP Pre-Construction Meeting with the Operator's Engineer, Contractor and appropriate subcontractors, which should include a review with all parties the requirements under the SWPPP.
3. Require the Contractor to implement fully the SWPPP prepared for the site by the Operator's Engineer.
4. Forward a copy of the original permit certificate received from the regulatory agency to the Owner (if different than the operator), the Municipality's Representative, the MS4 (if applicable and if different from the municipality), the Operator's Engineer and the Contractor for inclusion in the SWPPP Ledger and display at the Project.
5. Ensure (through periodic observations by Operator's Engineer) and document that the Contractor is implementing the controls, inspections, maintenance, record-keeping, and all other requirements of the SWPPP.
6. File an appropriately signed Notice of Termination ("NOT") form when site work construction is completed and stabilization is achieved in accordance with the General Permit.
7. Request and receive all SWPPP records from the Contractor and archive those records for a minimum of five (5) years after the NOT is filed.

**Contractor's Responsibilities:**

1. Sign the SWPPP Contractor's Certification Form in the SWPPP prepared for the Project (Appendix H).
2. Provide subcontractor training and require all subcontractors to sign the Subcontractor's Certification Form in the SWPPP prepared for the Project (Appendix I).
3. Identify a trained individual (i.e. *Trained Contractor*) who will be responsible for implementing the SWPPP and will be on-site during all soil disturbing activities.
4. Implement the Erosion and Sediment Control Plans, and other requirements of the SWPPP.
5. Provide *Trained Contractors*, and documentation of qualifications, for the controls implemented at the Project.
6. Conduct all necessary inspections at the required intervals and prepare and retain written documentation of those inspections and all other written documentation required by the Construction General Permit.
7. Keep a copy of the SWPPP, all NOI's, permit certificates, permit language, Materials Management Process (MMP), inspection records, and other required records on the Project.
8. Post in a prominent place at the Project entrance and inside the job trailer office wall those documents required to be posted under the terms of the Construction General Permit including, the NOI (Appendix D), Letter of Acknowledgement, etc.
9. Update and make changes to the SWPPP and supporting documents (such as the BMPs) as needed and with the approval of the Operator and the Operator's Engineer.
10. Prepare and sign a NOT form when site work construction is completed and stabilization is achieved in accordance with the General Permit.
11. Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, and written records required by the Construction General Permit to the Operator for archiving.

**Off-site borrow or fill locations**

The General Permit applies to construction activities involving soil disturbances of one (1) or more acres. This may require off-site borrow, fill, and material storage sites to be permitted under the NOI and covered by the SWPPP for the construction site, only if the off-site sites are used solely for that one project. If an off-site borrow or fill location or material storage site is operated by a subcontractor for more than one project, the Operator of this multi-use site must obtain a separate NOI. The multi-use site must be covered under its own Project Permit. A Construction General Permit from a state, local, or appropriate governmental agency may have different requirements relating to off-site borrow or excess (waste) locations. The Operator's Engineer must determine any applicable permit requirements for off-site borrow or excess (waste) locations. The requirements must be incorporated into the SWPPP, where applicable. If a separate General Permit coverage is required for these activities, a copy of the coverage must be provided in the SWPPP.



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# **Appendix A**

## **Written Storm Water Pollution Prevention Plan**



## I. SCOPE

### A. PURPOSE:

1. Development and proper implementation of the New York State Department of Environmental Conservation (NYSDEC), State Pollutant Discharge Elimination System (SPDES) Construction General Permit governing stormwater discharges during construction and the National Pollutant Discharge Elimination System (NPDES) Construction General Permit governing storm water discharges during construction, and in accordance with Erosion and Sediment Control practices is critical. The Contractor's participation in this program is mandatory and its non-compliance is subject to various remedies, including without limitation, monetary set-offs, withholding payments; reimbursement for costs, expenses (including reasonable attorney's fees), fines and civil penalties incurred by the Operator. This section provides a descriptive explanation of the Storm Water Pollution Prevention Program and required Contractor participation.

### B. SPDES CONSTRUCTION GENERAL PERMIT FOR STORM WATER DISCHARGE FROM CONSTRUCTION SITES:

1. Regulations promulgated by the NYSDEC to regulate the discharge of storm water from Construction Activity on sites where one (1) or more acre of soil is disturbed. One of the ways to comply with these regulations for affected sites is to request coverage under the SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001). In order to use the Construction General Permit, a Notice of Intent (NOI) form must be completed and mailed to the NYSDEC. Authorization to discharge stormwater under the General Permit will be effective when the owner or operator has satisfied all of the criteria listed in Part II, B of the SPDES General Permit for Construction Activity (GP-0-20-001).

### C. NOTICE OF INTENT:

1. The Operator will petition the NYSDEC for stormwater discharges during construction at this site to be covered by the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-20-001, following completion of this SWPPP. An NOI form will be filed by the Operator. Authorization to discharge stormwater from Construction Activities is effective five (5) or (60) calendar days after the NYSDEC receives the complete NOI.

### D. RESPONSIBILITIES OF CONTRACTOR REGARDING THE CONSTRUCTION GENERAL PERMIT:

1. The Contractor shall manage the discharge of stormwater from the site in accordance with the NYSDEC General Permit for Stormwater Discharges from Construction Activities and the following provisions:
  - a) The Contractor shall be responsible for conducting the Storm Water Management practices in accordance with the permit.
  - b) The Contractor shall be responsible for providing *Trained Contractors* (See GP-0-20-001 for definition) to conduct the inspections required by the SWPPP.
  - c) The Contractor shall be responsible for any enforcement action taken or imposed by federal, state, or local agencies, including the cost of fines, construction delays, and remedial actions resulting from the Contractor's failure to comply with the permit provisions.

**E. PRE-CONSTRUCTION MEETING:**

1. A Pre-Construction SWPPP Meeting shall be mandatory and occur before any land disturbing activities are started. The Certification and Training Program have been developed to stress the importance of the following topics:
  - a) Erosion and sediment control for water quality protection
  - b) Implementation of Erosion and Sediment Control Plans
  - c) The importance to proper installation of erosion and sediment control measures
  - d) Regular inspection by **Qualified Inspector** of erosion and sediment control measures
  - e) Diligent maintenance to erosion and sediment control measures
  - f) Contemporaneous preparation of accurate and complete records regarding inspection and maintenance of erosion and sediment control measures
  - g) Record-keeping for inspections and maintenance activities

**F. SWPPP CERTIFICATION REQUIREMENTS FOR THE CONTRACTOR AND SUBCONTRACTOR(S):**

1. The SWPPP shall provide forms for both the Contractor and Subcontractor(s) identifying the Company Name, Business Address and Telephone Number along with the Responsible Person for the Contractor and all Subcontractors who will implement the measures identified in the SWPPP. **The Contractor shall sign, the Contractor's Certification Statement (Appendix H) and all Subcontractors shall sign the Subcontractor's Certification Statement (Appendix I) verifying they have been instructed on how to comply with and fully understand the requirements of the NYSDEC and SWPPP. These certifications must be signed by a responsible corporate officer or other party meeting the "Signatory Requirements" in Part VII Section H & Part III.A.5. of the NYS DEC SPDES General Permit for Stormwater Runoff from Construction Activity (GP-0-20-001), on behalf of each entity, prior to the beginning of any Construction Activities and shall be filed in the Project's SWPPP.**

**G. SWPPP LOCATION REQUIREMENTS:**

1. The SWPPP Ledger is meant to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the Project, shall be readily available upon request by the Operator's personnel or NYSDEC or any other agency with regulatory authority over storm water issues, and shall be kept on-site until the site complies with the Final Stabilization section of this document. A copy of the General Permit (GP-0-20-001), NOI, NOI Acknowledgment Letter, SWPPP, and inspection reports shall be maintained at the construction site until all disturbed areas have achieved final stabilization and the Notice of Termination 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; that is accessible during normal working hours to an individual performing a compliance inspection.

**H. SWPPP:**

1. **A minimum of two (2) copies of the SWPPP, in three (3) ring binders shall be provided by the Operator's Engineer.** One (1) copy shall be provided for use by the General Contractor and one (1) copy shall be provided as an original.





- I. **INSPECTIONS AND RECORD-KEEPING:** Inspections are required per the General Permit GP-0-20-001 by a qualified inspector.
  1. **INSPECTOR QUALIFICATIONS:**
    - a) Inspections must be conducted by a "Qualified" Inspector. "Qualified" is defined as a person knowledgeable in the principles and practices of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the Construction Activity such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect. It also means that someone working under the direct supervision of a licensed Professional Engineer, or Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that an individual performing the site inspection has received four (4) hours of training, endorsed by the Department, from a Soil and Water Conservation District, CPESC, Inc. or other department endorsed entity in proper erosion and sediment control principles no later than two (2) years from the date of the current general permit issued. After receiving the initial training, an individual working under the direct supervision of a licensed Professional Engineer or licensed Landscape Architect shall receive four (4) hours of training every three (3) years. Inspections of post construction stormwater management practices that include structural components, such as a dam for impoundment, shall be performed by a licensed Professional Engineer.
  2. **RAINFALL MONITORING:**
    - a) A rain gage should be maintained on the site and a record of the rainfall amounts (in tenths of an inch) and dates shall be recorded every 24 hours on the Rain Log (Appendix P).
  3. **INSPECTOR RESPONSIBILITIES:**
    - a) The Qualified Inspector shall be trained in all the inspection and maintenance practices necessary for keeping the Erosion and Sediment Controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of Qualified Inspector training will be kept on site with the SWPPP.
  4. **INSPECTION PROCEDURES:**
    - a) Inspections must include all areas of the site disturbed by Construction Activities and areas used for storage of materials that are exposed to precipitation. Qualified Inspectors must look for evidence of, or the potential for, pollutants entering the storm water conveyance system. Erosion and Sediment Control measures identified in the SWPPP must be observed to ensure proper operation. Discharge locations must be inspected to ascertain whether Erosion and Sediment Control measures are effective in preventing significant impacts to Waters of the United States, where accessible. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of off-site tracking. The following inspection and maintenance practices will be used to maintain Erosion and Sediment Controls and stabilization measures:
      - (1) All control measures will be inspected at least at the frequency identified in this Section. The minimum inspection frequency shall be once every seven (7) calendar days.



- (2) All measures will be maintained in good working order; if repairs or other measures are found to be necessary, they will be initiated within 24 hours of report, and completed within 48 hours of report and documented with photos.
- (3) Built up sediment will be removed from silt fence when it has reached 25% of the height of the fence.
- (4) Silt fences will be inspected for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.
- (5) Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.
- (6) An Inspection Report (Appendix J) will be completed after each inspection. Copies of the report forms to be completed by the Qualified Inspector(s) are included in this SWPPP. These reports shall be provided to the Town of Macedon within 24 hours of completion.
- (7) The Contractor's Superintendent will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports.
- (8) Disturbed Areas and materials storage areas will be inspected for evidence of or potential for pollutants entering stormwater systems.
- (9) Report to U.S. Environmental Protection Agency, or NYSDEC within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within five (5) days of the noncompliance event. The following events require 24-hour reporting: a) any unanticipated bypass which exceeds any effluent limitation in the permit, b) any upset which exceeds any effluent limitation in the permit, and c) a violation of a maximum daily discharge limitation for any of the pollutants listed by the EPA in the permit to be reported within 24 hours. The written submission must contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.
- (10) Spills or Releases of Hazardous Substances or Oil in excess of reportable quantities (as established under 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302) must be reported.

**5. MONITORING:**

- a)** Contractor shall be required to inspect daily per GP-0-20-001, Part IV.B.1.

**6. THIRD PARTY INSPECTIONS:**

- a)** Where required or requested by the Operator, third party inspections by the design engineer shall be in addition to and shall not replace inspections by the Contractor (Qualified Inspector). The third-party inspector shall complete and sign any inspection report and include a copy of the report in the SWPPP following each inspection.

**7. RECORDKEEPING:**

- a)** It is imperative that documentation of the inspection and maintenance of all erosion and sediment control measures as soon as possible after the inspection and/or maintenance is completed. The inspection reports identify any incidents of non-compliance with the permit conditions. Where a report does not identify any incidents of non-compliance, the report must



contain a certification that the Project is in compliance with the SWPPP and the Construction General Permit or other applicable State Permit. The report must be signed in accordance with the General Permit (GP-0-20-001). These records are used to prove that the required inspection and maintenance were performed and shall be placed in the SWPPP Ledger. In addition to inspection and maintenance reports, records should be kept of the Construction Activities that occur on the site. The Contractor shall retain copies of the SWPPP, all reports and data for a minimum of **five (5) years** after the project is complete in paper and CD format.

The forms found in this SWPPP shall be used by the Qualified Inspector(s) and/or the *Trained Contractor* (as applicable) to inventory and report the condition of each measure to assist in maintaining the erosion and sediment control measures in good working order. The following list identifies the required Inspection and Maintenance documentation and record keeping that must be maintained by the Contractor under this SWPPP:

**Appendix J: Inspection Report**

**Appendix K: Stabilization Schedule**

**Appendix L: Implementation Schedule**

**Appendix M: Modification Report**

**Appendix N: Final Stabilization/Notice of Termination Checklist**

**Appendix O: Reportable Quantity Release Form**

**Appendix P: Project Rainfall Log**

These report forms shall become an integral part of the SWPPP and shall be made readily accessible to governmental inspection officials, the Operator's Engineer, and the Operator for review upon request during visits to the Project site. In addition, copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission. Inspection and maintenance report forms are to be maintained by the permittee for five years following the final stabilization of the site.

**8. OTHER RECORD KEEPING REQUIREMENTS:**

**a)** The Contractor shall keep the following records related to Construction Activities at the site:

- (1) Dates when major grading activities occur and the areas which were graded
- (2) Dates and details concerning the installation of structural controls
- (3) Dates when Construction Activities cease in an area
- (4) Dates when stabilization measures are initiated
- (5) Dates when an area is stabilized, either temporarily or permanently
- (6) Dates of rainfall and the amount of rainfall
- (7) Dates and descriptions of the character and amount of any spills of Hazardous Substances or Oil
- (8) Records of reports filed with regulatory agencies if reportable quantities of Hazardous Substances or Oil spilled



- J. SWPPP MODIFICATIONS:** The inspection report should also identify if any revisions to the SWPPP are warranted due to unexpected conditions. The SWPPP is meant to be a dynamic working guide that is to be kept current and amended whenever:
1. There is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to the Waters of the United States that has not been previously addressed in the SWPPP. In addition to modifying the SWPPP, the site map may also require an amendment.
  2. Inspections or investigations by site staff, or by local, state or federal officials, determine that the discharges the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site. Modifications that are the result of an inspection must be initiated within 24 hours and completed within 48 hours.
  3. Based on the results of an inspection, it must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection.
  4. There is a release containing a Hazardous Substance or Oil in an amount equal or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302 occurs during a 24-hour period. Revisions to the SWPPP must be completed within seven (7) calendar days of knowledge of the release.

Any such changes to the SWPPP must be made in writing on the Modification Report (Appendix M) within seven (7) days of the date such modification or amendment is made. Changes must also be drawn on the Progress Drawing.

- K. FINAL STABILIZATION AND TERMINATION OF PERMIT COVERAGE:** A site can be considered finally stabilized when all soil disturbing activities have been completed and:
1. A uniform perennial vegetative cover with a density of **80%** for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established.
  2. The facility no longer discharges storm water associated with Construction Activities.
  3. A Notice of Termination (NOT) form filed by the Operator(s) with the NYSDEC. The NOT must be submitted within thirty (30) days of final stabilization.

The Operator's Project Manager must provide a completed copy of the NOT to the Contractor for inclusion in the SWPPP. This filing terminates coverage under the Construction General Permit and terminates the Contractor's responsibility to implement the SWPPP, but the requirements of the SWPPP, including periodic inspections, must be continued until the NOT is filed. Upon achieving this milestone, the Contractor shall also submit "Final Stabilization Certification/Notice of Termination Checklist" (Appendix N).



## II. PROJECT NAME AND LOCATION

Yorktown A Solar Farm  
Town of Yorktown  
Westchester County  
73.859 W, 41.333 N

A general location map (Appendix B) with enough detail to identify the location of the construction site, direction of storm water flow, the receiving waters within one (1) mile of the site, surface waters and Wetlands, storm water discharge locations and other areas as required by *NYSDEC* is included in Appendix B.

## III. OPERATOR'S NAME AND ADDRESS

Con Edison Clean Energy Businesses, inc.  
Joe Shanahan  
100 Summit Lake Drive  
Valhalla, New York 10595

## IV. PROJECT DESCRIPTION

This SWPPP is for Yorktown A Solar Farm. The project is located within the Town of Yorktown, Westchester County, New York. The entire property is approximately 34.23± acres. The project consists of the installation of photovoltaic panels as well as the associated access road, electric utility upgrades, and perimeter fencing. This SWPPP addresses all the proposed work to be done at the new Yorktown A Solar Farm (Appendix C).

The total project disturbance area will not exceed 5.0 acres at any one time. The approximate start of construction is March, 2021 with an expected end of construction by June, 2021. General soil disturbing activities will include:

- Installation of solar racking
- Construction of entrance driveway
- Panel installation
- Trenching for wiring of panels
- Finalization of connection to the grid
- Vegetation clearing and grubbing
- Decompaction of construction driveway
- Construction of Limited use pervious gravel entrance driveway
- Final grading



**V. EXISTING SITE CONDITIONS**

The project site tributary area is approximately 17± acres. The topography of the project site ranges from elevations of 292 feet to 238 feet. The site has slopes ranging from 0.1% to 70.0%. The project site consists of mostly wooded areas, a wetland, and a stream. The site drains to existing on-site wetland and stream.

**VI. NAME OF RECEIVING WATERS**

The site discharges to an existing onsite stream (Mohegan Outlet) and wetland.

**VII. DESCRIPTION OF SOILS**

Soil Types within the Subject Area

Symbol	Soil Name	Hydrologic Soil Group
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	B
ChE	Charlton loam, 25 to 35 percent slopes	B
SuB	Sutton loam, 3 to 8 percent slopes	B/D
LeB	Leicester loam, 2 to 8 percent slopes	A/D
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	C

More information pertaining soils can be found in the Soil Map included in Appendix B section of this report.





**VIII. EROSION AND SEDIMENT CONTROLS**

- A. The project will utilize temporary and permanent erosion and sediment control practices to prevent sediment from leaving the project area. A list of the practices anticipated are as follows:

<b>Temporary Structural</b>					
	<b>BMP</b>	<b>Notes</b>		<b>BMP</b>	<b>Notes</b>
<input type="checkbox"/>	Check Dams		<input type="checkbox"/>	Sediment Traps	
<input type="checkbox"/>	Construction Road Stabilization		<input checked="" type="checkbox"/>	Silt Fence	
<input type="checkbox"/>	Dust Control		<input checked="" type="checkbox"/>	Stabilized Construction Entrance	
<input type="checkbox"/>	Earth Dike		<input type="checkbox"/>	Storm Drain Inlet Protection	
<input type="checkbox"/>	Level Spreader		<input type="checkbox"/>	Straw/Hay Bale Dike	
<input type="checkbox"/>	Perimeter Dike/Swale		<input type="checkbox"/>	Temporary Access Waterway Crossing	
<input type="checkbox"/>	Pipe Slope Drain		<input type="checkbox"/>	Temporary Stormdrain Diversion	
<input type="checkbox"/>	Portable Sediment Tank		<input type="checkbox"/>	Temporary Swale	
<input type="checkbox"/>	Rock Dam		<input type="checkbox"/>	Turbidity Curtain	
<input type="checkbox"/>	Sediment Basin		<input type="checkbox"/>	Water Bars	
<b>Vegetative Measures</b>					
	<b>BMP</b>	<b>Notes</b>		<b>BMP</b>	<b>Notes</b>
<input type="checkbox"/>	Brush Matting		<input type="checkbox"/>	Sodding	
<input type="checkbox"/>	Dune Stabilization		<input type="checkbox"/>	Straw/Hay Bale Dike	
<input type="checkbox"/>	Grassed Waterway		<input type="checkbox"/>	Streambank protection	
<input checked="" type="checkbox"/>	Mulching		<input type="checkbox"/>	Temporary Swale	
<input type="checkbox"/>	Protecting Vegetation		<input type="checkbox"/>	Topsoiling	
<input type="checkbox"/>	Recreation Area Improvement		<input type="checkbox"/>	Vegetative Waterways	
<input checked="" type="checkbox"/>	Seeding		<input type="checkbox"/>	Other	
<b>Biotechnical</b>					
<input type="checkbox"/>	Brush Matting		<input type="checkbox"/>	Wattling	



Permanent Structural					
	BMP	Notes		BMP	Notes
<input type="checkbox"/>	Debris Basin		<input type="checkbox"/>	Riprap Slope Protection	
<input type="checkbox"/>	Diversion		<input type="checkbox"/>	Rock Outlet Protection	
<input type="checkbox"/>	Grade Stabilization Structure		<input type="checkbox"/>	Streambank Protection	
<input checked="" type="checkbox"/>	Land Grading		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Lined Waterway (Rock)		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Paved Channel		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Paved Flume		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Retaining Wall		<input type="checkbox"/>	Other	

**B. Sequence of Major Construction Activities**

The Contractor will be responsible for implementing the following Erosion and Sediment Control and Storm Water Management control measures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor. The order of activities will be as follows (refer to the Erosion and Sediment Control / SWPPP Plan Sheet C001):

Construction Sequence

1. Pre-construction meeting held to include project manager, operator's engineer, town representative, contractor, and sub-contractors prior to land disturbing activities.
2. Construct construction entrance/exit at locations designated on plans.
3. Install perimeter silt fence.
4. Have a qualified professional conduct an assessment of the site prior to the commencement of construction.
5. Begin clearing and grubbing operations. Clearing and grubbing operations shall be done only in areas where earth work will be performed and only in areas where construction is planned to commence within fourteen (14) days after clearing and grubbing.
6. Construct gravel driveway to be used during construction.
7. Strip topsoil and stockpile in a location acceptable to construction manager. When stockpile is complete, install a perimeter silt sock, seed surface with 100% perennial ryegrass mixture at a rate of 2-4 lbs. per 1000 square feet. Apply 90-100 lbs. per 1,000 square feet of mulch.
8. Commence earthwork cut and fills. The work shall be progressed to allow a reasonable transfer of cut and fill earth for rough grading and earth moving. The contractor will be given some latitude to vary from the following schedule in order to meet the field conditions encountered. Contractor shall review variations to SWPPP with Design Engineer and qualified professional prior to implementation.





9. Remove the construction gravel driveway and construct the proposed pervious gravel driveway after construction activities such as the installation of the panels and perimeter fence. The sub-grade material where the driveway is to be installed shall be decompacted per NYSDEC'S "Deep-Ripping and Decompaction" manual, dated April 2008. Contractor shall avoid frequent heavy traffic on the Limited Use Pervious Pavement.
10. As roadway and access drives are brought to grade, they will be stabilized with crushed stone subbase at a depth specified on plans to prevent erosion as soon as practicable.
11. Stabilize all areas as soon as practicable, idle in excess of seven (7) days and in which construction will not commence within fourteen (14) days.
12. Install utilities. Trench excavation/backfill areas should be stabilized progressively at the end of each workday with seed and straw mulch at a rate of 100% perennial ryegrass at 2-4 lbs. per 1,000 square feet mulched at 90-100 lbs. per 1000 square feet.
13. Stabilize all areas idle in excess of seven (7) days in which construction will not commence within fourteen (14) day
14. Remove temporary construction exits and perimeter silt sock once site has achieved 80% uniform stabilization.

#### C. Storm Water Management

Con Edison Clean Energy Businesses, Inc. will be responsible for all maintenance of the stormwater management facilities associated with the project.

The amount of stormwater leaving the site will be restricted to pre-development rates for the 1-year, 10-year (Overbank Flood) and 100-year (Extreme Storm), 24 hour storm events with a Type II rainfall distribution. The Volume of water being detained will be a function of the increased runoff. Detailed information related to the proposed stormwater management facilities is included in the Stormwater Management Report (Appendix R).

Due to the use of the NYSDEC Approved Limited Use Pervious Gravel, the concrete pads constitutes the only impervious addition to the site. A Bio-Retention basin is proposed to treat stormwater runoff from the concrete pads. Detailed information related to the proposed stormwater management facilities is included in the Stormwater Management Report (Appendix R)

#### D. Post Construction Stormwater BMP Operation and Maintenance Plan

An Operations and Maintenance Plan is included to address the inspection, operation and maintenance of all post construction BMPs identified in this plan. The contractor is responsible for proper installation, maintenance and functioning of all the best management practices shown on the drawings until after stabilization is achieved. A copy of the Post Construction Stormwater BMP Operations and Maintenance Plan is included in Appendix T of this document.



## IX. OTHER CONTROLS

### A. Off-Site Vehicle Tracking

1. Dump trucks hauling material from the construction site will be covered with a tarpaulin. The job Contractor's Superintendent will be responsible for seeing that these procedures are followed.
2. Rock construction entrance to be installed as site conditions warrant or at the request of the engineer or inspector.

### B. Excavation Spoil Materials

1. Excavation spoil materials may be generated during excavations including, but not limited to roadway and utilities installation. These materials must be properly managed to prevent them from contributing to storm water discharges. The materials generated from the development of this Project will be managed by the following method: Stockpiled on-site, the general site contractor to specify location and provide erosion control for excavated spoil materials or the material shall be hauled off-site and disposed of in an appropriate manner.

### C. Dust Control

1. Minimizing wind erosion and controlling dust will be accomplished by one or more of the following methods
  - a) Covering 30% or more of the soil surface with a non-erodible material.
  - b) Roughening the soil to produce ridges perpendicular to the prevailing wind. Ridges should be about six (6) inches in height.
  - c) Frequent watering of excavation and fill areas.
  - d) Providing gravel or paving at entrance/exit drives, parking areas and transit paths.

### D. Equipment Service Area

1. The Contractor shall identify an area on the Erosion and Sediment Control Plan for equipment cleaning, maintenance and repair. This area shall be protected by a temporary perimeter berm preventing all surface runoff from leaving the area, or equivalent measure, and shall be located no closer than 100' from any Waters of the United States or state, and shall be located no closer than 50' from any storm inlet. External washing of trucks and other construction vehicles must be confined to this area. No engine degreasing or asphalt equipment or tool washing is permitted.

### E. Material Stockpiles

1. Stormwater runoff to and from material stockpiles shall be controlled to prevent materials from creating a diversion of surface water to disturbed soils or from entering the surface water. Topsoil stockpiles shall be surrounded with perimeter sediment control measures such as silt fence and be covered with non-erosive material as soon as practicable but no longer than 14 days after completion of the pile. Non-erosive material may include temporary seeding with straw mulch and tackifier, mulch, or other material providing suitable cover.

### F. Masonry Mixing Area

1. Non-stormwater discharges into storm drainage systems or waterways containing slurries from concrete or mortar mixing operations shall not be permitted. Masonry mixing areas shall be located a minimum distance of 100 linear feet from drainage ways, inlets and surface waters and all storm water runoff from these areas shall be contained by a berm or other measures. Run-on water to these areas will be diverted to prevent mixing of clean water and water contaminated with concrete slurry.



**X. COMPLIANCE WITH OTHER STATE AND LOCAL REGULATIONS**

- A.** At a minimum, the Contractor will obtain copies of any and all local and state regulations which are applicable to Storm Water Management, Erosion and Sediment Control, and pollution minimization at this Project and will comply fully with such regulations. The Contractor will submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. The Contractor will comply with all conditions of the *NYSDEC* General Permit for Stormwater Discharges from Construction Activities including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the Project and allowing regulatory personnel access to the Project and to records in order to determine compliance. The Contractor shall also comply with any additional or more stringent requirements imposed by the permit issued by an approved state storm water program, or with permits issued, or requirements imposed by the Town to which the Project discharges storm water. Requirements with which the Contractor must comply include installation of post-construction measures required by the State, County, or City.

**XI. MATERIALS MANAGEMENT PLAN**

**A.** Progress Drawing

- 1.** A Progress Drawing consisting of a print of the Erosion and Sediment Control Plans shall be posted inside the job trailer wall. The Progress Drawing will be used to record the locations of the Job Trailer, Sanitary Waste Facilities, Solid Waste Facilities, Fuel Storage Area, Equipment Service Area, and Concrete Washout Pit. Any time any of these facilities are relocated on the site, a new location will be noted on the Progress Drawing and a Modification Report (Appendix M) will be prepared.

**B.** Materials Covered

- 1.** The following materials or substances are expected to be present onsite during construction:

Concrete/Additives/Wastes	Cleaning solvents
Detergents	Petroleum based products
Paints/Solvents	Pesticides
Acids	Fertilizers
Solid and construction wastes	Sanitary wastes
Soil stabilization additives	

**C.** Materials Management Practices

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. The Contractor’s Superintendent will be responsible for ensuring that these procedures are followed:

**1.** Good Housekeeping

The following good housekeeping practices will be followed onsite during construction:

- a)** An effort will be made to store only enough products required to do the job.
- b)** All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or in a containment area. At a minimum, all containers will be stored with their lids on when not in use. Drip pans shall be provided under all dispensers.
- c)** Products will be kept in their original containers with the original manufacturer’s label in legible condition.



- d)** Substances will not be mixed with one another unless recommended by the manufacturer.
- e)** Whenever possible, all of a product will be used up before disposing of the container.
- f)** Manufacturer's recommendations for proper use and disposal will be followed.
- g)** The Contractor's Superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

## **2. Hazardous Substances**

These practices will be used to reduce the risks associated with Hazardous Substances. Safety Data Sheets (SDS's) for each product with hazardous properties that is used at the Project will be obtained and used for the proper management of potential wastes that may result from these products. An SDS will be posted in the immediate area where such product is stored and/or used and another copy of each SDS will be maintained in the job trailer at the Project. Each employee who must handle a Hazardous Substance will be instructed on the use of SDS sheets and the specific information in the applicable SDS for the product he/she is using, particularly regarding spill control techniques.

- a)** Products will be kept in original containers with the original labels in legible condition.
- b)** Original labels and SDS's will be procured and used for each product.
- c)** If surplus product must be disposed manufacturer's and local/state/federal required methods for proper disposal must be followed.

## **3. Hazardous Waste**

It is imperative that all Hazardous Waste be properly identified and handled in accordance with all applicable Hazardous Waste Standards, including the storage, transport and disposal of the Hazardous Wastes. There are significant penalties for the improper handling of Hazardous Wastes. It is important that the Site Superintendent seeks appropriate assistance in making the determination of whether a substance or material is a Hazardous Waste. For example, Hazardous Waste may include certain Hazardous Substances, as well as pesticides, paints, paint solvents, cleaning solvents, pesticides, contaminated soils, and other materials, substances or chemicals that have been discarded (or are to be discarded) as being out-of-date, contaminated, or otherwise unusable, and can include the containers for those substances; other materials and substances can also be or become Hazardous Wastes, however. The Contractor's Superintendent is also responsible for ensuring that all site personnel are instructed as to these Hazardous Waste requirements and also that the requirements are being followed.

## **4. Product Specific Practices**

The following product specific practices will be followed on the job site:

### **a) Petroleum Products**

- (1) All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Petroleum storage tanks shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters. Maximum total aggregate above ground storage capacity (for the total permit area) shall not exceed 1,320 gallons (which includes both bulk and equipment operational storage volumes in fuel tanks 55 gallons and greater). Total aggregate petroleum storage exceeding 1,320 gallons shall require preparation, certification (using a Professional Engineer or providing a Self-Certified SPCC Plan if applicable) and implementation of a Spill Prevention Control and Countermeasures



(SPCC) Plan. The SPCC Plan must be prepared and fully implemented prior to the commencement of work. The SPCC Plan, if needed, will be furnished by the Contractor. Any petroleum storage tanks stored onsite will be located within a containment area that is designed with an impervious surface between the tank and the ground. The secondary containment must be designed to provide a containment volume that is equal to 110% of the volume of the largest tank. Any mobile petroleum tank shall be parked in a vehicular service area surrounded by a berm that provides a containment volume that is equal to 110% of the volume of the largest tank. Containment must provide sufficient volume to contain expected precipitation and 110% volume of the largest tank. Accumulated rainwater or spills from containment areas are to be promptly pumped into a containment device and disposed of properly by a licensed Hazardous Waste transporter. Drip pans shall be provided for all dispensers. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations. The location of any fuel tanks and/or equipment storage areas must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.

**b) Fertilizers**

- (1) Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

**c) Paints, Paint Solvents, and Cleaning Solvents**

- (1) All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

**d) Concrete Wastes**

- (1) Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in specifically designated diked and impervious washouts which have been prepared to prevent contact between the concrete wash and storm water. Waste generated from concrete wash water shall not be allowed to flow into drainage ways, inlets, receiving waters or highway right of ways, or any location other than the designated concrete washout. Waste concrete may be poured into forms to make riprap or other useful concrete products. Proper signage designating the "Concrete Washout" shall be placed near the facility. Concrete Washouts shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters.
- (2) The hardened residue from the concrete wash out areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the Contractor. Maintenance of the washout is to include removal of hardened concrete. The Facility shall have sufficient volume to contain all the concrete waste resulting from washout and a minimum freeboard of 12 inches. Facility shall not be filled beyond 95% capacity and shall be cleaned out once 75% full unless a new facility is constructed. The Contractor's Superintendent will be responsible for seeing that these procedures are followed.
- (3) Saw-cut Portland Cement Concrete (PCC) slurry shall not be allowed to enter storm drains or Watercourses. Saw-cut residue should not be left on the surface of pavement or be allowed



to flow over and off pavement. Residue from saw-cutting and grinding shall be collected by vacuum and disposed of in the concrete washout facility.

- (4) **The Project may require the use of multiple concrete wash out areas.** These concrete wash out areas are to be made available to all trades and subcontractors working on the Project. The Contractor may designate certain wash out areas for particular trades or subcontractors, but the Contractor is responsible for the management of all concrete washout areas on the Project. All concrete wash out areas will be located in an area where the likelihood of the area contributing to storm water discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to storm water discharges. The location of concrete wash out area(s) must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.

**e) Solid and Construction Wastes**

- (1) All waste materials will be collected and stored in an appropriately covered container and/or securely contained metal dumpster rented from a local waste management company which must be a licensed solid waste management company. The dumpster will comply with all local and state solid waste management regulations.
- (2) All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of once per week or more often if necessary. Once building construction has commenced, the dumpster will be emptied a minimum of once per week or when 95% full, or more often if necessary, to prevent over-flow and the trash will be hauled to a landfill. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal.
- (3) All waste dumpsters and roll-off containers will be located in an area where the likelihood of the containers contributing to storm water discharges is negligible. Solid waste containers shall be located no less than 50 feet from any storm inlet, drainage way, or surface water. If required, additional BMPs must be implemented, such as gravel bags, wattles, dikes, berms, and fences around the base to prevent wastes from contributing to storm water discharges. The location of waste dumpsters and roll-off containers must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.

**f) Sanitary Wastes**

- (1) A minimum of one portable sanitary unit will be provided for every ten (10) workers on the site. All sanitary waste will be collected from the portable units a minimum of one time per week by a licensed portable facility provider in complete compliance with local and state regulations.
- (2) All sanitary waste units will be located in an area where the likelihood of the unit contributing to storm water discharges is negligible. Additional containment BMPs must be implemented, such as gravel bags or specially designed plastic skid containers around the base, to prevent wastes from contributing to storm water discharges. The location of sanitary waste units must be identified on the PROGRESS DRAWING by the contractor once the locations have been determined.

**g) Contaminated Soils**

- (1) Any contaminated soils (resulting from spills of Hazardous Substances or Oil or discovered during the course of construction) which may result from Construction Activities will be contained and cleaned up in accordance with applicable state and federal regulations.



Contaminated soils not resulting from Construction Activities, or which pre-existed Construction Activities, but which are discovered by virtue of Construction Activities, should be reported in the same manner as spills, but with sufficient information to indicate that the discovery of an existing condition is being reported. If there is a release that occurs by virtue of the discovery of existing contamination, this should be reported as a spill, if it otherwise meets the requirements for a reportable spill.

#### D. Spill Prevention and Response Procedures

The Contractor will train all personnel in the proper handling and cleanup of spilled Hazardous Substances or Oil. No spilled Hazardous Substances or Oil will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the Contractor's Superintendent to be properly trained, and to train all personnel in spill prevention and clean up procedures.

1. In order to prevent or minimize the potential for a spill of Hazardous Substances or Oil to come into contact with storm water, the following steps will be implemented:
  - a) All Hazardous Substances or Oil (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use.
  - b) The minimum practical quantity of all such materials will be kept at the Project.
  - c) A spill control and containment kit (containing, for example, absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.
  - d) Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
  - e) It is the Contractors responsibility to ensure that all Hazardous Waste discovered or generated at the Project site is disposed of properly by a licensed hazardous material disposal company. The Contractor is responsible for not exceeding Hazardous Waste storage requirements mandated by the EPA or state and local authority.
2. In the event of a spill of Hazardous Substances or Oil, the following procedures must be followed:
  - a) **All measures must be taken to contain and abate the spill and to prevent the discharge of the Hazardous Substance or Oil to storm water or off-site. (The spill area must be kept well ventilated and personnel must wear appropriate protective clothing to prevent injury from contact with the Hazardous Substances.**
  - b) **If the release is equal to or in excess of a reportable quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The SWPPP must identify measures to prevent the recurrence of such releases and to respond to such releases. The form in Appendix O must be completed in accordance with this requirement.**



## **XII. CONTROL OF NON-STORM WATER DISCHARGES**

- A.** Certain types of discharges are allowable under the NYSDEC General Permit for Stormwater Discharges from Construction Activities, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined previously in this SWPPP will be strictly followed to ensure that no contamination of these non-storm water discharges takes place. The following non-storm water discharges are allowed by the NYSDEC and may occur at the Project:
1. Discharges from fire-fighting activities;
  2. Fire hydrant flushings;
  3. Waters used to wash vehicles where detergents are not used;
  4. Water used to control dust;
  5. Potable water including uncontaminated water line flushings;
  6. Routine external building wash down that does not use detergents;
  7. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
  8. Uncontaminated air conditioning or compressor condensate;
  9. Uncontaminated ground water or spring water;
  10. Foundation or footing drains where flows are not contaminated with process materials such as solvents;
  11. Uncontaminated excavation dewatering;
  12. Landscape irrigation

## **XIII. HISTORICAL PROPERTIES**

- A.** A review of potential adverse impact to cultural, historic and archaeological resources was conducted. The Project area was determined to be Archeologically sensitive. The New York State Historic Preservation Office response letter can be found in Appendix S.

## **XIV. INDUSTRIAL ACTIVITIES**

- A.** There are no discharges planned from industrial activities as part of this project.

## **XV. ENHANCED PHOSPHORUS REMOVAL STANDARDS**

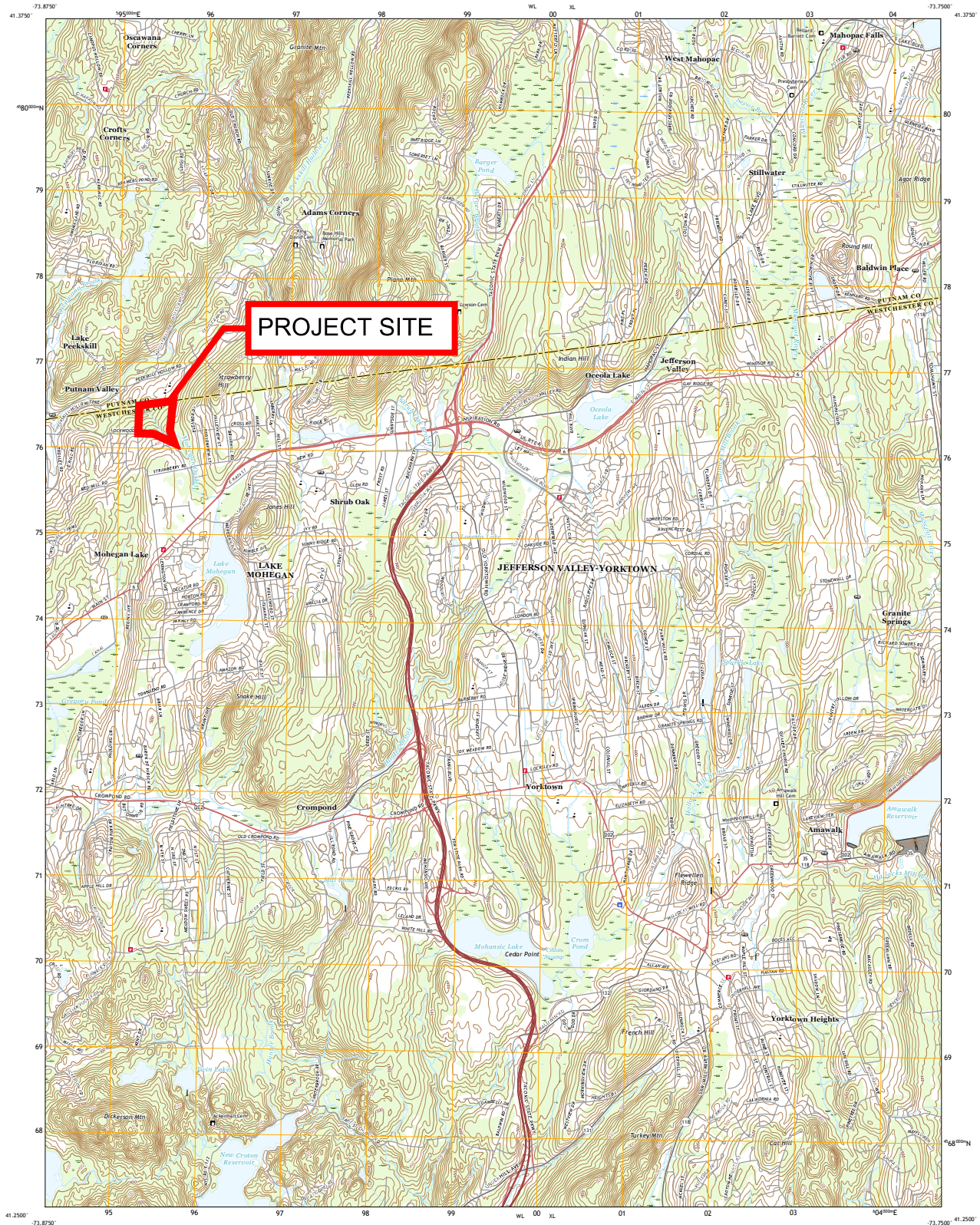
- A.** This project is not required to provide enhanced phosphorus removal practices





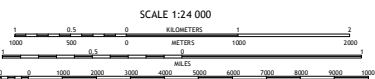
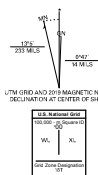
# **Appendix B**

## **Site and Soils Mapping**



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection and  
1 000-meter grid (Universal Transverse Mercator, Zone 18T)  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within government  
reservations may not be shown. Obtain permission before  
entering private lands.

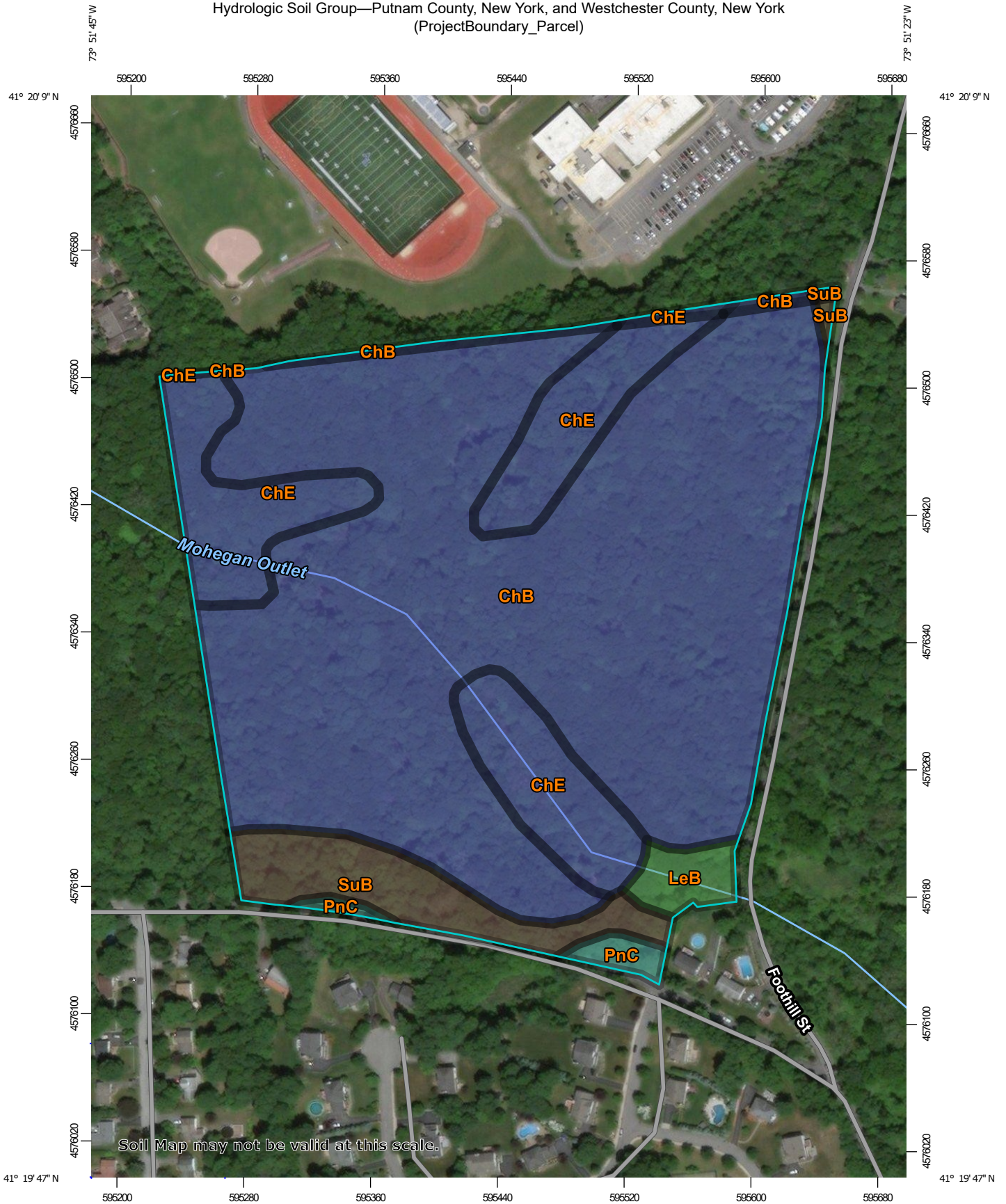
Imagery:.....MAP August 2017 December 2017  
Roads:.....U.S. Census Bureau 2016  
Names:.....U.S. Census Bureau 2016  
Hydrography:.....National Hydrography Dataset, 2002 2016  
Contours:.....National Elevation Dataset, 1999  
Boundaries:.....Multiple sources; see metadata file 2017 2018  
Wetlands:.....FWS National Wetlands Inventory 1990 - 2011



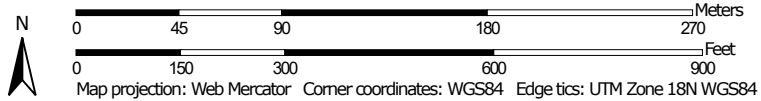
CONTOUR INTERVAL 20 FEET  
NORTH AMERICAN DATUM OF 1983  
This map was produced in conformance with the  
National Geospatial Program US Topo Product Standard, 2011.  
A metadata file associated with this product is draft version 0.6.18



Hydrologic Soil Group—Putnam County, New York, and Westchester County, New York  
(ProjectBoundary\_Parcel)



Map Scale: 1:3,310 if printed on A portrait (8.5" x 11") sheet.



## MAP LEGEND

### Area of Interest (AOI)









 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons





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

#### Soil Rating Lines

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

#### Soil Rating Points

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:12,000 to 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Putnam County, New York  
 Survey Area Data: Version 17, Jun 11, 2020

Soil Survey Area: Westchester County, New York  
 Survey Area Data: Version 16, Jun 11, 2020

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

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

## MAP LEGEND

## MAP INFORMATION

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

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	B	0.2	0.6%
ChE	Charlton loam, 25 to 35 percent slopes	B	0.1	0.3%
SuB	Sutton loam, 3 to 8 percent slopes	B/D	0.0	0.1%
<b>Subtotals for Soil Survey Area</b>			<b>0.3</b>	<b>0.9%</b>
<b>Totals for Area of Interest</b>			<b>34.3</b>	<b>100.0%</b>

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	B	24.9	72.7%
ChE	Charlton loam, 25 to 35 percent slopes	B	5.8	16.9%
LeB	Leicester loam, 2 to 8 percent slopes, very stony	A/D	0.6	1.8%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	C	0.4	1.1%
SuB	Sutton loam, 3 to 8 percent slopes	B/D	2.2	6.6%
<b>Subtotals for Soil Survey Area</b>			<b>33.9</b>	<b>99.1%</b>
<b>Totals for Area of Interest</b>			<b>34.3</b>	<b>100.0%</b>

## 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



# **Appendix C**

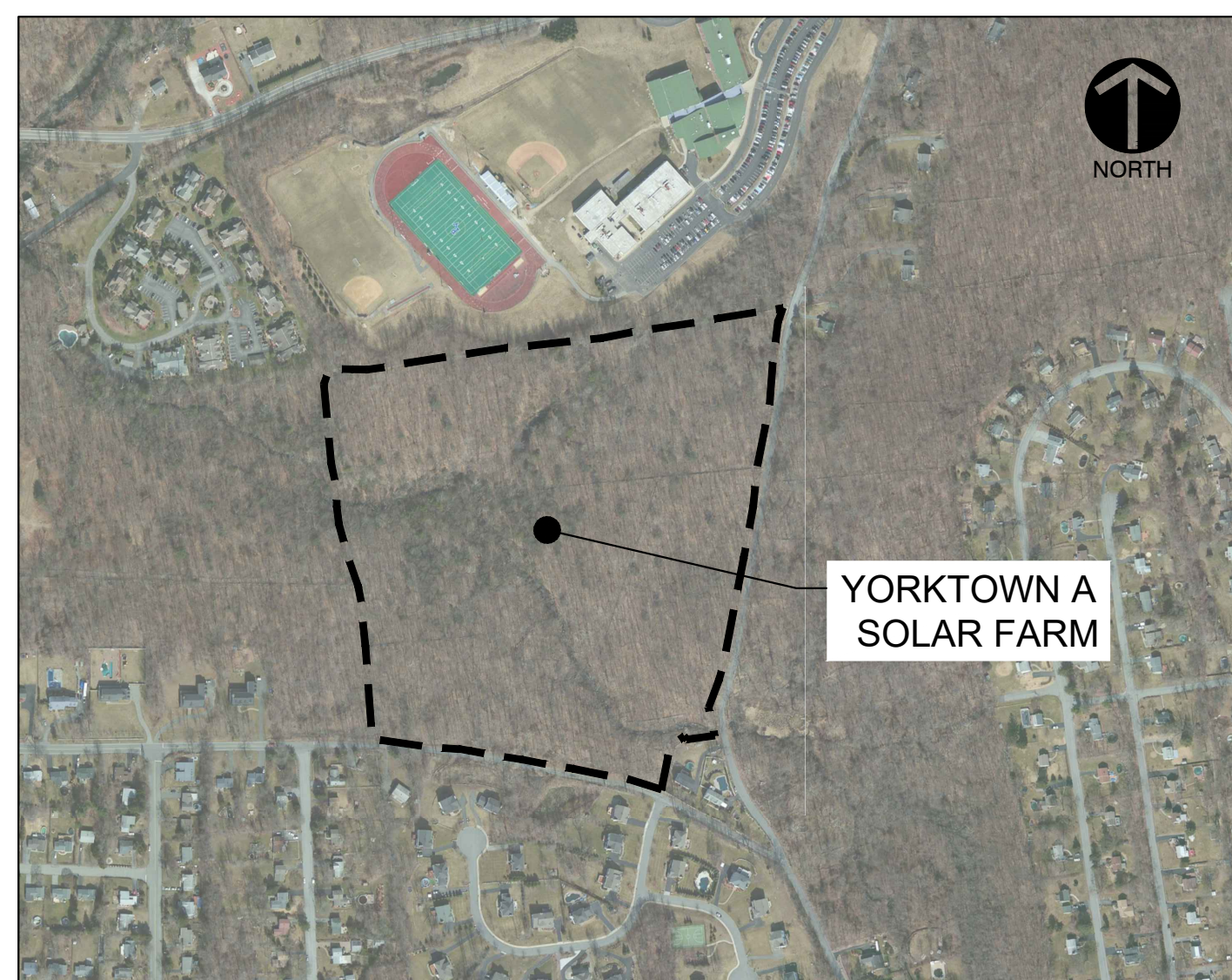
## **Erosion and Sedimentation Control Plan(s) and Details**



CON EDISON CLEAN ENERGY BUSINESSES, INC.

# YORKTOWN A SOLAR FARM SITE PLANS

FOOTHILL STREET  
TOWN OF YORKTOWN



**LOCATION MAP**  
1"=500'

SHEET INDEX			
C000	SHEET 1 OF	12	COVER SHEET
C001	SHEET 2 OF	12	OVERALL SITE PLAN
C002	SHEET 3 OF	12	SITE PLAN
C003	SHEET 4 OF	12	GRADING / SWPPP PLAN
C004	SHEET 5 OF	12	DETAILED GRADING PLAN
C005	SHEET 6 OF	12	DRIVEWAY DETAILS
C006	SHEET 7 OF	12	LANDSCAPING & PLANTING FOR MITIGATION PLAN
C007	SHEET 8 OF	12	GENERAL NOTES
C008	SHEET 9 OF	12	EROSION & SEDIMENT CONTROL DETAILS
C009	SHEET 10 OF	12	EROSION & SEDIMENT CONTROL DETAILS
C010	SHEET 11 OF	12	SITE DETAILS
C011	SHEET 12 OF	12	CONSTRUCTION DETAILS

**PROJECT INFORMATION:**

LATITUDE: 41.333 N  
 LONGITUDE: 73.859 W  
 TOWN: YORKTOWN  
 COUNTY: WESTCHESTER  
 STATE: NEW YORK

**PROJECT OWNER/APPLICANT:**

**CON EDISON CLEAN ENERGY BUSINESSES, INC.**  
 100 SUMMIT LAKE DRIVE  
 VALHALLA, NY 10595  
 PH: (973) 600-4328  
 CONTACT: JOE SHANAHAN

**PREPARED BY:**

**BERGMANN**  
 2 WINNERS CIRCLE, SUITE 102  
 ALBANY, NY 12205  
 PH: (518) 862-0325  
 CONTACT: ERIC REDDING, P.E.

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## YORKTOWN A SOLAR FARM

**FOOTHILL STREET**

TOWN OF YORKTOWN  
WESTCHESTER COUNTY  
NEW YORK

**CON EDISON CLEAN  
ENERGY BUSINESSES, INC.**

100 SUMMIT LAKE DRIVE  
VALHALLA, NY 10595



Bergmann Associates, Architects, Engineers,  
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 Checked By: WD  
 Date Issued: OCTOBER 27, 2020  
 Project Number: 14847.00  
 Prepared By: ECR  
 Checked By: WD  
 Date Issued: AS NOTED

**COVER SHEET**

**C000**

# YORKTOWN A SOLAR FARM

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Designed By: <b>WD</b>	Event No: <b>WD</b>
Date Issued: <b>OCTOBER 27, 2020</b>	Scale: <b>1"=100'</b>
Project Number: <b>14847.00</b>	

### OVERALL SITE PLAN

Drawing Number:

# C001

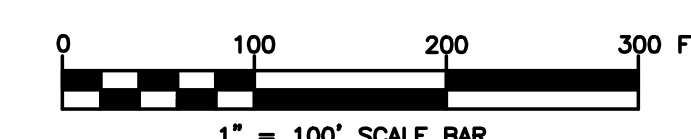
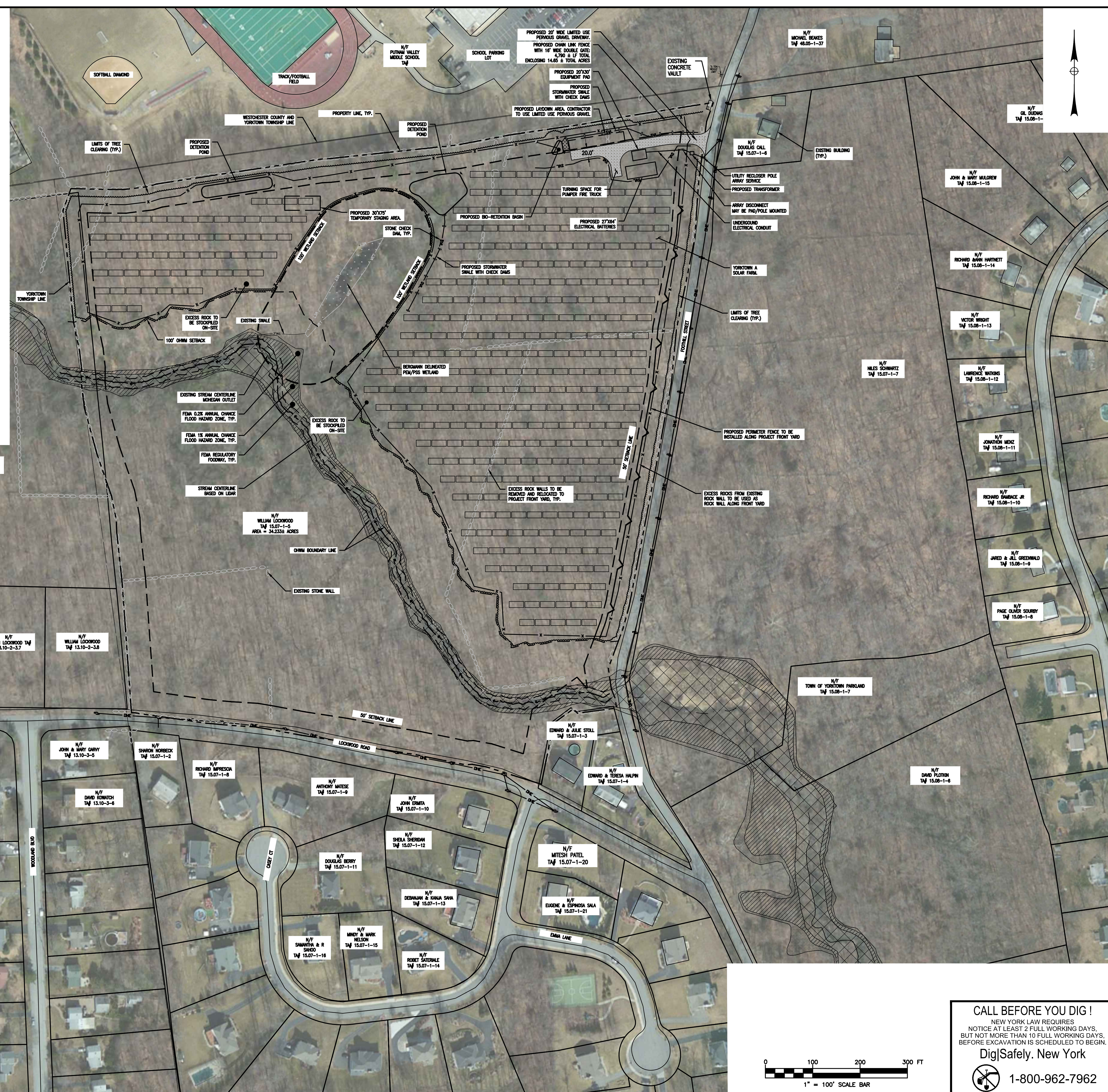
2 of 12

### LEGEND:

	PROPERTY LINE SETBACK - 50 FEET
	PROPERTY/R.O.W. LINE
	EXISTING LOT LINE ADJUSTMENT
	PROPOSED GRAVEL DRIVEWAY
	FEMA 1% ANNUAL CHANCE FLOOD HAZARD
	FEMA 0.2% ANNUAL CHANCE FLOOD HAZARD
	EXISTING FEMA REGULATORY FLOODWAY
	EXISTING ROAD
	ADJ. PROPERTY/R.O.W. LINE (SURVEYED)
	FENCE LINE
	CONTOUR - MAJOR
	CONTOUR - MINOR
	EXISTING VEGETATION
	EXISTING ROCK WALL
	PROPOSED LIMITS OF TREE CLEARING
	BERGMANN DELINEATED PALUSTRINE EMERGENT WETLAND (PEM) / PALUSTRINE SHRUB WETLAND (PSS)
	Q STREAM
	100' WETLAND BUFFER
	PROPOSED ROCK WALL
	PROPOSED SCREENING TREES
	PROPOSED SWALE

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SITE PLAN DATA TABLE		
SITE IS LOCATED IN THE "R1-40" RESIDENTIAL ZONING DISTRICT.		
PROPOSED USE: SOLAR		
PARCEL 15.07-1-5		
TOWN OF YORKTOWN, COUNTY OF WESTCHESTER		
STATE OF NEW YORK		
APPLICANT: CON EDISON CLEAN ENERGY BUSINESSES, INC. 100 SUMMIT LAKE DRIVE VALHALLA NY, 10595 (978) 888-4088	OWNER(S) OF RECORD: WILLIAM LOCKWOOD	
PLANS PREPARED BY: BERGMANN 2 WINNERS CIRCLE, SUITE 102 ALBANY, NY 12205 (518) 862-0325		
DESCRIPTION	REQUIRED	PROPOSED
MIN. LOT SIZE	2 AC.	34.2± AC.
MIN. LOT WIDTH	150 FT	1,011± FT
MIN. LOT DEPTH	150 FT	1,114± FT
MIN. SIDE YARD SETBACK	50 FT	60± FT
MIN. FRONT YARD SETBACK	50 FT	55± FT
MIN. REAR YARD SETBACK	50 FT	50± FT
MAX. HEIGHT	15 FT	9± FT
MAX. LOT COVERAGE (INCLUDING PANELS)	80%	11.3± %



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ECR	ECR
WD	WD
Date Issued:	Scale:
OCTOBER 27, 2020	1"=80'
Project Number:	
14847.00	

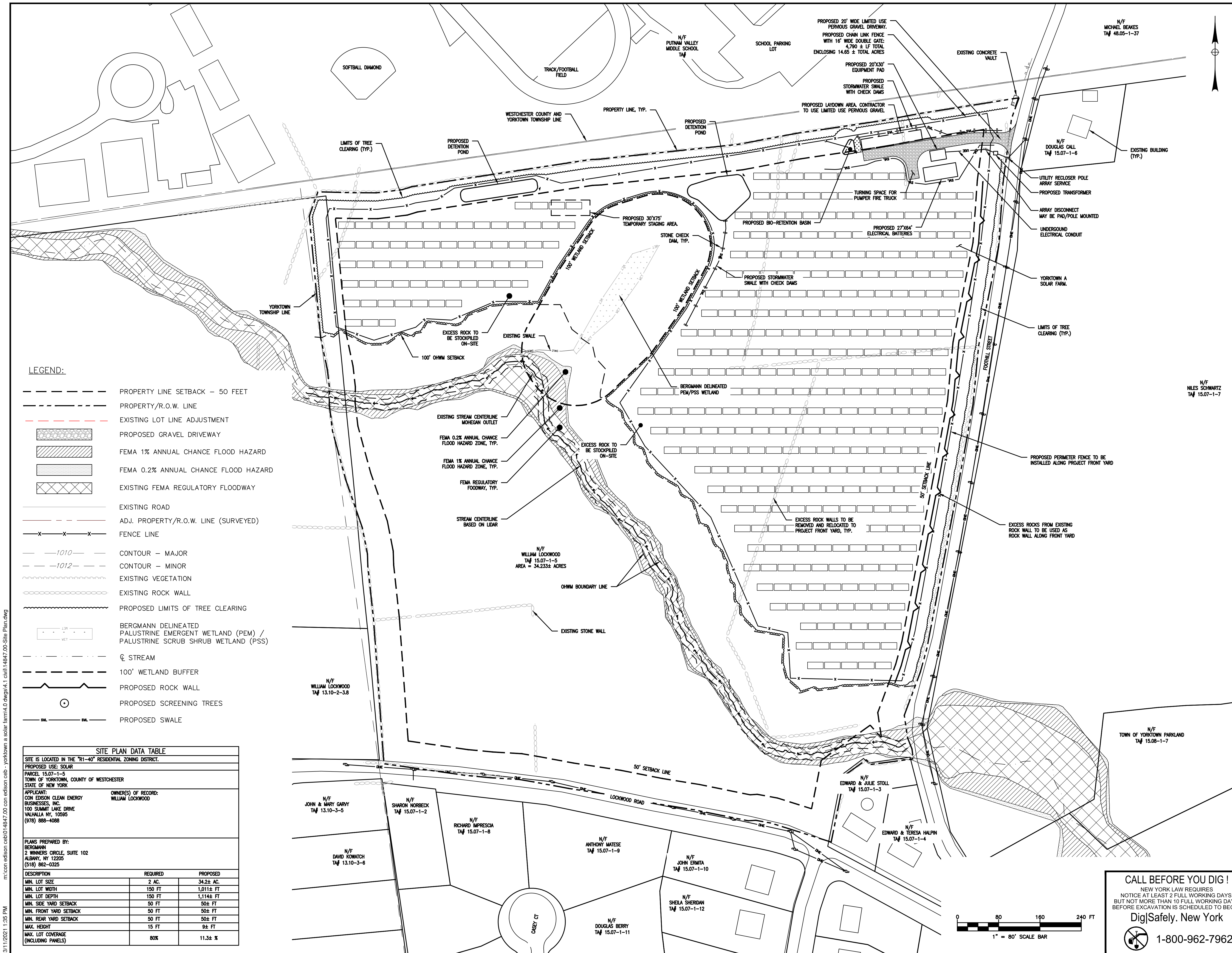
### SITE PLAN

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**C002**



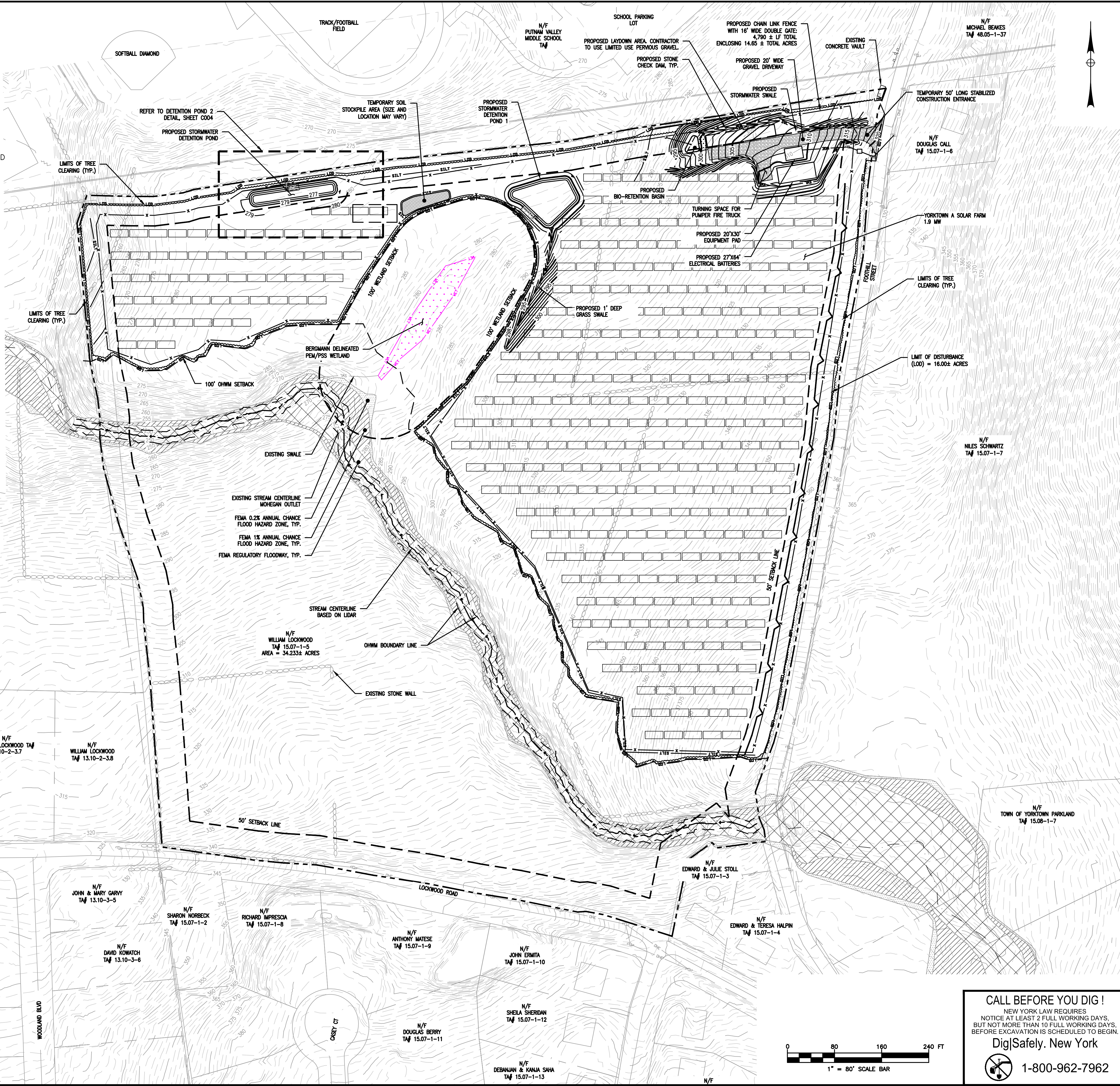
#### LEGEND:

- PROPERTY LINE SETBACK - 50 FEET
- PROPERTY/R.O.W. LINE
- EXISTING LOT LINE ADJUSTMENT
- [Pattern] PROPOSED GRAVEL DRIVEWAY
- [Pattern] FEMA 1% ANNUAL CHANCE FLOOD HAZARD
- [Pattern] FEMA 0.2% ANNUAL CHANCE FLOOD HAZARD
- [Pattern] EXISTING FEMA REGULATORY FLOODWAY
- EXISTING ROAD
- ADJ. PROPERTY/R.O.W. LINE (SURVEYED)
- x-x-x- FENCE LINE
- 1010--- CONTOUR - MAJOR
- 1012--- CONTOUR - MINOR
- [Pattern] EXISTING VEGETATION
- [Pattern] EXISTING ROCK WALL
- [Pattern] PROPOSED LIMITS OF TREE CLEARING
- [Pattern] BERGMANN DELINEATED PALUSTRINE EMERGENT WETLAND (PEM) / PALUSTRINE SCRUB SHRUB WETLAND (PSS)
- ⊙ STREAM
- 100' WETLAND BUFFER
- [Pattern] PROPOSED ROCK WALL
- ⊙ PROPOSED SCREENING TREES
- SW --- PROPOSED SWALE

SITE PLAN DATA TABLE		
SITE IS LOCATED IN THE "R1-40" RESIDENTIAL ZONING DISTRICT.		
PROPOSED USE: SOLAR		
PARCEL: 15.07-1-5		
TOWN OF YORKTOWN, COUNTY OF WESTCHESTER		
STATE OF NEW YORK		
APPLICANT: CON EDISON CLEAN ENERGY BUSINESSES, INC. 100 SUMMIT LAKE DRIVE VALHALLA NY, 10595 (978) 888-4088	OWNER(S) OF RECORD: WILLIAM LOCKWOOD	
PLANS PREPARED BY: BERGMANN 2 WINNERS CIRCLE, SUITE 102 ALBANY, NY 12205 (518) 862-0325		
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MIN. REAR YARD SETBACK	50 FT	50± FT
MAX. HEIGHT	15 FT	9± FT
MAX. LOT COVERAGE (INCLUDING PANELS)	80%	11.3± %

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- LEGEND:**
- PROPERTY LINE SETBACK - 50 FEET
  - PROPERTY/R.O.W. LINE (SURVEYED)
  - - - EXISTING LOT LINE ADJUSTMENT
  - [Pattern] PROPOSED GRAVEL DRIVEWAY
  - [Pattern] PROPOSED ASPHALT PAVEMENT
  - [Pattern] FEMA 1% ANNUAL CHANCE FLOOD HAZARD
  - [Pattern] FEMA 0.2% ANNUAL CHANCE FLOOD HAZARD
  - [Pattern] EXISTING FEMA REGULATORY FLOODWAY
  - EXISTING ROAD
  - - - ADJ. PROPERTY/R.O.W. LINE (SURVEYED)
  - x - x - FENCE LINE
  - - - 1010 - EXISTING CONTOUR - MAJOR
  - - - 1012 - EXISTING CONTOUR - MINOR
  - - - 1010 - PROPOSED CONTOUR - MAJOR
  - - - 1012 - PROPOSED CONTOUR - MINOR
  - [Pattern] EXISTING VEGETATION
  - [Pattern] EXISTING ROCK WALL
  - [Pattern] PROPOSED LIMITS OF TREE CLEARING
  - [Pattern] BERGMANN DELINEATED PALUSTRINE EMERGENT WETLAND (PEM) / PALUSTRINE SCRUB SHRUB WETLAND (PSS)
  - Q STREAM
  - - - 100' WETLAND BUFFER
  - - - LIMITS OF DISTURBANCE LINE
  - - - SILT FENCE



# YORKTOWN A SOLAR FARM

## FOOTHILL STREET

TOWN OF YORKTOWN  
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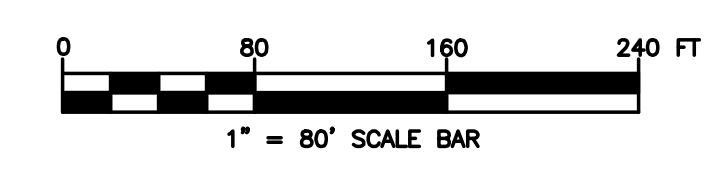
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Project Number: <b>14847.00</b>	

### GRADING / SWPPP PLAN

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**C003**

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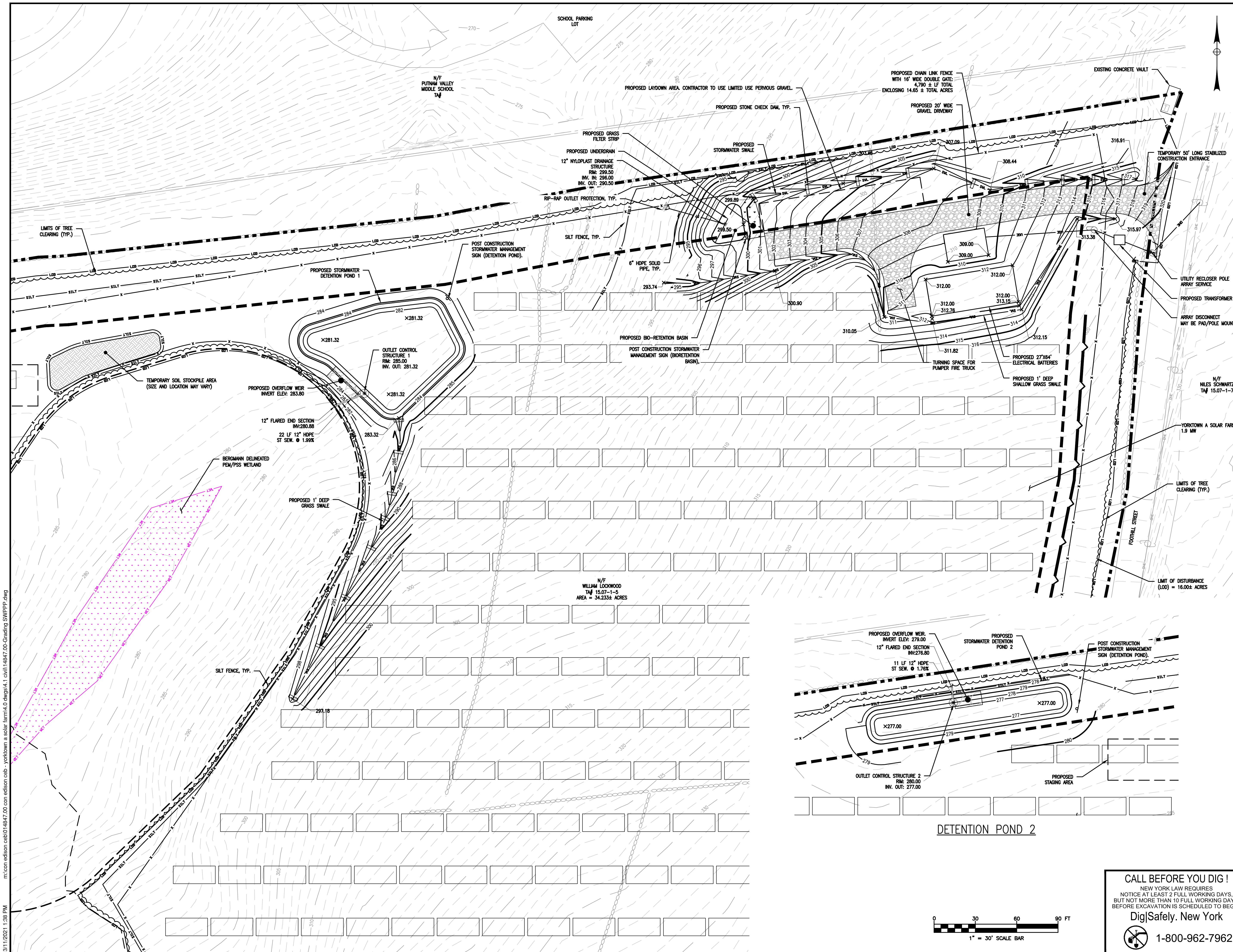
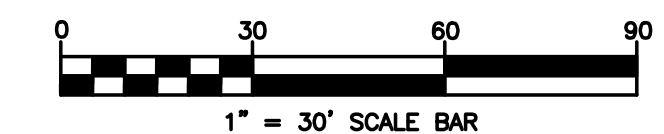
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WD	WD
Date Issued:	Scale:
OCTOBER 27, 2020	1"=30'
Project Number:	
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### DETAILED GRADING PLAN

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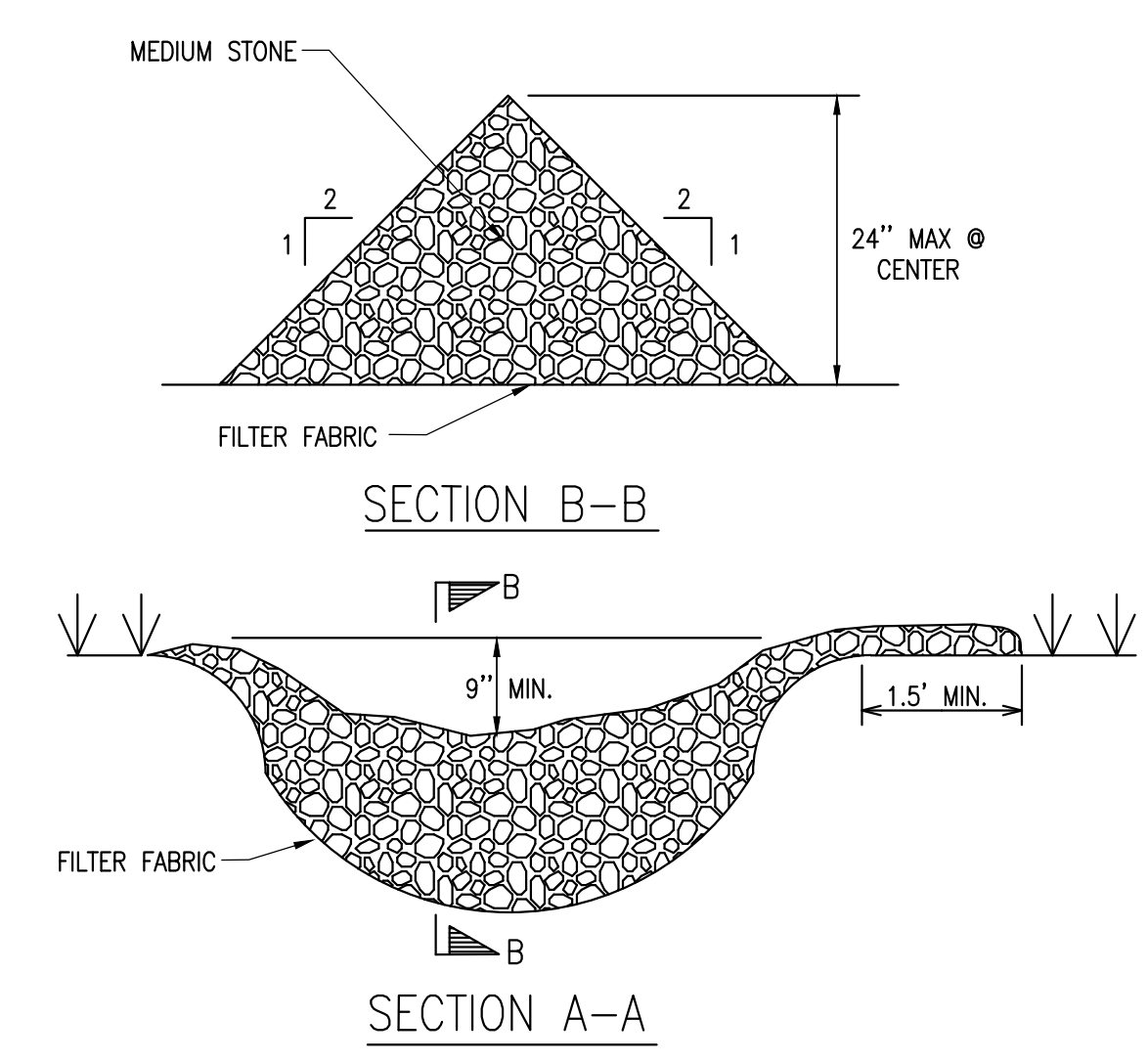
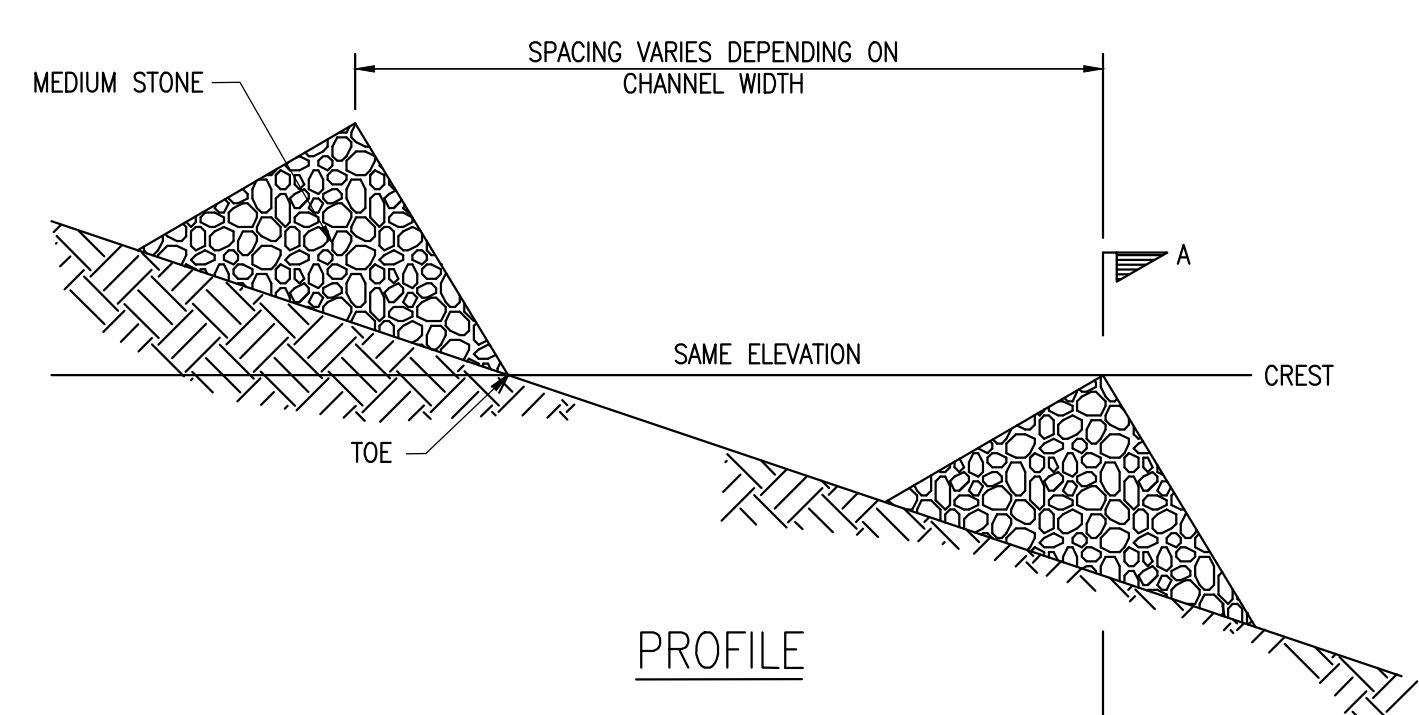
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## DRIVEWAY DETAILS

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**C005**



### CONSTRUCTION SPECIFICATIONS

- STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES GRADES AND LOCATIONS SHOWN ON THE PLAN.
- SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
- EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
- PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
- ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

### LIGHT STONE CHECK DAM NOT TO SCALE

### GEOGRID MATERIAL NOTES:

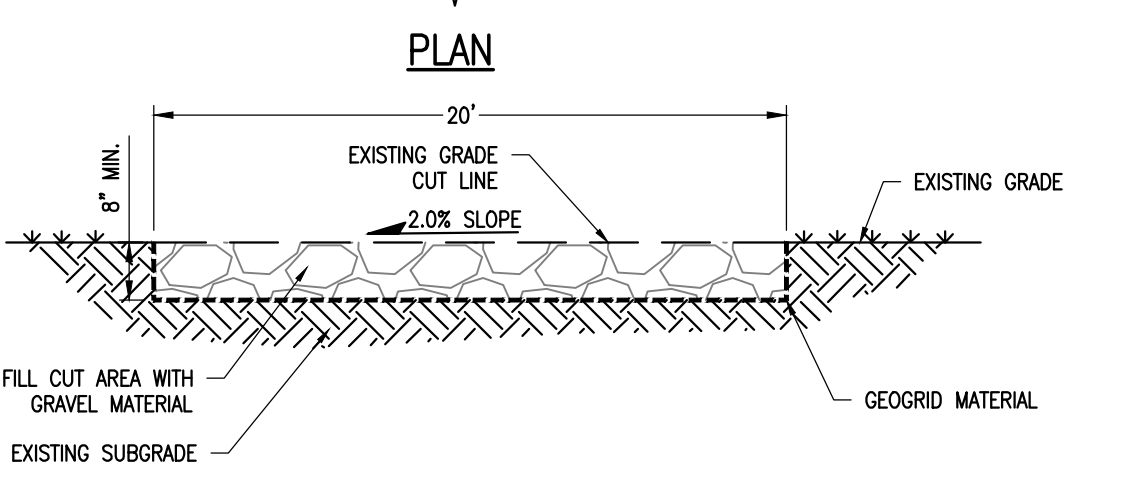
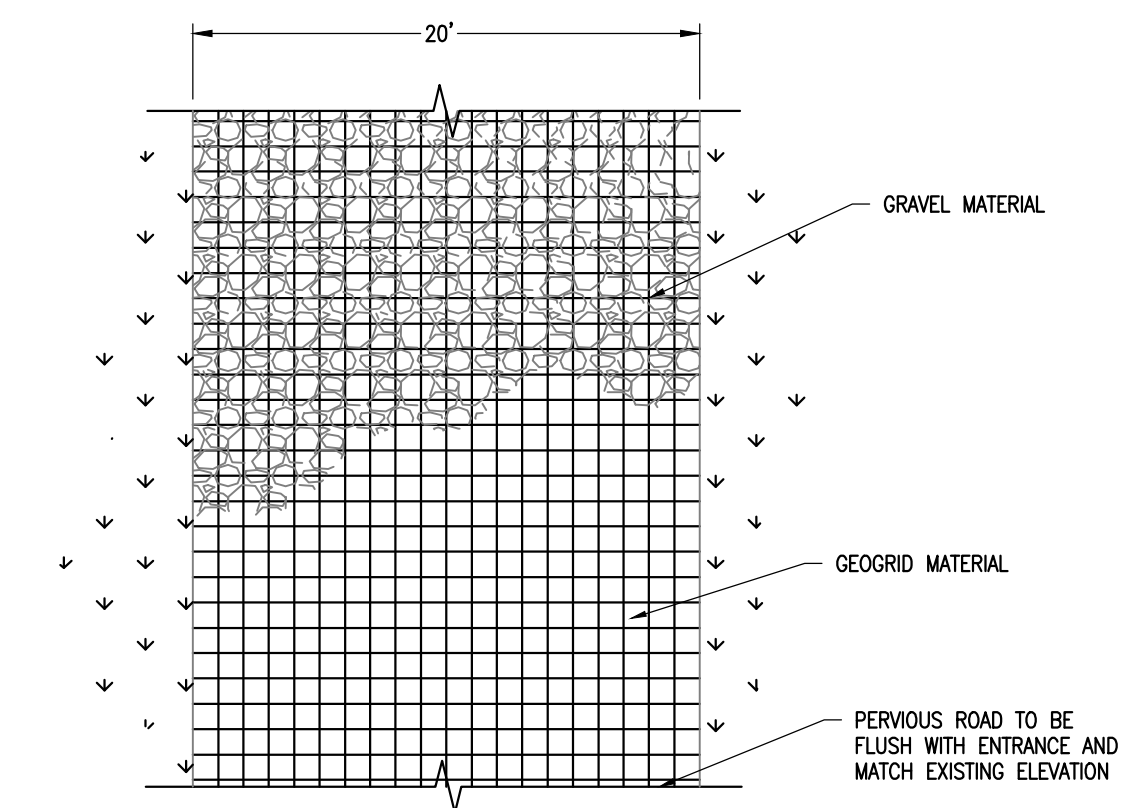
- THE GEOGRID, OR COMPARABLE PRODUCT, IS INTENDED FOR USE IN ALL CONDITIONS, IN ORDER TO ASSIST IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
- GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE, SHARP ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATION OF NYSDOT 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF AND SPREAD WITH A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
- GEOGRID SHALL BE MIRAFI BX110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
- IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
- REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
- LIMITED USE PERVIOUS ACCESS ROAD SHALL BE DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT 703-02 SPECIFICATIONS.

BASIS OF DESIGN: TENCATE MIRAFI BX110 GEOGRIDS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA; 800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM

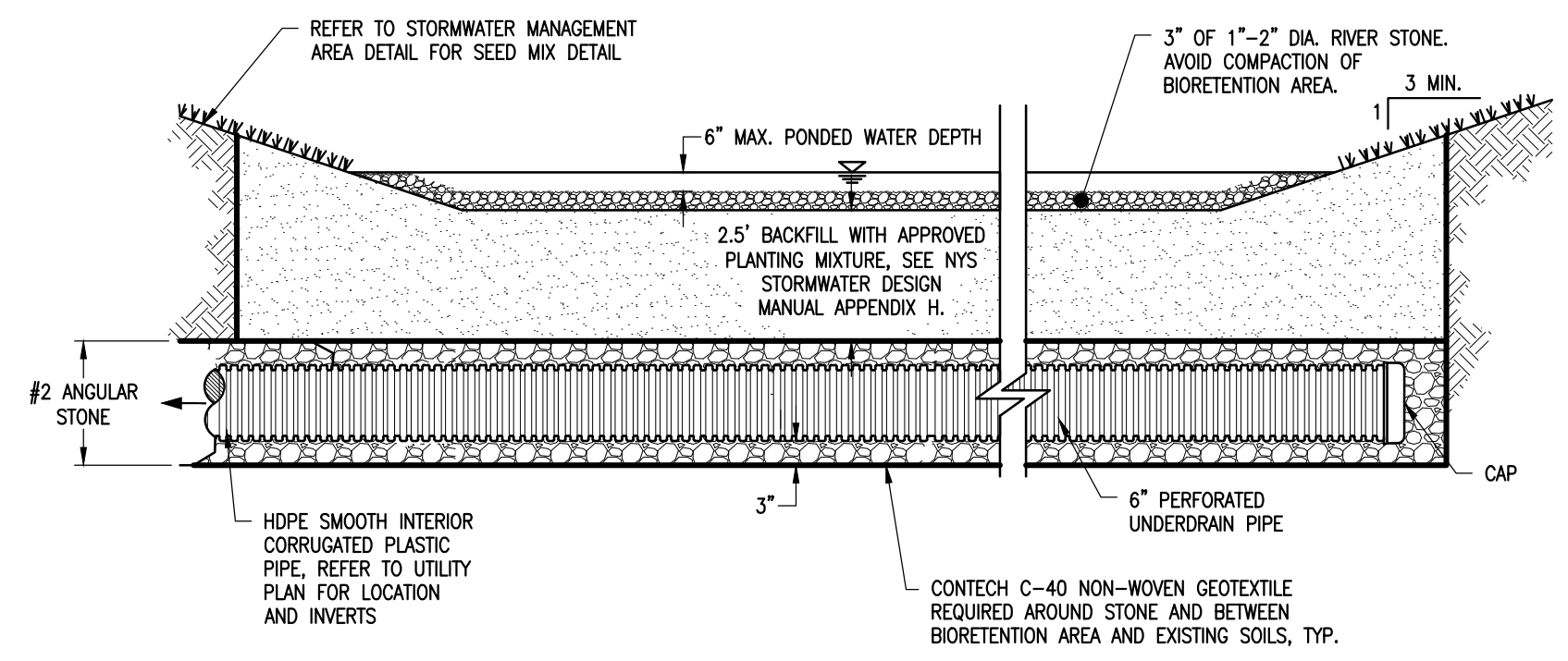
### WOVEN GEOTEXTILE MATERIAL NOTES:

- SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOILS GROUP (HSG) OF C OR D OR AS SPECIFIED FROM AN ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST OR GEOTECHNICAL DATA.
- THE CONCERN OF POTENTIAL REDUCTION OF NATIVE INFILTRATION RATES DUE TO THE GEOTEXTILE MATERIAL WOULD NOT BE A SIGNIFICANT CONCERN IN POORLY DRAINED SOILS WHERE SEGREGATION OF PERVIOUS STONE AND NATIVE MATERIALS IS CRUCIAL FOR LONG TERM OPERATION AND MAINTENANCE.

BASIS OF DESIGN: TENCATE MIRAFI RSI-SERIES WOVEN GEOSYNTHETICS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA; 800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM



### LIMITED USE PERVIOUS ACCESS ROAD - 0% TO 10% SLOPES NO SCALE



### BIORETENTION AREA DETAIL N.T.S.

# YORKTOWN A SOLAR FARM

## FOOTHILL STREET

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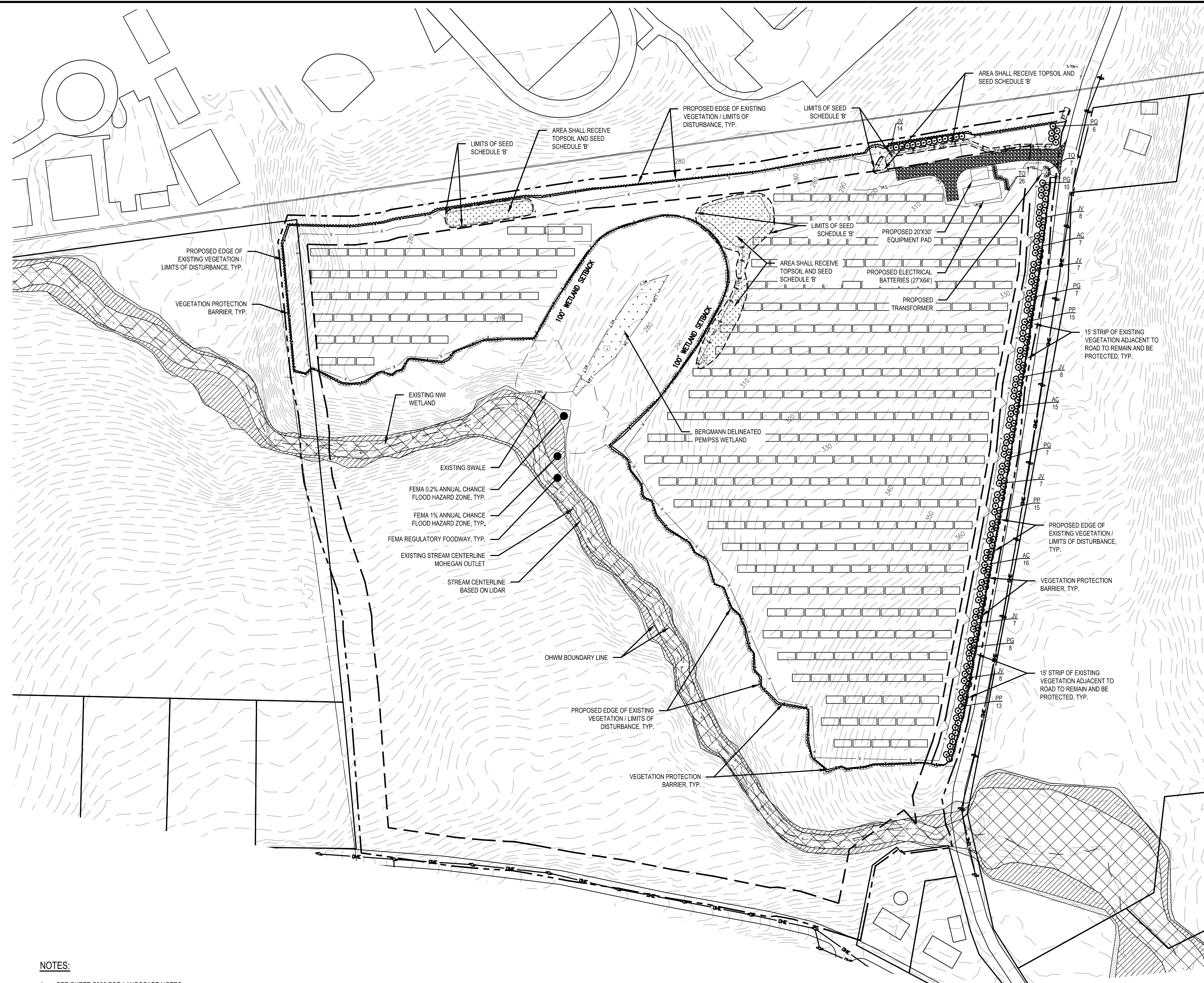
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Project Number: <b>14847.00</b>	

**LANDSCAPING & PLANTING  
FOR MITIGATION PLAN**

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**C006**



**LEGEND:**

- PROPOSED TREE PLANTING
- VEGETATION PROTECTION BARRIER
- SEED LIMIT LINE
- SEED SCHEDULE 'B'
- PROPOSED GRAVEL DRIVEWAY
- FEMA 1% ANNUAL CHANCE FLOOD HAZARD
- FEMA 0.2% ANNUAL CHANCE FLOOD HAZARD
- EXISTING FEMA REGULATORY FLOODWAY
- EXISTING ROAD
- ADJ. PROPERTY/R.O.W. LINE (SURVEYED)
- FENCE LINE
- EXISTING VEGETATION
- PROPOSED LIMITS OF TREE CLEARING
- BERGMANN DELINEATED PALUSTRINE EMERGENT WETLAND (PEM) / PALUSTRINE SCRUB SHRUB WETLAND (PSS)
- STREAM
- 100' WETLAND SETBACK

- NOTES:**
- SEE SHEET C006 FOR LANDSCAPE NOTES.
  - SEE SHEET C007 FOR LANDSCAPE DETAILS.
  - SEE SHEET C009 FOR SEED SCHEDULES.

PLANT LIST								
Key	Qty.	Botanical Name	Common Name	Mature Size		Installed Size	Condition	Notes
				Height	Spread			
<b>Evergreen Trees</b>								
AC	39	Abies concolor	White Fir	50-75 Ht.	20-30' Sprd.	6-7 Ht.	B&B	
JV	59	Juniperus virginiana	Eastern Red Cedar	30-60 Ht.	10-25' Sprd.	8' Ht.	B&B	
PG	36	Picea glauca	White Spruce	40-60 Ht.	10-20' Sprd.	8' Ht.	B&B	
PP	43	Picea pungens	Colorado Spruce	30-60 Ht.	10-20' Sprd.	7-8' Ht.	B&B	
<b>Evergreen Shrubs</b>								
TO	33	Thuja occidentalis 'Emerald Green'	Emerald Green Arborvitae	7-15 Ht.	3-4' Sprd.	5' Ht.	B&B	

3/11/2021 1:39 PM m:\con edison cab\014847.00 con edison cab - yorktown a solar farm\4.0 dwgs\4.1 civil\14847.00 Landscape Plan.dwg

## GENERAL NOTES

1. THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THIS MAP HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORD MAPS. THEY ARE NOT CERTIFIED TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD STAKED BEFORE STARTING WORK BY CALLING 1-800-962-7962.
2. THE CONTRACTOR SHALL PERFORM ALL WORK IN COMPLIANCE WITH TITLE 29 OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION(OSHA).
3. HIGHWAY DRAINAGE ALONG ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES.
4. THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER BEFORE DEVIATING FROM THESE PLANS.
5. IN ALL TRENCH EXCAVATIONS, CONTRACTOR MUST LAY THE TRENCH SIDE SLOPES BACK TO A SAFE SLOPE, USE A TRENCH SHIELD OR PROVIDE SHEETING AND BRACING.
6. IF SUSPICIOUS AND/OR HAZARDOUS MATERIAL IS ENCOUNTERED DURING DEMOLITION/CONSTRUCTION, ALL WORK SHALL STOP AND THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH AND THE NEW YORK STATE DEPARTMENT OF CONSERVATION SHALL BE NOTIFIED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL THE DEVELOPER HAS OUTLINED APPROPRIATE ACTION FOR DEALING WITH THE WASTE MATERIAL AND THE DEVELOPMENT PLANS ARE MODIFIED AS MAY BE NECESSARY.
7. EXCAVATED WASTE MATERIAL REMOVED FROM THE SITE SHALL BE PLACED AT A LOCATION ACCEPTABLE TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
8. AREAS DISTURBED OR DAMAGED AS PART OF THIS PROJECTS CONSTRUCTION THAT ARE OUTSIDE OF THE PRIMARY WORK AREA SHALL BE RESTORED, AT THE CONTRACTORS EXPENSE, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
9. UNLESS COVERED BY THE CONTRACT SPECIFICATIONS OR AS NOTED ON THE PLANS, ALL WORK SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED MAY 1, 2008 AND ANY SUBSEQUENT REVISIONS.

## SITE STABILIZATION

1. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
2. MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
3. STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. A TRACTOR-DRAWN IMPLEMENT MAY BE USED TO "CRIMP" THE STRAW OR HAY INTO THE SOIL - ABOUT 3 INCHES. THIS METHOD SHOULD BE LIMITED TO SLOPES NO STEEPER THAN 3H:1V. THE MACHINERY SHOULD BE OPERATED ALONG THE CONTOUR. NOTE: CRIMPING OF HAY OR STRAW BY RUNNING OVER IT WITH TRACKED MACHINERY IS NOT RECOMMENDED.
4. BEFORE SEEDING IS APPLIED THE CONTRACTOR SHALL SPREAD SOIL TO PREVENT PONDING AND CONFIRM THAT SOIL WILL SUSTAIN THE SEED GERMINATION AND ESTABLISHMENT OF VEGETATION.
5. GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE. COMPACTED SOILS SHOULD BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES, ALONG CONTOUR WHEREVER POSSIBLE, PRIOR TO SEEDING.
6. TOPSOIL OR AMENDED SOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A MINIMUM DEPTH OF 4 INCHES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS.
7. TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OF SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
8. WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE 1/2" TO 3/4". COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE.
9. POLYMERIC AND GUM TACKIFIERS MIXED AND APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS MAY BE USED TO TACK MULCH. AVOID APPLICATION DURING RAIN AND ON WINDY DAYS. A 24-HOUR CURING PERIOD AND A SOIL TEMPERATURE HIGHER THAN 45° F ARE TYPICALLY REQUIRED. APPLICATION SHOULD GENERALLY BE HEAVIEST AT EDGES OF SEEDED AREAS AND AT CRESTS OF RIDGES AND BANKS TO PREVENT LOSS BY WIND. THE REMAINDER OF THE AREA SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD OR SPRAYED INTO THE MULCH AS IT IS BEING BLOWN ONTO THE SOIL. APPLYING STRAW AND BINDER TOGETHER IS GENERALLY MORE EFFECTIVE.
10. SYNTHETIC BINDERS, OR CHEMICAL BINDERS, MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THEY ARE NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
11. MULCH ON SLOPES OF 8% OR STEEPER SHOULD BE HELD IN PLACE WITH NETTING. LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
12. SHREDDED PAPER HYDROMULCH SHOULD NOT BE USED ON SLOPES STEEPER THAN 5%. WOOD FIBER HYDROMULCH MAY BE APPLIED ON STEEPER SLOPES PROVIDED A TACKIFIER IS USED. THE APPLICATION RATE FOR ANY HYDROMULCH SHOULD BE 2,000 LBS/ACRE AT A MINIMUM.
13. LIME, FERTILIZER, SEED, AND MULCH DISTURBED AREAS PER THE EROSION AND SEDIMENT CONTROL PLANS. IN AREAS OF STEEP SLOPES OR OBVIOUS AREAS WHERE POTENTIAL EROSION MAY OCCUR, AN EROSION CONTROL MAT OR FLEXIBLE GROWTH MEDIUM (FGM) SHALL BE USED. FGM SHALL BE APPLIED PER MANUFACTURER SPECIFICATIONS.
14. ONCE A SECTION OF THE ALIGNMENT HAS BEEN STABILIZED, NO CONSTRUCTION TRAFFIC SHALL OCCUR TO REMOVE ANY BMPS UNTIL THE SECTION HAS ACHIEVED 80% PERENNIAL VEGETATIVE COVER. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM 80% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NONVEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.

## WASTE/HAZARDOUS MATERIAL PRACTICES

1. WHENEVER POSSIBLE COVERED TRASH CONTAINERS SHOULD BE USED.
2. DAILY SITE CLEANUP IS REQUIRED TO REDUCE DEBRIS AND POLLUTANTS IN THE ENVIRONMENT.
3. CONTRACTOR SHALL PROVIDE A SAFE STORAGE SPACE FOR ALL PAINTS, STAINS AND SOLVENTS INSIDE A COVERED STORAGE AREA.
4. CONTRACTOR SHALL PROVIDE A SAFE STORAGE AREA FOR PESTICIDES AND FERTILIZERS.
5. ALL FUELS, OILS AND GREASE MUST BE KEPT IN CONTAINERS AT ALL TIMES.

## STORMWATER POLLUTION PREVENTION PLAN NOTES

1. THE DEVELOPER/OWNER/OPERATOR SHALL PROVIDE A QUALIFIED INSPECTOR TO INSPECT THE PROJECT AT THE END OF EACH WORK WEEK AND PROVIDE A REPORT AT LEAST ONCE PER WEEK.
2. INSTALL SILT FENCE, DIVERSION SWALES/BERMS, CHECK DAMS AND ALL OTHER EROSION CONTROL MEASURES AS INDICATED ON THE PLAN PRIOR TO THE START OF ANY EXCAVATION WORK. EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, NEW YORK STATE HEALTH DEPARTMENT, AND THE GOVERNING CITY REQUIREMENTS.
3. REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER REPLACE TOPSOIL TO A MINIMUM 4" DEPTH WITH TOPSOIL OR AMENDED SOIL. ALL DISTURBED AREAS TO BE SEEDDED TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
4. IF THE SEASONS PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATION HAS BEEN ACHIEVED.
6. INSTALL INLET PROTECTION, AND RIP RAP APRONS PROGRESSIVELY AS STORM SEWER, AND DISCHARGE POINTS ARE INSTALLED.
7. ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3 MONTHS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL OR AMENDED TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
9. THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL, EROSION CONTROL STRUCTURES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
10. ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC. MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
11. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
12. DUST SHALL BE CONTROLLED BY WATERING.
13. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
14. DIVERSION SWALES/BERMS, AND SEDIMENT TRAPS SHOULD BE RELOCATED INWARD AS PERIMETER SLOPE CONSTRUCTION PROGRESSES AND RECONSTRUCTED TO THE NYS STANDARDS & SPECIFICATIONS AT THE END OF EACH DAY TO DIVERT RUNOFF FROM SLOPED AREAS AND DIRECT TO APPROPRIATE BASINS.
15. SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

## SWPPP SEQUENCE OF CONSTRUCTION

1. PRE-CONSTRUCTION MEETING HELD TO INCLUDE PROJECT MANAGER, OPERATOR'S ENGINEER, CONTRACTOR, AND SUB-CONTRACTORS PRIOR TO LAND DISTURBING ACTIVITIES.
2. CONSTRUCT CONSTRUCTION ENTRANCE/EXIT AT LOCATIONS DESIGNATED ON PLANS.
3. INSTALL PERIMETER SILT FENCE.
4. BEGIN SITE APPURTENANCE DEMOLITION.
5. BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE CONSTRUCTION IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING.
6. HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND CERTIFY IN AN INSPECTION REPORT THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROLS DESCRIBED IN THE SWPPP AND REQUIRED BY THE NYSDEC PERMIT HAVE BEEN ADEQUATELY INSTALLED OR IMPLEMENTED TO ENSURE OVERALL PREPAREDNESS OF THE SITE FOR THE COMMENCEMENT OF CONSTRUCTION.
7. STRIP TOPSOIL AND STOCKPILE IN A LOCATION ACCEPTABLE TO CONSTRUCTION MANAGER. WHEN STOCKPILE IS COMPLETE, INSTALL PERIMETER SILT FENCE. SEED SURFACE WITH 100% PERENNIAL RYEGRASS MIXTURE AT A RATE OF 2-4 LBS. PER 1000 SF. APPLY 90-100 LBS PER 1000 SF OF MULCH.
8. COMMENCE EARTHWORK CUT AND FILLS. THE WORK SHALL BE PROGRESSED TO ALLOW A REASONABLE TRANSFER OF CUT AND FILL EARTH FOR ROUGH GRADING AND EARTH MOVING. THE CONTRACTOR WILL BE GIVEN SOME LATITUDE TO VARY FROM THE FOLLOWING SCHEDULE IN ORDER TO MEET THE FIELD CONDITIONS ENCOUNTERED. CONTRACTOR SHALL REVIEW VARIATIONS TO SWPPP WITH DESIGN ENGINEER AND QUALIFIED PROFESSIONAL PRIOR TO IMPLEMENTATION. ALL CHANGES TO SWPPP DRAWINGS MUST BE DOCUMENTED WITHIN ONSITE SWPPP.
9. STABILIZE ALL AREAS AS SOON AS PRACTICABLE, IDLE IN EXCESS OF 7 DAYS AND IN WHICH CONSTRUCTION WILL NOT COMMENCE WITHIN 14 DAYS.
10. FOLLOWING ROUGH GRADING, UTILITY INSTALLATION SHOULD BEGIN, TRENCH EXCAVATION/BACKFILL AREAS SHOULD BE STABILIZED PROGRESSIVELY AT THE END OF EACH WORKDAY WITH SEED AND STRAW MULCH AT A RATE OF 100% PERENNIAL RYE GRASS AT 2-4 LBS/1000 SF MULCHED AT 90-100 LBS/1000 SF.
11. CONSTRUCT SWALES AS SHOWN ON THE PLANS.
12. STABILIZE ALL AREAS IDLE IN EXCESS OF 7 DAYS IN WHICH CONSTRUCTION WILL NOT COMMENCE WITHIN 14 DAYS.
13. AS ROADWAY AND ACCESS DRIVES ARE BROUGHT TO GRADE, THEY WILL BE STABILIZED WITH CRUSHED STONE SUBBASE AT A DEPTH SPECIFIED ON PLANS TO PREVENT EROSION AS SOON AS PRACTICABLE.
14. AS LANDSCAPED AREAS ARE BROUGHT TO GRADE, STABILIZE WITH TOPSOIL, SEEDING AND MULCHING PER SPECIFICATIONS.
15. REMOVE TEMPORARY CONSTRUCTION EXITS ONLY PRIOR TO GRAVEL ROAD CONSTRUCTION (THESE AREAS ARE TO BE CONSTRUCTED LAST).
16. THE DEVELOPER/OWNER/OPERATOR SHALL HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE AND FINAL REPORT TO DETERMINE ALL PERMANENT STORMWATER MEASURES HAVE BEEN INSTALLED PER PLANS AND 80% UNIFORM GERMINATION STABILIZATION HAS BEEN ACHIEVED PRIOR TO THE REMOVAL OF ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.

## LANDSCAPE NOTES

1. ALL PLANTS MUST BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
2. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK", ANSI, Z60.1 (LATEST EDITION), REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
3. ALL PLANTS MUST BE HARDY UNDER CLIMATE CONDITIONS THAT EXIST AT THE PROJECT SITE AND GROWN AT A NURSERY AT THE SAME HARDINESS ZONE AS THE PROJECT LOCATION.
4. NO SUBSTITUTIONS SHALL BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE.
5. ALL TREES MUST BE STRAIGHT TRUNKED, INJURY FREE, AND FULL HEADED.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
7. ANY DISCREPANCY WITH QUANTITIES, LOCATIONS AND / OR FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
8. MULCH ALL ISLANDS AND PLANTINGS IN LAWN AREAS WITH DOUBLE GROUND BARK MULCH MADE FROM A MIXTURE OF HARDWOOD AND/OR SOFTWOOD. MULCH SHALL BE AGED A MIN. OF ONE (1) YEAR FOR PARTIAL DECOMPOSITION. IT SHALL BE SCREENED TO EXCLUDE PARTICLES LARGER THAN ONE (1) INCH IN DIAMETER. MATERIAL SHALL BE COMPOSED OF BARK AND HAVE A LOW WOOD CONTENT WITH NO HIDDEN WOODS FROM CONSTRUCTION DEBRIS, PALLETS OR PRESSURE TREATED LUMBER AND BE FREE OF WEEDS, SEEDS, AND GREEN LEAF MATTER. IT SHALL BE NATURALLY DARK BROWN IN COLOR. NO DYED MULCH WILL BE ACCEPTED. MULCH DEPTH SHALL BE THREE (3) INCHES UNLESS OTHERWISE DIRECTED.
9. ANY PLANT WHICH DIES, TURNS BROWN, OR DEFOOLIATES (PRIOR TO TOTAL ACCEPTANCE OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY AND SIZE MEETING ALL PLANT LIST SPECIFICATIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL PLANT MATERIALS (INCLUDING, BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, AND REMOVAL OF STAKES AND GUYS) AND LAWN AREAS UNTIL FINAL ACCEPTANCE BY THE OWNER.
11. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR, BEGINNING ON THE DATE OF FINAL ACCEPTANCE. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE THE END OF THE GUARANTEE PERIOD.
12. ALL AREAS DISTURBED BY UTILITY INSTALLATION AND SITE GRADING ACTIVITY SHALL RECEIVE APPROVED TOPSOIL (TO A COMPACTED DEPTH OF FOUR (4) INCHES, UNLESS OTHERWISE SPECIFIED BY THE GOVERNING MUNICIPALITY), BE FINE GRADED, SEEDED, MULCHED AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
13. ALL TOPSOIL SHALL BE SCREENED LOAM SURFACE SOIL, FREE OF STONES AND SHALL HAVE THE FOLLOWING MINIMUM REQUIREMENTS:
  - a) AN ORGANIC CONTENT OF 6-12%
  - b) SOIL ACIDITY RANGE OF pH 6.0 TO pH 6.8
  - c) SOLUBLE SALTS OF 1000 PPM OR LESS
  - d) MAXIMUM CLAY CONTENT OF 15-20%
14. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING, AT THEIR EXPENSE, A CERTIFIED SOIL TEST ANALYSIS OF ON SITE AND / OR IMPORTED TOPSOIL. TOPSOIL ANALYSIS TO INCLUDE THE FOLLOWING DATA:
  - a) pH FACTOR.
  - b) MECHANICAL ANALYSIS, INCLUDING SIEVE ANALYSIS PROVIDING SEPARATE SAND, SILT AND CLAY PERCENTAGES.
  - c) PERCENTAGE OF ORGANIC CONTENT BY WEIGHT
  - d) NUTRIENT LEVELS INCLUDING NITROGEN, PHOSPHOROUS AND POTASSIUM.
15. SHOULD TESTS AND ANALYSIS INDICATE THAT SOIL PROPOSED FOR USE IS DEFICIENT IN ANY OF THE ABOVE REQUIREMENTS, A SYSTEM OF AMELIORATING MAY BE PROPOSED FOR APPROVAL. ANY SYSTEM PROPOSED SHALL PROVIDE FOR AN ACIDITY RANGE OF Ph 6.0 TO 6.8 INCLUSIVE.
16. COMPOST SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
  - a) ORGANIC CONTENT OF 35-60% (DRY WEIGHT BASIS)
  - b) LOOSE AND FRIBLE WITH MOISTURE CONTENT OF 35-60% (WET WEIGHT BASIS)
  - c) PARTICLE SIZE SHALL BE <12 INCH (100% PASSING)
  - d) SOLUBLE SALTS CONCENTRATION SHALL BE <4.0 MMHOS/CM (DSM), MAXIMUM
  - e) pH RANGE OF 6.0-8.5
17. PLANTING MIX FOR PLANT PITS SHALL BE COMPOSED OF (2) PARTS IMPORTED OR ON-SITE SCREENED TOPSOIL AND (1) PART COMPOST. THE RATIO OF TOPSOIL TO COMPOST IS SUBJECT TO CHANGE BASED ON THE TESTING RESULTS FOR TOPSOIL.
18. LOCATIONS OF EXISTING BURIED UTILITIES SHOWN ON THE PLAN ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITY LINES ADJACENT TO THE WORK AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES AND SITE APPURTENANCES, ETC., WHICH OCCURS AS A RESULT OF THE LANDSCAPE INSTALLATION.
19. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL PLANT MATERIAL PER DETAILS. ANY DEVIATIONS FROM THE DETAIL MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
20. SEE SHEET C007 FOR LANDSCAPE DETAILS.
21. UPON FINAL ACCEPTANCE OF THE LANDSCAPE INSTALLATION, THE OWNER WILL ASSUME MAINTENANCE OF THE LANDSCAPED AREAS.
22. EXISTING TREES TO REMAIN SHALL BE PROTECTED BY INSTALLING A TEMPORARY FENCE AT THE OUTER LIMITS OF THE TREE CANOPY.

# YORKTOWN A SOLAR FARM FOOTHILL STREET

TOWN OF YORKTOWN  
WESTCHESTER COUNTY  
NEW YORK

## CON EDISON CLEAN ENERGY BUSINESSES, INC.

100 SUMMIT LAKE DRIVE  
VALHALLA, NY 10595



Bergmann Associates, Architects, Engineers,  
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REVISIONS				
NO.	DATE	DESCRIPTION	REV.	CKD
1	1/28/2021	PLAN REVISIONS	WD	ECR

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Drawn By:	Drawn By:
<b>WD</b>	<b>WD</b>
Date Issued:	Scale:
<b>OCTOBER 27, 2020</b>	<b>AS NOTED</b>
Project Number:	
<b>14847.00</b>	

## GENERAL NOTES

CALL BEFORE YOU DIG!  
NEW YORK LAW REQUIRES  
NOTICE AT LEAST 2 FULL WORKING DAYS,  
BUT NOT MORE THAN 10 FULL WORKING DAYS,  
BEFORE EXCAVATION IS SCHEDULED TO BEGIN.

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# C007



# YORKTOWN A SOLAR FARM

FOOTHILL STREET

TOWN OF YORKTOWN  
WESTCHESTER COUNTY  
NEW YORK

**CON EDISON CLEAN ENERGY BUSINESSES, INC.**

100 SUMMIT LAKE DRIVE  
VALHALLA, NY 10595

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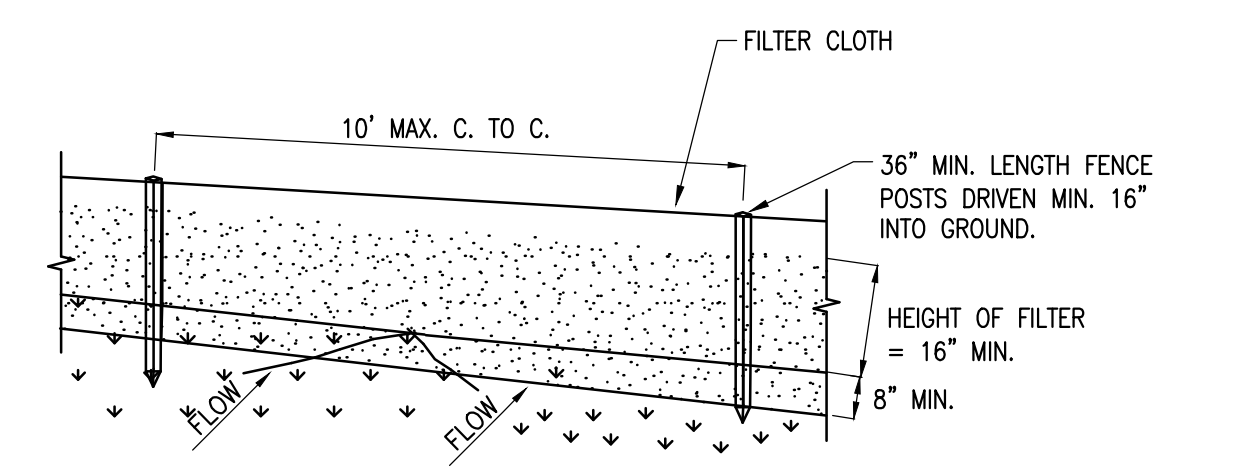
Prepared By: <b>ECR</b>	Checked By: <b>ECR</b>
Designed By: <b>WD</b>	Drawn By: <b>WD</b>
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**EROSION AND  
SEDIMENT CONTROL  
DETAILS**

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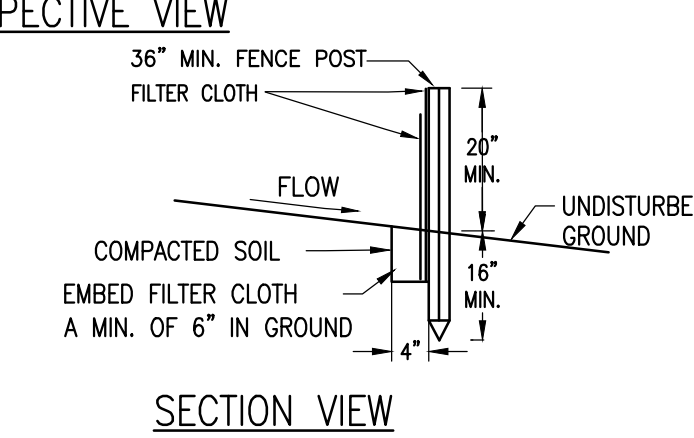
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**C008**



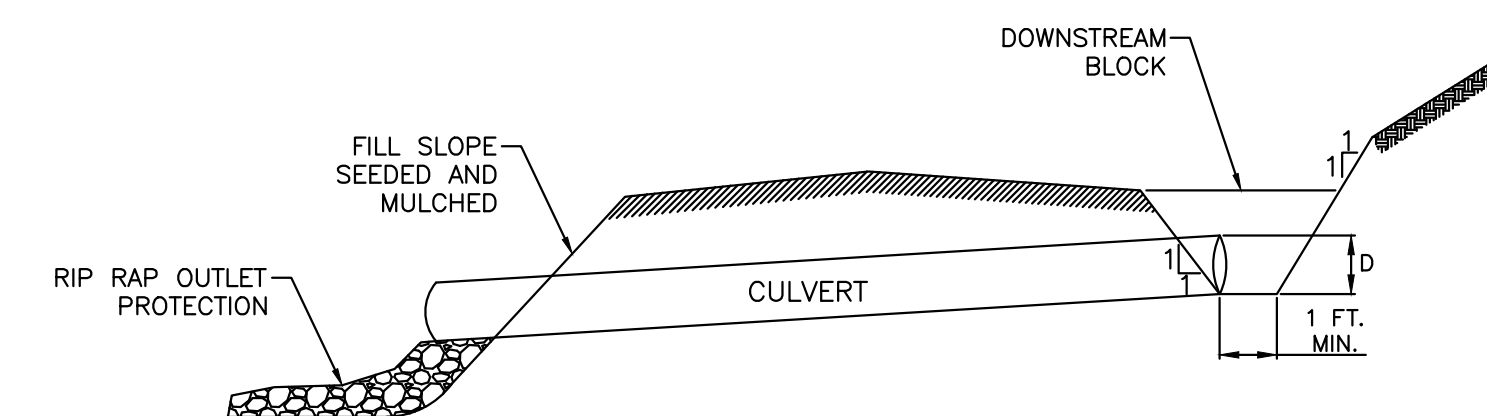
**CONSTRUCTION SPECIFICATIONS**

- SILT FENCE FABRIC TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
- PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



**SILT FENCE DETAIL**

NO SCALE



**NOTES:**

CUT AND FILL SLOPES SHALL BE STABILIZED IMMEDIATELY UPON COMPLETION OF DRIVEWAY GRADING. THESE AREAS SHALL BE BLANKETED WHEREVER THEY ARE LOCATED WITHIN 50 FEET OF A SURFACE WATER OR WITHIN 100 FEET OF AN HIGH QUALITY OR EXCEPTIONAL VALUE SURFACE WATER OR WHERE A SUITABLE VEGETATIVE FILTER STRIP DOES NOT EXIST.

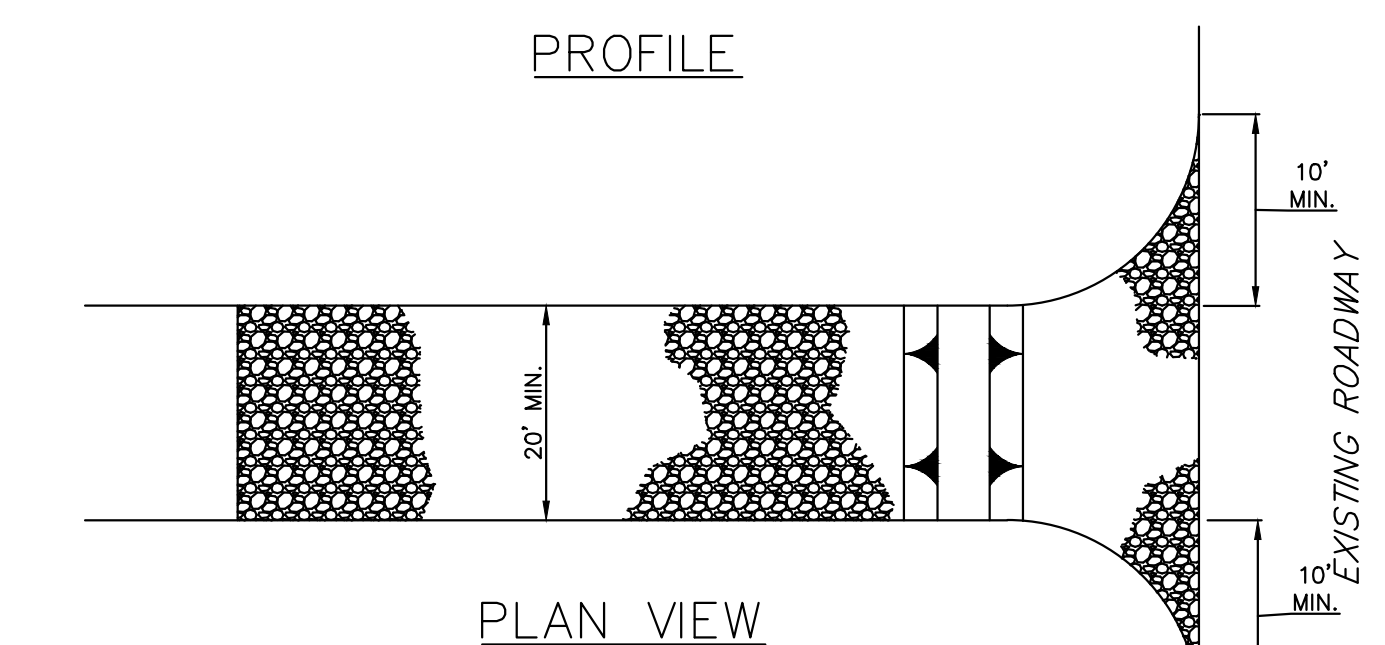
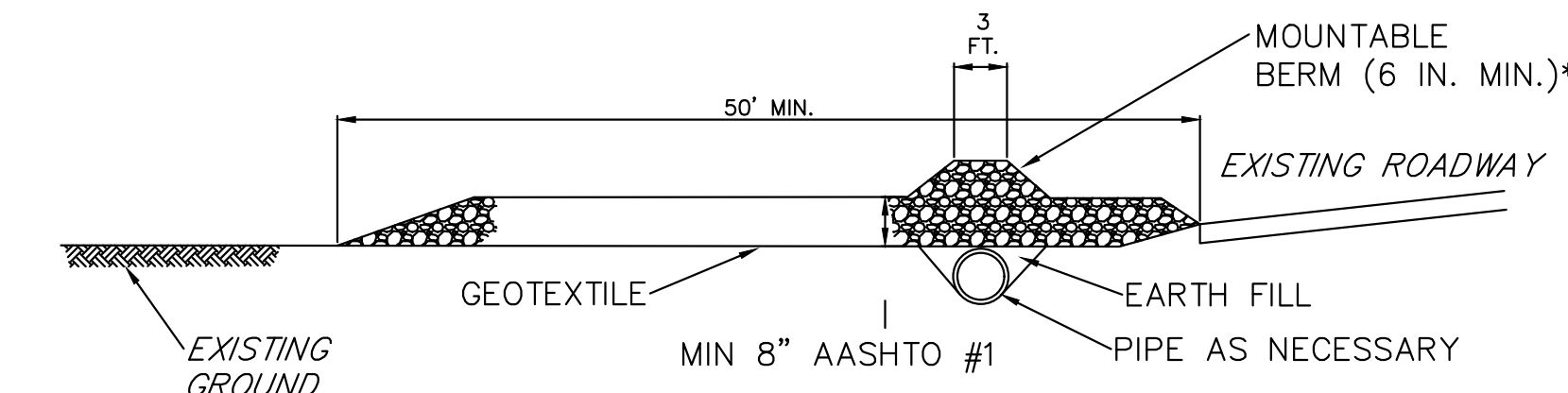
A TOP DRESSING COMPOSED OF HARD, DURABLE STONE SHALL BE PROVIDED FOR SOILS HAVING LOW STRENGTH.

DRIVEWAY DITCHES SHALL BE PROVIDED WITH ADEQUATE PROTECTIVE LINING WHEREVER RUNOFF CANNOT SHEET FLOW AWAY FROM THE DRIVEWAY.

DRIVEWAY SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED DRIVEWAYS, DITCHES, OR CROSS DRAINS SHALL BE REPAIRED IMMEDIATELY.

**CROSS CULVERT**

NO SCALE



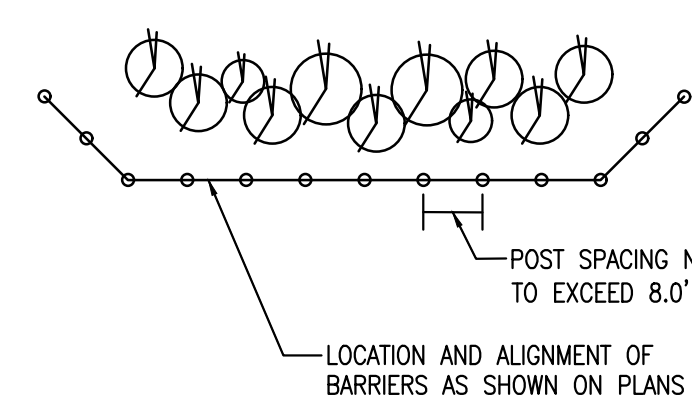
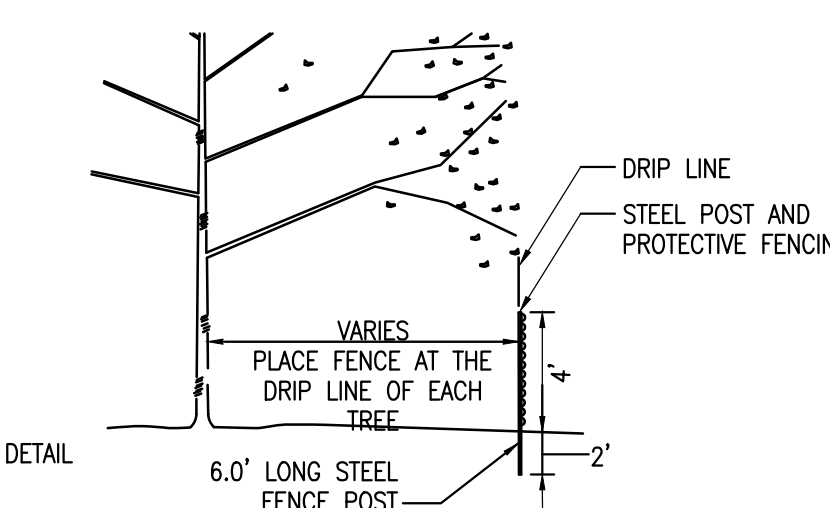
\* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

**NOTES:**

- REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
- RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
- MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
- MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

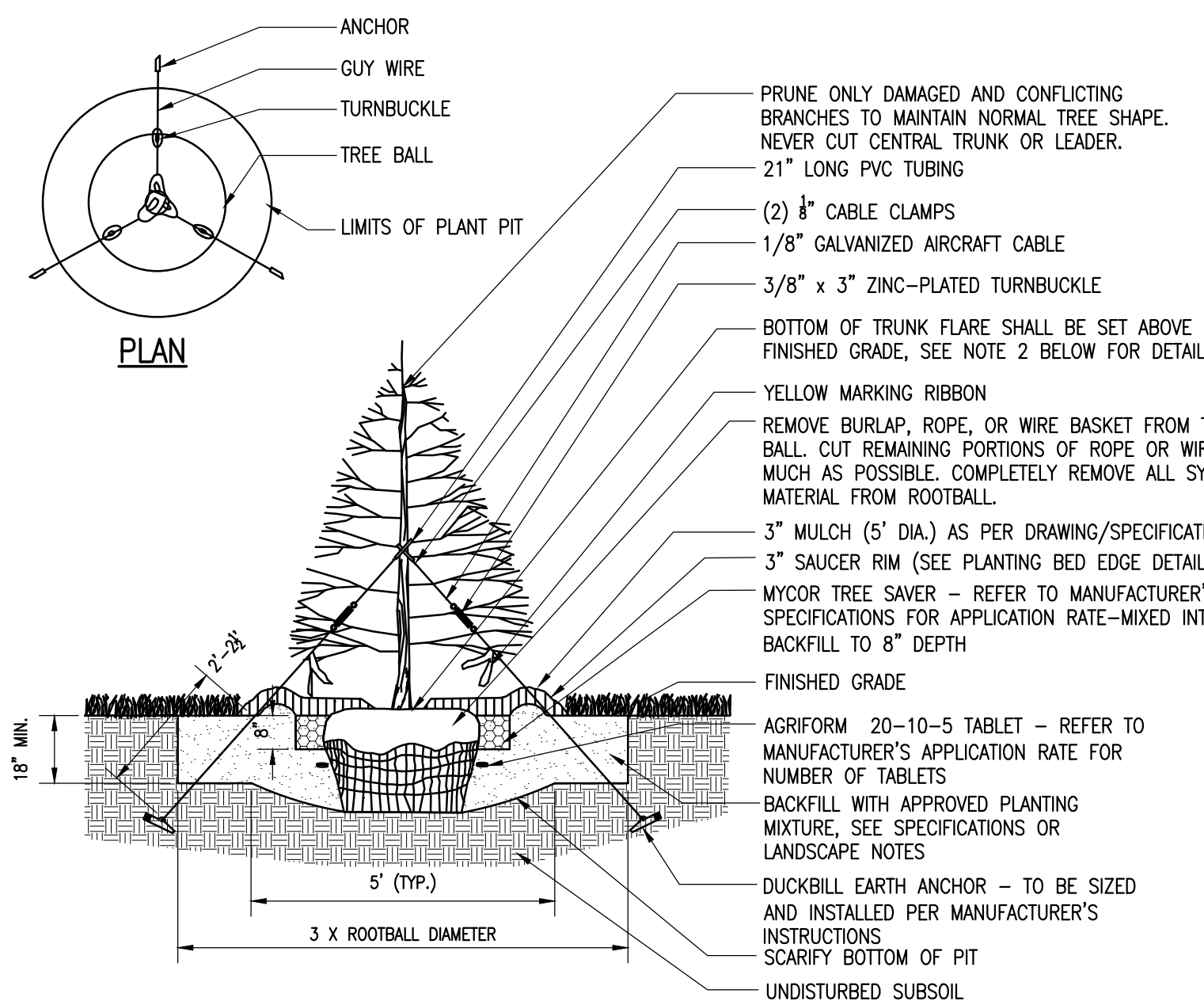
**STABILIZED CONSTRUCTION ENTRANCE**

NO SCALE



**VEGETATION PROTECTION BARRIER**

NO SCALE

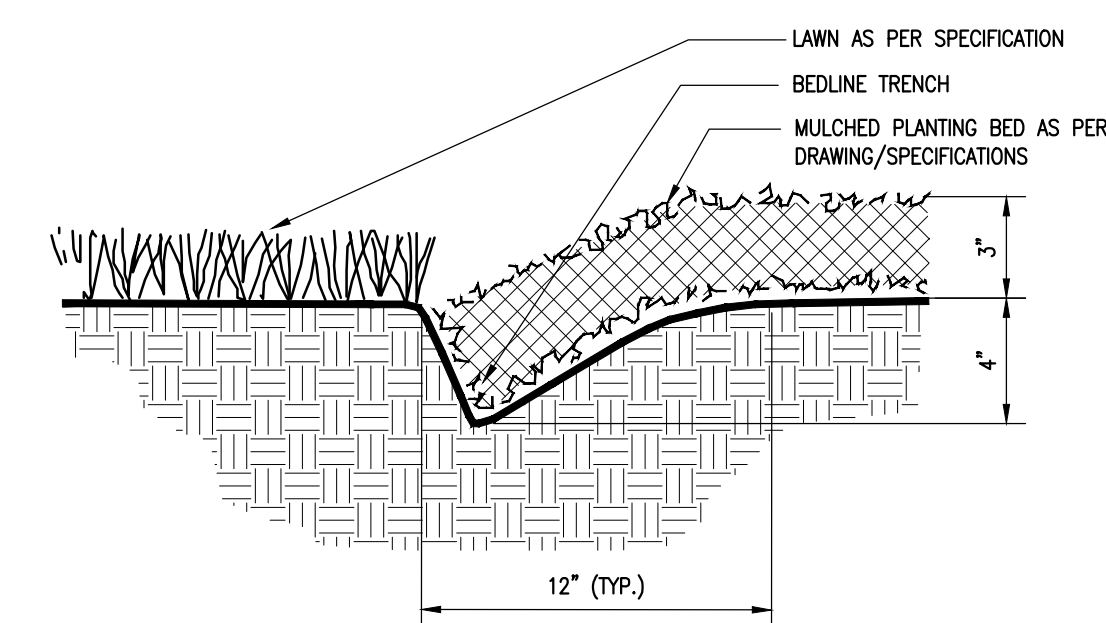


**NOTES:**

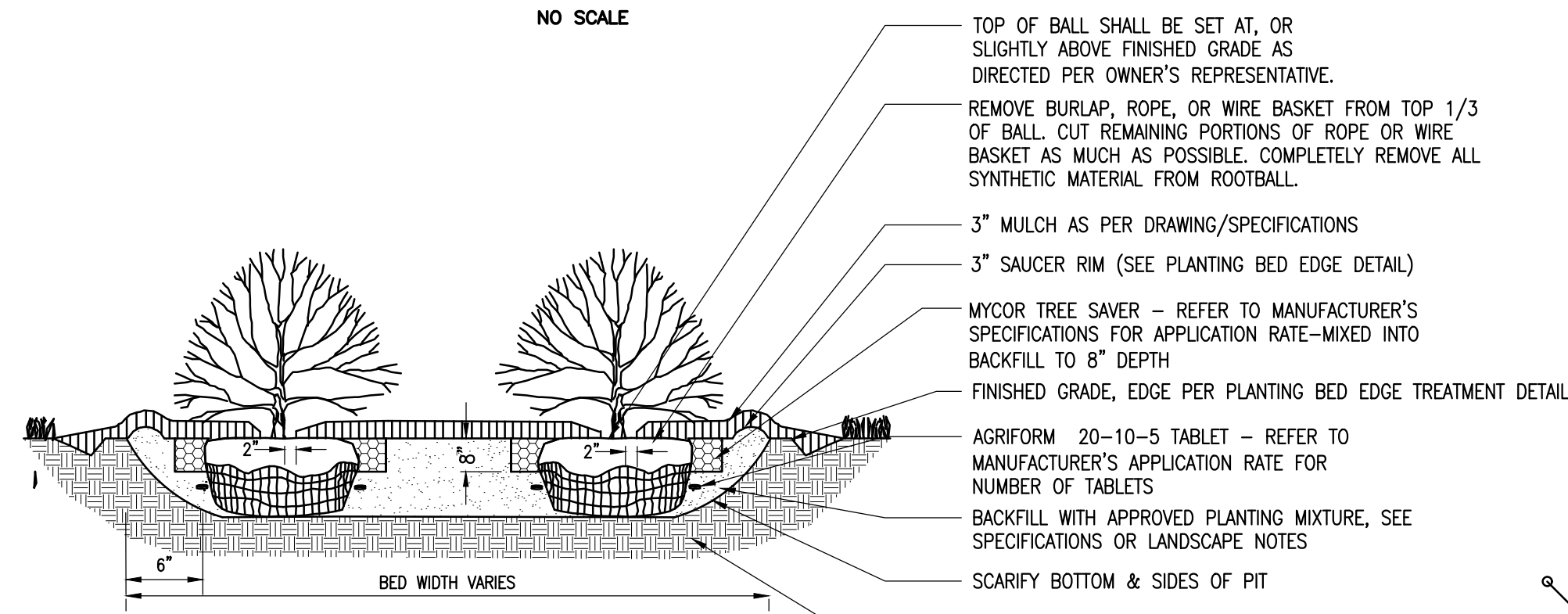
- MAINTAIN A 2" MINIMUM RADIUS CLEAR OF MULCH AROUND THE TRUNK.
- THE DISTANCE BETWEEN THE BOTTOM OF THE TRUNK FLARE AND THE FINISHED GRADE SHALL BE AS FOLLOWS:  
FOR SANDY OR LOAMY SOILS: 1"  
FOR CLAY OR POORLY DRAINED SOILS: 3"  
THE CONTRACTOR SHALL REVIEW THE APPROPRIATE PLANTING DEPTH WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- WHEN TAGGING TREES AT THE NURSERY, MARK THE NORTH SIDE OF THE TREE IN THE FIELD AND WHEN INSTALLING, ROTATE TREE TO FACE NORTH WHENEVER POSSIBLE.

**EVERGREEN TREE PLANTING**

NO SCALE



NO SCALE



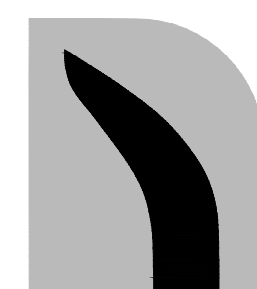
**NOTES:**

- MAINTAIN A 2" MINIMUM RADIUS CLEAR OF MULCH AROUND THE TRUNK.
- PLANTING BED DEPTH IN LAWN AREAS SHALL BE A MINIMUM OF 18" DEEP AND/OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- ALL PLANTING BEDS SHALL BE FREE OF CONSTRUCTION DEBRIS.

**SHRUB PLANTING**

NO SCALE

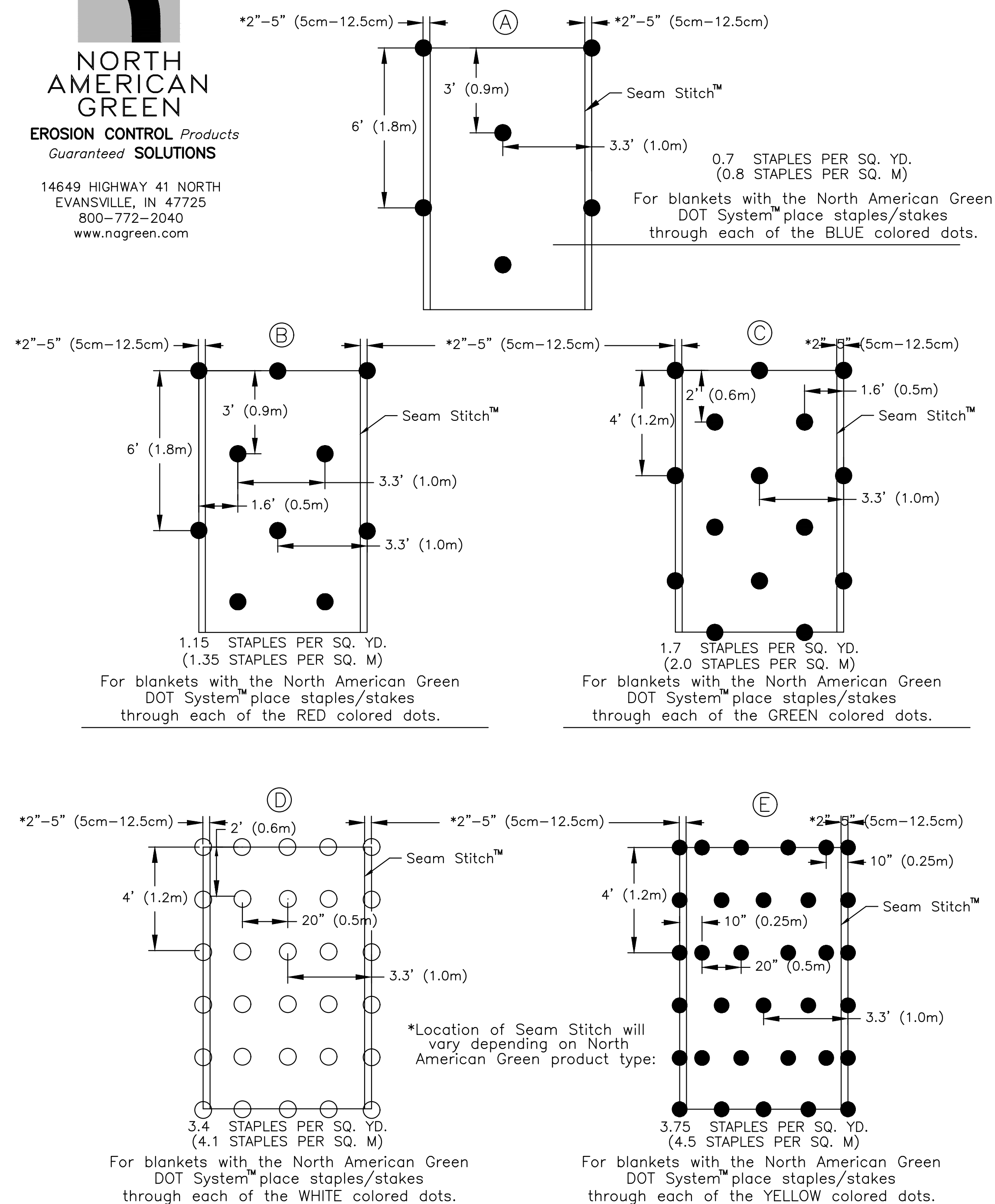
3/11/2021 1:39 PM m:\con edison cab\014847.00 con edison cab - yorktown a solar farm\4.0 dwgs\4.1 civil\4847.00 Notes & Details.dwg



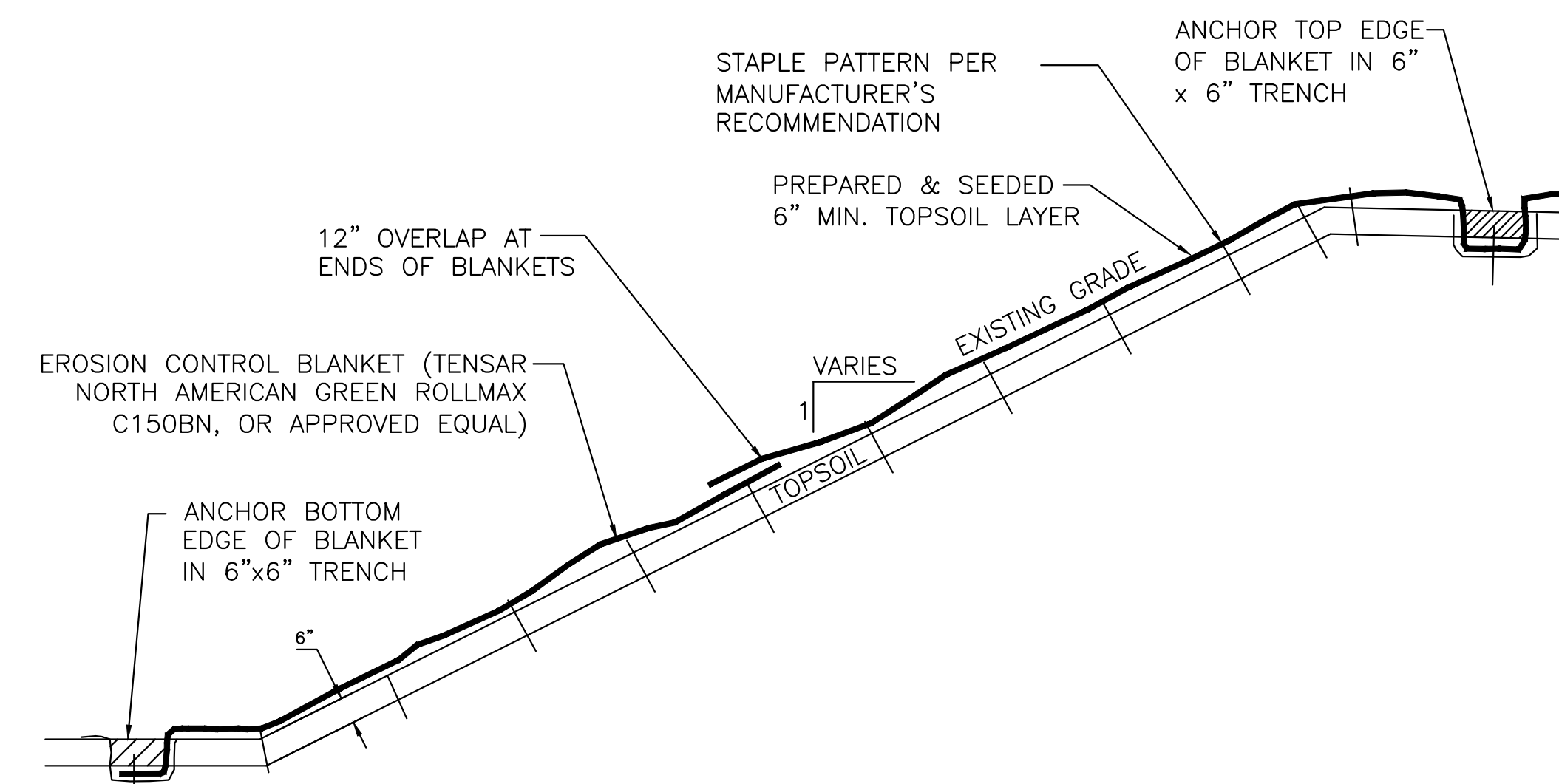
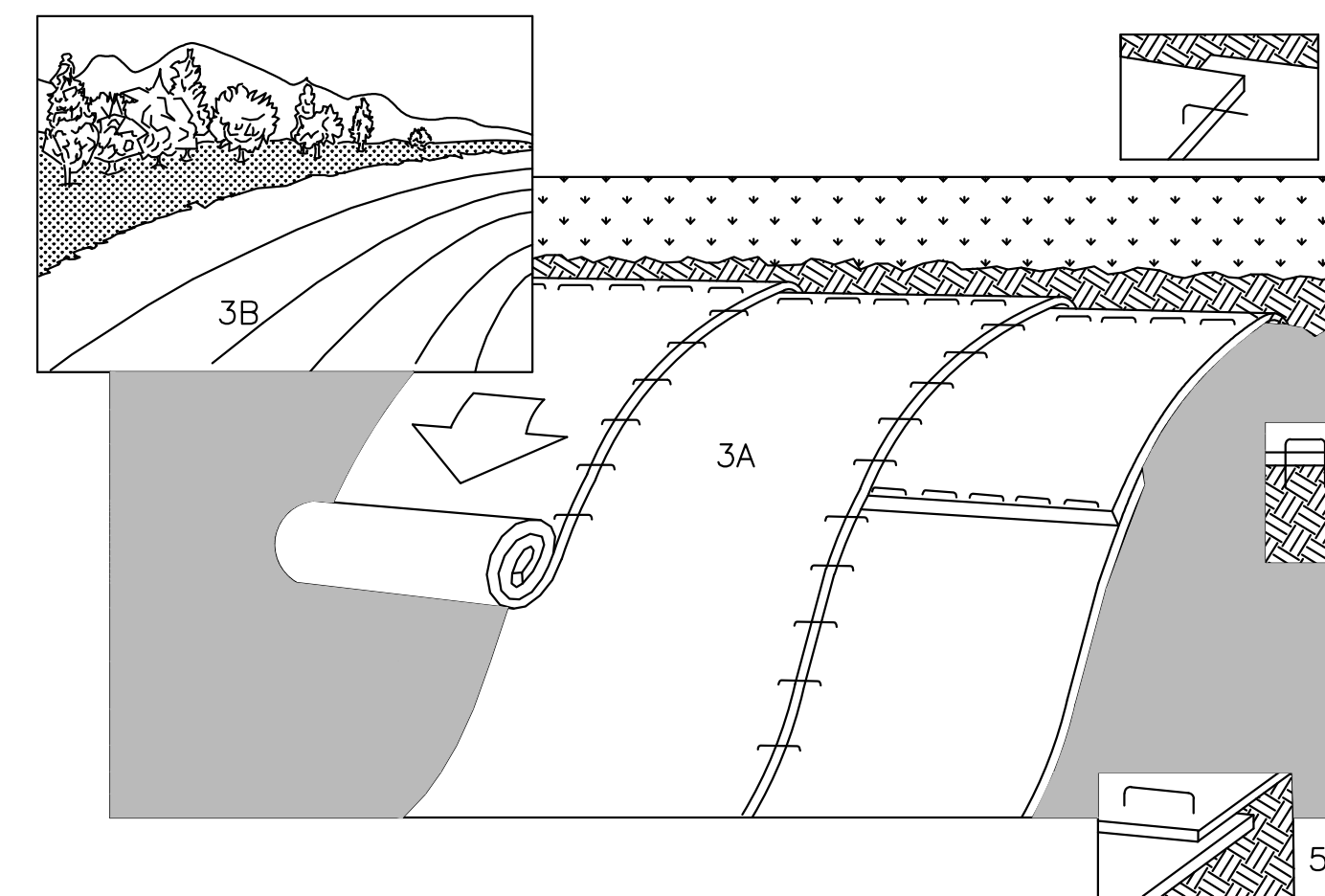
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EROSION CONTROL Products  
Guaranteed SOLUTIONS

14649 HIGHWAY 41 NORTH  
EVANSVILLE, IN 47725  
800-772-2040  
www.nagreen.com

### DOT SYSTEM™ STAPLE PATTERN GUIDE



**EROSION CONTROL BLANKET  
STAPLE PATTERN**  
NO SCALE



**NOTES:**

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 12" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL 3:1 OR STEEPER SLOPES WITH A MINIMUM OF 6 INCHES OF TOPSOIL.
7. REFER TO STAPLE PATTERN DETAIL FOR ADDITIONAL STAPLE INFORMATION.
8. THE USE OF FLEXIBLE GROWTH MEDIUM, BONDED FIBER MATRIX, OR POLYMER STABILIZED FIBER MATRIX, APPLIED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS, IS AN ACCEPTABLE ALTERNATIVE TO THE USE OF EROSION CONTROL BLANKET.

**EROSION CONTROL BLANKET**  
NO SCALE

## YORKTOWN A SOLAR FARM

FOOTHILL STREET

TOWN OF YORKTOWN  
WESTCHESTER COUNTY  
NEW YORK

### CON EDISON CLEAN ENERGY BUSINESSES, INC.

100 SUMMIT LAKE DRIVE  
VALHALLA, NY 10595

### BERGMANN ARCHITECTS ENGINEERS PLANNERS

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2 Winners Circle, Suite 102  
Albany, NY 12205

office: 518.862.0325

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REVISIONS				
NO.	DATE	DESCRIPTION	REV.	CKD
1	1/28/2021	PLAN REVISIONS	WD	ECR

**PRELIMINARY  
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Prepared By:	Checked By:
ECR	ECR
Designed By:	Drawn By:
WD	WD
Date Issued:	Scale:
OCTOBER 27, 2020	AS NOTED
Project Number:	
14847.00	

### EROSION AND SEDIMENT CONTROL DETAILS

**CALL BEFORE YOU DIG!**  
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BUT NOT MORE THAN 10 FULL WORKING DAYS,  
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1-800-962-7962

**C009**

SEED SCHEDULE 'A'

Upland Seed Mix		
Low-Growing Wildflower & Grass Mix - ERNMX #156		
Seeding Rate: 20 lb per acre with a cover crop of grain rye at 30 lb per acre		
SCIENTIFIC NAME	COMMON NAME	% OF MIX
Festuca ovina	Sheep Fescue, Variety Not Stated	63.60%
Lolium multiflorum (L. perenne var. italicum)	Annual Ryegrass	17%
Linum perenne ssp. lewisii	Perennial Blue Flax	8%
Rudbeckia hirta	Blackeyed Susan, Coastal Plain NC Ecotype	2%
Coreopsis lanceolata	Lanceleaf Coreopsis, Coastal Plain NC Ecotype	2%
Chrysanthemum leucanthemum	Oxeye Daisy	2%
Chrysanthemum maximum	Shasta Daisy	1%
Chamaecrista fasciculata (Cassia f.)	Partridge Pea, PA Ecotype	1%
Papaver rhoeas, Shirley Mix	Corn Poppy/Shirley Mix	1%
Achillea millefolium	Common Yarrow	0.5%
Aster oblongifolius (Symphyotrichum oblongifolium)	Aromatic Aster, PA Ecotype	0.5%
Eupatorium coelestinum (Conoclinium c.)	Mistflower, VA Ecotype	0.5%
Monarda punctata, Coastal Plain SC Ecotype	Spotted Beebalm, Coastal Plain SC Ecotype	0.5%
Asclepias tuberosa	Butterfly Milkweed	0.3%
Pycnanthemum tenuifolium	Slender Mountainmint	0.1%
Company Information		
Ernst Conservation Seeds, Inc.		
Address: 8884 Mercer Pike, Meadville, PA 16335		
Phone: (800) 873-3321		
Web: <a href="http://www.ernstseed.com">http://www.ernstseed.com</a>		

\* CURRENT ERNST SEED MIX COMPOSITION OR APPROVED EQUIVALENT  
 \* PROVIDE TEMPORARY SEEDING OF ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) WITHIN SEEDING LIMITS AT RATE OF 20 LBS. PER ACRE

SEED SCHEDULE 'B'

OBL-FACW Wetland Mix		
ERNMX #120		
Seeding Rate: 20 lb per acre or 1/2 lb per 1000 sq ft		
SCIENTIFIC NAME	COMMON NAME	% OF MIX
Elymus virginicus	Virginia Wildrye	20%
Poa palustris	Fowl Bluegrass	20%
Carex lurida	Lurid Shallow Sedge	17%
Carex lupulina	Hop Sedge	9%
Carex scoparia	Blunt Broom Sedge	8%
Carex vulpinoidea	Fox Sedge	5%
Panicum clandestinum Dichanthelium c.	Deertongue 'Tioga'	5%
Sparganium eurycarpum	Giant Bur Reed	4%
Sparganium americanum	Eastern Bur Reed	3%
Juncus effusus	Soft Rush	3%
Carex crinita	Fringed Nodding Sedge	2%
Leersia oryzoides	Rice Cutgrass	2%
Scirpus cyperinus	Woolgrass	2%
Juncus tenuis	Path Rush	0.5%
Company Information		
Ernst Conservation Seeds Inc.		
Address: 8884 Mercer Pike Meadville PA 16335		
Phone: 800 873-3321		
Web: <a href="http://www.ernstseed.com">http://www.ernstseed.com</a>		

\* CURRENT ERNST SEED MIX COMPOSITION OR APPROVED EQUIVALENT  
 \* PROVIDE TEMPORARY SEEDING OF ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) WITHIN SEEDING LIMITS AT RATE OF 20 LBS. PER ACRE

SITE STABILIZATION – SEED MIX

SOIL AMENDMENT APPLICATION RATE EQUIVALENTS					
SOIL AMENDMENT	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	NOTES	
TEMPORARY SEEDING	AGRICULTURAL LIME	6 TONS	240 LB.	2,480 LB.	OR AS PER SOIL TEST: MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS
	10-10-20 FERTILIZER	1,000 L.B.	25 LB.	210 LB.	
TEMPORARY SEEDING	AGRICULTURAL LIME	1 TON	40 LB.	410 LB.	TYPICALLY NOT REQUIRED FOR TOPSOIL STOCKPILES
	10-10-20 FERTILIZER	500 LB.	12.5 LB.	100 LB.	
COMPOST STANDARDS					
ORGANIC MATTER CONTENT		80% - 100% (DRY WEIGHT BASIS)			
ORGANIC PORTION		FIBROUS AND ELONGATED			
pH		5.5 - 8.0			
MOISTURE CONTENT		35% - 55%			
PARTICLE SIZE		98% PASS THROUGH 1" SCREEN			
SOLUBLE SALT CONCENTRATION		5.0 dS/m (mmhos/cm) MAXIMUM			
MULCH APPLICATION RATES					
MULCH TYPE	APPLICATION RATE (MIN.)			NOTES	
	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.		
STRAW	3 TONS	140 LB.	1,240 LB.	EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN	
HAY	3 TONS	140 LB.	1,240 LB.	TIMOTHY, MIXED CLOVER AND TIMOTHY, OR OTHER NATIVE FORAGE GRASSES	
WOOD CELLULOSE	1,500 LB.	35 LB.	310 LB.	DO NOT USE ALONE IN WINTER, DURING HOT AND DRY WEATHER OR ON STEEP SLOPES (> 3:1)	
WOOD	1,000 LB. CELLULOSE	25 LB.	210 LB.	WHEN USED OVER STRAW OR HAY	
WOOD CHIPS	4 - 6 TONS	185 - 275 LB.	1,650 - 2,500 LB.	MAY PREVENT GERMINATION OF GRASSES AND LEGUMES	

NOTES:

- WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE TEMPORARILY STABILIZED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
- MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
- STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN.
- TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 INCHES MINIMUM. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OF SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE 1/2" TO 3/4". COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE.
- BLANKETING SHALL BE USED ON ALL SLOPES 3H:1V OR STEEPER OR AS NOTED ON THE PLANS.
- PERMANENT STABILIZATION SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE.
- WETLAND SEED MIX SHOULD BE INSTALLED ONLY IN DRY SWALE.

**YORKTOWN A SOLAR FARM**  
**FOOTHILL STREET**

TOWN OF YORKTOWN  
 WESTCHESTER COUNTY  
 NEW YORK

**CON EDISON CLEAN ENERGY BUSINESSES, INC.**

100 SUMMIT LAKE DRIVE  
 VALHALLA, NY 10595



Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.  
 2 Winners Circle, Suite 102  
 Albany, NY 12205

office: 518.862.0325

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NO.	DATE	DESCRIPTION	REV.	CKD
1	1/28/2021	PLAN REVISIONS	WD	ECR

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Prepared By: <b>ECR</b>	Checked By: <b>ECR</b>
Designed By: <b>WD</b>	Drawn By: <b>WD</b>
Date Issued: <b>OCTOBER 27, 2020</b>	Scale: <b>AS NOTED</b>
Project Number: <b>14847.00</b>	

**SITE DETAILS**

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**C010**

# YORKTOWN A SOLAR FARM

FOOTHILL STREET

TOWN OF YORKTOWN  
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**CON EDISON CLEAN ENERGY BUSINESSES, INC.**

100 SUMMIT LAKE DRIVE  
VALHALLA, NY 10595

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2 Winners Circle, Suite 102  
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NO.	DATE	DESCRIPTION	REV.	CKD
1	1/28/2021	PLAN REVISIONS	WD	ECR

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Date Issued: <b>OCTOBER 27, 2020</b>	Scale: <b>AS NOTED</b>
Project Number: <b>14847.00</b>	

**CONSTRUCTION  
DETAILS**

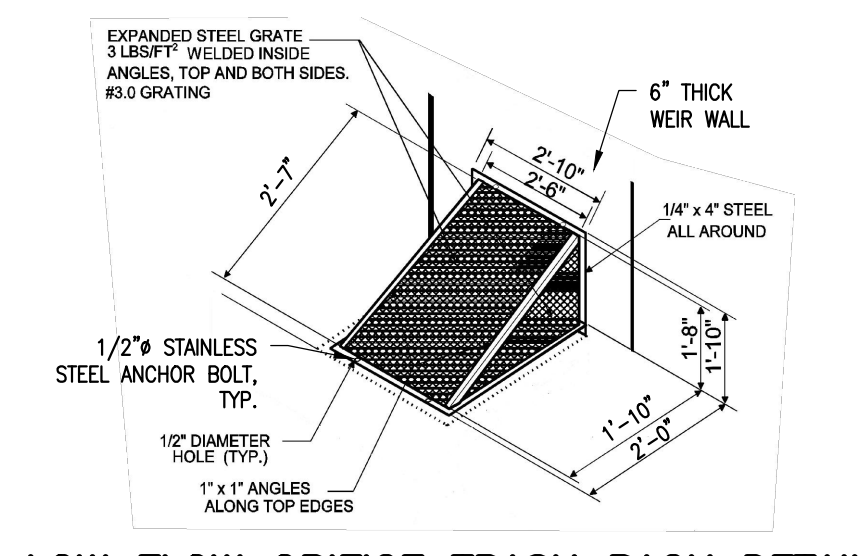
**CALL BEFORE YOU DIG!**  
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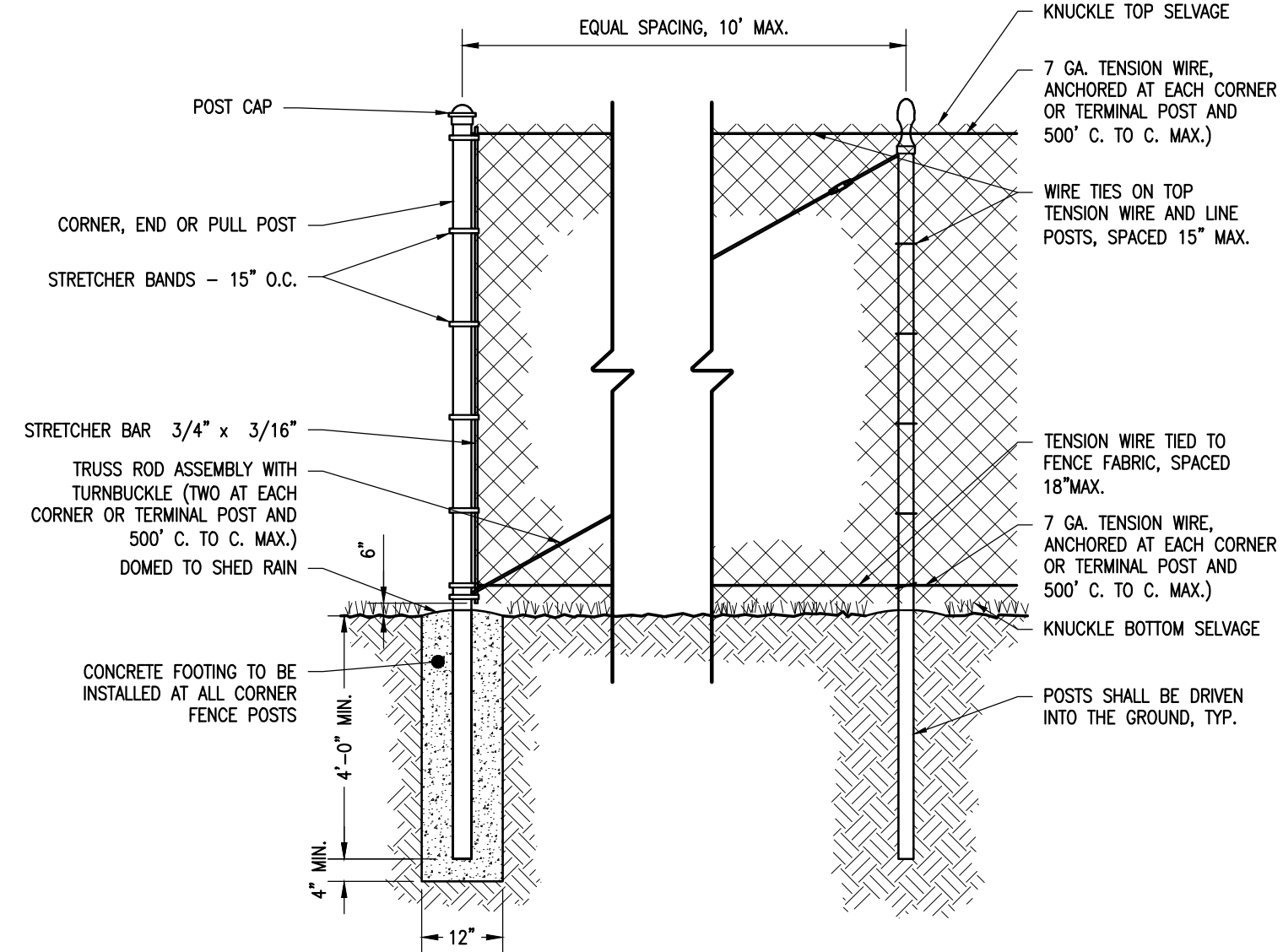
1-800-962-7962

Drawing Number:

**C011**



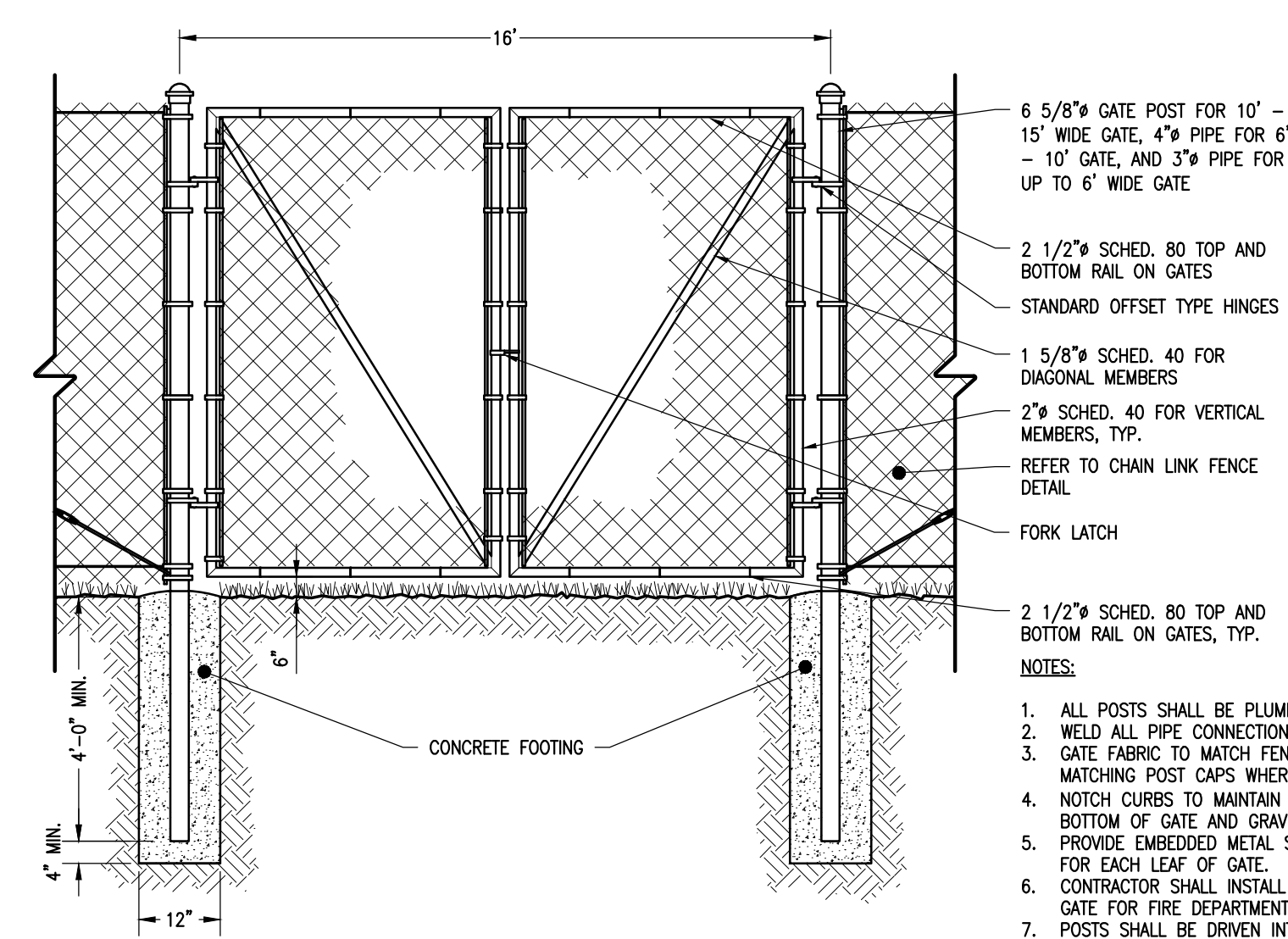
**LOW FLOW ORIFICE TRASH RACK DETAIL**  
N.T.S.



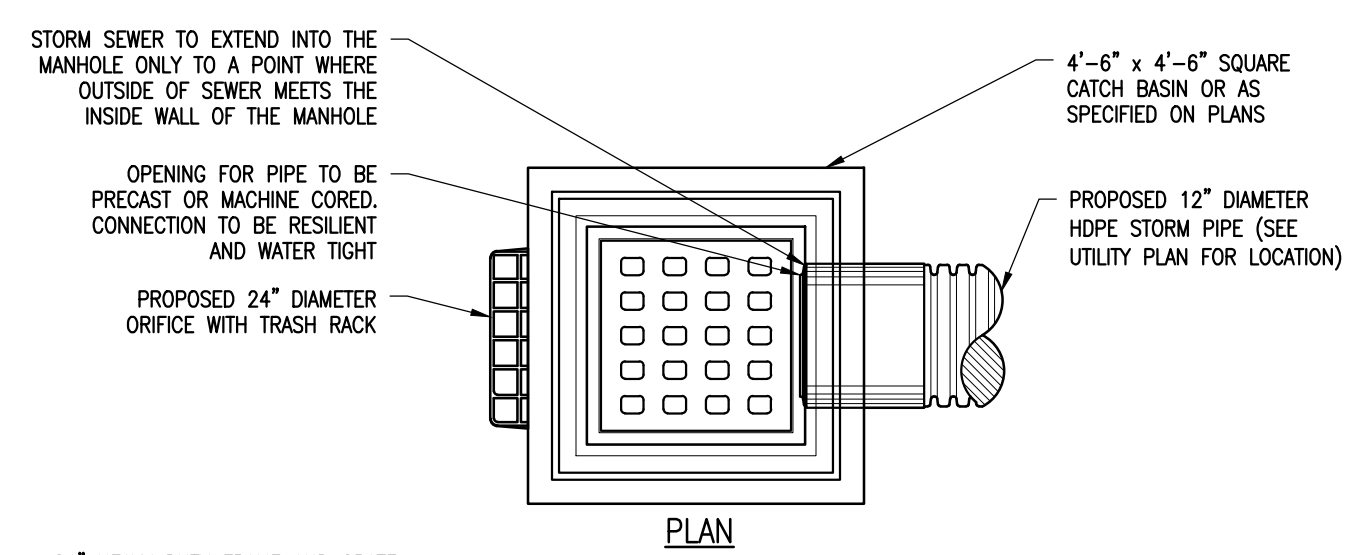
- NOTES:
- ALL POSTS SHALL BE PLUMB
  - WIRE TIES SHALL BE PLACED 15" ON CENTER ALONG TOP RAIL AND LINE POSTS.
- | USE                             | NOM. OD. |
|---------------------------------|----------|
| LINE POSTS                      | 2 1/2"   |
| CORNER, END, GATE, & PULL POSTS | 3"       |
| RAILS                           | 1 5/8"   |
| GATE FRAMES                     | 2"       |

**CHAIN-LINK FENCE DETAIL**  
N.T.S.

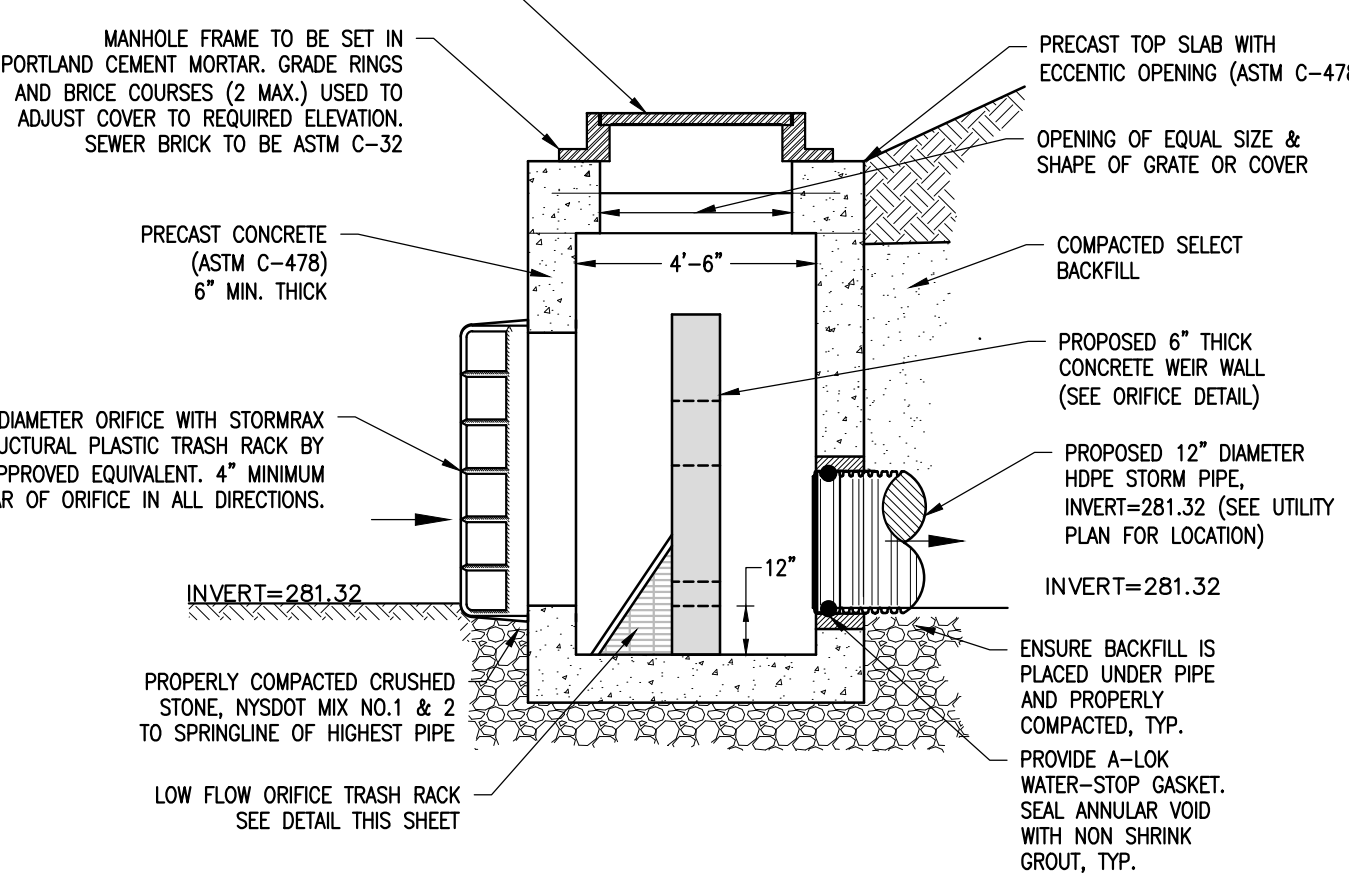
DESIGNER TO COORDINATE  
PIPE SIZES WITH  
SPECIFICATIONS



**CHAIN-LINK FENCE GATE DETAIL**  
NO SCALE



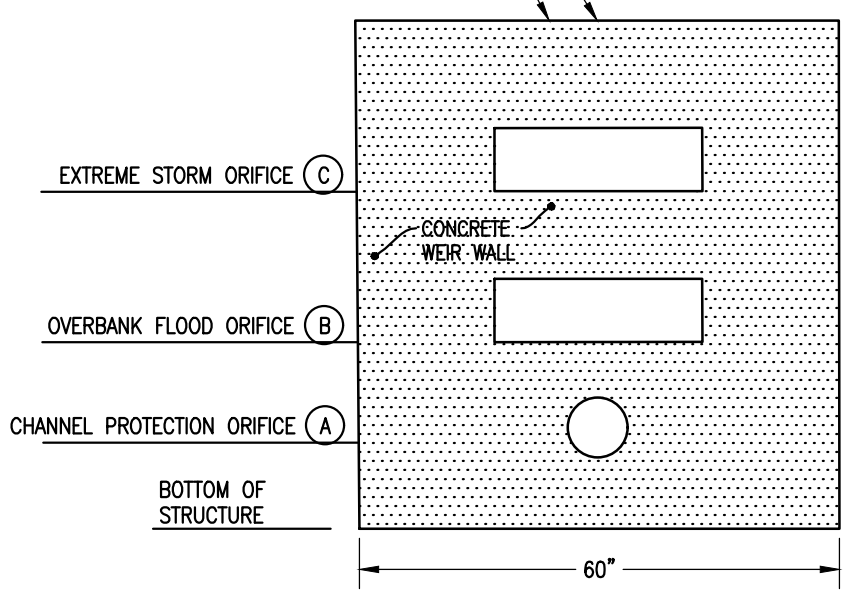
**OUTLET CONTROL STRUCTURE 1 DETAIL**  
N.T.S.



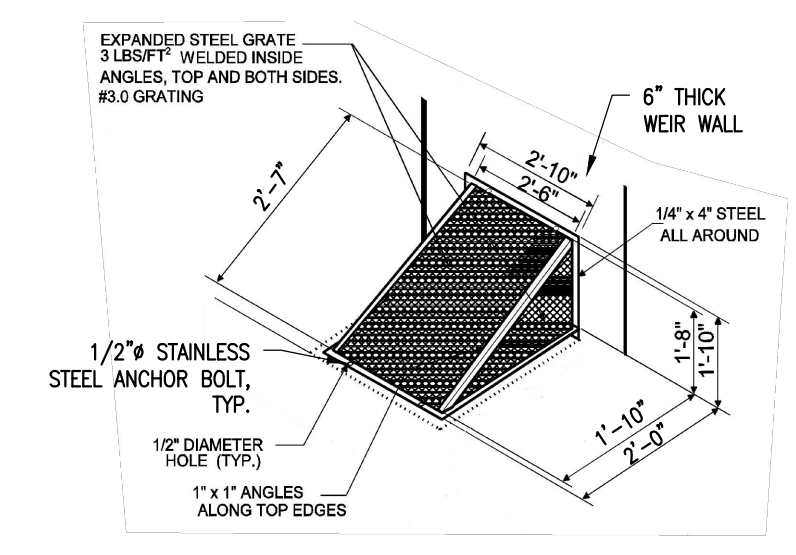
**OUTLET CONTROL STRUCTURE 1 DETAIL**  
N.T.S.

CONTROL STRUCTURE	(A) SIZE	(A) ELEV	(B) SIZE	(B) ELEV	(C) SIZE	(C) ELEV	(D) ELEV
1	3"	281.32	30"x8"	281.75	30"x6"	283.10	284.00

REFER TO ORIFICE SCHEDULE, THIS SHEET, FOR ORIFICE SIZES AND INVERT ELEVATIONS, TOP OF BROAD-CRESTED WEIR (FULL WIDTH) (D)



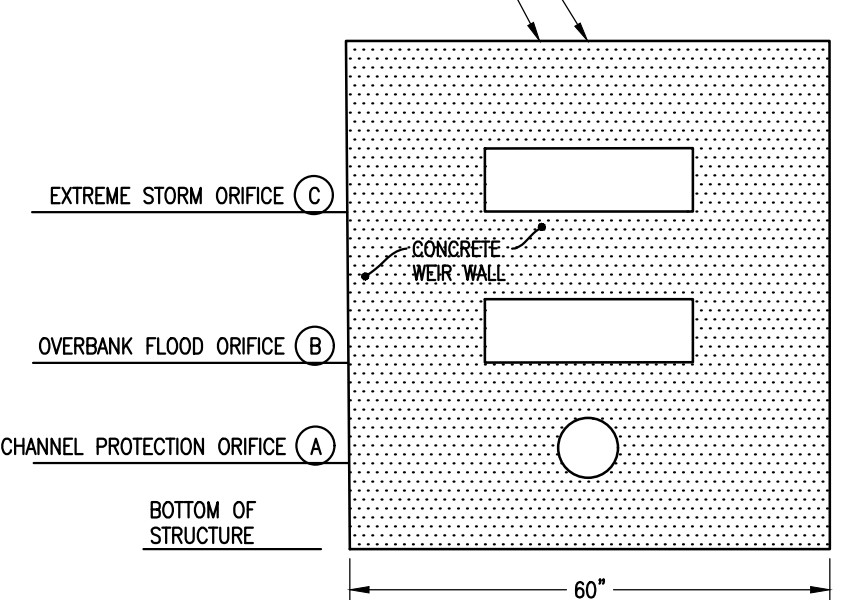
**ORIFICE DETAIL**  
N.T.S.



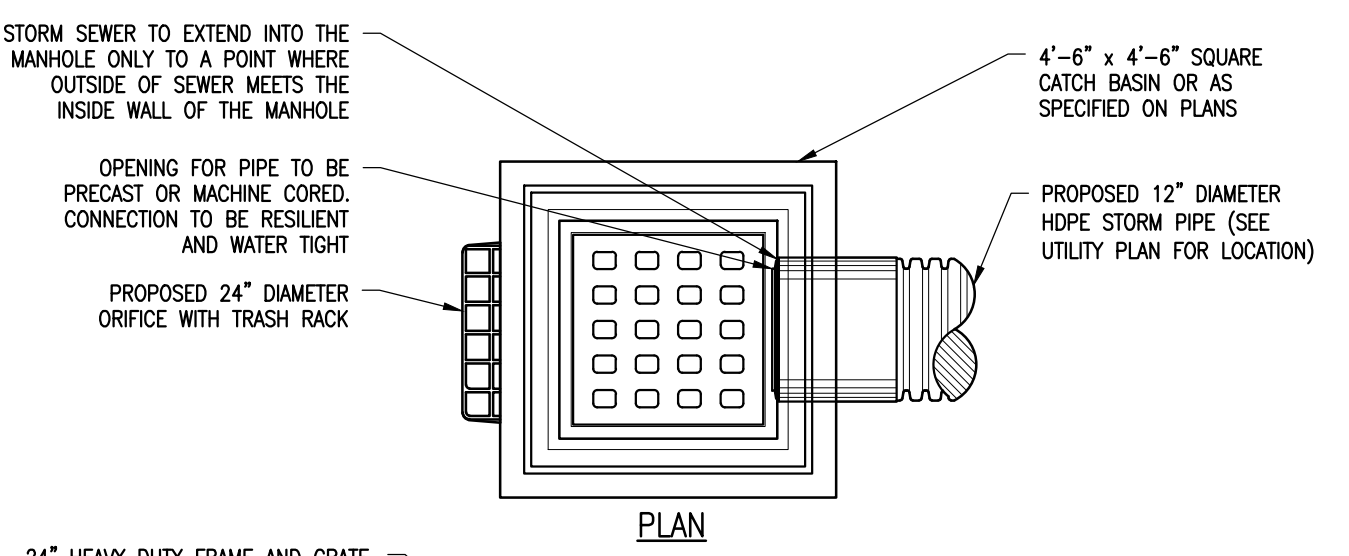
**LOW FLOW ORIFICE TRASH RACK DETAIL**  
N.T.S.

CONTROL STRUCTURE	(A) SIZE	(A) ELEV	(B) SIZE	(B) ELEV	(C) SIZE	(C) ELEV	(D) ELEV
1	3"	277.00	20"x6"	277.50	30"x6"	278.10	279.00

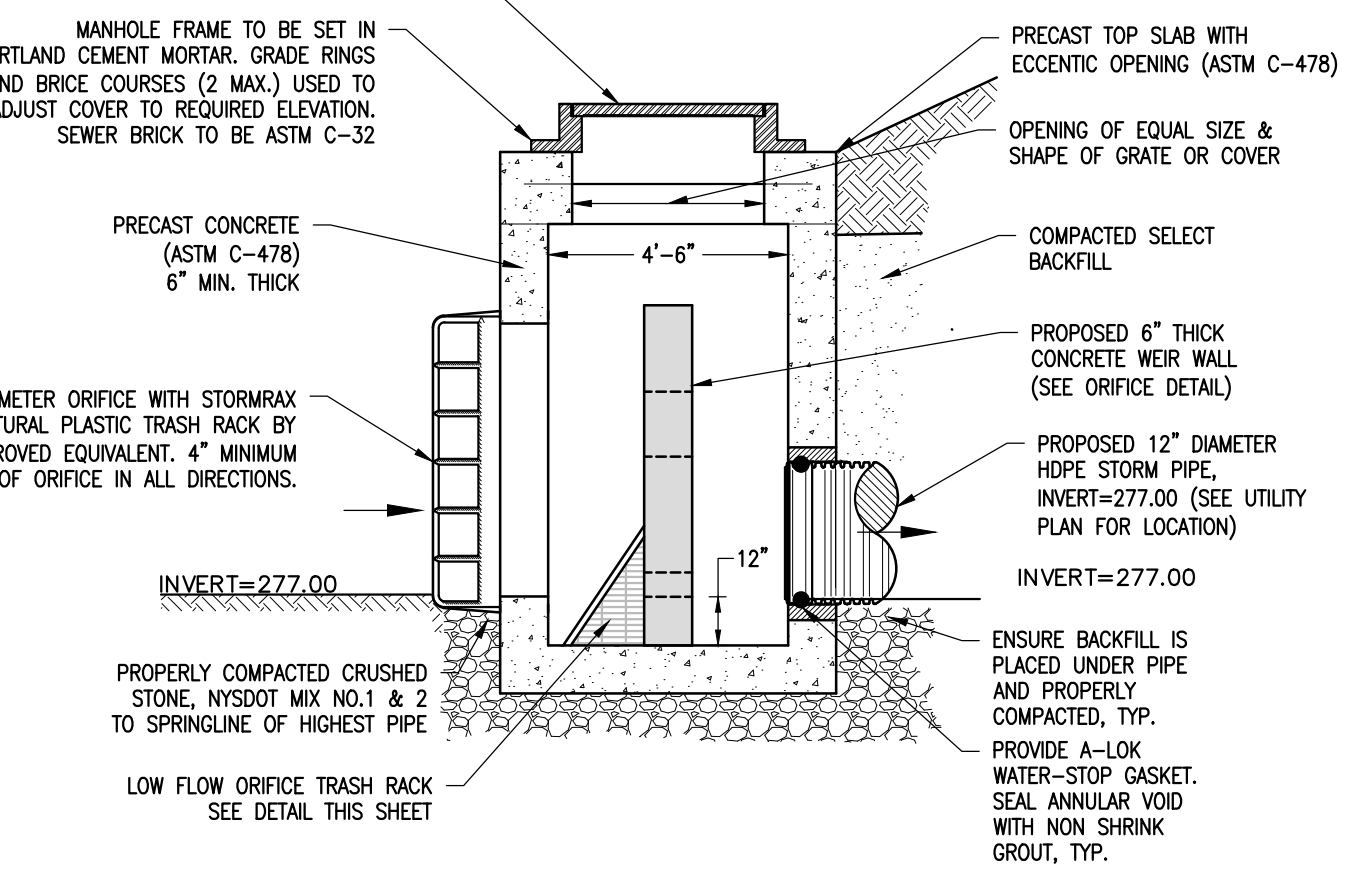
REFER TO ORIFICE SCHEDULE, THIS SHEET, FOR ORIFICE SIZES AND INVERT ELEVATIONS, TOP OF BROAD-CRESTED WEIR (FULL WIDTH) (D)



**ORIFICE DETAIL**  
N.T.S.



**OUTLET CONTROL STRUCTURE 2 DETAIL**  
N.T.S.



**OUTLET CONTROL STRUCTURE 2 DETAIL**  
N.T.S.

3/11/2021 1:40 PM m:\com.edison\c0114847.00 con.edison.cdb - yorktown a solar farm\4.0 dwgs\4.1 civil\4847.00 Notes & Details.dwg



# **Appendix D**

## **Notice of Intent (NOI)**

# NOI for coverage under Stormwater General Permit for Construction Activity

version 1.27

(Submission #: HP3-FDQB-RS1MS, version 1)

## Details

---

**Submission Alias** Yorktown A Solar Farm - NOI for coverage under Stormwater General Permit for Construction Activity

**Originally Started By** Websly Darbouze

**Submission ID** HP3-FDQB-RS1MS

**Submission Reason** New

**Status** Draft

## Form Input

---

### Owner/Operator Information

**Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)**

Con Edison Clean Energy Businesses, Inc.

**Owner/Operator Contact Person Last Name (NOT CONSULTANT)**

Shanahan

**Owner/Operator Contact Person First Name**

Joe

**Owner/Operator Mailing Address**

100 Summit Lake Drive

**City**

Valhalla

**State**

NY

**Zip**

10595

**Phone**

978 888-4088

**Email**

ShanahanJ@conedceb.com

**Federal Tax ID**

NONE PROVIDED

**Project Location****Project/Site Name**

Yorktown A Solar Farm

**Street Address (Not P.O. Box)**

3849 Foothill Street

**Side of Street**

West

**City/Town/Village (THAT ISSUES BUILDING PERMIT)**

Yorktown

**State**

NY

**Zip**

10547

**County**

WESTCHESTER

**DEC Region**

3

**Name of Nearest Cross Street**

Lockwood Road

**Distance to Nearest Cross Street (Feet)**

5

**Project In Relation to Cross Street**

North

**Tax Map Numbers Section-Block-Parcel**

15.07-1-5

**Tax Map Numbers**

NONE PROVIDED

**1. Coordinates**

---

Provide the Geographic Coordinates for the project site. The two methods are:

- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.

- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

**Navigate to your location and click on the map to get the X,Y coordinates**

41.333013,-73.85942800000001

3849 Foothill St, Mohegan Lake, NY 10547, USA

**Project Details****2. What is the nature of this project?**

New Construction

**3. Select the predominant land use for both pre and post development conditions.****Pre-Development Existing Landuse**

Pasture/Open Land

**Post-Development Future Land Use**

Other: Solar Farm

**3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.**

NONE PROVIDED

---

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

\*\*\* ROUND TO THE NEAREST TENTH OF AN ACRE. \*\*\*

**Total Site Area (acres)**

34.23

**Total Area to be Disturbed (acres)**

16.00



**Existing Impervious Area to be Disturbed (acres)**

0

**Future Impervious Area Within Disturbed Area (acres)**

0.07

**5. Do you plan to disturb more than 5 acres of soil at any one time?**

No

---

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

0

**B (%)**

73.6

**C (%)**

1.1

**D (%)**

8.5

**7. Is this a phased project?**

Yes

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

3/1/2021

**End Date**

6/1/2021

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

Wetlands

**9a. Type of waterbody identified in question 9?**

Wetland/Federal Jurisdiction On Site (Answer 9b)

**Other Waterbody Type Off Site Description**

Stream (Mohegan Outlet)

**9b. If "wetland" was selected in 9A, how was the wetland identified?**

Delineated by Consultant

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

No

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

No

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

No

**If No, skip question 13.**

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

No

**If Yes, what is the acreage to be disturbed?**

NONE PROVIDED

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

No

**15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?**

No

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

NONE PROVIDED

**17. Does any runoff from the site enter a sewer classified as a Combined Sewer?**

No

**18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?**

No

**19. Is this property owned by a state authority, state agency, federal government or local government?**

No

**20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)**

No

## **Required SWPPP Components**

**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

**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

**If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.**

**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

**24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:**  
Professional Engineer (P.E.)

**SWPPP Preparer**

Bergmann

**Contact Name (Last, Space, First)**

Eric, Redding

**Mailing Address**

2 Winners Circle, Suite 102

**City**

Albany

**State**

NY

**Zip**

12205

**Phone**

518 556 3631

**Email**

eredding@bergmannpc.com

**Download SWPPP Preparer Certification Form**

Please take the following steps to prepare and upload your preparer certification form:

- 1) Click on the link below to download a blank certification form
- 2) The certified SWPPP preparer should sign this form

3) Scan the signed form

4) Upload the scanned document

[Download SWPPP Preparer Certification Form](#)

**Please upload the SWPPP Preparer Certification**

NONE PROVIDED

**Comment**

NONE PROVIDED

## **Erosion & Sediment Control Criteria**

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

Yes

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

### **Temporary Structural**

Check Dams

Stabilized Construction Entrance

Silt Fence

### **Biotechnical**

None

### **Vegetative Measures**

Mulching

Seeding

### **Permanent Structural**

Land Grading

Rock Outlet Protection

Grade Stabilization Structure

### **Other**

NONE PROVIDED

## **Post-Construction Criteria**

**\* 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 Area  
Reduction of Clearing and Grading  
Preservation of Buffers  
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).

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

0.01

**29. Post-construction SMP Identification**

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing 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 the Post-Construction SMP Identification section 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.

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

0.01

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

Yes

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

**32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)**

0.003

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

Yes

**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; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

**33. SMPs**

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section 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. (acre-feet)**

0

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 - 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).**

0.010

**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

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, 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 (acre-feet)**

0.25

**CPv Provided (acre-feet)**

0.25

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

NONE PROVIDED

**37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.****Overbank Flood Control Criteria (Qp)****Pre-Development (CFS)**

26.92

**Post-Development (CFS)**

22.08

**Total Extreme Flood Control Criteria (Qf)****Pre-Development (CFS)**

88.24

**Post-Development (CFS)**

84.95

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

NONE PROVIDED

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

Yes

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

Con Edison Clean Energy Businesses, Inc.

**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.**

NONE PROVIDED

**Post-Construction SMP Identification****Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs**

Identify the Post-construction SMPs to be used by providing 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.

### **RR Techniques (Area Reduction)**

---

Round to the nearest tenth

**Total Contributing Acres for Conservation of Natural Area (RR-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)**

NONE PROVIDED

**Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)**

NONE PROVIDED

**Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)**

NONE PROVIDED

**Total Contributing Acres for Tree Planting/Tree Pit (RR-3)**

NONE PROVIDED

**Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)**

NONE PROVIDED

**Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)**

NONE PROVIDED

### **RR Techniques (Volume Reduction)**

---

**Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Vegetated Swale (RR-5)**

NONE PROVIDED

**Total Contributing Impervious Acres for Rain Garden (RR-6)**

NONE PROVIDED

**Total Contributing Impervious Acres for Stormwater Planter (RR-7)**

NONE PROVIDED

**Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)**

NONE PROVIDED

**Total Contributing Impervious Acres for Porous Pavement (RR-9)**

NONE PROVIDED



**Total Contributing Impervious Acres for Green Roof (RR-10)**

NONE PROVIDED

**Standard SMPs with RRv Capacity**

---

**Total Contributing Impervious Acres for Infiltration Trench (I-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Infiltration Basin (I-2)**

NONE PROVIDED

**Total Contributing Impervious Acres for Dry Well (I-3)**

NONE PROVIDED

**Total Contributing Impervious Acres for Underground Infiltration System (I-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Bioretention (F-5)**

0.07

**Total Contributing Impervious Acres for Dry Swale (O-1)**

NONE PROVIDED

**Standard SMPs**

---

**Total Contributing Impervious Acres for Micropool Extended Detention (P-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Wet Pond (P-2)**

NONE PROVIDED

**Total Contributing Impervious Acres for Wet Extended Detention (P-3)**

NONE PROVIDED

**Total Contributing Impervious Acres for Multiple Pond System (P-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Pocket Pond (P-5)**

NONE PROVIDED

**Total Contributing Impervious Acres for Surface Sand Filter (F-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Underground Sand Filter (F-2)**

NONE PROVIDED

**Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)**

NONE PROVIDED

**Total Contributing Impervious Acres for Organic Filter (F-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Shallow Wetland (W-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Extended Detention Wetland (W-2)**

NONE PROVIDED

**Total Contributing Impervious Acres for Pond/Wetland System (W-3)**

NONE PROVIDED

**Total Contributing Impervious Acres for Pocket Wetland (W-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Wet Swale (O-2)**

NONE PROVIDED

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

---

**Total Contributing Impervious Area for Hydrodynamic**

NONE PROVIDED

**Total Contributing Impervious Area for Wet Vault**

NONE PROVIDED

**Total Contributing Impervious Area for Media Filter**

NONE PROVIDED

**"Other" Alternative SMP?**

NONE PROVIDED

**Total Contributing Impervious Area for "Other"**

NONE PROVIDED

**Provide the name and manufacturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.**

**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.**

**Manufacturer of Alternative SMP**

NONE PROVIDED

**Name of Alternative SMP**

NONE PROVIDED

## Other Permits

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

None

**If SPDES Multi-Sector GP, then give permit ID**

NONE PROVIDED

**If Other, then identify**

NONE PROVIDED

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

No

**If "Yes," then indicate Size of Impact, in acres, to the nearest tenth**

NONE PROVIDED

**42. 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.**

NONE PROVIDED

## MS4 SWPPP Acceptance

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

Yes - Please attach the MS4 Acceptance form below

**If No, skip question 44**

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

No

**MS4 SWPPP Acceptance Form Download**

Download form from the link below. Complete, sign, and upload.

[MS4 SWPPP Acceptance Form](#)

**MS4 Acceptance Form Upload**

NONE PROVIDED

**Comment**

NONE PROVIDED

## Owner/Operator Certification

**Owner/Operator Certification Form Download**

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.

[Owner/Operator Certification Form \(PDF, 45KB\)](#)

**Upload Owner/Operator Certification Form**

NONE PROVIDED

**Comment**

NONE PROVIDED



**Appendix D-1**  
**Notice of Permit Coverage and**  
**MS4 Acceptance Form**



**Appendix E**  
**NYS DEC SPDES General Permit for Stormwater**  
**Discharges from Construction Activity**  
**(GP-0-20-001)**



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

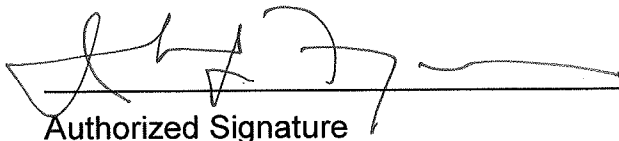
Issued Pursuant to Article 17, Titles 7, 8 and Article 70  
of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator



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;

- (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*

*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, 4<sup>th</sup> 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**

<p><b>The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:</b></p> <ul style="list-style-type: none"><li>• Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not directly discharging</u> to one of the 303(d) segments listed in Appendix E</li><li>• Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E</li><li>• Construction of a barn or other <i>agricultural building</i>, silo, stock yard or pen.</li></ul>
<p><b>The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:</b></p> <p>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.</p>
<p><b>The following construction activities that involve soil disturbances of one (1) or more acres of land:</b></p> <ul style="list-style-type: none"><li>• Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains</li><li>• Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects</li><li>• Pond construction</li><li>• Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover</li><li>• Cross-country ski trails and walking/hiking trails</li><li>• Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;</li><li>• 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.</li><li>• Slope stabilization projects</li><li>• Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics</li></ul>

**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:

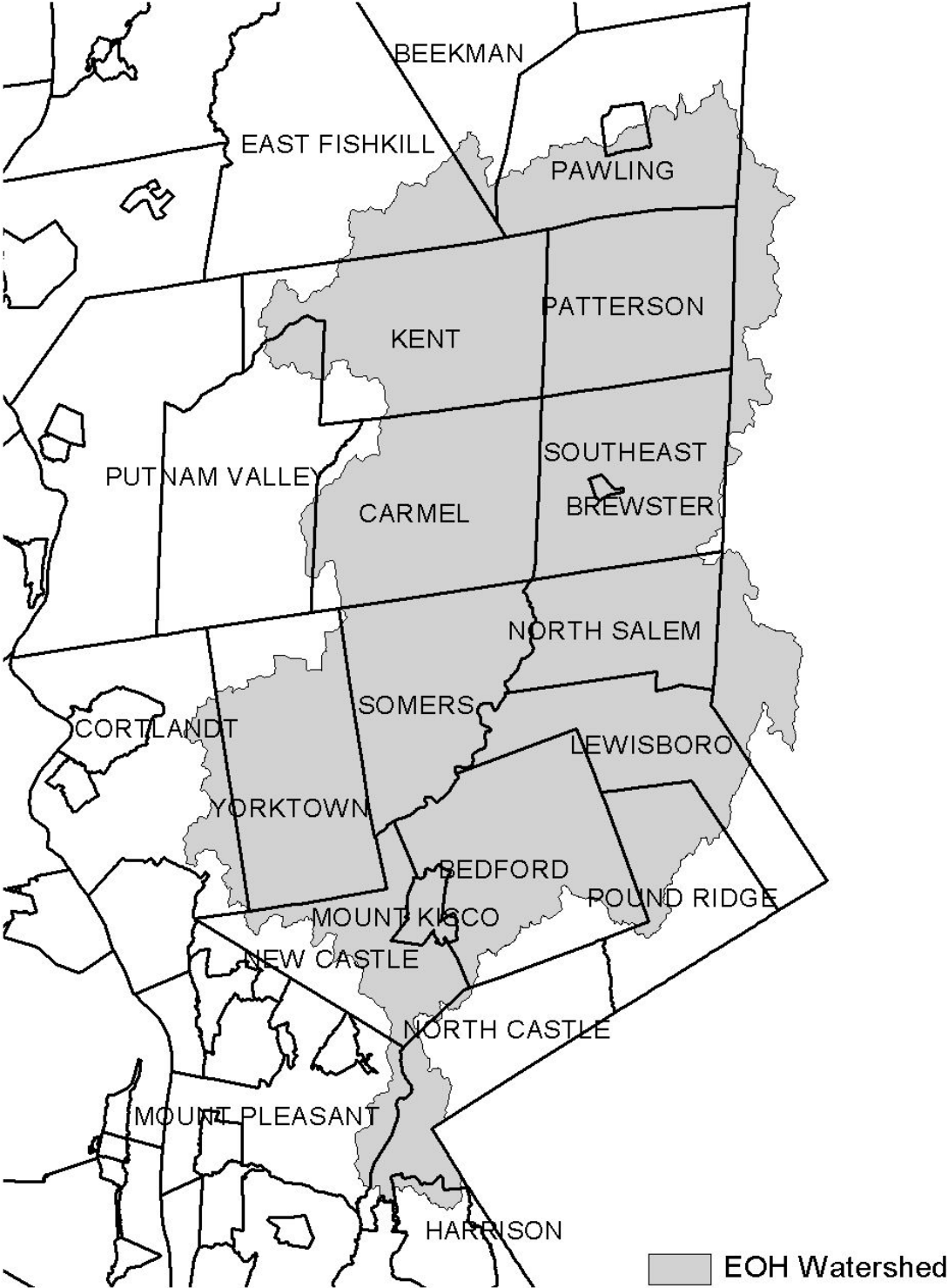
- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post 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**

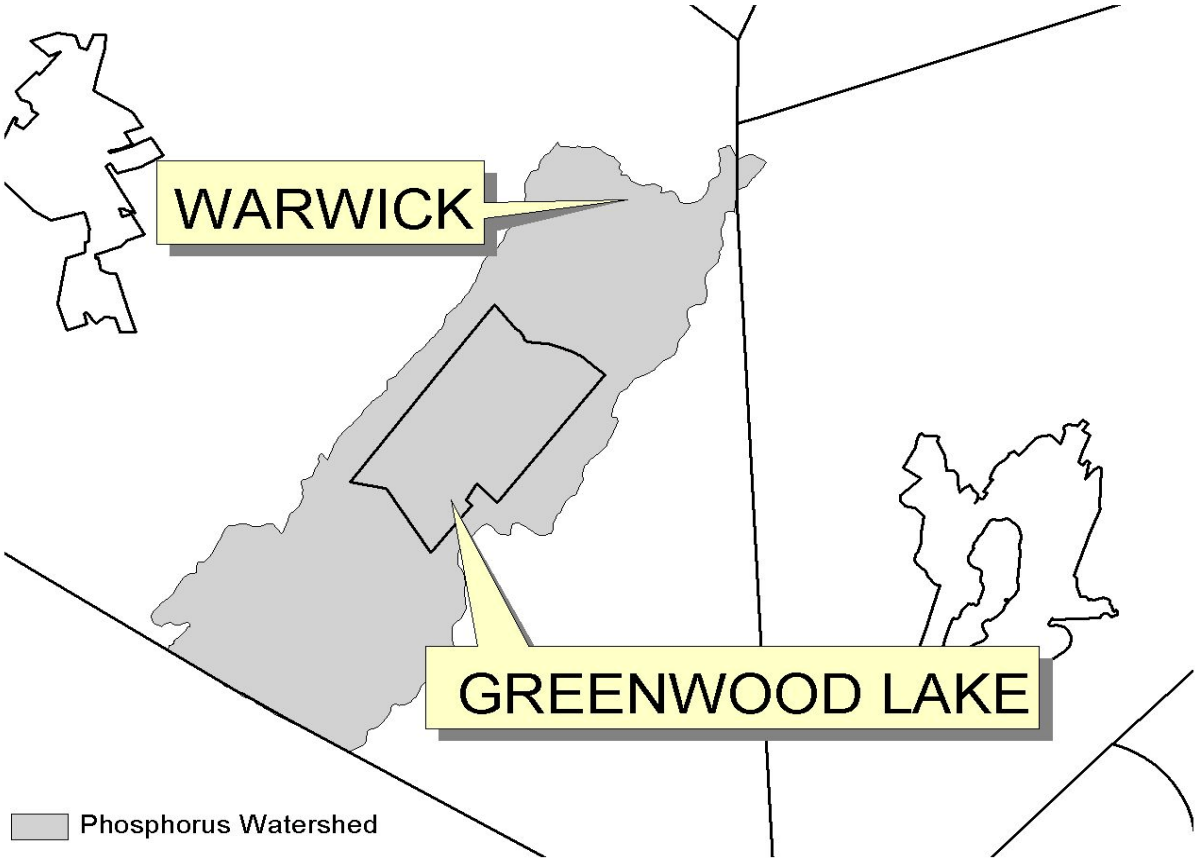


**Figure 2 - Onondaga Lake Watershed**

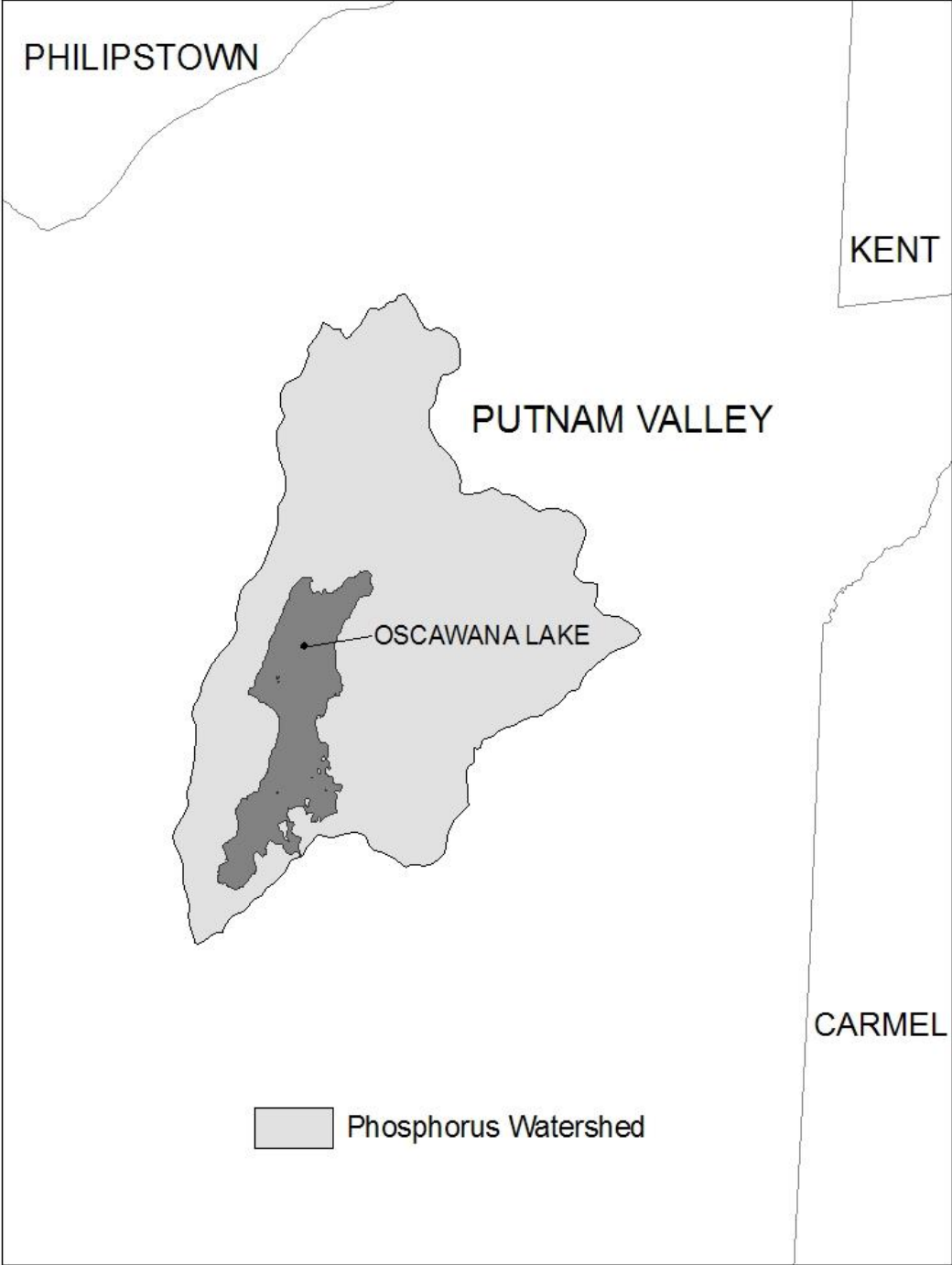




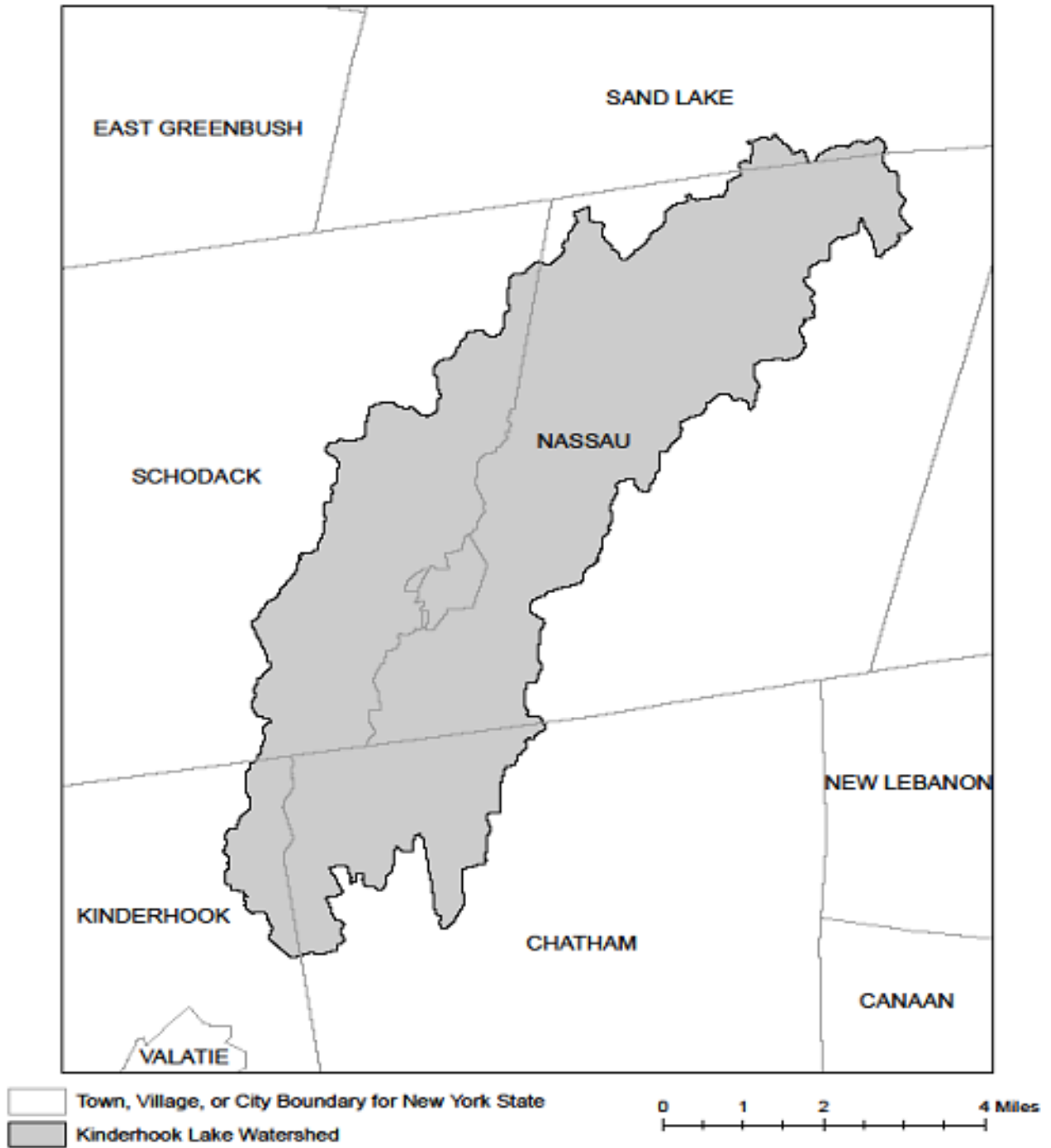
**Figure 3 - Greenwood Lake Watershed**



**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	Hulburt/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 tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	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 tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	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 tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	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 tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	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 tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	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 tribs (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 tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	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 tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	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 tribs	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 tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs 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 tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

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

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


## **Solar Panel Construction Stormwater Permitting/SWPPP Guidance**

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Water Permits  
625 Broadway, Albany, New York 12233-3505  
P: (518) 402-8111 | F: (518) 402-9029  
www.dec.ny.gov

## MEMORANDUM

**TO:** Regional Water Engineers

**FROM:** Robert Wither, Chief, South Permit Section 

**SUBJECT:** Solar Panel Construction Stormwater Permitting/SWPPP Guidance

**DATE:** April 5, 2018

### Issue

The Department is seeing an increase in the number of solar panel construction projects across New York State. This has resulted in an increase in the number of questions on Construction General Permit (CGP) and Stormwater Pollution Prevention Plan (SWPPP) requirements from design professionals because the current CGP (GP-0-15-002) does not include a specific reference to the SWPPP requirements for solar panel projects in Tables 1 and 2 of Appendix B. To address this issue, the Division of Water (DOW) has developed the following guidance on CGP/SWPPP requirements for the different types of solar panel projects.

### Scenario 1

The DOW considers solar panel projects designed and constructed in accordance with the following criteria to be a "*Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields)*" type project as listed in Table 1, Appendix B of the CGP. Therefore, the SWPPP for this type of project will typically just need to address erosion and sediment controls.

1. Solar panels are constructed on post or rack systems and elevated off the ground surface,
2. The panels are spaced apart so that rain water can flow off the down gradient side of the panel and continue as sheet flow across the ground surface\*,
3. For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour so rain water sheet flows down slope\*,
4. The ground surface below the panels consist of a well-established vegetative cover (see "Final Stabilization" definition in Appendix A of the CGP),
5. The project does not include the construction of any traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.),
6. Construction of the solar panels will not alter the hydrology from pre-to post development conditions (see Appendix A of the CGP, for definition of "Alter the hydrology..."). Note: The design professional shall perform the necessary site assessment/hydrology analysis to make this determination.

\*Refer to Maryland's "Stormwater Design Guidance- Solar Panel Installations" attached for guidance on panel installation.

\*\*See notes below for additional criteria.

## **Scenario 2**

If the design and construction of the solar panels meets all the criteria above, except for item 6, the project will fall under the "*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*" project type as listed in Table 2, Appendix B of the CGP. Therefore, the SWPPP for this type of project must address post-construction stormwater practices designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed). The Water Quality Volume (WQv)/Runoff Reduction Volume (RRv) sizing criteria can be addressed by designing and constructing the solar panels in accordance with the criteria in items 1 – 4 above, however, the quantity control sizing criteria (Cpv, Qp and Qf) from Chapter 4 (or 10) of the Design Manual must still be addressed, unless one of the waiver criteria from Chapter 4 can be applied. \*\*See notes below for additional criteria.

## **\*\* Notes**

- **Item 1:** For solar panel projects where the panels are mounted directly to the ground (i.e. no space below panel to allow for infiltration of runoff), the SWPPP must address post-construction stormwater management controls designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed).

- **Item 5:** For solar panel projects that include the construction of traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.), the SWPPP must address post-construction stormwater management controls for those areas of the project. This applies to both Scenario 1 and 2 above.

cc: Carol Lamb-Lafay, BWP  
Dave Gasper, BWP



## Stormwater Design Guidance – Solar Panel Installations

Revisions to Maryland's stormwater management regulations in 2010 require that environmental site design (ESD) be used to the maximum extent practicable (MEP) to mimic natural hydrology, reduce runoff to reflect forested wooded conditions, and minimize the impact of land development on water resources. This applies to any residential, commercial, industrial, or institutional development where more than 5,000 square feet of land area is disturbed. Consequently, stormwater management must be addressed even when permeable features like solar panel installations exceed 5,000 square feet of land disturbance.

Depending on local soil conditions and proposed imperviousness, the amount of rainfall that stormwater requirements are based on varies from 1.0 to 2.6 inches. However, addressing stormwater management does not mean that structural or micro-scale practices must be constructed to capture and treat large volumes of runoff. Using nonstructural techniques like disconnecting impervious cover reduces runoff by promoting overland filtering and infiltration. Commonly used with smaller or narrower impervious areas like driveways or open roads, the Disconnection of Non-Rooftop Runoff technique (see pp. 5.61 to 5.65 of the **2000 Maryland Stormwater Design Manual**<sup>1</sup>) is a low cost alternative for treating runoff in situations like rows of solar panels.

When non-rooftop disconnection is used to treat runoff, the following factors should be considered:

- The vegetated area receiving runoff must be equal to or greater in length than the disconnected surface (e.g., width of the row of solar panels)
- Runoff must sheet flow onto and across vegetated areas to maintain the disconnection
- Disconnections should be located on gradual slopes ( $\leq 5\%$ ) to maintain sheetflow. Level spreaders, terraces, or berms may be used to maintain sheetflow conditions if the average slope is steeper than 5%. However, installations on slopes greater than 10% will require an engineered plan that ensures adequate treatment and the safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice.
- Disconnecting impervious surfaces works best in undisturbed soils. To minimize disturbance and compaction, construction vehicles and equipment should avoid areas used for disconnection during installation of the solar panels.
- Groundcover vegetation must be maintained in good condition in those areas receiving disconnected runoff. Typically this maintenance is no different than other lawn or landscaped areas. However, areas receiving runoff should be protected (e.g., planting shrubs or trees along the perimeter) from future compaction.

Depending on the layout and number of panels installed, the disconnection of non-rooftop runoff technique may address some or all of the stormwater management requirements for an individual project. Where the imperviousness is high or there is other infrastructure (e.g., access roads, transformers), additional runoff may need to be treated. In these situations, other ESD techniques or micro-scale practices may be needed to provide stormwater management for these features.

### Example 1 – Using Non-Rooftop Disconnection Where the Average Slope $\leq 5\%$

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope does not exceed 5%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed according to Figure 1 below. In this scenario, the disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). Therefore, each row of panels is adequately disconnected and the runoff from 1.0 inch of rainfall is treated.

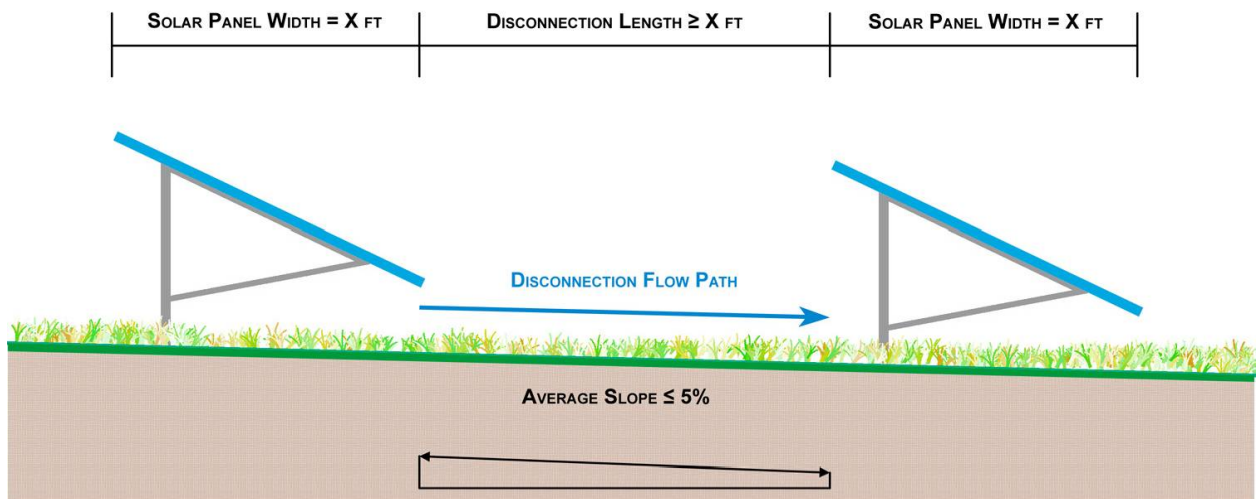


Figure 1. Typical Installation - Slope  $\leq 5\%$

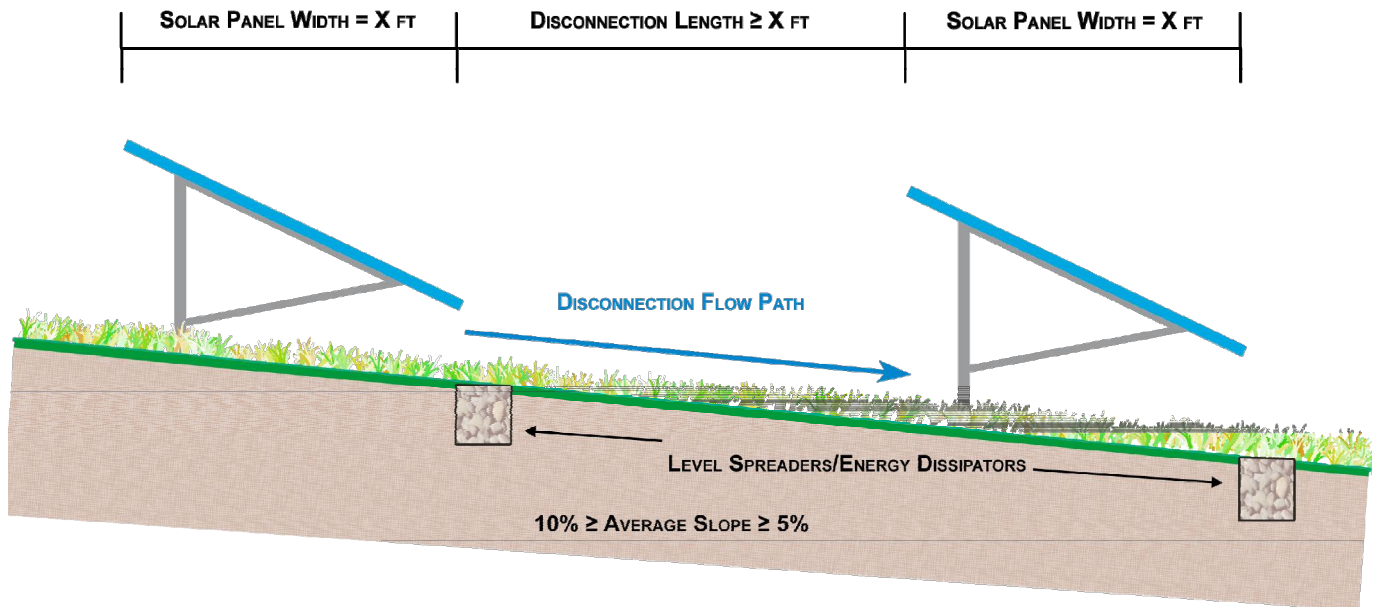
### Example 2 – Using Non-Rooftop Disconnection Where the Average Slope $\geq 5\%$ but $\leq 10\%$

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope is greater than 5% but less than 10%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed as shown in Figure 2 below. The disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). However, in this example, a level spreader (typically 1 to 2-foot wide and 1 foot deep) has been located at the drip edge of each row of panels to dissipate energy and maintain sheetflow.

### Discussion

To meet State and local stormwater management requirements, ESD must be used to the MEP to reduce runoff to reflect forested conditions. While all reasonable options for implementing ESD must be investigated, minimally, the runoff from 1 inch of rainfall must be treated. In each of the examples above, there may be additional opportunities to implement ESD techniques or practices and reduce runoff that should be explored. However, simply disconnecting the runoff from the solar panel arrays captures and treats the runoff from 1.0 inch of rainfall. Where imperviousness is low and soil conditions less optimal (e.g., HSG C or D), this may be sufficient to completely address stormwater management requirements. In more dense applications or in sandy soils, additional stormwater management may be required.





**Figure 2. Typical Installation – Slope  $\geq 5\%$  but  $\leq 10\%$**

### Conclusion

The primary purpose of Maryland's stormwater management program is to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Any land development project that exceeds 5,000 square feet of disturbance, including solar panel projects, must address stormwater management. However, for solar panels, stormwater management may be provided in a cost-effective manner by disconnecting each row of panels and directing runoff over the vegetated areas between the individual rows.

### Resources

<sup>1</sup> [2000 Maryland Stormwater Design Manual, Volumes I and II](http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx), MDE, October 2000  
 ([http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater\\_design/index.aspx](http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx))



# **Appendix F**

## **Stormwater Pollution Prevention Plan Certification**



# **Appendix G**

## **Notice of Termination (NOT)**

**New York State Department of Environmental Conservation  
Division of Water  
625 Broadway, 4th Floor  
Albany, New York 12233-3505  
\*(NOTE: Submit completed form to address above)\***

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

**Please indicate your permit identification number:** NYR \_\_\_\_\_

**I. Owner or Operator Information**

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

**II. Project Site Information**

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

**III. Reason for Termination**

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

9b.  Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR \_\_\_\_\_  
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c.  Other (Explain on Page 2)

**IV. Final Site Information:**

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

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

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

\_\_\_\_\_

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

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

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

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

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

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

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

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

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

Printed Name:

Title/Position:

Signature:

Date:

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

**VII. Qualified Inspector Certification - Final Stabilization:**

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

Printed Name:

Title/Position:

Signature:

Date:

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

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

Printed Name:

Title/Position:

Signature:

Date:

**IX. Owner or Operator Certification**

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

Printed Name:

Title/Position:

Signature:

Date:



# **Appendix H**

## **General Contractor's Certification**

**STORM WATER POLLUTION PREVENTION PLAN  
CONTRACTOR'S CERTIFICATION**

**CONSTRUCTION SITE –  
YORKTOWN A SOLAR FARM  
TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

**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 Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "*

**Name:** \_\_\_\_\_  
(Print)

**Signature:** \_\_\_\_\_

**Title:** \_\_\_\_\_

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

**Address:** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Scope of Services:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Received by:** \_\_\_\_\_  
[Name]





# **Appendix I**

## **Subcontractor's Certification**

**STORM WATER POLLUTION PREVENTION PLAN  
SUBCONTRACTOR'S CERTIFICATION**

**CONSTRUCTION SITE –  
YORKTOWN A SOLAR FARM  
TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

**SUBCONTRACTOR'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 Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "*

**Name:** \_\_\_\_\_  
(Print)

**Signature:** \_\_\_\_\_

**Title:** \_\_\_\_\_

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

**Address:** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Scope of Services:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Received by:** \_\_\_\_\_  
[Name]



# **Appendix J**

## **Inspection Form/Report**

**STORMWATER POLLUTION PREVENTION PLAN**

**CONSTRUCTION SITE –  
YORKTOWN A SOLAR FARM  
TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

Inspections/reports must be completed a minimum of once every seven calendar days.

Inspection Type: <input type="checkbox"/> Routine (every 7 calendar days) <input type="checkbox"/> Other _____
--

Date: \_\_\_\_\_

Week Ending: \_\_\_\_\_

**Weather/Storm Event Information:**

Storm Start Time: \_\_\_\_\_

Storm Duration: \_\_\_\_\_

Approximate Amount of Rainfall (inches): \_\_\_\_\_

Based on the results of the inspection, necessary control modifications shall be implemented within seven (7) calendar days. These reports shall be kept on file as part of the Storm Water Pollution Prevention Plan for at least five (5) years from the date of completion and submission of the Final Stabilization Certification/Termination Checklist and Notice of Termination. A copy of the SWPPP shall be kept at the site at all times during construction.

**Practices in need of repair:**

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**Item not corrected from previous inspection:**

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Name of Inspector: \_\_\_\_\_ Title of Inspector: : \_\_\_\_\_

Inspector's Signature: \_\_\_\_\_

**Compliance Certification**

**I certify that, based on no incidents of non-compliance identified during the inspection, the site is in compliance with the SWPPP and the Construction General Permit.**

**Name of Duly Authorized Representative (Printed):** \_\_\_\_\_

**Signature of Duly Authorized Representative:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**\*Note: Only to be signed when the site is in full compliance with the SWPPP and the Construction General Permit.**

**II. CONSTRUCTION DURATION INSPECTIONS**

**a. Directions:**

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

**Required Elements:**

**(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;**

**(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;**

**(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;**

**Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);**

**(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and**

**(6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.**

**SITE PLAN/SKETCH**

\_\_\_\_\_  
**Qualified Inspector (print name)**

\_\_\_\_\_  
**Qualified Inspector Signature**

\_\_\_\_\_  
**Date of Inspection**

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

## CONSTRUCTION DURATION INSPECTIONS

### 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

#### 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**

### **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.

### **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.

**Miscellaneous**

**1. Site Photos**

Yes No NA

Site photos have been included with the report that depicts properly installed practices and identified deficiencies needing corrective action. If no, please state why below.

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**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.



# **Appendix K**

## **Stabilization Form**





# Appendix L

## Implementation Form





# **Appendix M**

## **Modification Log/Report Form**

**STORM WATER POLLUTION PREVENTION PLAN  
MODIFICATION LOG**

**CONSTRUCTION SITE –  
YORKTOWN A SOLAR FARM  
TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

**CHANGES REQUIRED FOR STORM WATER POLLUTION PREVENTION PLAN**

The SWPPP must be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to the Waters of the United States that has not been previously addressed in the SWPPP, if inspections or investigations by site staff, local, state or federal officials determine that discharges are causing water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site, or based on the results of an inspection, or there is a release containing a Hazardous Substance or Oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24 hour period, the SWPPP must be modified to include additional or modified BMPs designed to correct identified problems. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. Modifications that are the result of inspections shall be initialed within 24 hours and completed within 48 hours. All modifications are to be referenced on both the forms and on a Progress Drawing.

**MODIFICATION LOG**

<b>MODIFICATION NUMBER*</b>	<b>DATE</b>	<b>BRIEF DESCRIPTION</b>	<b>PROJECT MANAGER REVIEW</b>

\*Modification Log Number to correspond with Modification Report Number

**STORM WATER POLLUTION PREVENTION PLAN  
MODIFICATION REPORT**

**CONSTRUCTION SITE –  
YORKTOWN A SOLAR FARM  
TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

**NUMBER** \_\_\_\_\_

**DATE** \_\_\_\_\_

**TO:  
ADDRESS:**

**TELEPHONE:**

**FACSIMILE:**

**SENT VIA:**

Facsimile

Courier

US Mail

**INSPECTOR:** \_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Inspector Signature)

**QUALIFICATIONS OF INSPECTOR:** \_\_\_\_\_

**CHANGES REQUIRED TO THE STORMWATER POLLUTION PREVENTION PLAN:**

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

**REASONS FOR CHANGES:**

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

**TO BE PERFORMED BY:** \_\_\_\_\_

**ON OR BEFORE:** \_\_\_\_\_

**Project Manager:** \_\_\_\_\_

**Other Operator:** \_\_\_\_\_





# **Appendix N**

## **Final Stabilization Form/Termination Checklist**

**STORM WATER POLLUTION PREVENTION PLAN**

**FINAL STABILIZATION CERTIFICATION /NOTICE OF TERMINATION CHECKLIST**

**CONSTRUCTION SITE –  
YORKTOWN A SOLAR FARM  
TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

1.  All soil disturbing activities are complete and the facility no longer discharges storm water associated with Construction Activities.
2.  Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.
3.  All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 80% or equivalent measures have been employed.

**CONTRACTOR'S CERTIFICATION:**

*“I certify under penalty of law that all storm water discharges associated with Construction Activity from the identified project that are authorized by the NPDES Construction General Permit have been eliminated and that all disturbed areas and soils at the construction site have achieved Final Stabilization and all temporary erosion and sediment control measures have been remove in addition all permanent stormwater structures have been constructed as described in the SWPPP”*

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

Name (Print): \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Received by: \_\_\_\_\_  
[Name]



# **Appendix O**

## **Reportable Quantity Release Form**





# **Appendix P**

## **Project Rainfall Log**

YEAR 2021

**PROPOSED YORKTOWN A SOLAR FARM  
TOWN OF YORKTOWN, NEW YORK  
STORM WATER POLLUTION PREVENTION PLAN  
PROJECT RAINFALL LOG**

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Day												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
PM Initials												

Note: Rainfall amounts are to be based on a 24-hour rainfall event, instead of a cumulative total of rainfall over several days.



# **Appendix Q**

## **Pre-Construction Meeting Forms**

**STORM WATER POLLUTION PREVENTION PLAN  
PRE-CONSTRUCTION MEETING AGENDA AND ATTENDANCE RECORD**

**PROPOSED YORKTOWN A SOLAR FARM  
TOWN OF YORKTOWN, NEW YORK  
STORM WATER POLLUTION PREVENTION PLAN**

<b>Topic</b>	<b>Discussed</b>	<b>Further action or Information Required (Yes or No)</b>
<b>Overview of SPDES Permit Program</b>		
<b>General Discussion of SWPPP and Records Retention Requirements</b>		
<b>Phasing of Project</b>		
<b>Review of Erosion and Sediment Control Plans (to include all temporary and permanent structural and stabilization measures)</b>		
<b>Locating solid waste containers, portable toilets, concrete washout areas, fueling areas and tank storage area on Progress Drawing</b>		
<b>Posting the Progress Drawing (marked on the Erosion and Sediment Control Plans) at job trailer</b>		
<b>Posting requirements for the Notice of Intent (NOI), Must be posted at Project entrance and inside job trailer wall.</b>		
<b>Allowable non-storm water discharges and handling procedures</b>		
<b>Materials management to include proper material storage, etc.</b>		
<b>Signatory Authorization Delegation</b>		
<b>Contractor's Certification</b>		
<b>Subcontractor's Certification</b>		
<b>Inspection form and required inspection timeframe</b>		
<b>Stabilization schedule</b>		
<b>Implementation schedule</b>		
<b>Modification report and modifying plans</b>		
<b>Final stabilization</b>		
<b>Reportable quantity release procedures</b>		
<b>Rain gage requirement and rainfall logs</b>		
<b>State specific requirements</b>		
<b>Import/Export – Fill and Spoil Materials</b>		
<b>SWPPP accessibility to regulatory officials</b>		
<b>Inspections – assisting and cooperating with regulatory officials – inspection reports and notices of violation (any response must be coordinated through Project Manager)</b>		

**Attendance Roster**

**Date:** \_\_\_\_\_

<b>Name</b>	<b>Company</b>	<b>Telephone Number</b>	<b>Signature</b>



**Attendance Roster (continued)**

Name	Company	Telephone Number	Signature

Items which require further action or additional information: \_\_\_\_\_  
\_\_\_\_\_

Additional items discussed (not addressed above): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**\*This completed form must be included in both the Project Manager’s and Construction Site SWPPP Ledger.**



# **Appendix R**

## **Stormwater Management Report**



## Yorktown A Solar Farm

### STORMWATER MANAGEMENT REPORT



Town of Yorktown  
Westchester County, New York  
October 26, 2020  
Revised: January 28, 2021

#### PREPARED FOR:

Con Edison Clean Energy Businesses, Inc. c/o Joe Shanahan  
100 Summit Lake Drive  
Valhalla, NY 10595

#### PREPARED BY:

**Bergmann**

2 Winners Circle, Suite 102  
Albany, NY 12205

Phone: 518.862.0325

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**Appendix R-1 – Existing Conditions Drainage Map and HydroCAD Report**

**Appendix R-2 – Proposed Conditions Drainage Map and HydroCAD Report**

**Appendix R-3 – Water Quality and Runoff Reduction Volume Calculations**



## Section I General Information

### A. PROJECT DESCRIPTION

The proposed Yorktown A Solar Farm is located within the Town of Yorktown, Westchester County, New York. The project consists of a limited use pervious gravel driveway and solar arrays with appurtenant utilities. The proposed solar project will be constructed on parcel 15.07-1-5. The site is proposed to be developed in a phased approach, with the full development covering a total of 16.0± acres, no more than 5 acres will be disturbed at any given time. The land disturbance will consist mainly of tree clearing. A gravel driveway will be constructed for site access during construction. The construction of the limited use pervious gravel driveway will be completed following installation and connection of the solar panels.

### B. SOIL CLASSIFICATION

According to the Natural Resources Conservation Service website (NRCS), there are five (5) mapped soil units identified on the project property. Charlton fine loam, 3 to 8 percent slopes is the dominant soil type and is located on approximately 73.3% of the site. These soils have 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.

The complete list of soils found on the project site is identified in the table below.

**Table I  
Soil Summary**

Symbol	Soil Name	Hydrologic Soil Group
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	B
ChE	Charlton loam, 25 to 35 percent slopes	B
SuB	Sutton loam, 3 to 8 percent slopes	B/D
LeB	Leicester loam, 2 to 8 percent slopes	A/D
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	C



**Section II Hydrology**

**A. METHODOLOGY**

Stormwater runoff rates discharged from the site under the existing conditions provide the basis on which to compare the impacts of the proposed site improvements. The areas draining to each analysis point are delineated using topographic survey maps and grading plans. HydroCAD 10.0 by HydroCAD Software Solutions LLC was used to model the existing and proposed condition.

The parameters required to calculate stormwater runoff are area, curve number, and time of concentration. Each drainage area is evaluated using the guidelines described in USDA Soil Conservation Service’s TR-55 to determine the curve number and time of concentration.

The runoff curve number (CN) is based on a weighted average of ground cover and soil type. The underlying soil types are described in county soil maps. Site and grading plans and survey maps outline existing and proposed ground cover. CN values for specific locations are determined from the tables presented in TR-55. The CN value for the limited use gravel pavement was calculated manually using the SCS runoff curve number equation provided in TR-55.

Time of concentration (Tc) represents the amount of time it takes for runoff to travel from the hydraulically most distant point of the watershed to the point of analysis. Surface roughness, slope, channel shape and flow patterns are the factors that affect the time of concentration. Stormwater runoff flows through the drainage area as sheet flow, shallow concentrated flow, open channel flow, or concentrated flow (such as in storm sewers). The sum of the travel times over the various surfaces within the assumed flow path for a specific drainage area determines that area’s time of concentration. The figures and formulas in TR-55 are employed to compute travel times for sheet flow and shallow concentrated flow.

**B. EXISTING CONDITIONS**

The drainage areas analyzed has been calculated to be a total of 22.818± acres. This drainage area is further categorized into two sub areas with site runoff conveyed via sheet flow and shallow concentrated flow. The two sub-areas are named DR-A and DR-2. The parcel to be developed consists of grass, wetlands, and wooded areas.

**Table II  
Existing Conditions Summary**

Drainage Area	Description	Size (ac)	Composite Cn	Tc (min)
DA-A	This area consists of woods, a wetland and part of the Mohegan outlet stream. This area drains west via sheet flow, shallow concentrated flow and ultimately discharges to Design point #1 (DP-1).	16.972	61	30.3
DA-B	This area consists mostly of woods. This area drains toward the northern property line via sheet flow and shallow concentrated flow and ultimately discharges to Design point #2 (DP-2)	5.846	60	18.8



### C. PROPOSED CONDITIONS

The proposed drainage area comprises a total of 22.818± acres. In the proposed (post-development) condition, the site will be comprised of four drainage areas that represents all of the site runoff. The four drainage areas are labeled DR-1, DR-2 including two sub areas, DR-1A and DR-2A. The two sub areas, DR-1A and DR-2A are designed to divert stormwater to two design detention ponds in order to decrease the peak flow rate to each design points. Each area will drain via sheet flow and shallow concentrated flow to their designated design points as it does in the pre-development conditions.

**Table III  
Proposed Conditions Summary**

Drainage Area	Description	Size (ac)	Composite Cn	Tc (min)
DR-1	This area consists of grass, limited use pervious pavement driveway, woods, and a wetland. This area drains west via sheet flow, shallow concentrated flow and pipe flow and ultimately discharges to Design point #1 (DP-1).	11.914	59	24.9
DR-1A	This area consists of grass, and a small portion of woods. This area drains east via sheet flow and shallow concentrated flow to a stormwater detention pond and ultimately discharges in a controlled manner to Design point #1 (DP-1).	5.058	58	21.3
DR-2	This area consists of grass, limited use pervious pavement driveway, concrete pads and a small portion of woods. This area drains north via sheet flow and shallow concentrated flow and ultimately discharges in a controlled manner to Design point #3 (DP-2).	4.634	60	17.4
DR-2A	This area consists of grass. This area drains north via sheet flow and shallow concentrated flow to a stormwater detention pond and ultimately discharges in a controlled manner to Design point #2 (DP-2).	1.212	58	14.6



### Section III Stormwater Management & SPDES Phase II Requirements

#### State Pollutant Discharge Elimination System (SPDES)

Since the subject site will have land disturbance of more than 1-acre a State Pollutant Discharge Elimination System (SPDES) permit will be completed as part of the project. A Storm Water Pollution Prevention Plan (SWPPP) will be developed in accordance with the EPA Phase II regulations. The SWPPP will be for the most part modeled on the New York State DEC Guidelines and will meet the following criteria as the principle objectives contained in an approved SWPPP.

- 1) Reduction or elimination of erosion and sediment loading to water-bodies during construction activities.
- 2) Control the impact of storm water runoff on the water quality of the receiving waters.
- 3) Control the increase volume and peak runoff rate of runoff during and after construction.
- 4) Maintenance of storm water controls during and after completion of construction.

The aforementioned objectives will be accomplished by incorporating the several of the design criteria outlined within the Technical Guidelines provided by New York State Department of Environmental Conservation, Stormwater Management Design Manual and summarized below.

#### A. WATER QUALITY VOLUME

The New York State Department of Environmental Conservation, Stormwater Management Design Manual was used to determine the water quality criteria. Specifically, the unified storm water sizing criteria was followed for water quality to meet the State of New York pollutant goals. The water quantity volume is intended to improve water quality by capturing and treating 90% of the average annual storm water runoff volume.

The following equation is given within the design manual for calculating the water quality storage volume.

$$WQ_v = \frac{(P)(R_v)(A)}{12}$$

where:

- WQ<sub>v</sub> = water quality volume (acre-ft)
- P = 90% Rainfall Event Number (1" was used per ICW Guidelines)
- R<sub>v</sub> = 0.05 + 0.009 (I) , where I is percent of impervious cover
- A = site area (acres)

The proposed project is using a limited use pervious gravel section for the design of the gravel driveway. This driveway section is considered a pervious surface. The impervious area associated with the equipment pads is minimal and will be treated by a proposed bioretention basin. Refer to the table below for Water Quality treatment summary.





**Table IV**  
**WQv/RRv Summary**

Water Quality Volume / Runoff Reduction Volume				
Drainage Area (Ac.)	WQv Required (CF)	WQv Provided (CF)	Min. RRv Required (CF)	RRv Provided (CF)
0.40	423	576	134	423

**B. CHANNEL PROTECTION VOLUME**

The New York State Department of Environmental Conservation, Stormwater Management Design Manual was used to determine the water quantity criteria. Specifically, mitigating the 10-year and 100-year post-development runoff rates to the predevelopment runoff rates and providing the 24-hour extended detention for the 1-year storm event is required.

The Channel Protection Volume is met by providing the 24 hour extended detention of the post developed 1 year, 24 hour storm event.

**C. RUNOFF REDUCTION VOLUME**

The Runoff Reduction Volume (RRv) for the site shall be equal to 100% of the water quality volume per section 4.3 of the Stormwater Management Design Manual. In the event that a project cannot meet the 100% requirement a reduced percentage based on the formula located on page 4-6 of the Stormwater Management Design Manual will be allowed. Refer to Table IV above and Appendix R-3 for more information.

**D. OVERBANK FLOOD**

Overbank Flood protection is provided by controlling the peak discharge from the 10-year storm to 10-year predevelopment rates. This requirement is being satisfied as the proposed development peak flow rate from the 10-year storm shows a decrease of the pre-development peak flow rate due to the use of the Stormwater design ponds.

**E. EXTREME STORM**

Extreme Storm protection is provided by controlling the peak discharge from the 100-year storm to 100-year predevelopment rates. This requirement is being satisfied as the proposed development peak flow rate from the 100-year storm shows a decrease of the pre-development peak flow rate due to the use of the Stormwater design ponds.



## Section IV Summary of Findings

### A. Summary of Results

The following tables show a summary of comparison pre-development and post-development flow rates. The values account for the full development of the site in all phases.

**Table V – Existing and Proposed Peak Discharge for the 1-year Storm (cfs)**

Existing Drainage Area Proposed Drainage Area	1-year Design Storm Discharge	
	Existing	Proposed
Design Point 1 (DP-1)	2.01	1.05
Design Point 2 (DP-2)	0.77	0.64
Drainage Area A (DR-A) Drainage Area 1 (DR-1)	2.01	1.04
Drainage Area B (DR-B) Drainage Area 2 (DR-2)	0.77	0.64
Drainage Area 1A (DR-1A)	-	0.37
Drainage Area 2A (DR-2A)	-	0.11

**Table VI – Existing and Proposed Peak Discharge for the 10-year Storm (cfs)**

Existing Drainage Area Proposed Drainage Area	10-year Design Storm Discharge	
	Existing	Proposed
Design Point 1 (DP-1)	18.67	14.95
Design Point 2 (DP-2)	8.25	7.13
Drainage Area A (DR-A) Drainage Area 1 (DR-1)	18.67	13.13
Drainage Area B (DR-B) Drainage Area 2 (DR-2)	8.25	6.88
Drainage Area 1A (DR-1A)	-	5.76
Drainage Area 2A (DR-2A)	-	1.73

**Table VII – Existing and Proposed Peak Discharge for the 100-year Storm (cfs)**

Existing Drainage Area Proposed Drainage Area	100-year Design Storm Discharge	
	Existing	Proposed
Design Point 1 (DP-1)	60.95	59.57
Design Point 2 (DP-2)	27.29	25.38
Drainage Area A (DR-A) Drainage Area 1 (DR-1)	60.95	45.43
Drainage Area B (DR-B) Drainage Area 2 (DR-2)	27.29	22.59
Drainage Area 1A (DR-1A)	-	20.53
Drainage Area 2A (DR-2A)	-	6.04



As depicted in the above tables, the peak discharge from the site for each of the design storms will decrease after this project is constructed and the stormwater management plan is implemented

## **B. Conclusion**

Based on the calculations attached in the appendices of this report, the proposed stormwater management facilities will decrease peak discharge rates from the site for all of the design storms under proposed conditions through the use of detention ponds and provide the required water quality treatment through the use of a bio-retention basin.

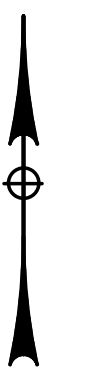


**Appendix R-1**  
**Existing Conditions Drainage Map**  
**And HydroCAD Report**



**LEGEND**

- SOIL TYPE BOUNDARY
- - - DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION FLOW PATH



# YORKTOWN A SOLAR FARM

## FOOTHILL STREET

TOWN OF YORKTOWN  
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2 Winners Circle, Suite 102  
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Checked By: <b>WD</b>	Drawn By: <b>WD</b>
Date Issued: <b>OCTOBER 26, 2020</b>	Scale:

Project Number:  
**14847.00**

**EXISTING CONDITIONS  
DRAINAGE MAP**

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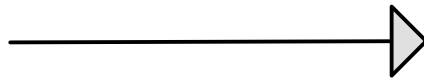
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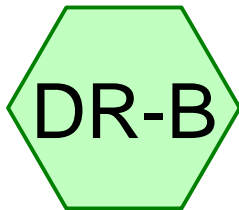
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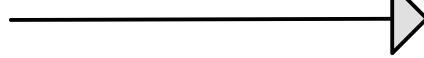
DR-A



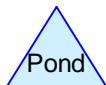
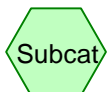
Design Point #1



DR-B



Design Point #2



**DR-EX**

**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
22.264	60	Woods, Fair, HSG B (DR-A, DR-B)
0.554	79	Woods, Fair, HSG D (DR-A, DR-B)

**DR-EX**

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Page 3

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
22.264	HSG B	DR-A, DR-B
0.000	HSG C	
0.554	HSG D	DR-A, DR-B
0.000	Other	



**DR-EX**

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Page 4

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	22.264	0.000	0.554	0.000	22.818	Woods, Fair	DR-A, DR-B

**DR-EX**

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Type II 24-hr 1-Year Rainfall=2.76"

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Page 5

**Summary for Subcatchment DR-A: DR-A**

Runoff = 2.01 cfs @ 12.37 hrs, Volume= 0.325 af, Depth> 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.76"

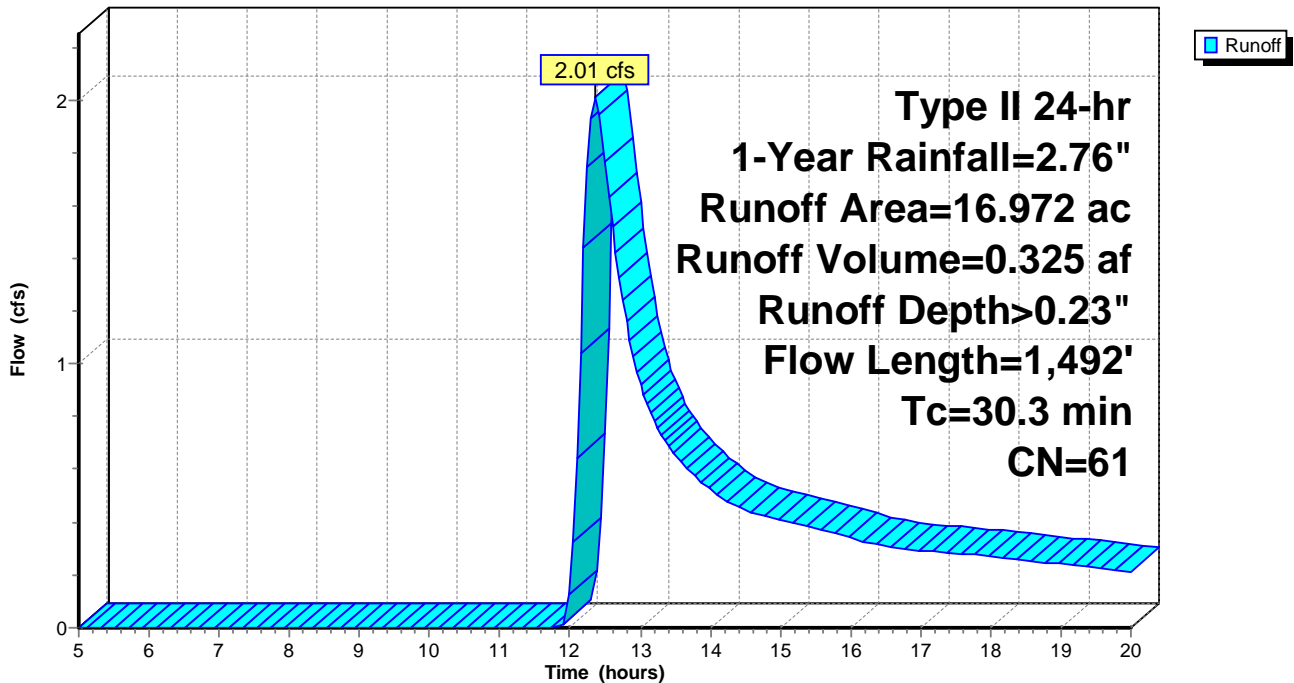
Area (ac)	CN	Description
16.524	60	Woods, Fair, HSG B
0.448	79	Woods, Fair, HSG D
16.972	61	Weighted Average
16.972		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0201	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.8	462	0.1667	2.04		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
3.9	930	0.0701	3.97		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
30.3	1,492	Total			

**Subcatchment DR-A: DR-A**

Hydrograph



**DR-EX**

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Type II 24-hr 1-Year Rainfall=2.76"

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Page 6

**Summary for Subcatchment DR-B: DR-B**

Runoff = 0.77 cfs @ 12.19 hrs, Volume= 0.101 af, Depth> 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.76"

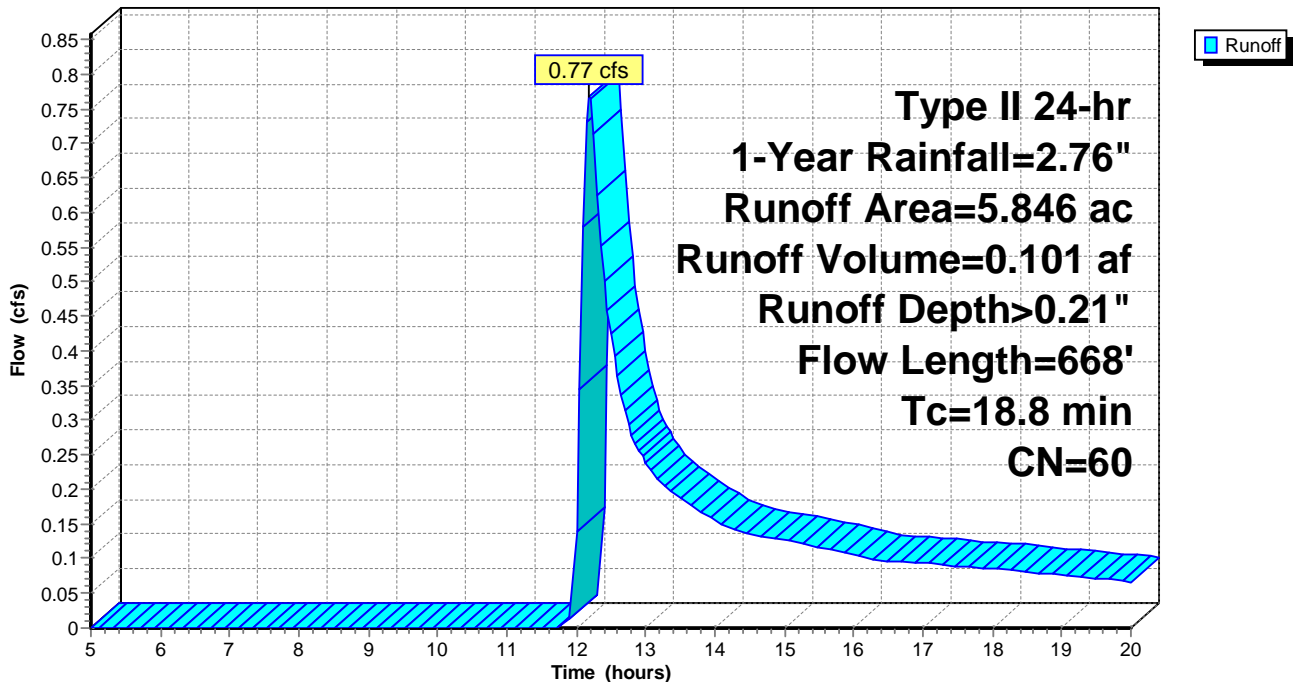
Area (ac)	CN	Description
5.740	60	Woods, Fair, HSG B
0.106	79	Woods, Fair, HSG D
5.846	60	Weighted Average
5.846		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0738	0.12		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
5.3	568	0.1268	1.78		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
18.8	668	Total			

**Subcatchment DR-B: DR-B**

Hydrograph

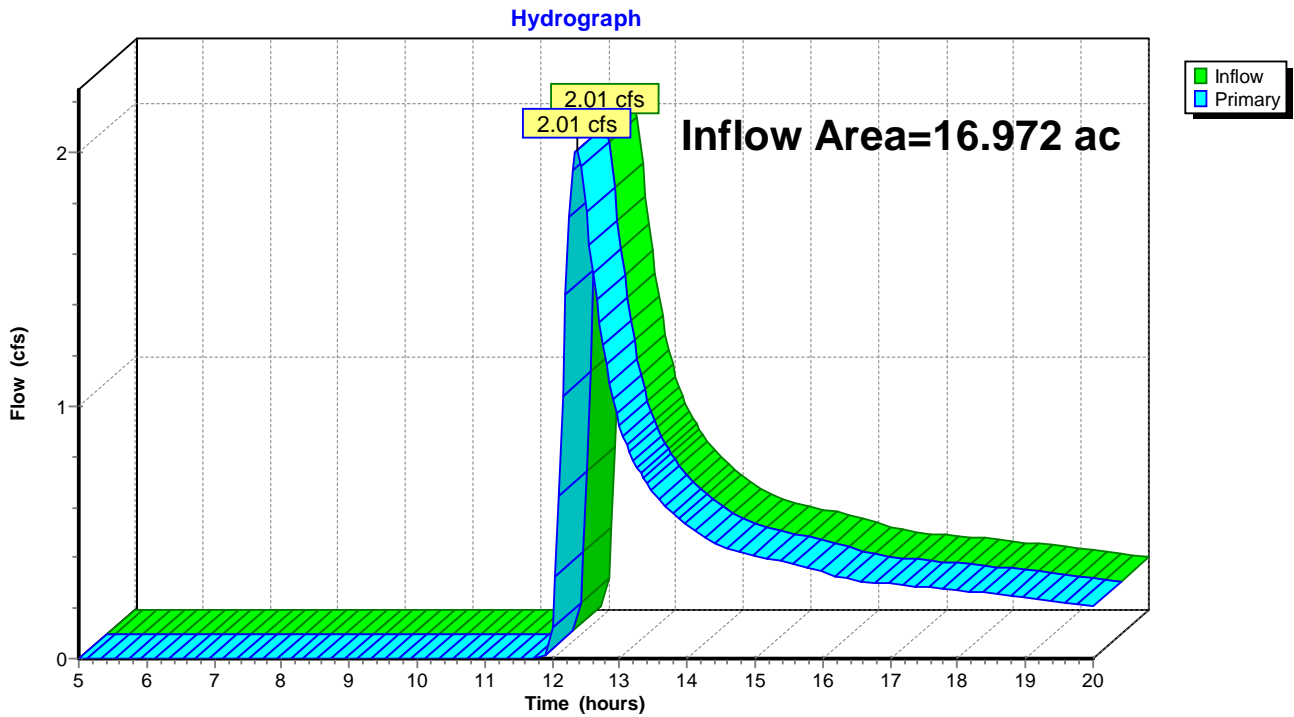


### Summary for Link DP-1: Design Point #1

Inflow Area = 16.972 ac, 0.00% Impervious, Inflow Depth > 0.23" for 1-Year event  
Inflow = 2.01 cfs @ 12.37 hrs, Volume= 0.325 af  
Primary = 2.01 cfs @ 12.37 hrs, Volume= 0.325 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1

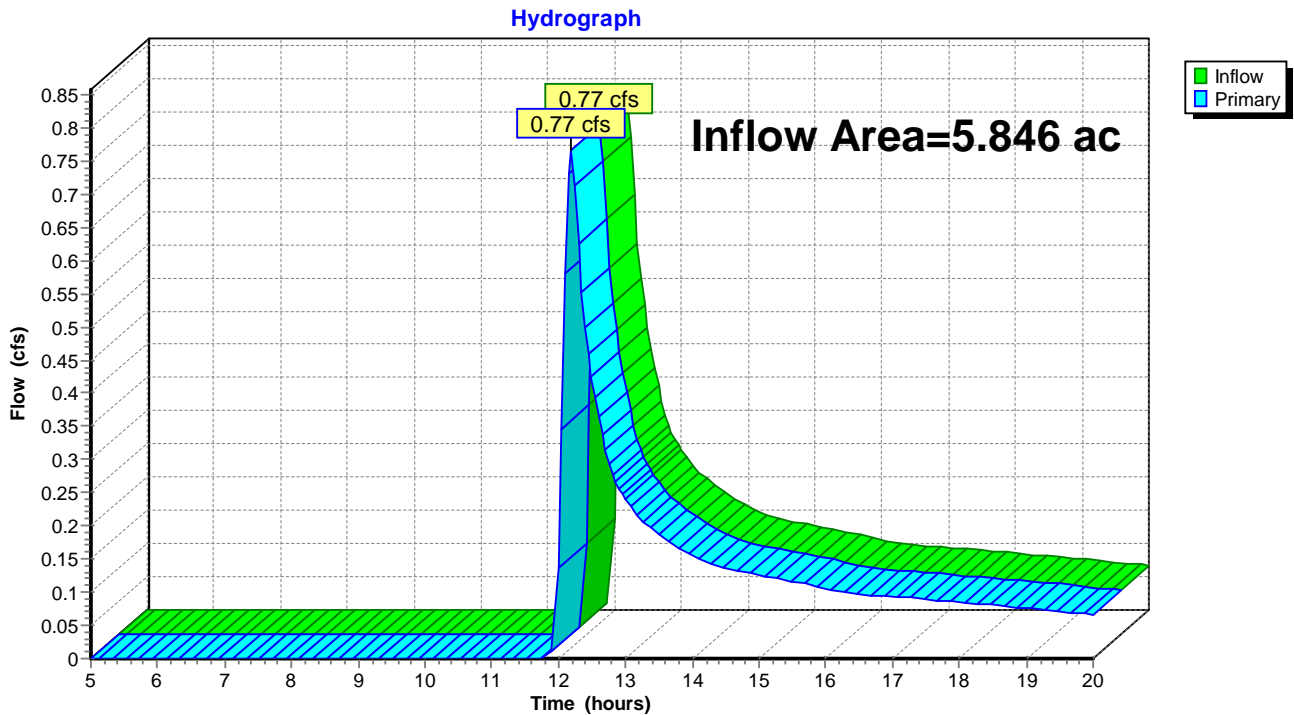


### Summary for Link DP-2: Design Point #2

Inflow Area = 5.846 ac, 0.00% Impervious, Inflow Depth > 0.21" for 1-Year event  
Inflow = 0.77 cfs @ 12.19 hrs, Volume= 0.101 af  
Primary = 0.77 cfs @ 12.19 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2



**Summary for Subcatchment DR-A: DR-A**

Runoff = 18.67 cfs @ 12.28 hrs, Volume= 1.789 af, Depth> 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=5.10"

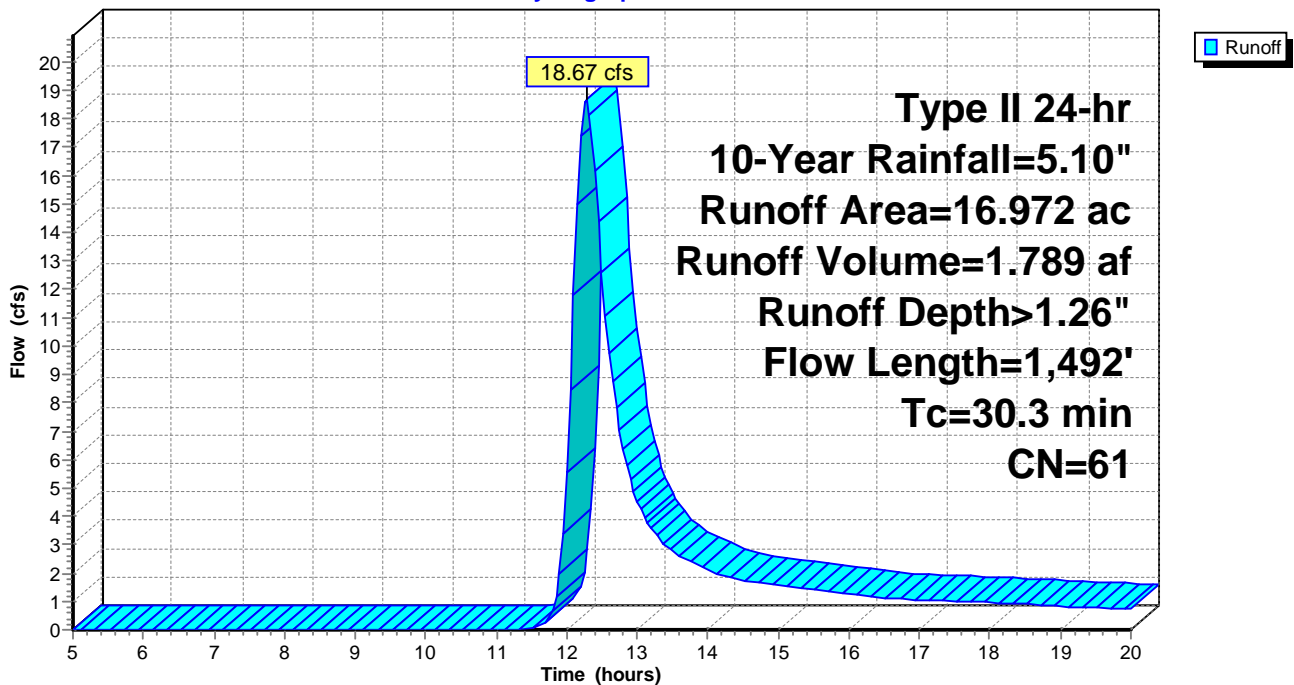
Area (ac)	CN	Description
16.524	60	Woods, Fair, HSG B
0.448	79	Woods, Fair, HSG D
16.972	61	Weighted Average
16.972		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0201	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.8	462	0.1667	2.04		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
3.9	930	0.0701	3.97		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
30.3	1,492	Total			

**Subcatchment DR-A: DR-A**

Hydrograph



**DR-EX**

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Type II 24-hr 10-Year Rainfall=5.10"

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Page 10

**Summary for Subcatchment DR-B: DR-B**

Runoff = 8.25 cfs @ 12.13 hrs, Volume= 0.588 af, Depth> 1.21"

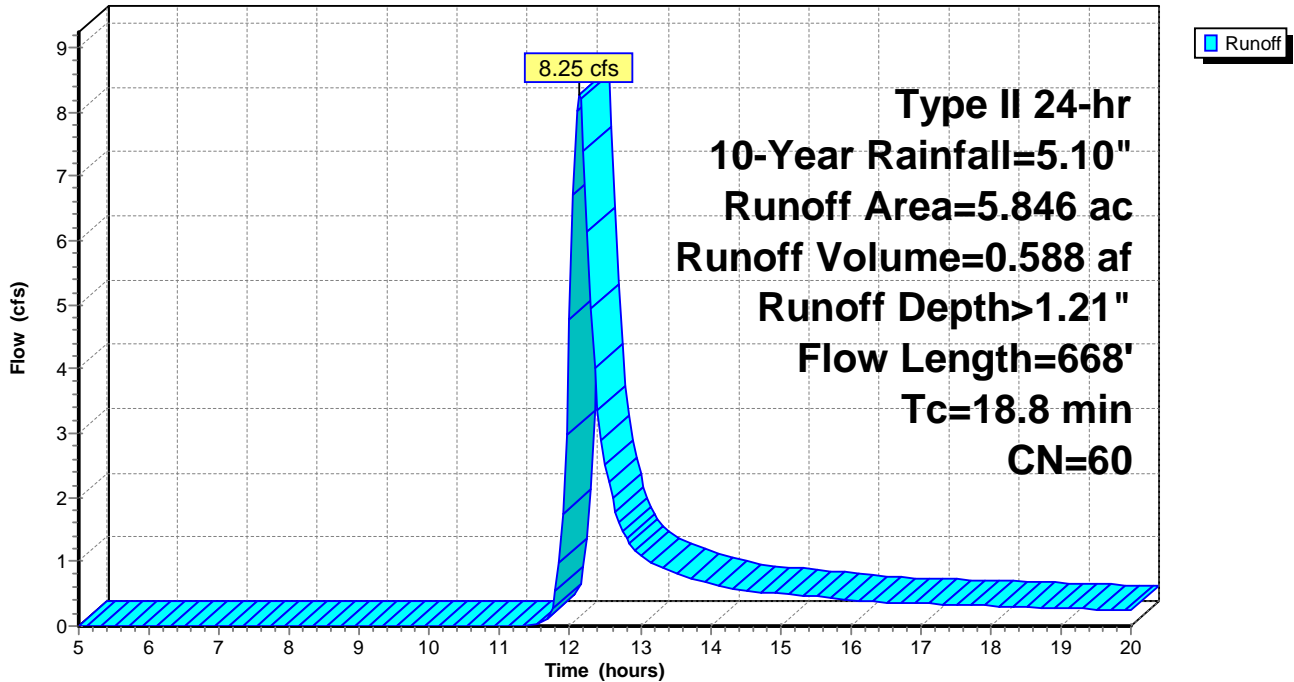
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-Year Rainfall=5.10"

Area (ac)	CN	Description
5.740	60	Woods, Fair, HSG B
0.106	79	Woods, Fair, HSG D
5.846	60	Weighted Average
5.846		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0738	0.12		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
5.3	568	0.1268	1.78		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
18.8	668	Total			

**Subcatchment DR-B: DR-B**

Hydrograph

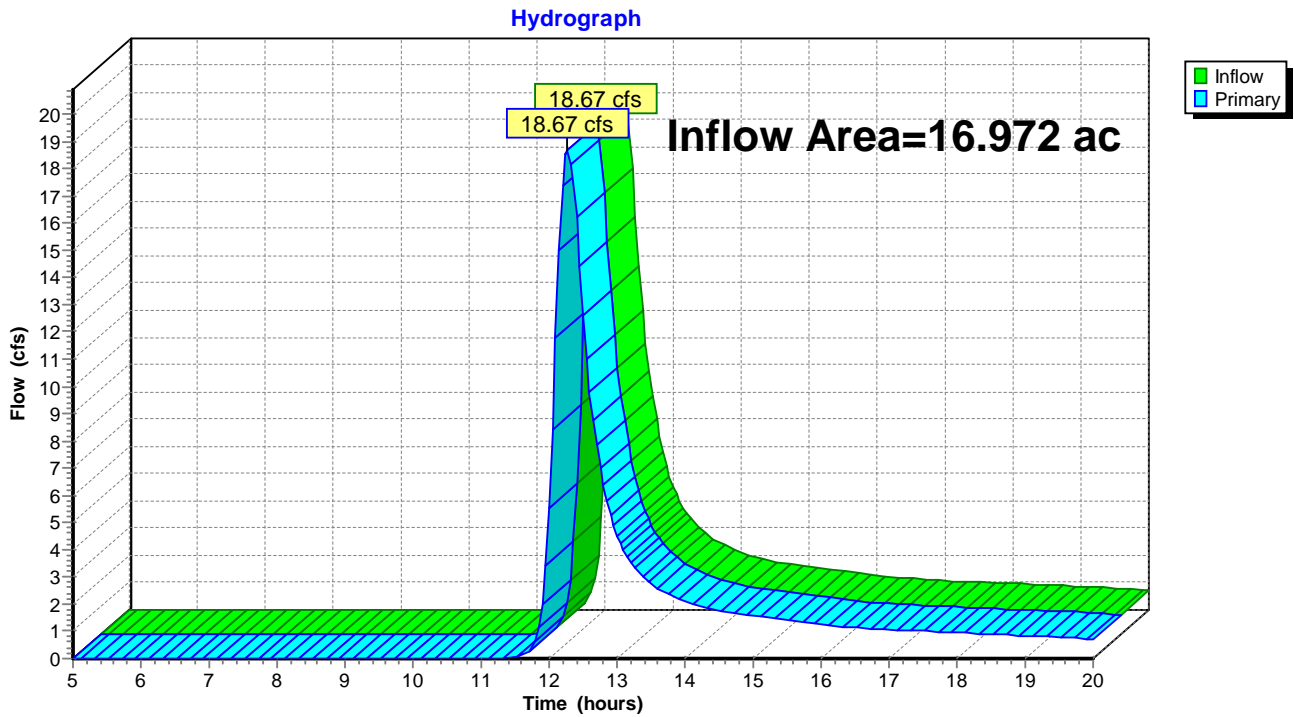


### Summary for Link DP-1: Design Point #1

Inflow Area = 16.972 ac, 0.00% Impervious, Inflow Depth > 1.26" for 10-Year event  
Inflow = 18.67 cfs @ 12.28 hrs, Volume= 1.789 af  
Primary = 18.67 cfs @ 12.28 hrs, Volume= 1.789 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1



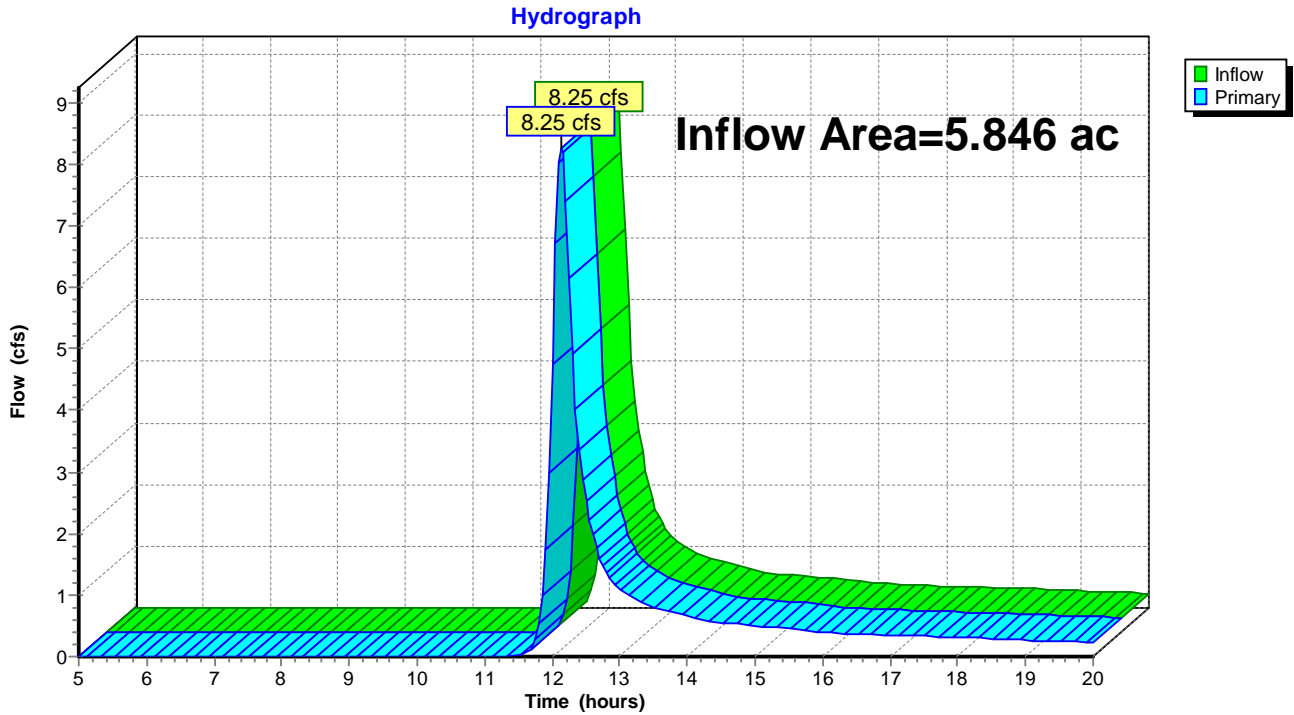


### Summary for Link DP-2: Design Point #2

Inflow Area = 5.846 ac, 0.00% Impervious, Inflow Depth > 1.21" for 10-Year event  
Inflow = 8.25 cfs @ 12.13 hrs, Volume= 0.588 af  
Primary = 8.25 cfs @ 12.13 hrs, Volume= 0.588 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2



**Summary for Subcatchment DR-A: DR-A**

Runoff = 60.95 cfs @ 12.25 hrs, Volume= 5.432 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=9.00"

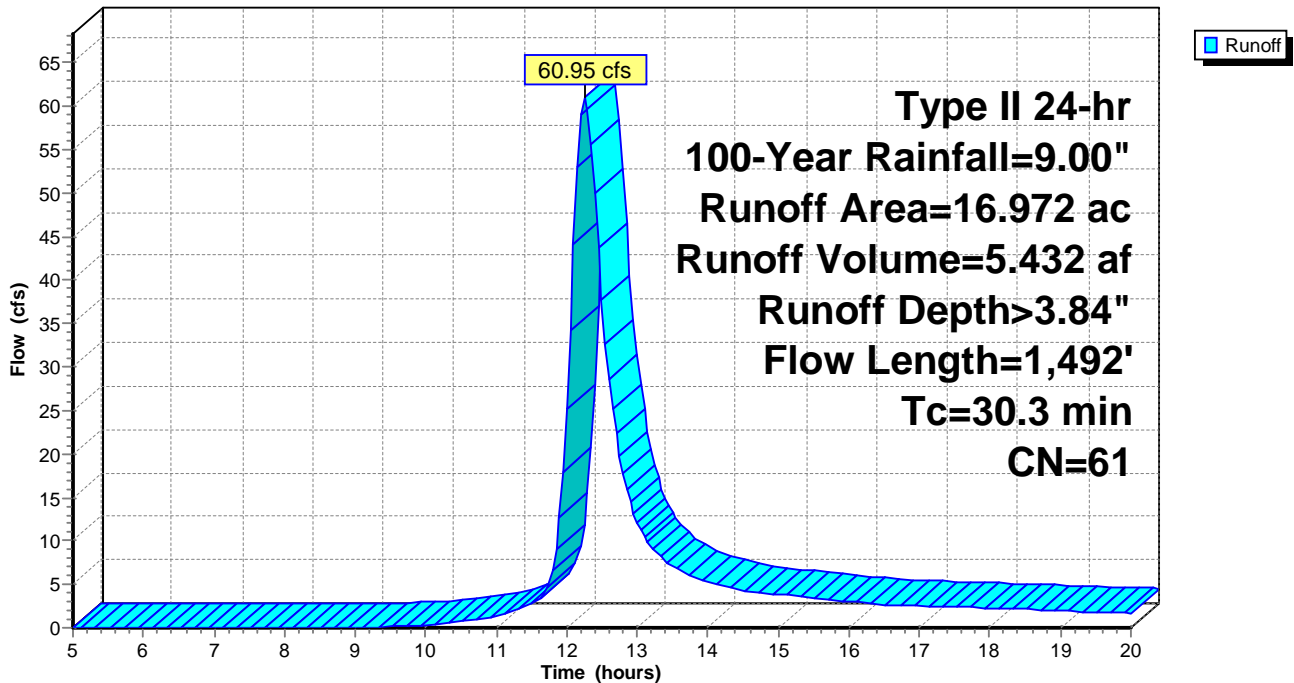
Area (ac)	CN	Description
16.524	60	Woods, Fair, HSG B
0.448	79	Woods, Fair, HSG D
16.972	61	Weighted Average
16.972		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0201	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.8	462	0.1667	2.04		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
3.9	930	0.0701	3.97		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
30.3	1,492	Total			

**Subcatchment DR-A: DR-A**

Hydrograph



**Summary for Subcatchment DR-B: DR-B**

Runoff = 27.29 cfs @ 12.12 hrs, Volume= 1.822 af, Depth> 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=9.00"

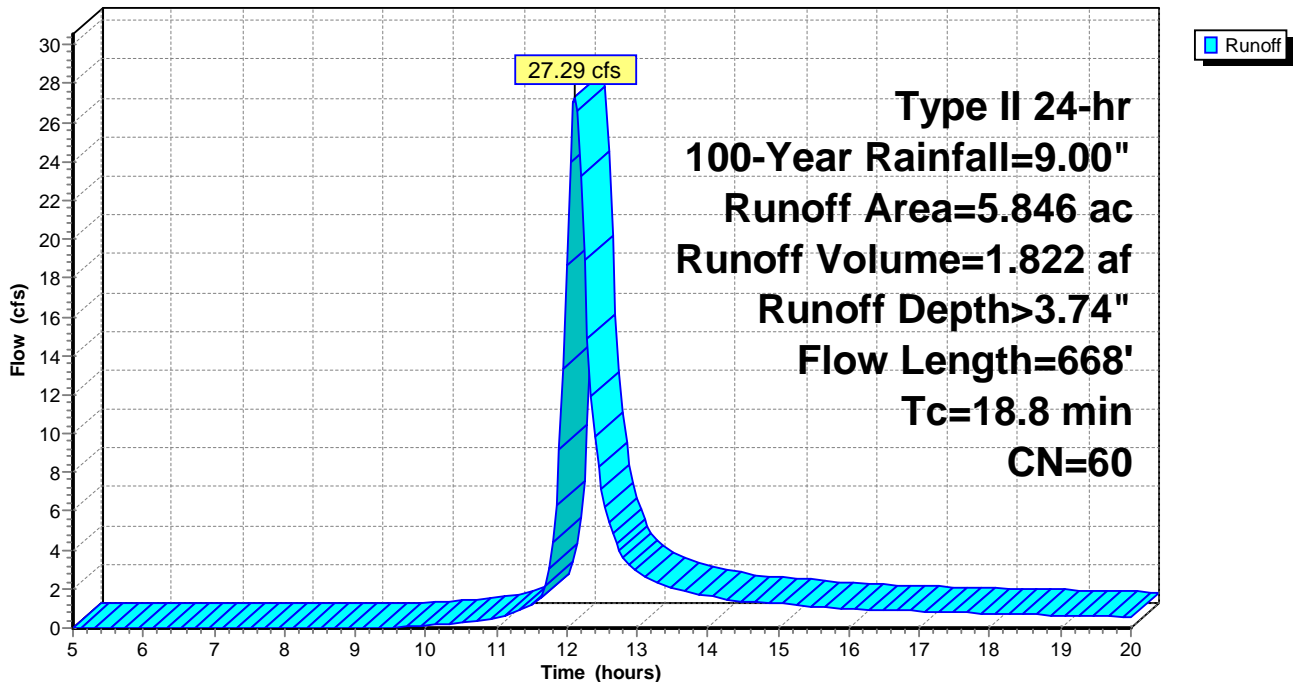
Area (ac)	CN	Description
5.740	60	Woods, Fair, HSG B
0.106	79	Woods, Fair, HSG D
5.846	60	Weighted Average
5.846		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0738	0.12		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
5.3	568	0.1268	1.78		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
18.8	668	Total			

**Subcatchment DR-B: DR-B**

Hydrograph

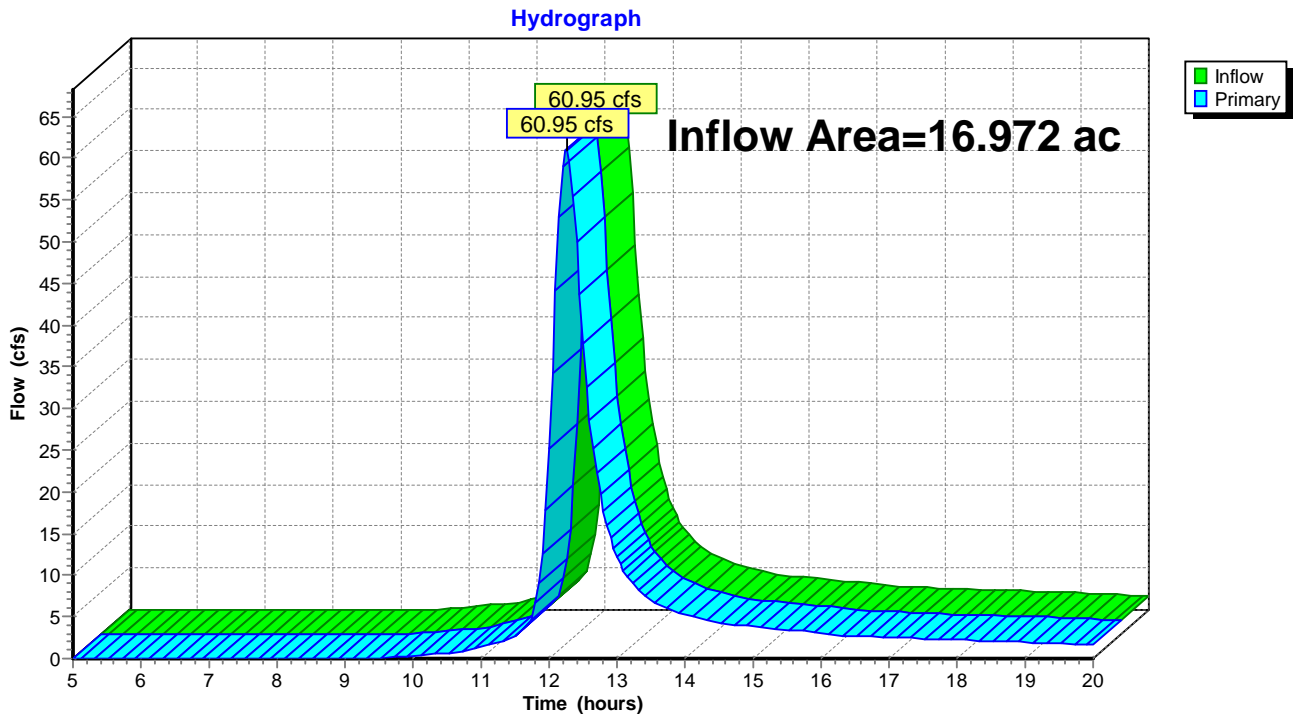


### Summary for Link DP-1: Design Point #1

Inflow Area = 16.972 ac, 0.00% Impervious, Inflow Depth > 3.84" for 100-Year event  
Inflow = 60.95 cfs @ 12.25 hrs, Volume= 5.432 af  
Primary = 60.95 cfs @ 12.25 hrs, Volume= 5.432 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1

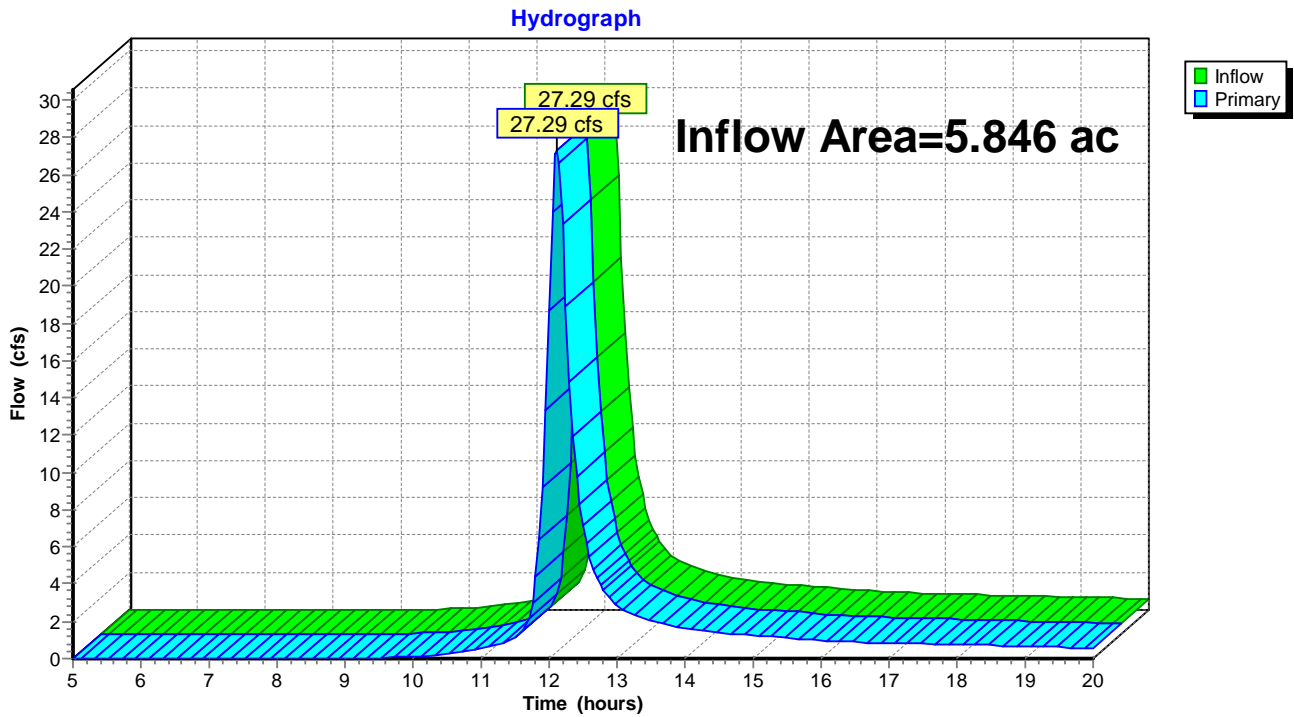


### Summary for Link DP-2: Design Point #2

Inflow Area = 5.846 ac, 0.00% Impervious, Inflow Depth > 3.74" for 100-Year event  
Inflow = 27.29 cfs @ 12.12 hrs, Volume= 1.822 af  
Primary = 27.29 cfs @ 12.12 hrs, Volume= 1.822 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2





**Appendix R-2**  
**Proposed Conditions Drainage Map**  
**And HydroCAD Report**



**LEGEND**

- SOIL TYPE BOUNDARY
- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION FLOW PATH



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**FOOTHILL STREET**

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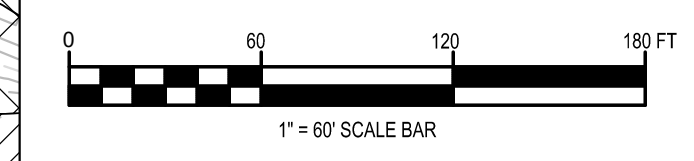
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ECR	ECR
WD	WD
Date Issued:	Scale:

**OCTOBER 26, 2020**

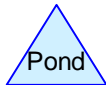
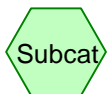
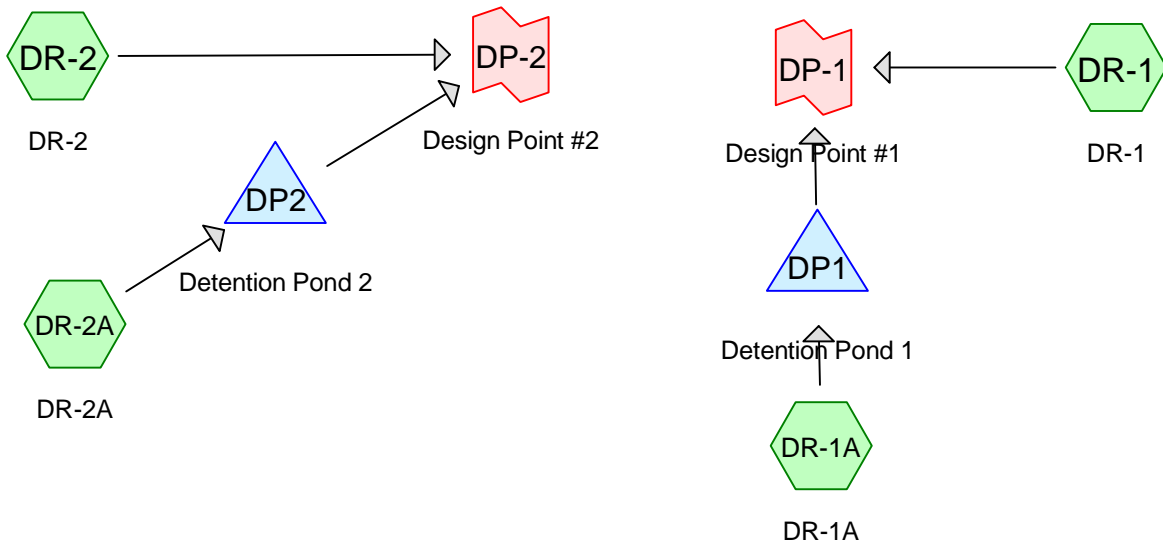
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**PROPOSED CONDITIONS  
DRAINAGE MAP**

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BEFORE EXCAVATION IS SCHEDULED TO BEGIN.  
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**DR-PR**

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Page 2

**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.173	75	Limited Use Pervious Pavement (DR-2)
17.076	58	Meadow, non-grazed, HSG B (DR-1, DR-1A, DR-2, DR-2A)
0.032	78	Meadow, non-grazed, HSG D (DR-2)
0.058	98	Unconnected pavement, HSG B (DR-2)
4.974	60	Woods, Fair, HSG B (DR-1, DR-1A, DR-2, DR-2A)
0.505	79	Woods, Fair, HSG D (DR-1, DR-2)

**DR-PR**

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**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
22.108	HSG B	DR-1, DR-1A, DR-2, DR-2A
0.000	HSG C	
0.537	HSG D	DR-1, DR-2
0.173	Other	DR-2

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**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	0.173	0.173	Limited Use Pervious Pavement	DR-2
0.000	17.076	0.000	0.032	0.000	17.108	Meadow, non-grazed	DR-1, DR-1A, DR-2, DR-2A
0.000	0.058	0.000	0.000	0.000	0.058	Unconnected pavement	DR-2
0.000	4.974	0.000	0.505	0.000	5.479	Woods, Fair	DR-1, DR-1A, DR-2, DR-2A

Summary for Subcatchment DR-1: DR-1

Runoff = 1.04 cfs @ 12.31 hrs, Volume= 0.221 af, Depth> 0.22"

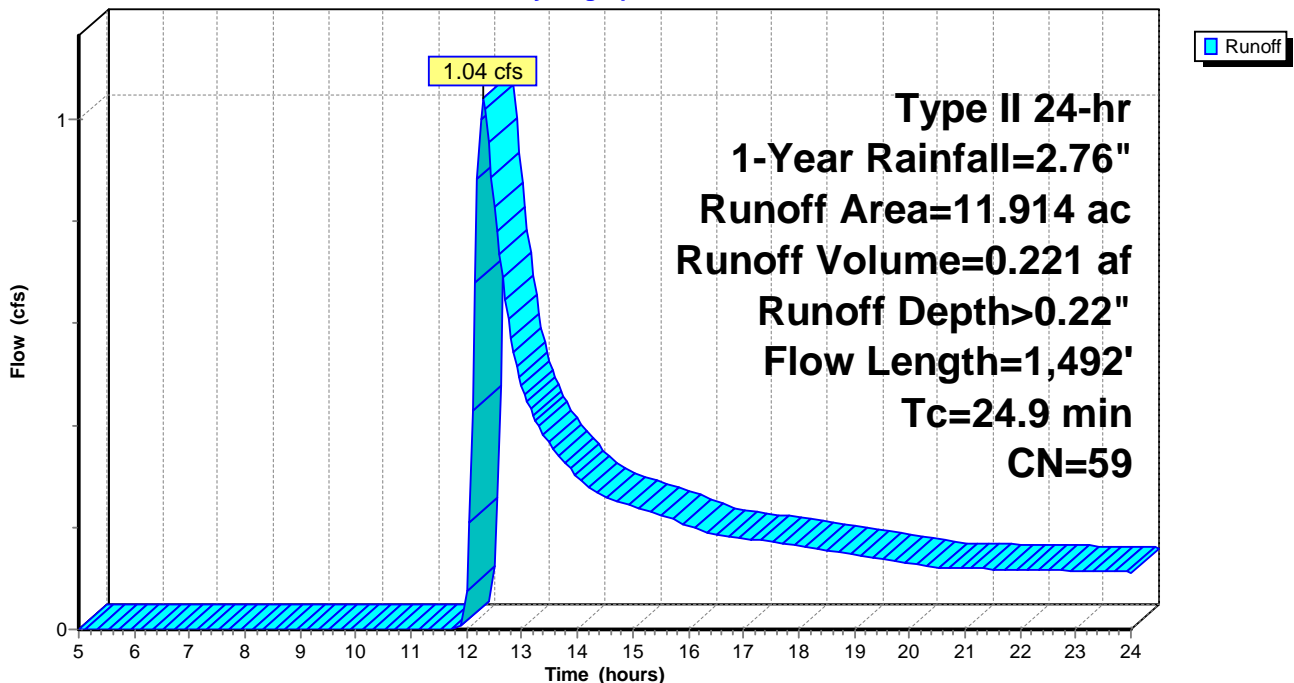
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.76"

Area (ac)	CN	Description
0.448	79	Woods, Fair, HSG D
7.508	58	Meadow, non-grazed, HSG B
3.958	60	Woods, Fair, HSG B
11.914	59	Weighted Average
11.914		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	16	0.0201	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
13.1	84	0.0201	0.11		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
2.7	462	0.1667	2.86		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.9	930	0.0701	3.97		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
24.9	1,492	Total			

Subcatchment DR-1: DR-1

Hydrograph



**DR-PR**

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Type II 24-hr 1-Year Rainfall=2.76"

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**Summary for Subcatchment DR-1A: DR-1A**

Runoff = 0.37 cfs @ 12.26 hrs, Volume= 0.084 af, Depth> 0.20"

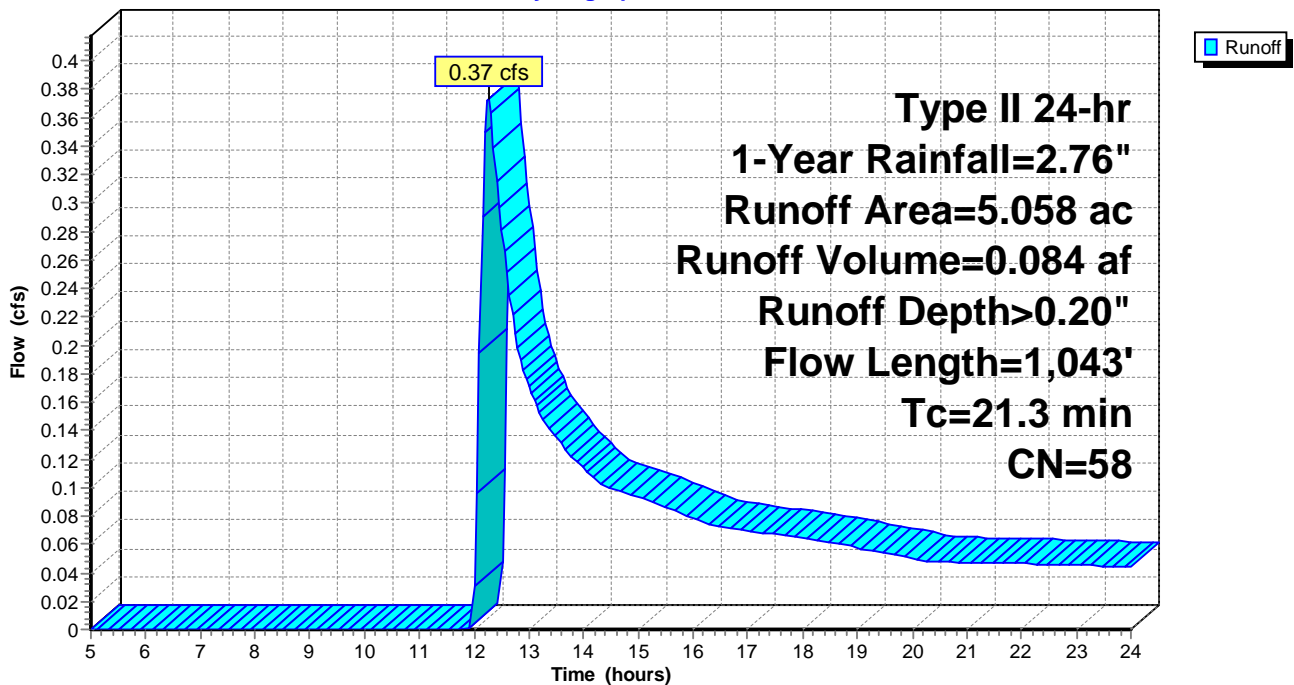
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.76"

Area (ac)	CN	Description
4.907	58	Meadow, non-grazed, HSG B
0.151	60	Woods, Fair, HSG B
5.058	58	Weighted Average
5.058		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	40	0.0333	0.08		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
5.3	60	0.1000	0.19		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
5.2	743	0.1178	2.40		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	200	0.0600	1.71		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
21.3	1,043	Total			

**Subcatchment DR-1A: DR-1A**

Hydrograph



**Summary for Subcatchment DR-2: DR-2**

Runoff = 0.64 cfs @ 12.17 hrs, Volume= 0.096 af, Depth> 0.25"

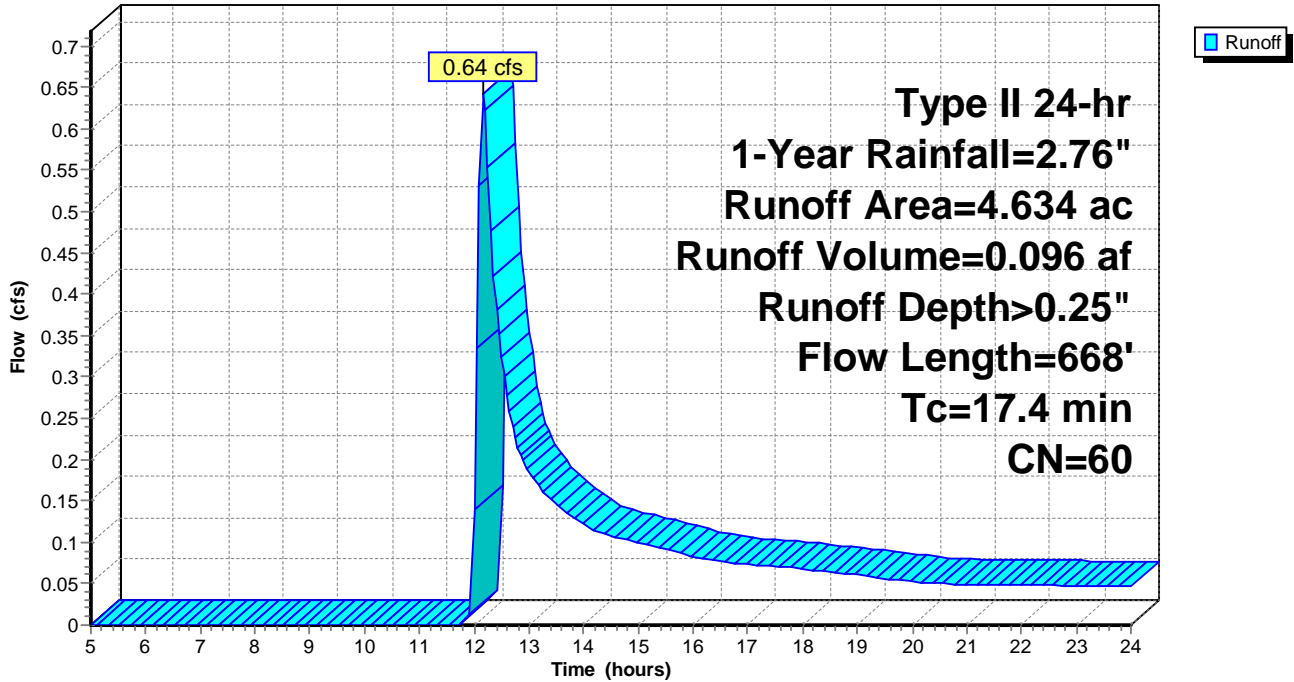
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 1-Year Rainfall=2.76"

Area (ac)	CN	Description
0.057	79	Woods, Fair, HSG D
0.032	78	Meadow, non-grazed, HSG D
* 0.173	75	Limited Use Pervious Pavement
3.504	58	Meadow, non-grazed, HSG B
0.810	60	Woods, Fair, HSG B
0.058	98	Unconnected pavement, HSG B
4.634	60	Weighted Average
4.576		98.75% Pervious Area
0.058		1.25% Impervious Area
0.058		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	70	0.0730	0.11		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.4	30	0.0730	0.15		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
3.8	568	0.1268	2.49		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
17.4	668	Total			

Subcatchment DR-2: DR-2

Hydrograph



Summary for Subcatchment DR-2A: DR-2A

Runoff = 0.11 cfs @ 12.15 hrs, Volume= 0.020 af, Depth> 0.20"

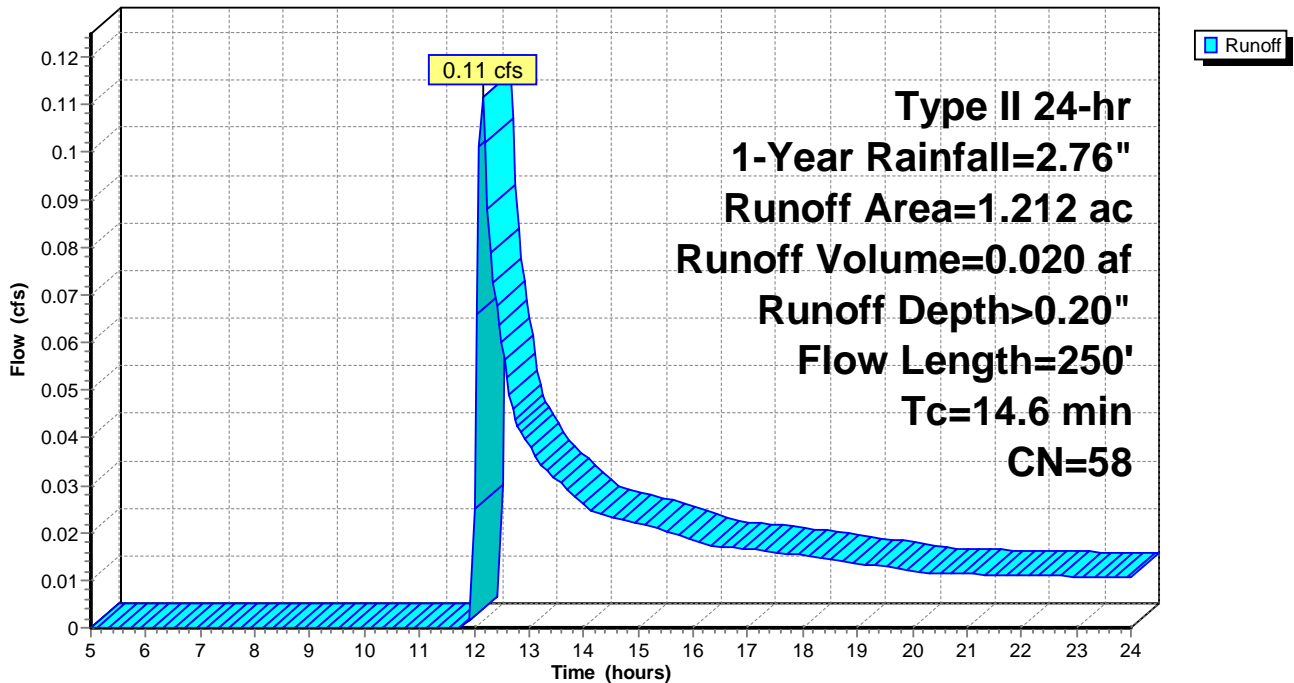
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.76"

Area (ac)	CN	Description
1.157	58	Meadow, non-grazed, HSG B
0.055	60	Woods, Fair, HSG B
1.212	58	Weighted Average
1.212		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	20	0.0289	0.06		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.87"
7.8	80	0.0672	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 2.87"
1.4	150	0.0633	1.76		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
14.6	250	Total			

Subcatchment DR-2A: DR-2A

Hydrograph





**Summary for Pond DP1: Detention Pond 1**

Inflow Area = 5.058 ac, 0.00% Impervious, Inflow Depth > 0.20" for 1-Year event  
 Inflow = 0.37 cfs @ 12.26 hrs, Volume= 0.084 af  
 Outflow = 0.11 cfs @ 14.19 hrs, Volume= 0.071 af, Atten= 72%, Lag= 115.7 min  
 Primary = 0.11 cfs @ 14.19 hrs, Volume= 0.071 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 281.53' @ 14.19 hrs Surf.Area= 4,270 sf Storage= 898 cf

Plug-Flow detention time= 141.7 min calculated for 0.071 af (85% of inflow)  
 Center-of-Mass det. time= 77.2 min ( 1,047.6 - 970.4 )

Volume	Invert	Avail.Storage	Storage Description		
#1	281.32'	16,131 cf	<b>Custom Stage Data (Irregular) Listed below (Recalc)</b>		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
281.32	4,100	265.0	0	0	4,100
282.32	4,924	284.0	4,506	4,506	4,974
283.32	5,804	303.0	5,358	9,864	5,909
284.32	6,742	322.0	6,267	16,131	6,904

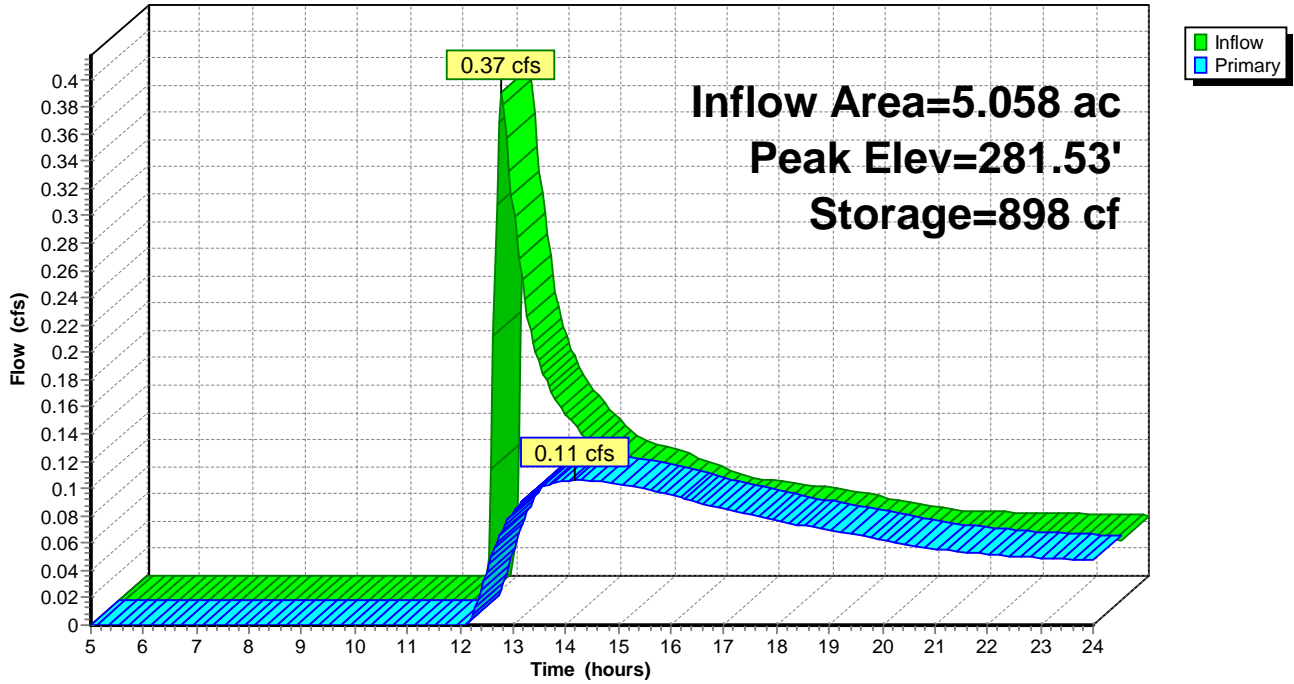
Device	Routing	Invert	Outlet Devices	
#1	Primary	281.32'	<b>12.0" Round Culvert</b> L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 281.32' / 280.50' S= 0.0273 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf	
#2	Device 1	281.32'	<b>3.0" Vert. Orifice/Grate</b> C= 0.900	
#3	Device 1	281.75'	<b>30.0" W x 8.0" H Vert. Orifice/Grate</b> C= 0.900	
#4	Device 1	283.10'	<b>30.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.900	
#5	Primary	283.80'	<b>10.0' long x 0.50' rise Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)	

**Primary OutFlow** Max=0.11 cfs @ 14.19 hrs HW=281.53' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.11 cfs of 0.15 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.11 cfs @ 2.37 fps)
- 3=Orifice/Grate ( Controls 0.00 cfs)
- 4=Orifice/Grate ( Controls 0.00 cfs)
- 5=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond DP1: Detention Pond 1

Hydrograph



Summary for Pond DP2: Detention Pond 2

Inflow Area = 1.212 ac, 0.00% Impervious, Inflow Depth > 0.20" for 1-Year event
Inflow = 0.11 cfs @ 12.15 hrs, Volume= 0.020 af
Outflow = 0.03 cfs @ 13.60 hrs, Volume= 0.018 af, Atten= 73%, Lag= 86.8 min
Primary = 0.03 cfs @ 13.60 hrs, Volume= 0.018 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 277.10' @ 13.60 hrs Surf.Area= 1,872 sf Storage= 184 cf

Plug-Flow detention time= 115.6 min calculated for 0.018 af (88% of inflow)
Center-of-Mass det. time= 61.1 min ( 1,027.4 - 966.3 )

Table with 4 columns: Volume, Invert, Avail.Storage, Storage Description. Includes a sub-table with 4 columns: Elevation (feet), Surf.Area (sq-ft), Inc.Store (cubic-feet), Cum.Store (cubic-feet).

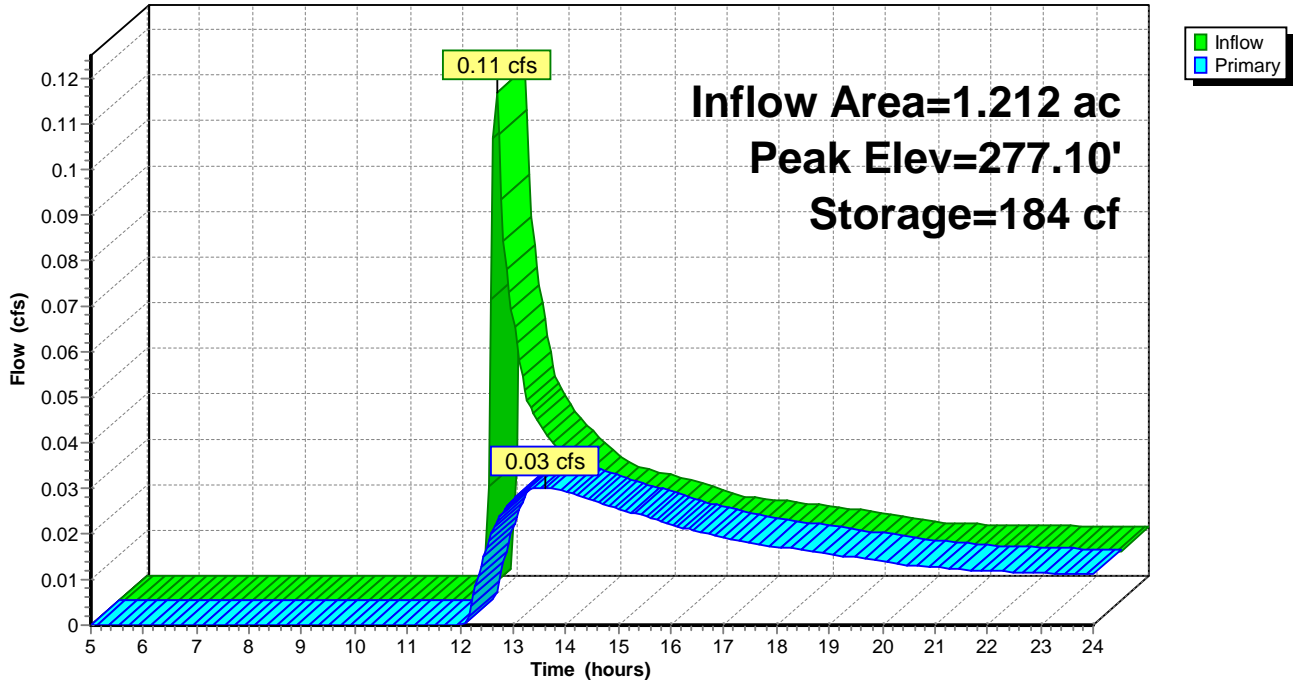
Table with 4 columns: Device, Routing, Invert, Outlet Devices. Lists details for devices #1 through #5, including culverts, orifices/grates, and a weir.

Primary OutFlow Max=0.03 cfs @ 13.60 hrs HW=277.10' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.03 cfs of 0.04 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.03 cfs @ 1.62 fps)
3=Orifice/Grate ( Controls 0.00 cfs)
4=Orifice/Grate ( Controls 0.00 cfs)
5=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond DP2: Detention Pond 2

Hydrograph

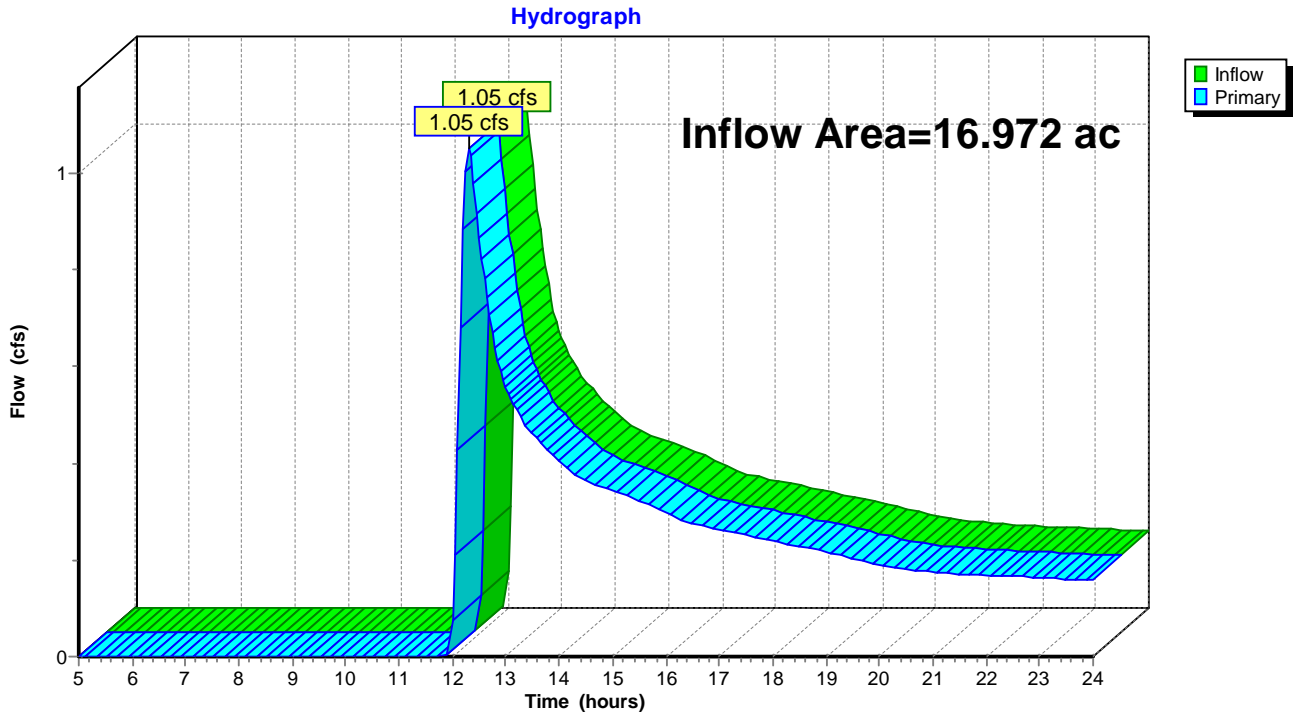


### Summary for Link DP-1: Design Point #1

Inflow Area = 16.972 ac, 0.00% Impervious, Inflow Depth > 0.21" for 1-Year event  
Inflow = 1.05 cfs @ 12.31 hrs, Volume= 0.292 af  
Primary = 1.05 cfs @ 12.31 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1

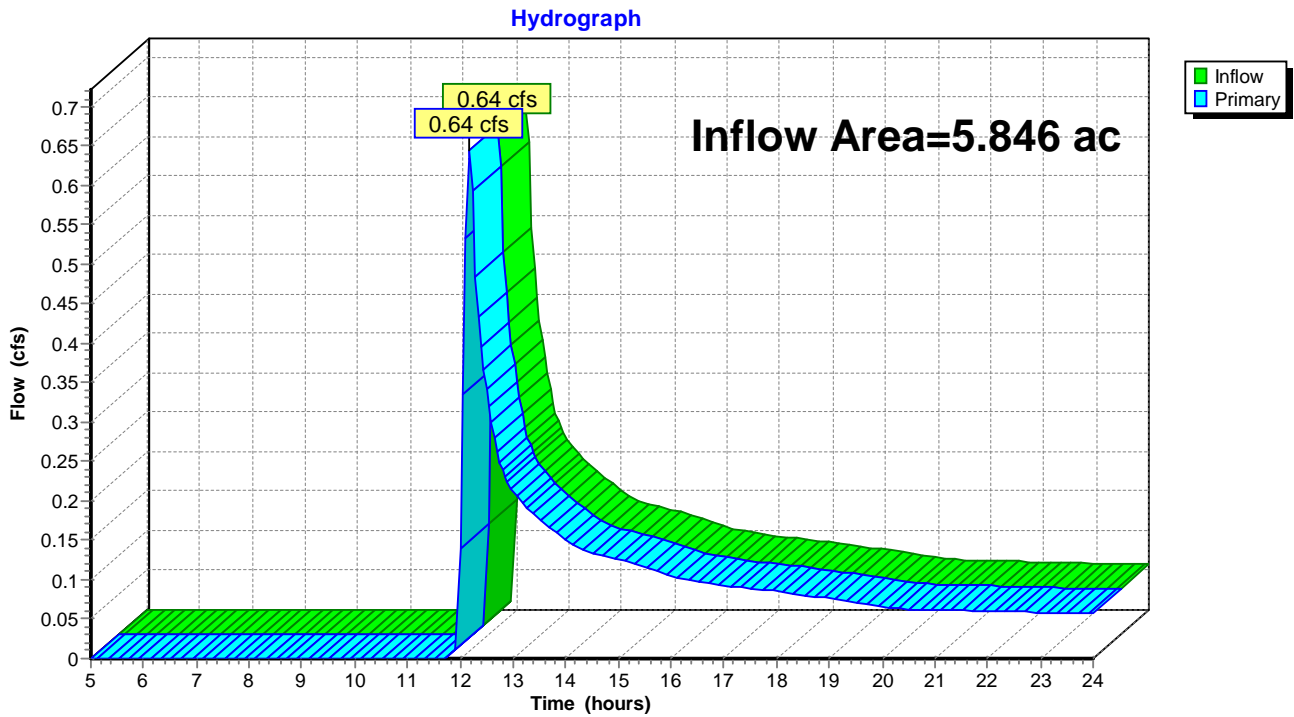


### Summary for Link DP-2: Design Point #2

Inflow Area = 5.846 ac, 0.99% Impervious, Inflow Depth > 0.23" for 1-Year event  
Inflow = 0.64 cfs @ 12.17 hrs, Volume= 0.114 af  
Primary = 0.64 cfs @ 12.17 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2



**Summary for Subcatchment DR-1: DR-1**

Runoff = 13.13 cfs @ 12.21 hrs, Volume= 1.271 af, Depth> 1.28"

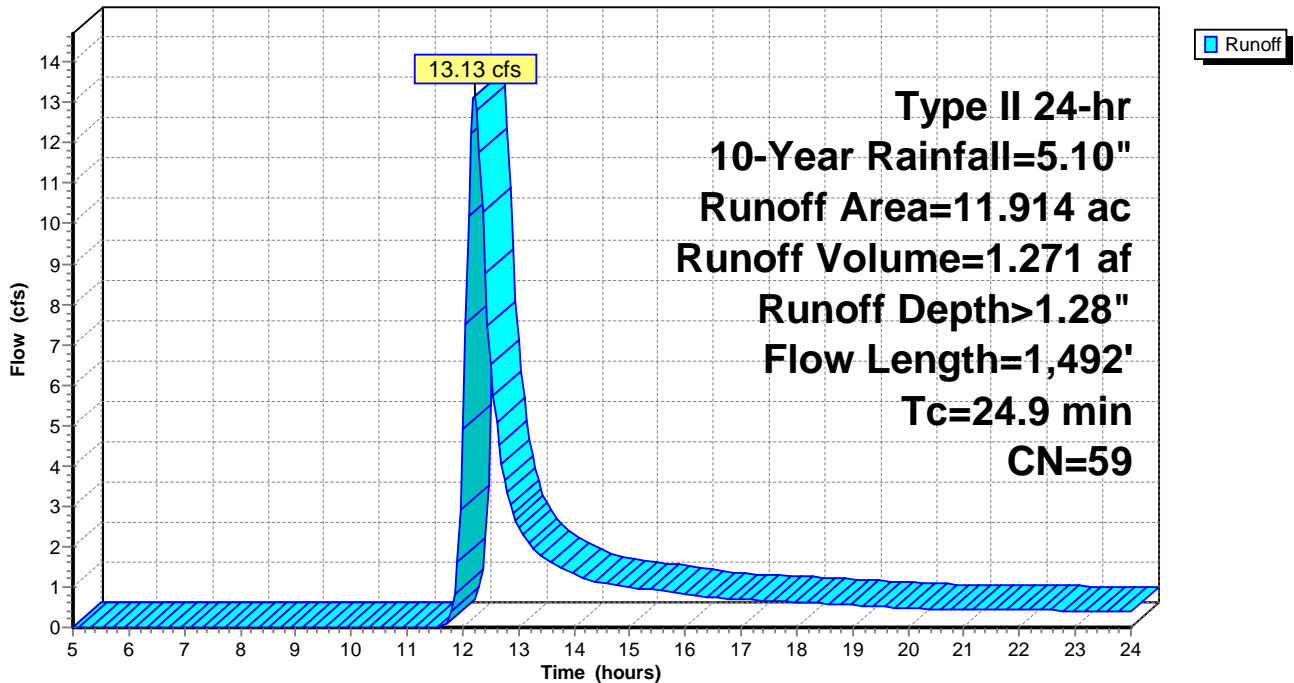
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=5.10"

Area (ac)	CN	Description
0.448	79	Woods, Fair, HSG D
7.508	58	Meadow, non-grazed, HSG B
3.958	60	Woods, Fair, HSG B
11.914	59	Weighted Average
11.914		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	16	0.0201	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
13.1	84	0.0201	0.11		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
2.7	462	0.1667	2.86		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.9	930	0.0701	3.97		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
24.9	1,492	Total			

**Subcatchment DR-1: DR-1**

Hydrograph



**DR-PR**

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Type II 24-hr 10-Year Rainfall=5.10"

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**Summary for Subcatchment DR-1A: DR-1A**

Runoff = 5.76 cfs @ 12.17 hrs, Volume= 0.512 af, Depth> 1.21"

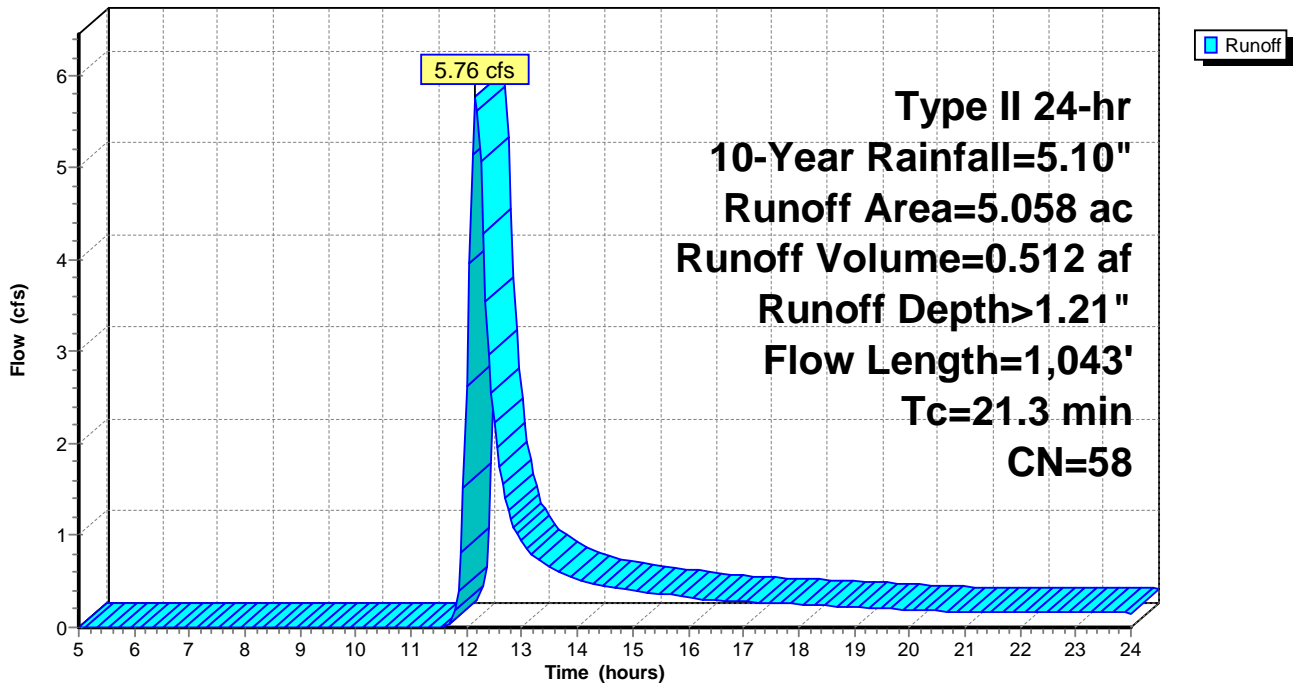
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-Year Rainfall=5.10"

Area (ac)	CN	Description
4.907	58	Meadow, non-grazed, HSG B
0.151	60	Woods, Fair, HSG B
5.058	58	Weighted Average
5.058		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	40	0.0333	0.08		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
5.3	60	0.1000	0.19		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
5.2	743	0.1178	2.40		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	200	0.0600	1.71		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
21.3	1,043	Total			

**Subcatchment DR-1A: DR-1A**

Hydrograph





**Summary for Subcatchment DR-2: DR-2**

Runoff = 6.88 cfs @ 12.12 hrs, Volume= 0.522 af, Depth> 1.35"

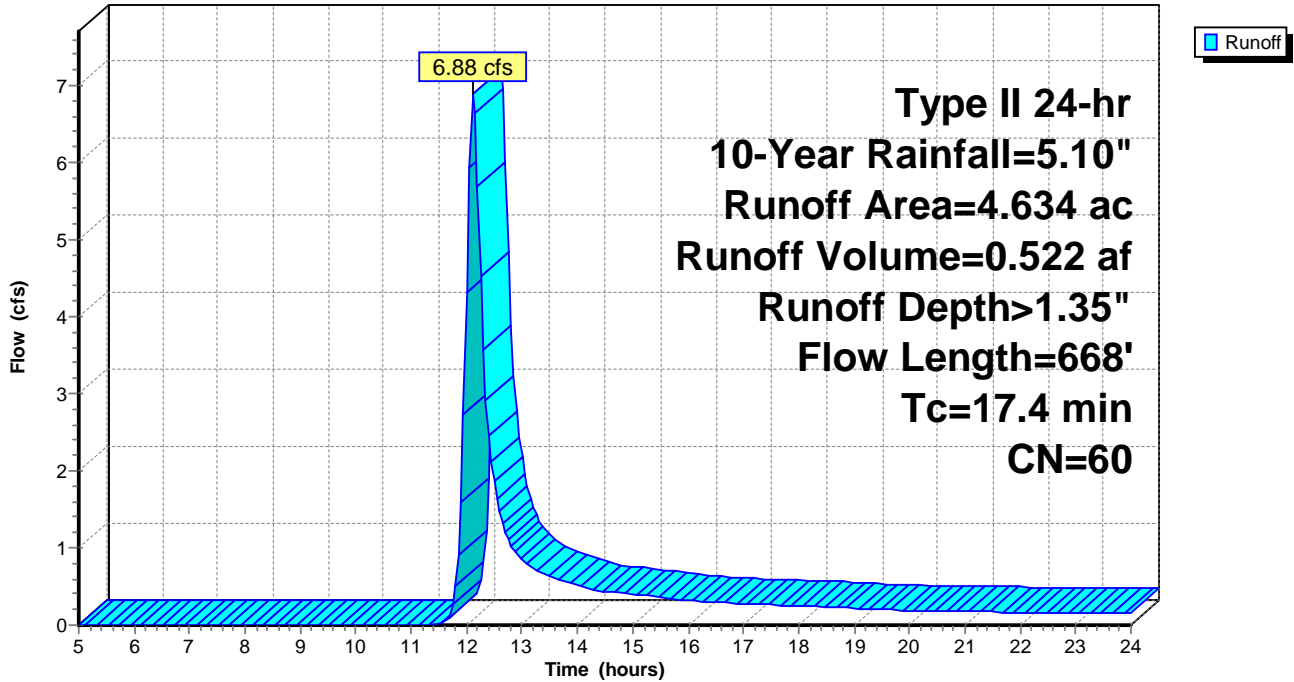
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=5.10"

Area (ac)	CN	Description
0.057	79	Woods, Fair, HSG D
0.032	78	Meadow, non-grazed, HSG D
* 0.173	75	Limited Use Pervious Pavement
3.504	58	Meadow, non-grazed, HSG B
0.810	60	Woods, Fair, HSG B
0.058	98	Unconnected pavement, HSG B
4.634	60	Weighted Average
4.576		98.75% Pervious Area
0.058		1.25% Impervious Area
0.058		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	70	0.0730	0.11		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.4	30	0.0730	0.15		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
3.8	568	0.1268	2.49		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
17.4	668	Total			

Subcatchment DR-2: DR-2

Hydrograph



### Summary for Subcatchment DR-2A: DR-2A

Runoff = 1.73 cfs @ 12.09 hrs, Volume= 0.123 af, Depth> 1.22"

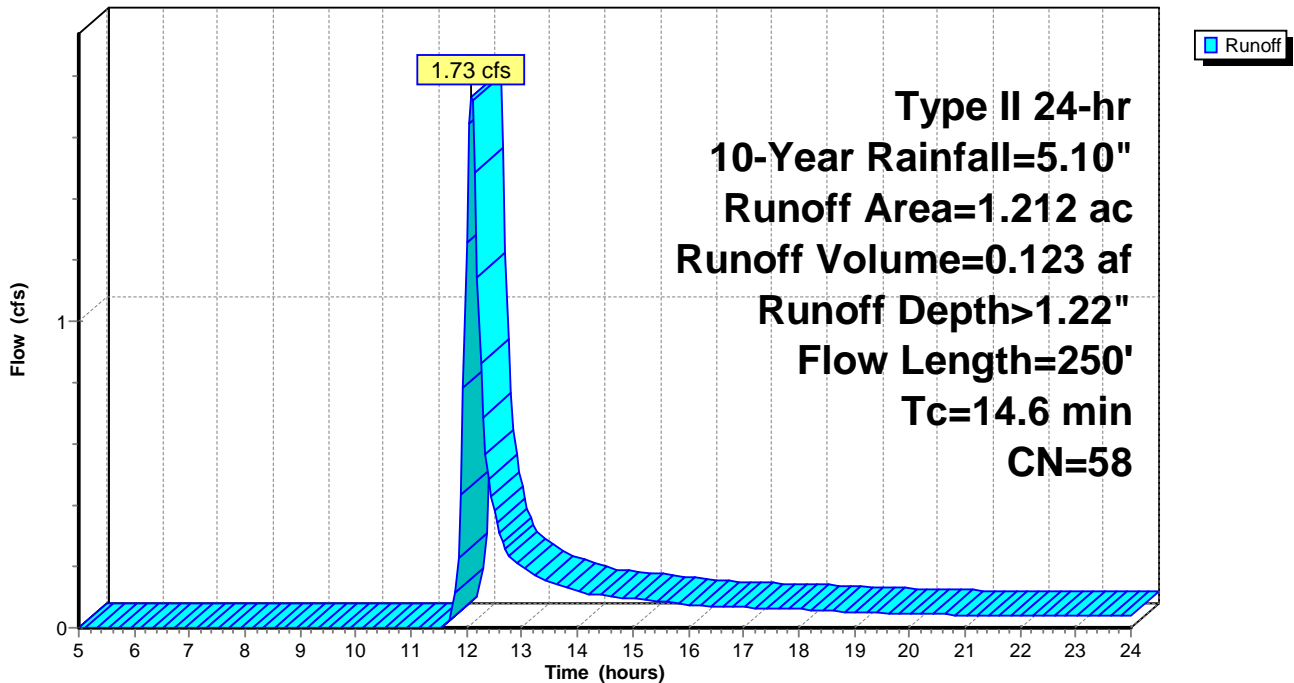
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-Year Rainfall=5.10"

Area (ac)	CN	Description
1.157	58	Meadow, non-grazed, HSG B
0.055	60	Woods, Fair, HSG B
1.212	58	Weighted Average
1.212		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	20	0.0289	0.06		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
7.8	80	0.0672	0.17		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
1.4	150	0.0633	1.76		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
14.6	250	Total			

### Subcatchment DR-2A: DR-2A

Hydrograph



**Summary for Pond DP1: Detention Pond 1**

Inflow Area = 5.058 ac, 0.00% Impervious, Inflow Depth > 1.21" for 10-Year event  
 Inflow = 5.76 cfs @ 12.17 hrs, Volume= 0.512 af  
 Outflow = 2.42 cfs @ 12.47 hrs, Volume= 0.475 af, Atten= 58%, Lag= 18.2 min  
 Primary = 2.42 cfs @ 12.47 hrs, Volume= 0.475 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 282.48' @ 12.47 hrs Surf.Area= 5,059 sf Storage= 5,302 cf

Plug-Flow detention time= 70.0 min calculated for 0.475 af (93% of inflow)  
 Center-of-Mass det. time= 32.8 min ( 919.8 - 887.0 )

Volume	Invert	Avail.Storage	Storage Description		
#1	281.32'	16,131 cf	<b>Custom Stage Data (Irregular) Listed below (Recalc)</b>		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
281.32	4,100	265.0	0	0	4,100
282.32	4,924	284.0	4,506	4,506	4,974
283.32	5,804	303.0	5,358	9,864	5,909
284.32	6,742	322.0	6,267	16,131	6,904

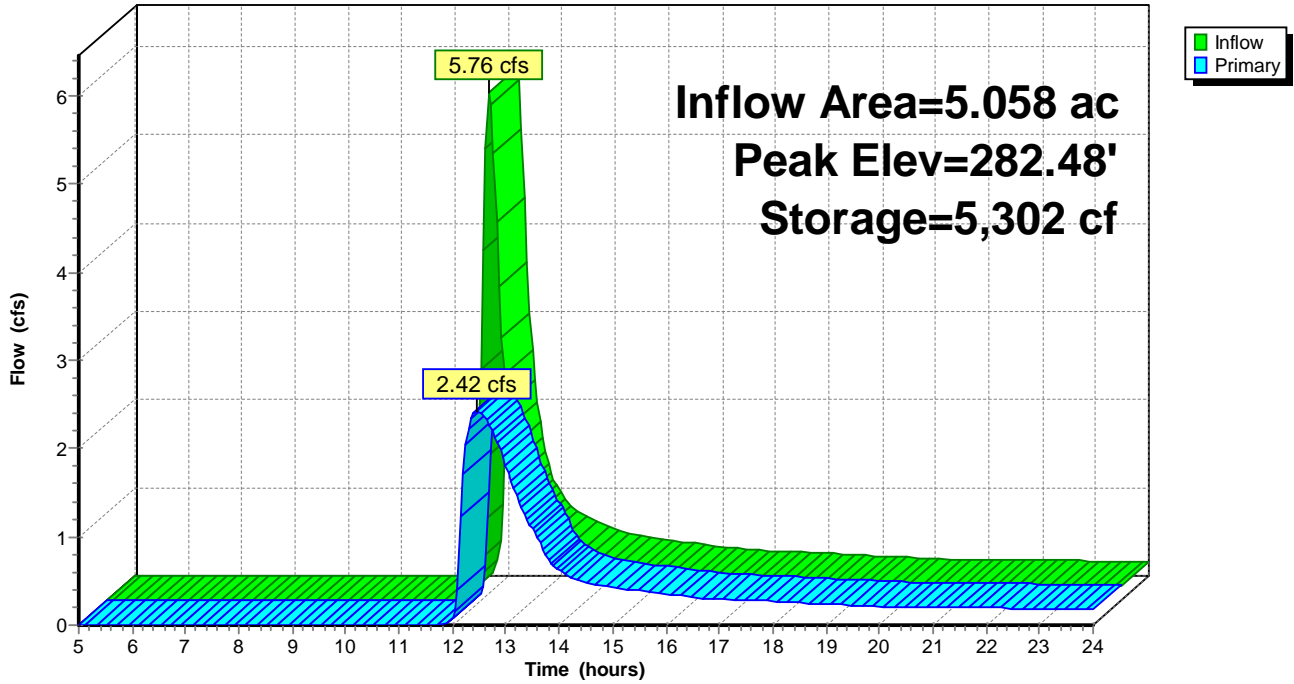
Device	Routing	Invert	Outlet Devices	
#1	Primary	281.32'	<b>12.0" Round Culvert</b> L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 281.32' / 280.50' S= 0.0273 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf	
#2	Device 1	281.32'	<b>3.0" Vert. Orifice/Grate</b> C= 0.900	
#3	Device 1	281.75'	<b>30.0" W x 8.0" H Vert. Orifice/Grate</b> C= 0.900	
#4	Device 1	283.10'	<b>30.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.900	
#5	Primary	283.80'	<b>10.0' long x 0.50' rise Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)	

**Primary OutFlow** Max=2.42 cfs @ 12.47 hrs HW=282.48' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Inlet Controls 2.42 cfs @ 3.08 fps)
- 2=Orifice/Grate (Passes < 0.36 cfs potential flow)
- 3=Orifice/Grate (Passes < 7.29 cfs potential flow)
- 4=Orifice/Grate ( Controls 0.00 cfs)
- 5=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond DP1: Detention Pond 1

Hydrograph



Summary for Pond DP2: Detention Pond 2

Inflow Area = 1.212 ac, 0.00% Impervious, Inflow Depth > 1.22" for 10-Year event
Inflow = 1.73 cfs @ 12.09 hrs, Volume= 0.123 af
Outflow = 0.74 cfs @ 12.29 hrs, Volume= 0.118 af, Atten= 57%, Lag= 12.3 min
Primary = 0.74 cfs @ 12.29 hrs, Volume= 0.118 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 277.65' @ 12.29 hrs Surf.Area= 2,377 sf Storage= 1,358 cf

Plug-Flow detention time= 62.4 min calculated for 0.118 af (96% of inflow)
Center-of-Mass det. time= 40.8 min ( 923.2 - 882.3 )

Table with 4 columns: Volume, Invert, Avail.Storage, Storage Description. Includes a sub-table with 4 columns: Elevation (feet), Surf.Area (sq-ft), Inc.Store (cubic-feet), Cum.Store (cubic-feet).

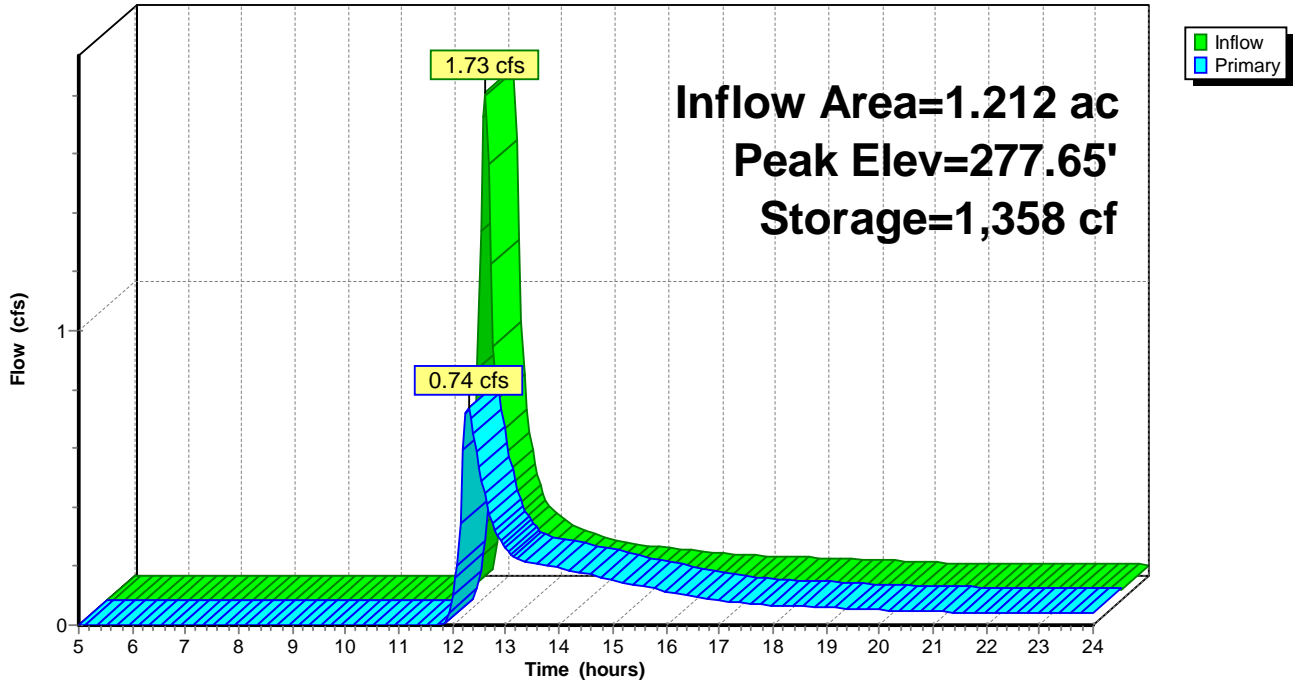
Table with 4 columns: Device, Routing, Invert, Outlet Devices. Lists devices #1 through #5 with their respective specifications and invert elevations.

Primary OutFlow Max=0.74 cfs @ 12.29 hrs HW=277.65' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.74 cfs of 1.18 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.26 cfs @ 5.25 fps)
3=Orifice/Grate (Orifice Controls 0.48 cfs @ 1.88 fps)
4=Orifice/Grate ( Controls 0.00 cfs)
5=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond DP2: Detention Pond 2

Hydrograph

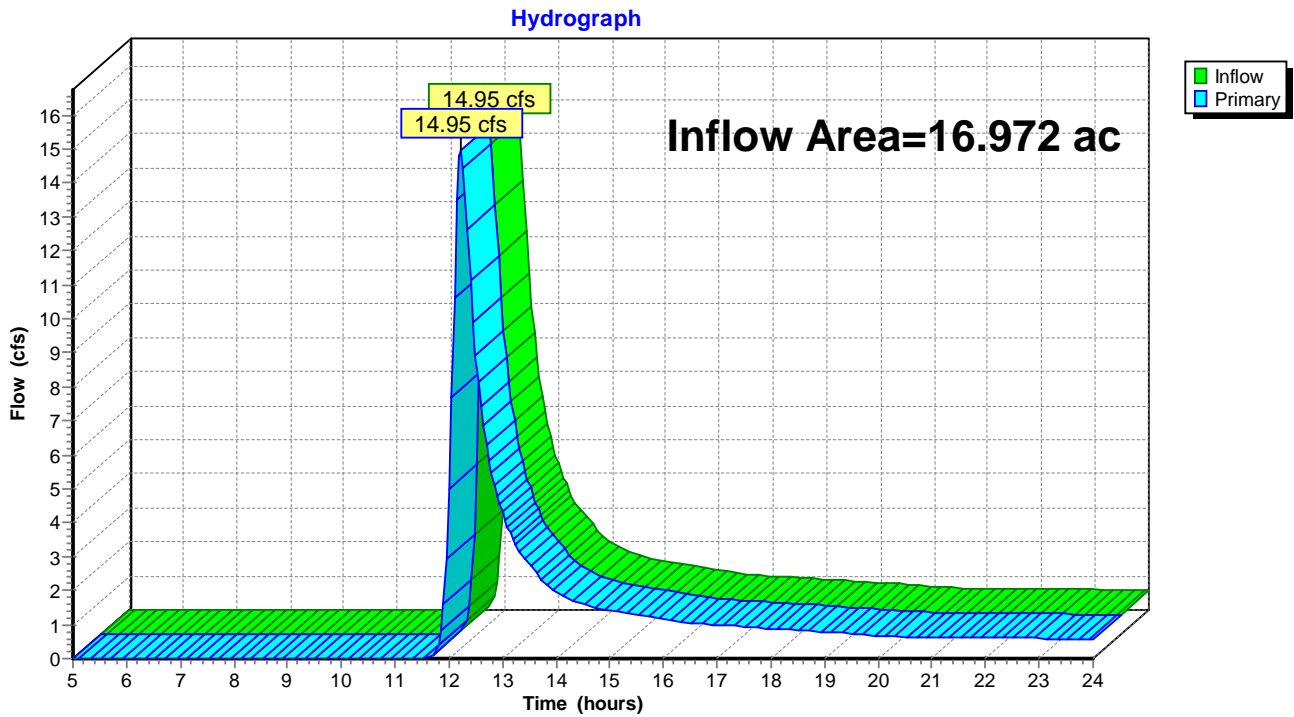


### Summary for Link DP-1: Design Point #1

Inflow Area = 16.972 ac, 0.00% Impervious, Inflow Depth > 1.23" for 10-Year event  
Inflow = 14.95 cfs @ 12.23 hrs, Volume= 1.745 af  
Primary = 14.95 cfs @ 12.23 hrs, Volume= 1.745 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1



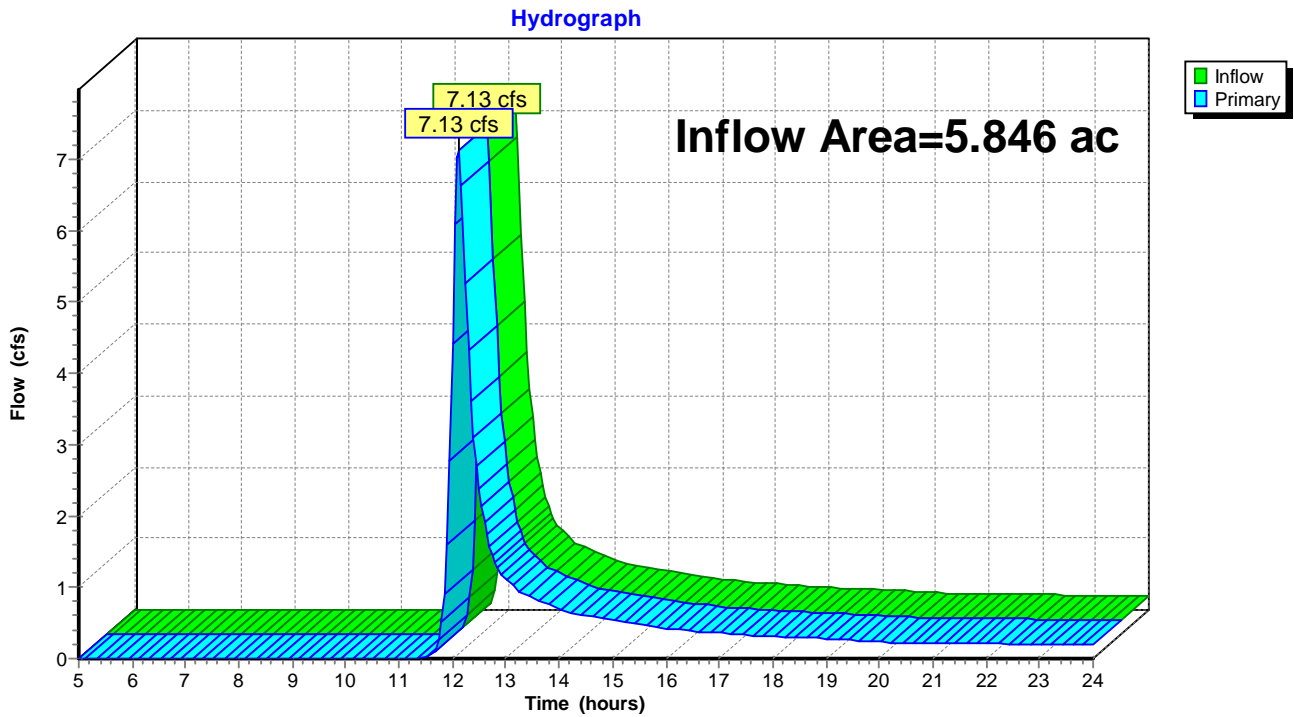


### Summary for Link DP-2: Design Point #2

Inflow Area = 5.846 ac, 0.99% Impervious, Inflow Depth > 1.31" for 10-Year event  
Inflow = 7.13 cfs @ 12.12 hrs, Volume= 0.640 af  
Primary = 7.13 cfs @ 12.12 hrs, Volume= 0.640 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2



**Summary for Subcatchment DR-1: DR-1**

Runoff = 45.43 cfs @ 12.19 hrs, Volume= 3.922 af, Depth> 3.95"

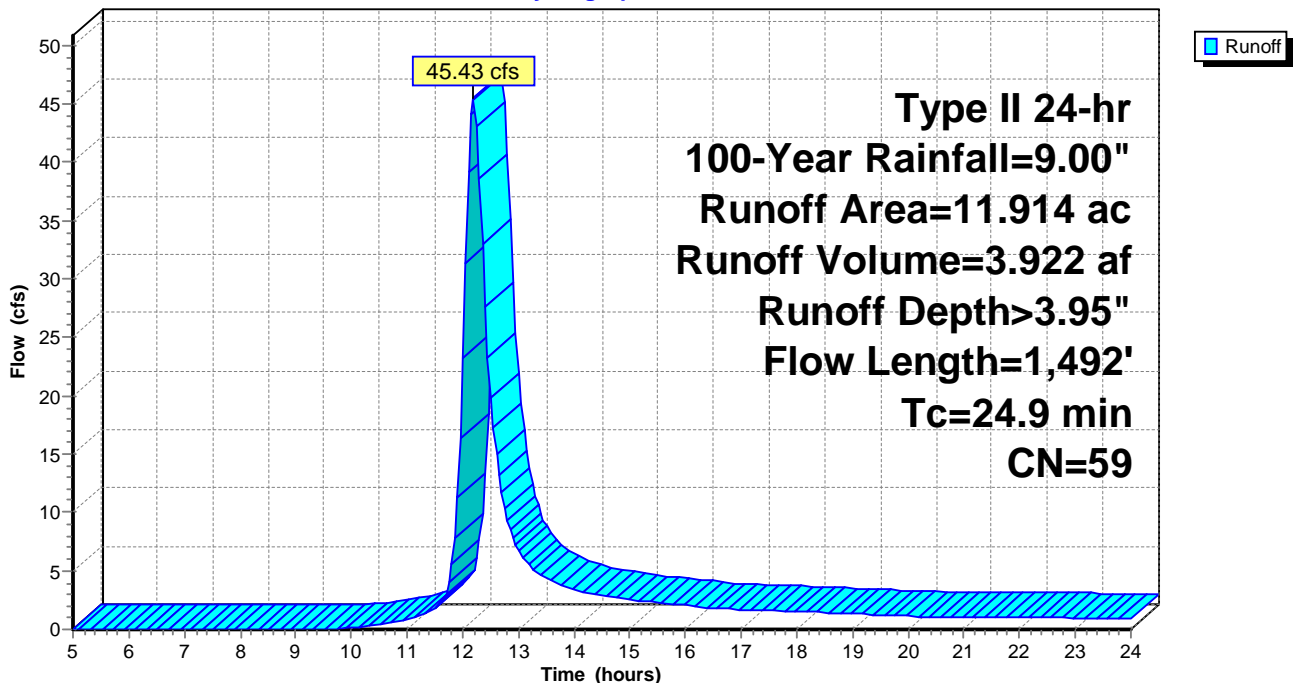
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=9.00"

Area (ac)	CN	Description
0.448	79	Woods, Fair, HSG D
7.508	58	Meadow, non-grazed, HSG B
3.958	60	Woods, Fair, HSG B
11.914	59	Weighted Average
11.914		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	16	0.0201	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
13.1	84	0.0201	0.11		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
2.7	462	0.1667	2.86		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.9	930	0.0701	3.97		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
24.9	1,492	Total			

**Subcatchment DR-1: DR-1**

Hydrograph



### Summary for Subcatchment DR-1A: DR-1A

Runoff = 20.53 cfs @ 12.15 hrs, Volume= 1.615 af, Depth> 3.83"

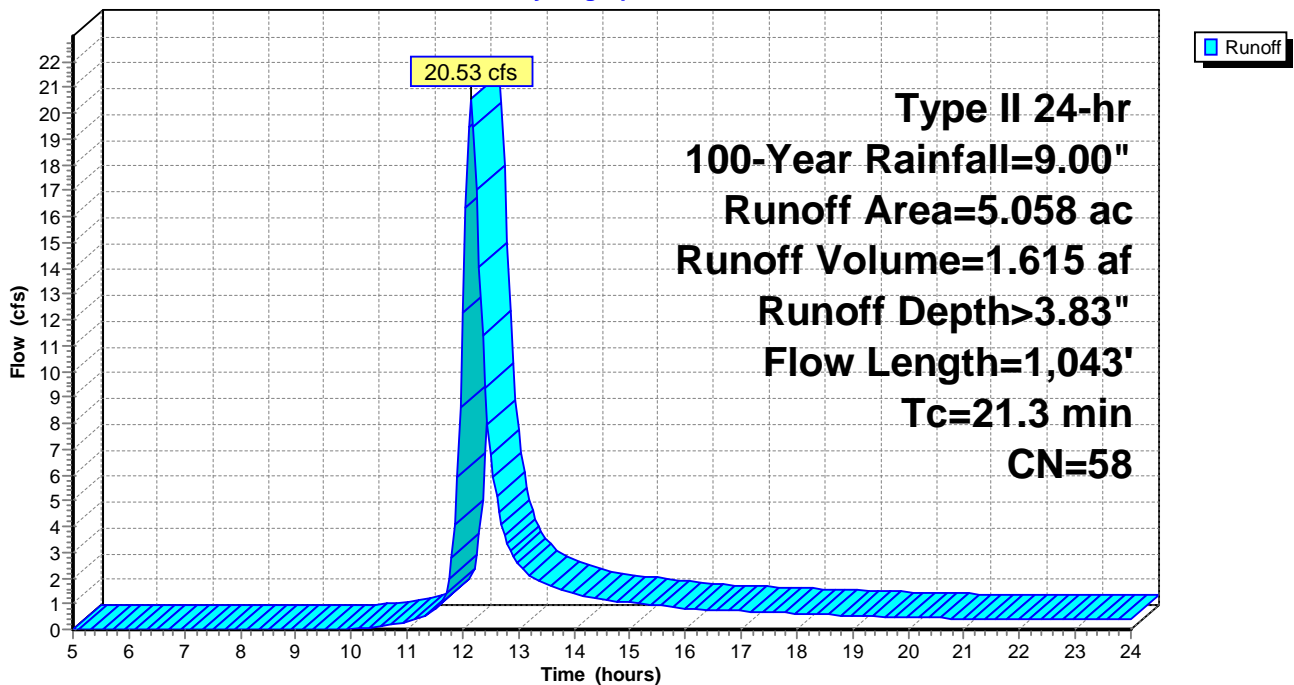
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 100-Year Rainfall=9.00"

Area (ac)	CN	Description
4.907	58	Meadow, non-grazed, HSG B
0.151	60	Woods, Fair, HSG B
5.058	58	Weighted Average
5.058		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	40	0.0333	0.08		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
5.3	60	0.1000	0.19		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
5.2	743	0.1178	2.40		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	200	0.0600	1.71		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
21.3	1,043	Total			

### Subcatchment DR-1A: DR-1A

Hydrograph



**Summary for Subcatchment DR-2: DR-2**

Runoff = 22.59 cfs @ 12.10 hrs, Volume= 1.576 af, Depth> 4.08"

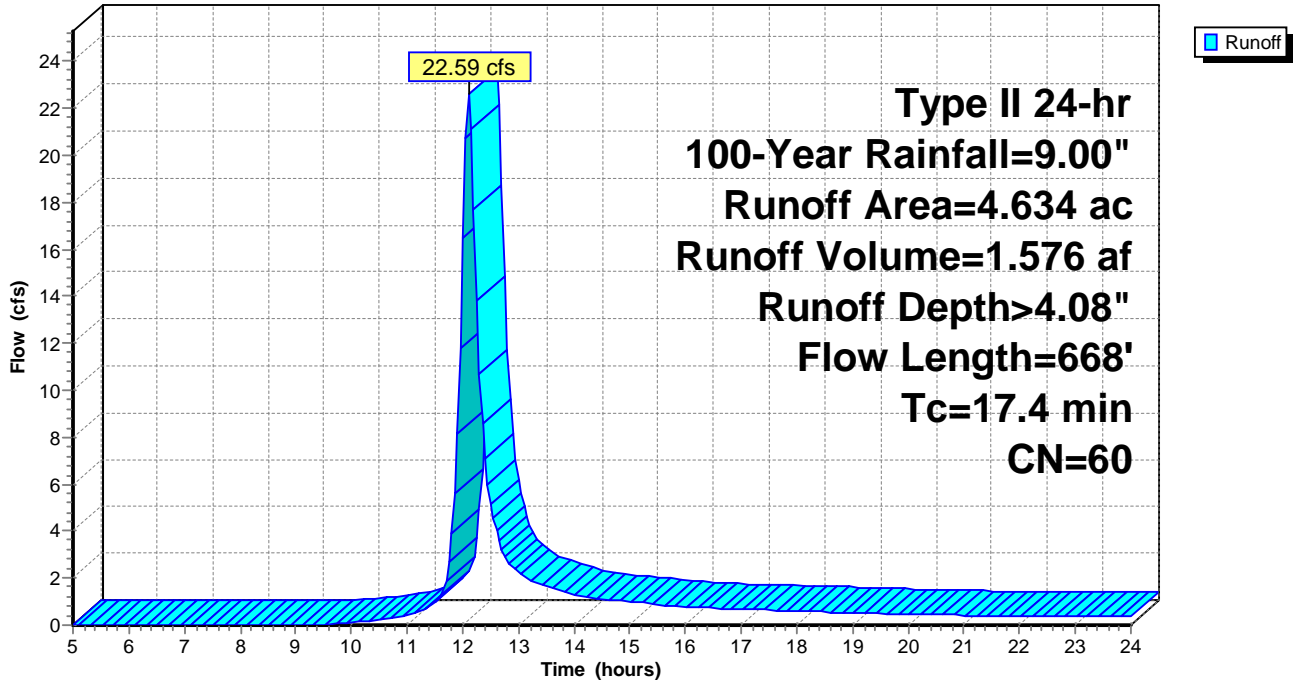
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=9.00"

Area (ac)	CN	Description
0.057	79	Woods, Fair, HSG D
0.032	78	Meadow, non-grazed, HSG D
* 0.173	75	Limited Use Pervious Pavement
3.504	58	Meadow, non-grazed, HSG B
0.810	60	Woods, Fair, HSG B
0.058	98	Unconnected pavement, HSG B
4.634	60	Weighted Average
4.576		98.75% Pervious Area
0.058		1.25% Impervious Area
0.058		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	70	0.0730	0.11		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.4	30	0.0730	0.15		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
3.8	568	0.1268	2.49		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
17.4	668	Total			

Subcatchment DR-2: DR-2

Hydrograph



**Summary for Subcatchment DR-2A: DR-2A**

Runoff = 6.04 cfs @ 12.07 hrs, Volume= 0.388 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=9.00"

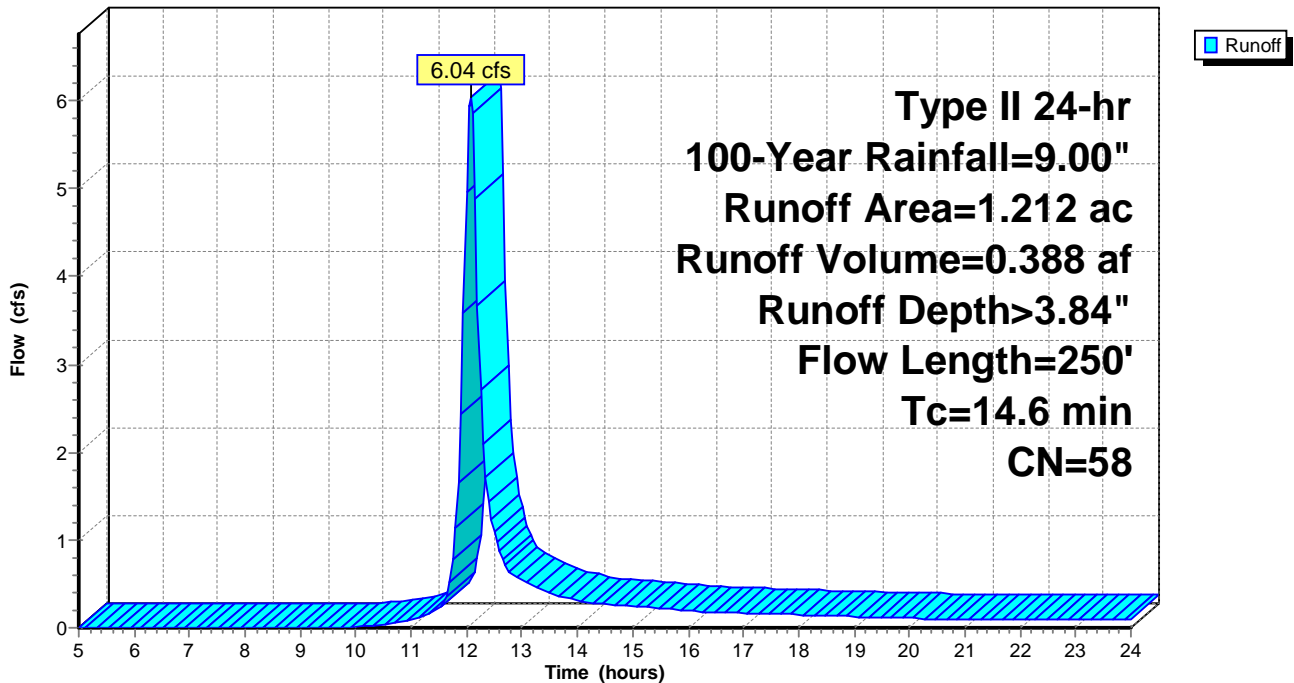
Area (ac)	CN	Description
1.157	58	Meadow, non-grazed, HSG B
0.055	60	Woods, Fair, HSG B
1.212	58	Weighted Average
1.212		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	20	0.0289	0.06		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
7.8	80	0.0672	0.17		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
1.4	150	0.0633	1.76		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
14.6	250	Total			

**Subcatchment DR-2A: DR-2A**

Hydrograph



**Summary for Pond DP1: Detention Pond 1**

Inflow Area = 5.058 ac, 0.00% Impervious, Inflow Depth > 3.83" for 100-Year event  
 Inflow = 20.53 cfs @ 12.15 hrs, Volume= 1.615 af  
 Outflow = 16.46 cfs @ 12.27 hrs, Volume= 1.567 af, Atten= 20%, Lag= 7.2 min  
 Primary = 16.46 cfs @ 12.27 hrs, Volume= 1.567 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 284.31' @ 12.27 hrs Surf.Area= 6,732 sf Storage= 16,061 cf

Plug-Flow detention time= 41.9 min calculated for 1.567 af (97% of inflow)  
 Center-of-Mass det. time= 25.1 min ( 876.7 - 851.6 )

Volume	Invert	Avail.Storage	Storage Description		
#1	281.32'	16,131 cf	<b>Custom Stage Data (Irregular) Listed below (Recalc)</b>		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
281.32	4,100	265.0	0	0	4,100
282.32	4,924	284.0	4,506	4,506	4,974
283.32	5,804	303.0	5,358	9,864	5,909
284.32	6,742	322.0	6,267	16,131	6,904

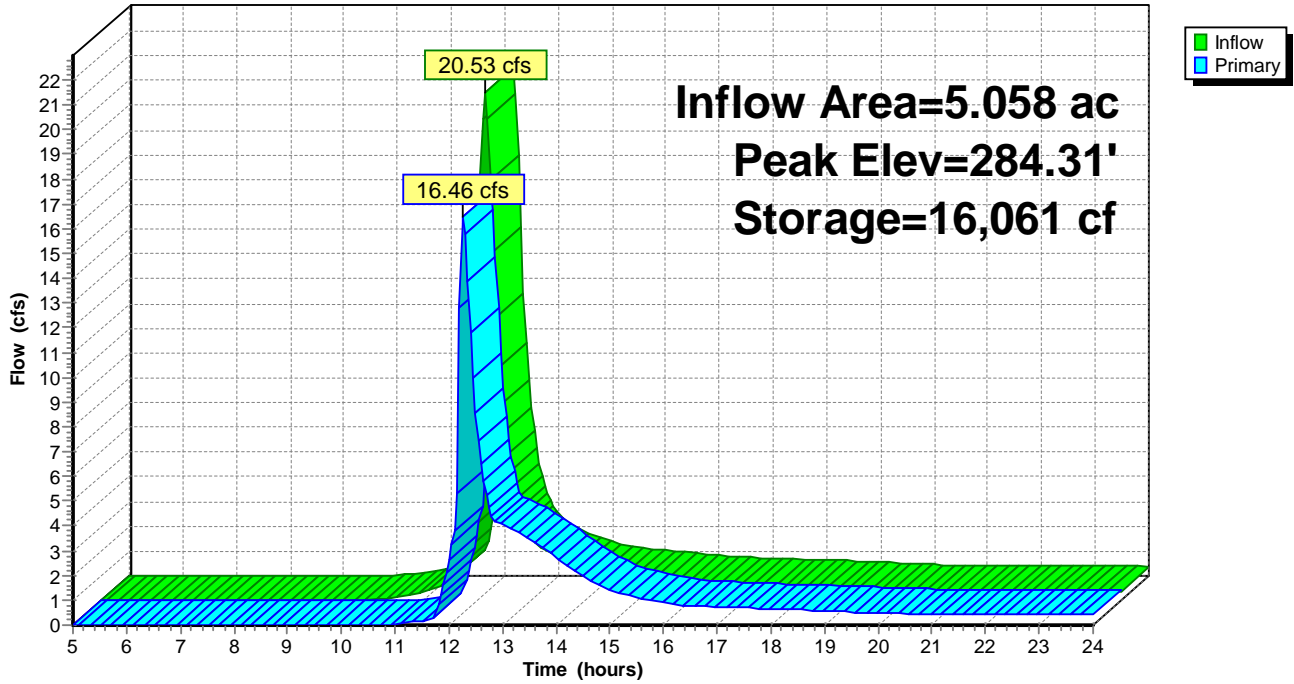
Device	Routing	Invert	Outlet Devices	
#1	Primary	281.32'	<b>12.0" Round Culvert</b> L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 281.32' / 280.50' S= 0.0273 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf	
#2	Device 1	281.32'	<b>3.0" Vert. Orifice/Grate</b> C= 0.900	
#3	Device 1	281.75'	<b>30.0" W x 8.0" H Vert. Orifice/Grate</b> C= 0.900	
#4	Device 1	283.10'	<b>30.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.900	
#5	Primary	283.80'	<b>10.0' long x 0.50' rise Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)	

**Primary OutFlow** Max=16.02 cfs @ 12.27 hrs HW=284.30' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Inlet Controls 4.70 cfs @ 5.98 fps)
- 2=Orifice/Grate (Passes < 0.60 cfs potential flow)
- 3=Orifice/Grate (Passes < 17.89 cfs potential flow)
- 4=Orifice/Grate (Passes < 8.76 cfs potential flow)
- 5=Sharp-Crested Rectangular Weir (Weir Controls 11.32 cfs @ 2.30 fps)

### Pond DP1: Detention Pond 1

Hydrograph





**Summary for Pond DP2: Detention Pond 2**

Inflow Area = 1.212 ac, 0.00% Impervious, Inflow Depth > 3.84" for 100-Year event  
 Inflow = 6.04 cfs @ 12.07 hrs, Volume= 0.388 af  
 Outflow = 3.10 cfs @ 12.23 hrs, Volume= 0.379 af, Atten= 49%, Lag= 9.6 min  
 Primary = 3.10 cfs @ 12.23 hrs, Volume= 0.379 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 278.58' @ 12.23 hrs Surf.Area= 3,257 sf Storage= 3,963 cf

Plug-Flow detention time= 40.4 min calculated for 0.379 af (98% of inflow)  
 Center-of-Mass det. time= 27.7 min ( 874.3 - 846.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	277.00'	5,416 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
277.00	1,780	0	0
278.00	2,694	2,237	2,237
279.00	3,664	3,179	5,416

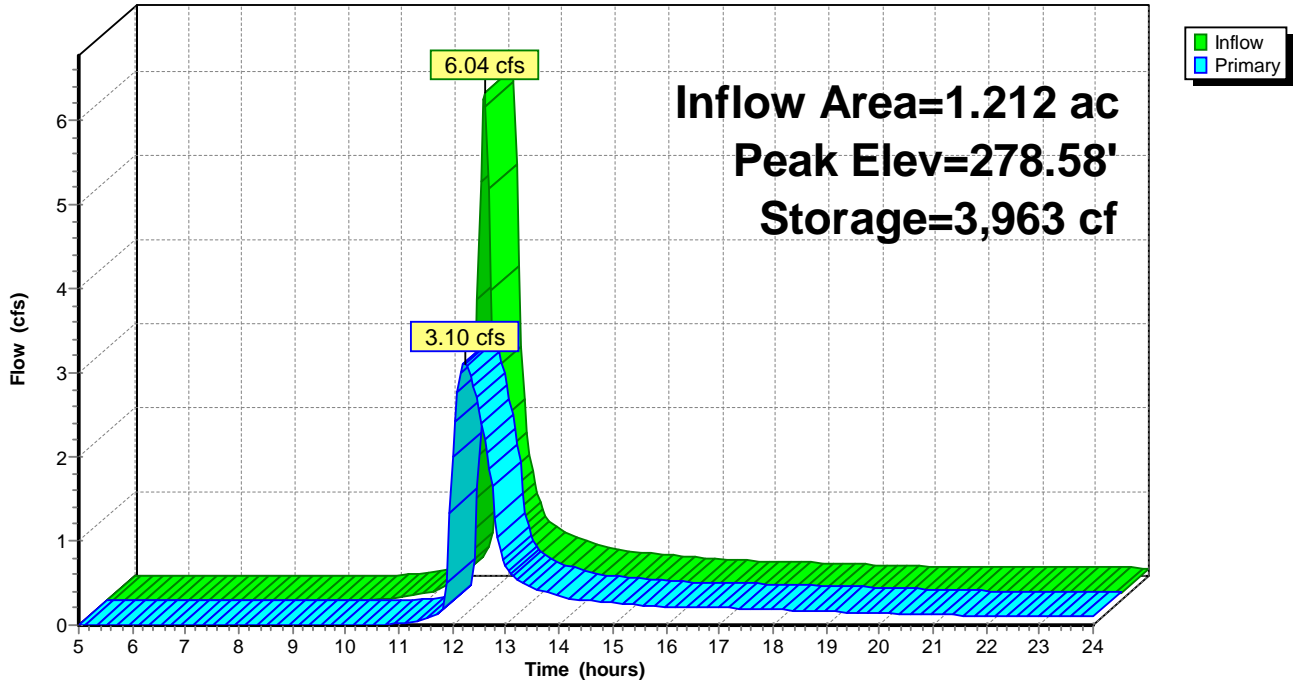
Device	Routing	Invert	Outlet Devices
#1	Primary	277.00'	<b>12.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 277.00' / 276.50' S= 0.0250 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	277.00'	<b>3.0" Vert. Orifice/Grate</b> C= 0.900
#3	Device 1	277.50'	<b>20.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.900
#4	Device 1	278.10'	<b>24.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.900
#5	Primary	279.00'	<b>15.0' long x 0.50' rise Sharp-Crested Rectangular Weir</b> 2 End Contraction(s) 0.5' Crest Height

**Primary OutFlow** Max=3.10 cfs @ 12.23 hrs HW=278.58' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Inlet Controls 3.10 cfs @ 3.94 fps)
- 2=Orifice/Grate (Passes < 0.43 cfs potential flow)
- 3=Orifice/Grate (Passes < 5.45 cfs potential flow)
- 4=Orifice/Grate (Passes < 3.15 cfs potential flow)
- 5=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond DP2: Detention Pond 2

Hydrograph

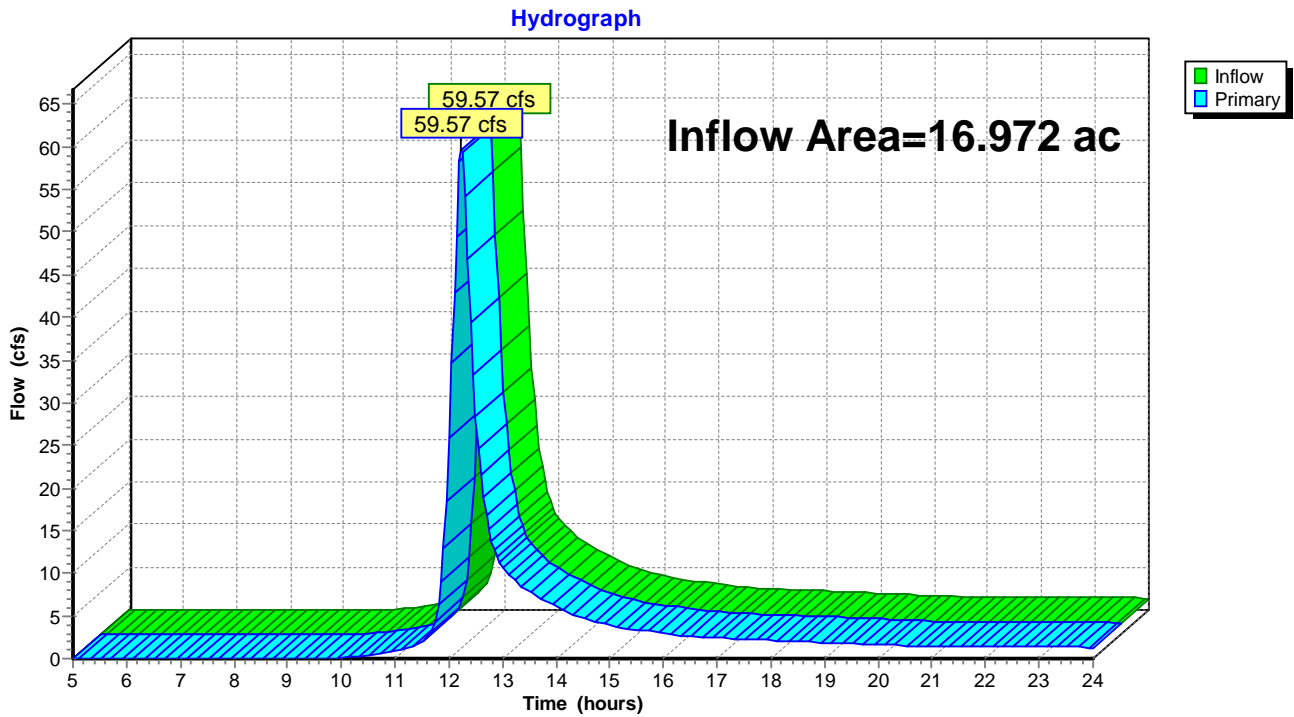


### Summary for Link DP-1: Design Point #1

Inflow Area = 16.972 ac, 0.00% Impervious, Inflow Depth > 3.88" for 100-Year event  
Inflow = 59.57 cfs @ 12.23 hrs, Volume= 5.489 af  
Primary = 59.57 cfs @ 12.23 hrs, Volume= 5.489 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1

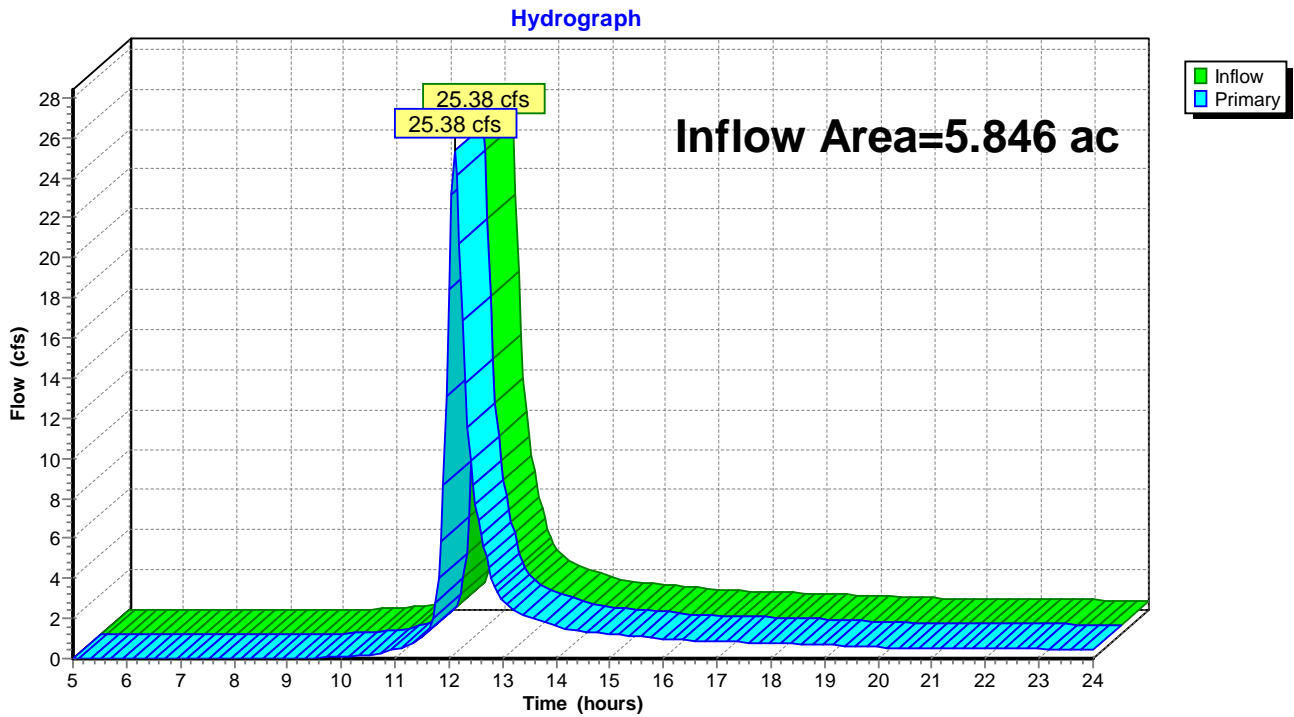


### Summary for Link DP-2: Design Point #2

Inflow Area = 5.846 ac, 0.99% Impervious, Inflow Depth > 4.01" for 100-Year event  
Inflow = 25.38 cfs @ 12.11 hrs, Volume= 1.955 af  
Primary = 25.38 cfs @ 12.11 hrs, Volume= 1.955 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2





## **Appendix R-3**

# **Water Quality and Runoff Volume Calculations**

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....

Design Point:		
P=	1.45	inch

Breakdown of Subcatchments						
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft <sup>3</sup> )	Description
1	0.40	0.07	17%	0.20	423	
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	0.40	0.07	17%	0.20	423	Subtotal 1
<b>Total</b>	0.40	0.07	17%	0.20	423	<b>Initial WQv</b>

Identify Runoff Reduction Techniques By Area			
Technique	Total Contributing Area	Contributing Impervious Area	Notes
	(Acre)	(Acre)	
Conservation of Natural Areas	0.00	0.00	minimum 10,000 sf
Riparian Buffers	0.00	0.00	maximum contributing length 75 feet to 150 feet
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	Up to 100 sf directly connected impervious area may be subtracted per tree
<b>Total</b>	<b>0.00</b>	<b>0.00</b>	

Recalculate WQv after application of Area Reduction Techniques					
	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Runoff Coefficient Rv	WQv (ft <sup>3</sup> )
"<<Initial WQv"	0.40	0.07	17%	0.20	423
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	<b>0.40</b>	<b>0.07</b>	17%	0.20	423
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	0.40	0.07	17%	0.20	<b>423</b>
WQv reduced by Area Reduction techniques					0

# Minimum RRv

**Enter the Soils Data for the site**

Soil Group	Acres	S
A		55%
B	0.40	40%
C		30%
D		20%
<b>Total Area</b>	0.4	

**Calculate the Minimum RRv**

S =	<b>0.40</b>	
Impervious =	0.07	<i>acre</i>
Precipitation	1.45	<i>in</i>
Rv	0.95	
<b>Minimum RRv</b>	<b>134</b>	<b><i>ft3</i></b>
	0.00	<i>af</i>

# Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

$$Af = WQv * (df) / [k * (hf + df)(tf)]$$

<i>Af</i>	Required Surface Area (ft <sup>2</sup> )		The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: <i>Sand</i> - 3.5 ft/day (City of Austin 1988); <i>Peat</i> - 2.0 ft/day (Galli 1990); <i>Leaf Compost</i> - 8.7 ft/day (Claytor and Schueler, 1996); <i>Bioretention Soil</i> (0.5 ft/day (Claytor &
<i>WQv</i>	Water Quality Volume (ft <sup>3</sup> )		
<i>df</i>	Depth of the Soil Medium (feet)	<i>k</i>	
<i>hf</i>	Average height of water above the planter bed		
<i>tf</i>	Volume Through the Filter Media (days)		

Design Point: <input type="text"/>							
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft <sup>3</sup> )	Precipitation (in)	Description
1	0.40	0.07	0.17	0.20	422.66	1.45	
Enter Impervious Area Reduced by Disconnection of Rooftops			17%	0.20	423	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						ft <sup>3</sup>	
Soil Information							
Soil Group	A						
Soil Infiltration Rate			in/hour				
Using Underdrains?	Yes		Okay				
Calculate the Minimum Filter Area							
				Value	Units	Notes	
WQv				423	ft <sup>3</sup>		
Enter Depth of Soil Media				<i>df</i>	2.5	ft	2.5-4 ft
Enter Hydraulic Conductivity				<i>k</i>	0.5	ft/day	
Enter Average Height of Ponding				<i>hf</i>	0.5	ft	6 inches max.
Enter Filter Time				<i>tf</i>	2	days	
Required Filter Area				<i>Af</i>	352	ft <sup>2</sup>	
Determine Actual Bio-Retention Area							
Filter Width	10	ft					
Filter Length	48	ft					
Filter Area	480	ft <sup>2</sup>					
Actual Volume Provided	576	ft <sup>3</sup>					
Determine Runoff Reduction							
Is the Bioretention contributing flow to another practice?				Select Practice			
RRv	230						
RRv applied	230	ft <sup>3</sup>	This is 40% of the storage provided or WQv whichever is less.				
Volume Treated	192	ft <sup>3</sup>	This is the portion of the WQv that is not reduced in the practice.				
Volume Directed	0	ft <sup>3</sup>	This volume is directed another practice				
Sizing v	OK	Check to be sure Area provided ≥ Af					





# **Appendix S**

## **Cultural/Historic Resources Review**



# Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO  
Governor

ROSE HARVEY  
Commissioner

May 21, 2018

Ms. Skylar Francis  
Environmental Scientist  
Bergmann Associates  
280 E. Broad Street, Suite 200  
Rochester, NY 14604

Re: USACE  
Yorktown A Solar Farm  
3849 Foothill Street, Mohegan Lake, NY  
18PR02645  
GP-0-15-002

Dear Ms. Francis:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

Thank you for submitting a drawing of the proposed project design.

Based on its environmental setting, we have determined that your project area is archaeological sensitive. Much of the current project property was subjected to an archaeological survey in 2007 (07PR001196), for a project that was never constructed. However, the northwestern corner of the property was not included in the area to be disturbed by that project and was, consequently, not tested (see attached testing plan).

Therefore, the New York State Office of Parks, Recreation and Historic Preservation and its State Historic Preservation Office (SHPO) recommends that a Phase IA/B Archaeological Investigation is warranted for the previously untested portion of the current project area, subject to the following survey guidance.

Phase IB archaeological testing is recommended for the locations of proposed roads, facilities, retention ponds, staging areas, utility trenches over a foot wide, drainages over foot wide, and areas of grubbing and grading.

Phase IB archaeological testing is NOT recommended for panel arrays, perimeter fencing and utility poles if their associated posts are driven into the ground and no grubbing or grading is involved. However, if the installation of the panel array supports, fencing or utility poles requires excavation or grubbing and grading then Phase IB archaeological testing is recommended.

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## Division for Historic Preservation

P.O. Box 189, Waterford, New York 12188-0189 • (518) 237-8643 • [www.nysparks.com](http://www.nysparks.com)

Francis, 21 May 2018

If you consider the project area to be disturbed, documentation of the disturbance will need to be reviewed by SHPO. Examples of disturbance include mining activities and multiple episodes of building construction and demolition.

If you have any questions, please don't hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Philip A. Perazio". The signature is fluid and cursive, with the first name being the most prominent.

Philip A. Perazio, Historic Preservation Program Analyst - Archaeology Unit

Phone: 518-268-2175

e-mail: [philip.perazio@parks.ny.gov](mailto:philip.perazio@parks.ny.gov)

via e-mail only

Attachment

cc: David Plante and Robert Switala, Bergmann Associates



# **Appendix T**

## **Post Construction Stormwater BMP Operations and Maintenance Plan**

## **Post Construction BMP Operations and Maintenance Plan**

### **Introduction**

Stormwater Facility Maintenance is important so that the water quality features, incorporated into the project design, continue to function as expected. The scope of this program includes the maintenance and inspection of the ground surface, where runoff is generated and directed to the stormwater conveyance system and the stormwater mitigation features. The following guidelines are to be used for keeping the post construction stormwater facilities functional and detecting potential failures in the system. In addition, regularly scheduled maintenance will reduce the pollutants entering the system and improve and preserve the overall performance of the stormwater system.

### **Driveway Maintenance and Inspection**

1. Drives shall be cleaned or swept on an as needed basis but at a minimum once per year. Sweeping removes dirt and debris that absorbs oils and other liquid discharges from automobiles.
2. Spills that cannot be cleaned by sweeping operations shall be addressed with proper absorbent material and manual sweeping/removal when brought to the attention of the maintenance staff.

### **Landscape and Lawn Areas**

1. In the late spring, after lawn areas have recovered from the winter season, inspect lawn areas for loss of adequate ground cover. Disc and reseed areas with less than 80% lawn coverage to protect against erosion. Fertilizers may be applied in order to maintain a healthy lawn and to promote longevity. All fertilizers shall be applied per the manufacturer's recommendations. Planting beds shall be re-mulched annually, as necessary.
2. Canvass the site in spring, summer and fall for trash or other debris that may enter the storm sewer system. Collect and properly dispose of debris.

### **Dry Swales**

1. Sediment build-up within the bottom of the channel or filter strip is removed when 25% of the original WQv volume has been exceeded.
2. Vegetation should be mowed as required during the growing season to maintain grass heights in the 4 to 6 inch range
3. Refer to Open Channel Operation, Maintenance and Management Inspection Checklist located in Appendix G of the NYSDEC Stormwater Management Design Manual. A copy is attached to this Appendix.

**Bioretention Areas**

1. All Bioretention Areas shall be inspected semi-annually, at a minimum, and cleaned as necessary. Remove trash and debris from pretreatment area, inlets, and outlets as needed.
2. Remove sediment as required when infiltration is reduced.
3. Replace soil as required when infiltration is reduced. Removed clogged layer of soil from Bioretention Area with appropriate equipment and replace with new material.
4. Replace all mulch every 2-3 years and as needed to cover eroded or voided areas as necessary.
5. Refer to Bioretention Operation, Maintenance and Management Inspection Checklist located in Appendix G of the NYSDEC Stormwater Management Design Manual. A copy is attached to this Appendix.

**Maintenance Schedule**

<b>Storm System Maintenance Schedule</b>	
<b>Inspection Item</b>	<b>Frequency</b>
Spills reported to Facilities Manager	As needed
Pavement and curb condition	Annually in Spring
Lawn and landscaping condition	Annually in Spring
Canvass site for trash and debris	Spring, Summer, Fall
Debris in catch basins and manholes	Annually in Spring
Sumps in catch basins and inlets	Annually in Spring
Debris blocking grates	Annually in Spring
Outfalls	Annually
Bioretention Areas	Semi-Annually in Spring and Fall