Received

Matrix LLC and Hudson National Golf Club

JAN 25 2021

Engineers Office

Stormwater Pollution Protection Plan (SWPPP)

Solar Panel Array Installation

at

Hudson National Golf Club

January 20, 2021

Village of Croton-on-Hudson Westchester County, New York

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MATRIX LLC / HUDSON NATIONAL GOLF CLUB SOLAR ARRAY

STORMWATER POLLUTION PROTECTION PLAN

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INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) provides information for the State, Village of Croton-on-Hudson, and Construction installers on the methods and procedures to control pollution from the proposed installation of a 1.8 megawatt solar panel array system within the property of the Hudson National Golf course.

To streamline this SWPPP, references noted herein are linked to the specific source.

The solar array will be installed on a lot to be subdivided from the Golf Club. The new lot will be 12 acres in the R-80, Residential zoning District. The activity is permitted in the zone as a Tier 3 system as defined and regulated by the Village's Solar Law, linked as:

https://ecode360.com/34502532

This SWPPP is developed in accordance with the NYS DEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES from CONSTRUCTION ACTIVITY GP- 0-20-001, Effective as of January 29, 2020, which may be found at:

https://www.dec.ny.gov/docs/water_pdf/constgp020001.pdf

The SWPPP is accompanied by the set of Construction Plans that includes topography, panel siting, tree identification, construction details and erosion control plans.

SITE DESCRIPTION

The Hudson National Golf Club is a private 18-hole course on approximately 254 acres within the Village. The course was constructed circa 1994, and has been in operation since that time. The Club will lease approximately 12 acres to Matrix LLC for the installation of the solar panels. About 6.4 acres of the proposed lot will be used for the panels, and the remainder of the parcel will remain undisturbed.

The site is fully wooded with some sparse open areas with good ground cover. There are no wetlands on the site nor within 120 feet of the proposed installation. The solar exposure is suited to this solar array since the site faces south and west and is elevated and away from shadows.

The access to the site is over Prickley Pear Hill Road that is owned by the Golf Club, and shared by several homes along the route. There are Con Edison power poles at the entrance to Prickley Pear Hill Road where the ultimate power will be conveyed.

A complete inventory was performed to document the type, size and condition of trees in the area of the installation and these are shown on the Construction Plans for the site. In general, the woods are second growth of about 60 years where there was once fields for farming or grazing.

REGULATORY

The methods used to control pollution for construction are based upon the NYS DEC publication "New York State Standards and Specifications for Erosion and Sediment Control (Blue Book)", links as follows:

https://www.dec.ny.gov/chemical/29066.html

The original General Permit did not specifically list solar arrays in their Tables 1 and 2, and the NYS DEC has now provided guidance on the interaction with the requirements of the General Permit and solar array installations.

In general, the DEC includes solar panels in a category that required detailed erosion and sediment control plans clarified the need for post-construction stormwater treatment.

The guidance took the form of a letter to the Regional Water Engineers from Robert Wither, and was dated April 5, 2018. The Guidance Document is linked as follows:

www.rgmpepc.com/DEC Guidance SWPPP.pdf

In the guidance, the DEC allows that solar array projects be treated as "Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields)". This is due to the nature of the panels as elevated over densely vegetated ground surfaces. The DEC adds that if there are added impervious surfaces in the project, the SWPPP must address those parts independently as to the General Permit requirements.

Accordingly, this SWPPP provides erosion and sediment control measures as well as measures to balance any potential increase in peak flows that may develop during construction.

IMPLEMENTATION OF EROSION CONTROL MEASURES

The schedule of implementation that will be followed by the Project Sponsor, is as follows:

Phasing Plans

Initial Administrative Phase

- Schedule pre-construction meeting with the Village and Contractor
- Provide a copy of the SWPPP to be on site during construction
- Confirm Details of the Qualified Contractor
- Set Inspection Schedule by Qualified Inspector
- Exchange 24 hour daily contact information among all parties

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Construction Phase 1

- Install survey markers throughout the site to identify the limits of clearing
- Identify trees that will be removed by tape flags
- Remove trees by cutting close to the ground
- Truck away or chip felled branches and trees from the site
- Identify trees stumps that must be removed
- Install silt fence and uphill diversions as designed
- Remove identified stumps and truck these off site
- Clean site of branches and loose material
- Seed and fertilize disturbed areas with a mixture as specified on the site plans
- Install Organic Fiber Matting over all disturbed areas.

Construction Phase 2

- This phase allows the ground area to settle and stabilize through seeded plant growth
- This period may last one to two months depending on the season.

Construction Phase 3

- Install foundation panel supports
- Install Panels, fencing and related electrical equipment.

Construction Phase 4

 Monitor site and maintain erosion control until all vegetation has stabilized beneath the panels

SPECIFIC EROSION CONTROL MEASURES

The Matrix project will install solar panels on areas of slopes ranging up to 20%, therefore, detailed methods and procedures are required. The following erosion control practices are designed for this project, as follows:

- Silt Fence along contours to trap sediment downslope of disturbed areas
- Staked Hay bales, straw wattles or matted berms upslope of disturbed areas to prevent or reduce flow concentrations or to divert flow around disturbed areas
- Level Spreaders to redistribute flow from access trails that tend to collect upland flow
- Organic Mat or Jute Netting over soil areas disturbed by the site clearing
- Temporary Sedimentation basins for areas where flow concentrates
- Permanent Detention basin to reduce peak flows with level spreader at outlet
- Geo-Grid over steep areas of access trails
- Construction fencing along clearing limit lines to prevent excess clearing
- Stabilized Construction access at points where there is a concentration of traffic
- Protected soil stockpiles for any reserved materials from the site
- Splash Pads beneath the panels to spread flow and prevent concentrations of flow
- Meadow Plantings for permanent erosion control

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Figure: Erosion Control Plan - West Site



Figure: Erosion Control Plan - East Site



OWNER AND OPERATOR RESPONSIBILITIES

The Owner/Operator must be aware of the following:

- To certify on the Form enclosed that they understand there is a SWPPP to be followed and that there are reporting requirements and that they agree to all the terms and conditions of the General Permit.
- Provide a Construction Personnel contact list for trained persons who are ensuring compliance with the SWPPP.
- Obtain Contractor Certifications on the Form enclosed regarding persons that will implement
 the SWPPP, oversee maintenance, inspect and document the work progress and notify
 proper authorities in the event of a spill or breach of the erosion control systems.
- Obtain a Qualified Inspector who shall conduct regular inspections with written reports at least twice every 7 days though no sooner than 2 days apart, until the site is stabilized by vegetation until the Notice of Termination is submitted.
- This SWPPP and related documents must be available on the site during construction
- Maintain copies of the SWPPP and related documentation for 5 years from the completed Notice of Termination.

QUALIFIED INSPECTORS

The General Permit requires that a qualified inspector be engaged to conduct site inspections. The trained Contractor cannot conduct these inspections unless they also meet the qualified inspector rules in Appendix A of the General Permit.

The Qualified Inspector may be either:

- 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].

At a minimum, the qualified inspector shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness of 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.

CONSTRUCTION PLANS

The Site Plans are approved by the Village of Croton-on-Hudson Planning Board and Village Engineer.

All Contractors and Subs shall keep the approved Site Plans and Erosion Control Plans on site during construction.

Modifications to the plans may only be made by consultation with the Village of Croton-on-Hudson in conjunction with the Professional Engineer that prepared the documents.

Any changes to the Solar Panel Installation plans must be approved by Matrix LLC and reported to the Village.

CONTENT OF INSPECTION REPORTS

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;
- 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);
- 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.

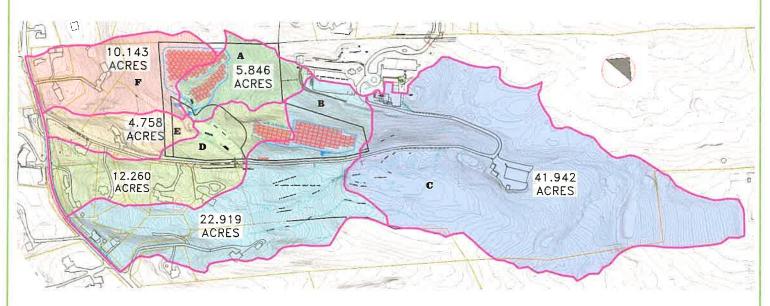
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STORMWATER MANAGEMENT

A delineation of the local watersheds was made to analyze the source and direction of runoff. This was done to document the pre-construction conditions of the local flow conditions and ensure there are no diversions of flow as a result of the project.

- Watershed A, 5.846 acres, extends from the ridge and feeds to the end of the maintenance area of the Golf Club along Prickley Pear Hill Road. At its terminus, it joins the upland portion of Watershed E. Panel array #2 is within watershed A.
- Watershed B, 22.919 acres extends from the ridge and flows to a developed stream. Solar array #4 is within this watershed.
- Watershed C, 41.942 acres, is part of the Golf Course, and flows to an existing stormwater detention feature that was built for the Golf Course. The outlet of Watershed C joins with Watershed B which flows behind several homes on Prickley Pear Hill Road.
- Watershed D, 12.260 acres, collects runoff from the wooded area of the site that contains the Maintenance area and the solar array #3. The flow travels to Prickely Pear Hill Road and then along a stream that is in the front yards of several homes on the road. In the recent past a portion of the flow from Watershed C was diverted via an 18" pipe by a private homeowner at No. 16 to Watershed D thereby introducing some excess flows into the neighbor's property at No. 12 Prickley Pear Hill Road. This diversion would have unexpected and unnatural consequences to the downstream properties during rainfalls.
- Watershed E, 4.758 acres, collects runoff from Watershed A and runs as sheet flow to Prickley Pear Hill Road.
- Watershed F, 10.143 acres, extends from the ridge and contains Solar Array #1.

Figure: Overall Watershed Map



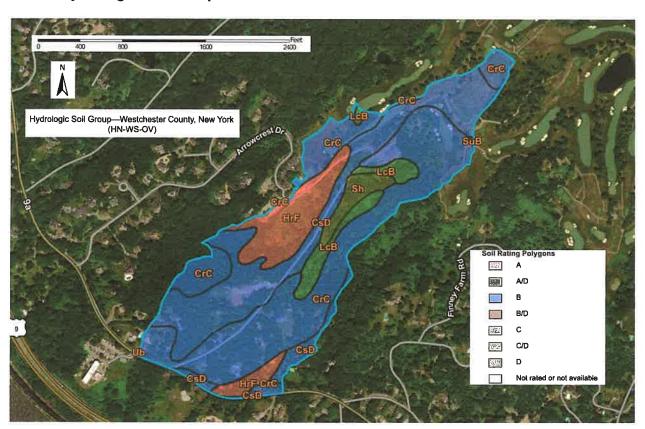
HYDROLOGY

The DEC recognizes that elevated solar panels do not increase the imperviousness of the watershed since rainfall is returned to the ground surface throughout.

The Runoff Curve Number (RCN) is the principal determinant of both peak runoff flows and runoff volumes. Generally, it is imperviousness that creates increases in runoff volume and increases in peak flow. The runoff Curve Number depends on the Hydrologic Soil Group which is a soil classification that can be obtained from the online US Department of Agriculture Web Soil Survey based on the area of concern.

https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

MAP - Hydrologic Soil Groups



The Runoff Curve Numbers are determined by comparison to the Tables in the SCS publication TR-55, linked below.

https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf

For this project the RCN is estimated to be 60 for the "B" Hydrologic Group and the type of wooded condition on the site which is considered to be in "Fair" condition. For comparison, the Solar Arrays, fully vegetated, are treated as a Meadow, having a RCN of 58. Similarly, for the small portions of "D" group on the site, the RCN is reduced from 79 to 78.

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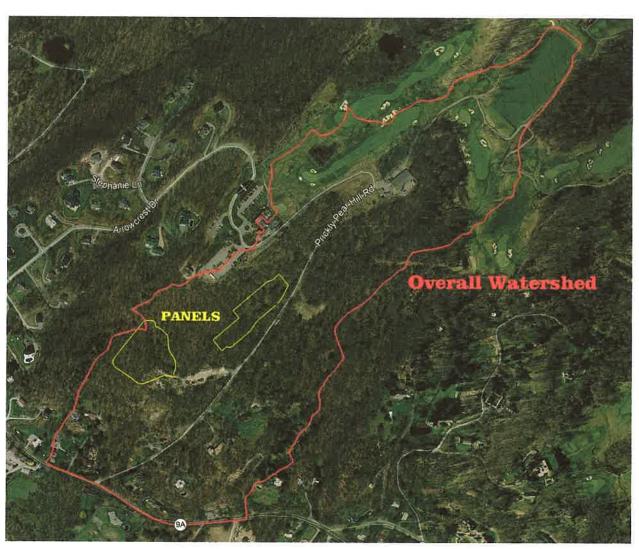
Table (Source USDA SCS Tr-55)

Cover type and hydrologic condition	Hydrologic condition	HSG B	HSG D
Meadow – continuous grass, protected from grazing and generally mowed for hay		58	78
Woods	Fair	60	79

Accordingly, the conversion of woods to meadow conditions would have little effect on the runoff characteristics since the estimated RCN is actually lower in the final condition.

The solar panels are to be installed within the Prickley Pear Hill Watershed that drains to Albany Post Road (9A). Since the panels would not contribute to impervious areas, and given the size of the overall watershed, it is expected that there will be no impact to the downstream properties.

Figure: Overall Watershed and Solar Panel Locations



Methods to Control Stormwater Point Source Impacts

The drainage conditions, watersheds and drainage areas in the current condition were mapped and inspected. These conditions are designed to be met upon completion of the solar project.

Any impacts due to the disturbance of the site due to clearing and the installation of stabilized access trails will be mitigated, additionally, as follows:

- Level Spreaders will be used along the edges of the access trails to ensure sheet flow occurs and is distributed to downstream areas to match existing conditions
- Sedimentation basins that are normally operating during construction will be extended to operate beyond the point of initial vegetative stabilization and until landscaping and grass heights are at least 8 inches.

FORMS

The following pages contain the required forms under the General Permit as well as Sample Inspection Report.

NOTICE OF INTENT



New York State Department of Environmental Conservation

Division of Water 625 Broadway, 4th Floor

NYR						
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Albany, New York 12233-3505

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002 All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANTRETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator (Company Name/Private Owner Name/Municipality Name) M a t r i x D e v e l o p m e n t , L L C Owner/Operator Contact Person Last Name (NOT CONSULTANT) D o u d Owner/Operator Contact Person First Name M i c h a e l Owner/Operator Mailing Address 1 5 3 M e r c e r S t r e e t # 4 City N e w Y o r k	
Owner/Operator Contact Person Last Name (NOT CONSULTANT) Doud Owner/Operator Contact Person First Name Michael Owner/Operator Mailing Address 153 Mercer Street#4	
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1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you <u>must</u> go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

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- 2. What is the nature of this construction project?
 - New Construction
 - O Redevelopment with increase in impervious area
 - O Redevelopment with no increase in impervious area

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3. Select the predominant land use for both SELECT ONLY ONE CHOICE FOR EACH	pre and post development conditions.
Pre-Development Existing Land Use	Post-Development Future Land Use
• FOREST	O SINGLE FAMILY HOME Number of Lots
O PASTURE/OPEN LAND	O SINGLE FAMILY SUBDIVISION
○ CULTIVATED LAND	O TOWN HOME RESIDENTIAL
O SINGLE FAMILY HOME	○ MULTIFAMILY RESIDENTIAL
O SINGLE FAMILY SUBDIVISION	O INSTITUTIONAL/SCHOOL
O TOWN HOME RESIDENTIAL	○ INDUSTRIAL
O MULTIFAMILY RESIDENTIAL	○ COMMERCIAL
○ INSTITUTIONAL/SCHOOL	O MUNICIPAL
○ INDUSTRIAL	○ ROAD/HIGHWAY
○ COMMERCIAL	O RECREATIONAL/SPORTS FIELD
○ ROAD/HIGHWAY	O BIKE PATH/TRAIL
O RECREATIONAL/SPORTS FIELD	O LINEAR UTILITY (water, sewer, gas, etc.)
○ BIKE PATH/TRAIL	O PARKING LOT
○ LINEAR UTILITY	O CLEARING/GRADING ONLY
O PARKING LOT	O DEMOLITION, NO REDEVELOPMENT
OTHER	○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
	• OTHER
	Solar Array
*Note: for gas well drilling, non-high volum	ne hydraulic fractured wells only
4. In accordance with the larger common plan enter the total project site area; the to-	
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disturbed area. (Round to the hearest ten	
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	a To Be Disturbed Disturbed Area
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5. Do you plan to disturb more than 5 acres	of soil at any one time? \bigcirc Yes \bigcirc No
6. Indicate the percentage of each Hydrologi	c Soil Group(HSG) at the site.
A B	C D
9 1009	9 9
7. Is this a phased project?	\bigcirc Yes \bigcirc No
8. Enter the planned start and end dates of the disturbance activities.	Date End Date 0 1 / 2 0 2 1 - 0 9 / 0 1 / 2 0 2 1

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24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
● Professional Engineer (P.E.)
○ Soil and Water Conservation District (SWCD)
O Registered Landscape Architect (R.L.A)
O Certified Professional in Erosion and Sediment Control (CPESC)
Owner/Operator Other
Other
SWPPP Preparer
RalphG. Mastromonaco, PE, PC
Contact Name (Last, Space, First)
Mastromonaco RalphG.
Mailing Address
13 Dove Court
City Croton-on-Hudson
State Zip
N Y 1 0 5 2 0 -
Phone
9 1 4 - 2 7 1 - 4 7 6 2
Email
h a r d y c r o s s @ a o 1 . c o m

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name	MI
Ralph	G
Last Name	
Mastromonaco	
Signature	
	Date
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15.	Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? Yes O No	O Unknown													
16.	What is the name of the municipality/entity that owns the separate storsystem?	m sewer													
Vi	1 1 a g e o f C r o t o n - o n - H u d s o n														
17.	Does any runoff from the site enter a sewer classified of Yes No Ounknown Will future use of this site be an agricultural property as														
18.	Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?	Yes • No													
19.	Is this property owned by a state authority, state agency, federal government or local government?	Yes • No													
20.	Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)	Yes • No													
21.	Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?	Yes O No													
22.	Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? If No, skip questions 23 and 27-39.	Yes 0 No													
23.	Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Or Stormwater Management Design Manual?	Yes O No													

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Post-construction Stormwater Management Practice (SMP) Requirements

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

- 27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
 - O Preservation of Undisturbed Areas
 - O Preservation of Buffers
 - O Reduction of Clearing and Grading
 - O Locating Development in Less Sensitive Areas
 - O Roadway Reduction
 - O Sidewalk Reduction
 - O Driveway Reduction
 - O Cul-de-sac Reduction
 - O Building Footprint Reduction
 - O 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).
 - O 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).
 - O Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.
- 28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

acre-feet

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

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

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

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

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

criteria.

	Table 2 -	Alteri (DO NO USED 1	OT :	INCLU	DE 1					NG								
-11	and the same										To	tal	Co	ntr	ibu	ıtiı	ng	
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0	Hydrodynamic						٠		•••									
0	Wet Vault																	
	Media Filter																	
0	Other							•:• •:										
	ide the name and manufacture							s (i.e									
prop:	rietary practice(s)) being us	sed for	: WÇ	v tr	eatm	ent	iп			T			Ī				1	
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Mar	nufacturer													L				
Note:	: Redevelopment projects which use questions 28, 29, 33 and WQv required and total WQv	nd 33a	to	prov:	ide	SMP	s us	sed,	sh	nal ota	1							
30.	Indicate the Total RRv prov Standard SMPs with RRv capa										Vol	ume	Re	du	ctio	on)	an	d
	Total RRv provided																	
	acre-fee	et.																
31.	Is the Total RRv provided total WQv required (#28).	(#30) g	rea	ter	than	or	eq	ıal	to	th	e							
	If Yes, go to question 36. If No, go to question 32.													0	Yes	5	O N	0
32.	Provide the Minimum RRv rec [Minimum RRv Required = (P)	uired (0.95)	bas (Ai	ed o	n HS	G. =(S) (A.	ic)										
	Minimum RRv Required																	
	acre-fee	≱t																
32a.	Is the Total RRv provided (Minimum RRv Required (#32)?	#30) g	rea	ter 1	than	or	eqı	ıal	to	th	e			0	Yes	3	○ N	0
	If Yes, go to question 33. Note: Use the space proving specific site limitation 100% of WQv required (#2 specific site limitation 100% of the WQv required SWPPP.	s and (8). A is and (#28)	jus <u>de</u> jus mu	tific taile tific st a	cati ed e cati lso	on : val: on : oe :	for uat: for incl	not lon not lude	of of red	edu th edu in	cine e cine	g						
	If No, sizing criteria has processed. SWPPP preparer m	not be	en dif	met, y de:	so : sign	to	mee	n no	t k izi	oe ing								

n	3/a.	The need to meet the Qp and Qf criteria has been waived because: O Site discharges directly to tidal waters or a fifth order or larger stream. O Downstream analysis reveals that the Qp and Qf controls are not required
\cap	38.	Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been OYes ONo developed?
0		If Yes, Identify the entity responsible for the long term Operation and Maintenance
0	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.
0		
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	Pre-Development Post-development
	Total Extreme Flood Control Criteria (Qf)
	Pre-Development Post-development CFS CFS
	Total Overbank Flood Control Criteria (Qp)
37.	Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.
	O Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.
36a. 1	The need to provide channel protection has been waived because: Osite discharges directly to tidal waters or a fifth order or larger stream.
	CPv Required CPv Provided acre-feet
36.	Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.
	(#33a) greater than or equal to the total WQv required (#28)? • Yes • No If Yes, go to question 36. If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.
35.	Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WCv required (#39)?
34.	Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
Note:	For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)
	WQv Provided acre-feet
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.
	Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.
	Also, provide in Table 1 and 2 the total <u>impervious</u> area that contributes runoff to each practice selected.
33	Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv (=Total WQv Required in 28 - Total RRv Provided in 30).

CFS

CFS

40.	Identify other DEC permits, existing and new, that are required for this project/facility.
	○ Air Pollution Control
	○ Coastal Erosion
	○ Hazardous Waste
	○ Long Island Wells
	○ Mined Land Reclamation
	○ Solid Waste
	O Navigable Waters Protection / Article 15
	○ Water Quality Certificate
	○ Dam Safety
	○ Water Supply
	○ Freshwater Wetlands/Article 24
	○ Tidal Wetlands
	○ Wild, Scenic and Recreational Rivers
	○ Stream Bed or Bank Protection / Article 15
	○ Endangered or Threatened Species(Incidental Take Permit)
	○ Individual SPDES
	O SPDES Multi-Sector GP N Y R
	Other
	• None
41.	Does this project require a US Army Corps of Engineers Wetland Permit? If Yes, Indicate Size of Impact. O Yes No
42.	Is this project subject to the requirements of a regulated, traditional land use control MS4? Yes O No (If No, skip question 43)
43.	Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
44.	If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name	MI
Michael	
Print Last Name	
Doud	
Owner/Operator Signature	
	Date
	Date



NEW YORK STATE OF OPPORTUNITY Department of Environmental Conservation

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit *(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

(110 12: 7 titaon oo	impleted Form to Notice Of Intent and Submit to Address Above)
I. Project Owner/Operato	or Information
1. Owner/Operator Name:	Matrix Development, LLC
2. Contact Person:	Michael Doud
3. Street Address:	153 Mercer Street #4
4. City/State/Zip:	New York, NY 10012
II. Project Site Information	on
5. Project/Site Name:	Hudson National Golf Club
6. Street Address:	40 Arrowcrest Drive
7. City/State/Zip:	Croton-on-Hudson, NY 10520
III. Stormwater Pollution	Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:	Dan O'Connor, PE
9. Title/Position:	Village Engineer
10. Date Final SWPPP Rev	iewed and Accepted:
IV. Regulated MS4 Informa	ation
11. Name of MS4:	Village of Croton-on-Hudson
12. MS4 SPDES Permit Ide	ntification Number: NYR20A 046
13. Contact Person:	Dan O'Connor, PE
14. Street Address:	1 Van Wyck Street
15. City/State/Zip:	Croton-on-Hudson, NY 10520
16. Telephone Number:	914-271-4783

MS4 SWPPP Acceptance Form - continued						
V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative						
I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.						
Printed Name: Dan O'Connor, PE						
Title/Position: Village Engineer						
Signature:						
Date:						
VI. Additional Information						

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)



SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-20-001)

(GP-0-20-001)	T ACTIVITY							
Project Site Information Project/Site Name								
Hudson National Golf Club, So	olar Array							
Owner/Operator Information Owner/Operator (Company	Name/Pr	ivate Owner/Municipality Name)						
Matrix Development, LLC								
Certification Statement – SWPPP Preparer I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.								
Ralph First name	G.	Mastromonaco, PE						
rii și fiame	MI	Last Name						
Signature		Date						

Revised: January 2020



Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: Mat	rix Development, LLC.	Hudson N	ational Golf Club	, Solar A	Array
eNOI Submission Numb	er:				
eNOI Submitted by:	Owner/Operato	r X	SWPPP Prepa	arer	Other
Certification Stateme	nt - Owner/Opera	tor			
I have read or been advised that, under the terms of the and the corresponding docusignificant penalties for subsknowing violations. I further acknowledgment that I will redays as provided for in the genthat the SWPPP has been deagreeing to comply with all the submitted.	permit, there may be rements were prepared unitting false information understand that coverage as a result of supereral permit. I also undersloped and will be in	eporting reunder my on, including age under ubmitting the understand mplemente	equirements. I her direction or super g the possibility of the general perminis NOI and can be that, by submitting as the first elements.	reby cert vision. I f fine and it will be be as lon ng this No ment of c	tify that this document am aware that there a d imprisonment for tidentified in the ng as sixty (60) busine OI, I am acknowledgin
Owner/Operator First Nar	ne	M.I. La	ast Name		
Signature					
Date	<u>-</u>				

CONR 5 (10/19)

Contractor / Subcontractor SPDES Permit Certification

Contract No.:	PIN:
Description:	Matrix Development, LLC, Hudson National Golf Club, Solar Array
Town, Village, City:	Village of Croton-on-Hudson, NY
County:	Westchester County
Check Applicable Bo	: Prime Contractor Subcontractor
Name of Contractor/ Subcontractor:	
Address:	
City:	State: ZIP:
DI	Fax:
Core Pay Item Group 209, etc.):	s for which the Contractor/Subcontractor will be responsible (e.g. 203, 207,
requires the Prime Contract Plan (SWPPP), the General signed prior to performing a Secretary or Treasurer of the of the Standard Specification If hereby certify under penals SWPPP and agree to imples	of law that I understand and agree to comply with the terms and conditions of the ent any corrective actions identified by the qualified inspector during a site inspection.
of the New York State Pollut from construction activities a standards. Furthermore, I an not believe to be true, includ	ner or operator must comply with the terms and conditions of the most current version on the Discharge Elimination System ("SPDES") general permit for stormwater discharges and that it is unlawful for any person to cause or contribute to a violation of water quality aware that there are significant penalties for submitting false information, that I do not not not not not not not not not no
N.I.	
Required Training: Effective A performing earthwork or soil- esponsible for implementing the listurbance activities. These activities and installation and maintenance activities are listed as a list of the listurbance activities. These activities are listed as a list of the listurbance activities are listed as a list of the list	Title: oril 30, 2010, the SPDES General Permit also requires the Prime Contractor and all subcontractor disturbing activities to identify at least one trained individual from each company who will be a SWPPP and who shall be on-site on a daily basis when the company is performing soil invities include clearing, grubbing, grading, filling, excavation, stockpiling, demolition, landscaping, are of Erosion & Sediment Control practices. Training must consist of 4 hours of ediment Control Training every 3 years. (Training is not required if the individual is a licensed dicensed Landscape Architect, or CPESC.) Provide the information below for trained individuals only for SWPPP implementation on this Contract (attach a separate sheet if needed for additional
Trained Individual Na	me/Title :
Name of Training Co	
Trainee Number:	Date of Training:
Trained Individual Na	
Name of Training Co	
Trainee Number:	Date of Training:

Water Quality Observations	Page 2 of 2
Describe the discharge(s) [source(s), impact on receiving water(s), etc.]	
2 	
Describe the quality of the receiving water(s) both upstream and downstream of the discharge	
Describe any other water quality standards or permit violations	
Additional Comments:	
	11

ATTACHMENT 1 Construction Stormwater Compliance Inspection Report Date: Project Name and Location: Matrix Development, LLC Page 1 of 2 Hudson National Golf Club, Solar Array Permit # (if any): NYR 40 Arrowcrest Drive Croton-on-Hudson, NY 10520 Entry Time: Exit Time: Municipality: Westchester On-site Representative(s) and contact information: Weather Conditions: Name and Address of SPDES Permittee/Title/Phone/Fax Numbers: Contacted: Yes □ Matrix Develoment, LLC 153 Mercer Street #4, New York, NY 10012 INSPECTION CHECKLIST SPDES Authority Yes No N/A Law, rule or permit citation □ □ Is a copy of the NOI posted at the construction site for public viewing? ☐ Is an up-to-date copy of the signed SWPPP retained at the construction site? ☐ Is a copy of the SPDES General Permit retained at the construction site? **SWPPP Content** Yes No N/A Law, rule or permit citation □ □ □ Does the SWPPP describe and identify the erosion & sediment control measures to be employed? Does the SWPPP provide a maintenance schedule for the erosion & sediment control measures? □ □ Does the SWPPP describe and identify the post-construction SW control measures to be employed? Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure? Does the SWPPP include all the necessary 'CONTRACTOR CERTIFICATION' statements? Is the SWPPP signed/certified by the permittee? Recordkeeping Yes No N/A Law, rule or permit citation 10. 🗆 🗆 🗆 Are inspections performed as required by the permit (every 7 days and after ½" rain event)? Are the site inspections performed by a qualified professional? 11. 12. Are all required reports properly signed/certified? 13. \square \square Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status? Visual Observations Yes No N/A Law, rule or permit citation ☐ ☐ Are all erosion and sediment control measures installed/constructed? 14. 15. 🗆 Are all erosion and sediment control measures maintained properly?

Overall Inspection Rating:	 	Unsatisfa	limentation, or oil ? (If no , complete Page 2)
Name/Agency of Lead Inspector:			Signature of Lead Inspector:
Names/Agencies of Other Inspectors:			

☐ ☐ Have all disturbances of 5 acres or more been approved prior to the disturbance?

Are stabilization measures initiated in inactive areas?

Are permanent stormwater control measures implemented? 19. □ □ Was there a discharge into the receiving water on the day of inspection?

17. 🗆

18. 🗆

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					
Owner/Operator Name: Matrix Development LLC						
2. Street Address: 153 Mercer Street, #4						
3. City/State/Zip:	New York, NY 10012					
4. Contact Person:	Michael Doud	4a.Telephone: 518-727-6219				
4b. Contact Person E-Mail: mdoud@matrixdevllc.com						
II. Project Site Information						
5. Project/Site Name:	Hudson National Golf Club, Solar Ar	ray				
6. Street Address:	ress: 40 Arrowcrest Drive					
7. City/Zip:	Croton-on-Hudson, NY 10520					
8. County:	Westchester					
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 Informa	ition:					
10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes χ no (If no, go to question 10f.)						
	truction stormwater management practice □ yes □ no (If no, explain on Page 2)	es included in the final SWPPP been				
10c. Identify the entity re	esponsible for long-term operation and m	aintenance 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? 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? (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.

Date:

Printed Name:
Title/Position:

Signature:

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:

(NYS DEC Notice of Termination - January 2015)

Title/Position:

Signature:

Date: