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Stormwater Narrative

for
FULTON COMMUNITY SOLAR PROJECT
2824 COUNTY ROUTE 6
TOWN OF NEW HAVEN, NY
May 30, 2025

C.T. Male Associates Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C. (C.T. Male) has evaluated the pre-development and post-development drainage conditions at **Fulton Community Solar Project**, located in the Town of New Haven, New York.

The project site is situated on the east side of County Route 6, approximately 1,500 feet south of the intersection of Route 6 and Jarret Road. The property currently consists of a mix of agricultural fields, wooded areas, and wetlands. There is also a residential structure, along with barns and concrete slabs located on-site.

Project Overview
This memorandum summarizes the stormwater management approach for the proposed solar photovoltaic (PV) installation to be constructed on an approximately 65.5-acre parcel located in the Town of New Haven, Oswego County, NY. The proposed project includes installation of ground-mounted solar arrays, associated electrical infrastructure, and an pervious access road. As part of the development, stormwater management practices will be implemented in accordance with the New York State Stormwater Management Design Manual (NYSSMDM) and the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-25-001) and NYSDEC Solar Design Guidance Documents.
The site is currently composed of a combination of meadow, brush, and woods coverage. The proposed disturbance is anticipated to be approximately 22.2 acres.

Existing Site Conditions

- **Topography**: Gently sloping terrain (3–15% grade) draining towards the onsite wetlands areas.
- **Soils**: Hydrologic Soil Groups (HSG) C and D.
- **Land Use**: Predominantly undeveloped wooded areas with some agricultural fields (meadow), undeveloped.

Stormwater Design Objective
The primary stormwater design objective is to manage runoff volume and peak flow rates resulting from proposed development activities while maintaining pre-development hydrologic conditions and preventing downstream impacts. This scenario incorporates **stormwater detention** to address increased runoff and provide peak rate attenuation.

Per the NYSDEC Solar Design Guidance Documents, if a solar project meets six criteria it may be designated a Scenario 1 or "Land clearing and grading for the purpose of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields)" construction activity. The Project meets all criteria except 6, and as such 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". This designation requires a solar project with greater than one acre of land disturbance create and maintain an Erosion and Sediment Control Plan during construction and must include Post Construction Stormwater practices in accordance with the NYS Stormwater Management Design Manual. Water Quality Volume and Runoff Reduction Volume sizing criteria are addressed through compliance with the first four criteria, and the quantity control sizing criteria are addressed through the installation of three (3) detention basins.
The six (6) Scenario 1 criteria are as follows:

1. *Solar Panels are constructed on post or rack systems and elevated off the ground surface.*

    a. The project will utilize a single axis tracker racking system that will elevate the panels off the ground surface.

2. *The panels are spaced apart so that rainwater can flow off the down gradient side of the panel and continue as sheet flow across the ground surface.*

    a. Each panel maintains a gap from the next in each row. Each row of panels is 8.10' wide and panel rows are spaced 10.25' apart minimum.

3. *For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour, so rainwater sheet flows down slope.*

    a. The solar panel rows for this project will generally run parallel to the contours. The utilization of the single axis tracker system in combination with a parallel row alignment creates a drip edge that runs perpendicular to the contour when stowed in a "flat" position. For this project all panels

will be stowed to create a drip edge that runs parallel with the contours during all non-production hours.

4. *The ground surface below the panels consists of a well-established vegetative cover.*

    a. All disturbed areas will be seeded in accordance with the project plans and stabilized with vegetative cover. Vegetative cover will be observed during SWPPP inspections to ensure that at least 80% uniform cover is established prior to closing out permit coverage.

5. *The project does not include the construction of any traditional impervious areas.*

    a. The project does not include the construction of any traditional impervious areas. The transformer pads total less than 0.05 acres and therefore do not meet the NYSDEC definition of a traditional impervious area.

6. *Construction of the solar panels will not alter the hydrology from pre to post development conditions.*

    a. Conceptually, three (3) detention basins are proposed to attenuate the increase in peak runoff from the site to below pre-development flows.

To mitigate hydrologic impacts from the conversion of wooded areas to solar development modeled as meadow conditions, the following stormwater management strategy has been proposed:

A. Detention Basins

- Dry detention basins will be constructed near the lower points of the project area.
- The basin is designed to capture and detain runoff from the 1-, 10-, and 100-year storm events.
- Outlet control structures will manage the release rates to match or reduce pre-development conditions.

B. Vegetated Swales and Level Spreaders

- Runoff from the solar panels and access roads will be directed via vegetated swales to the basin.
- Level spreaders will distribute sheet flow from panels, preserving natural infiltration and reducing erosive concentrations on slopes greater than 8%.

C. Vegetative Ground Cover

- Beneath and between panel rows, native grass cover will be maintained or restored to limit erosion and promote infiltration.
- Mowing and maintenance plans will be implemented to preserve infiltration capacity.

Erosion and Sediment Control

Temporary construction phase measures include:

- Stabilized construction entrance
- Silt fencing along downgradient perimeters
- Temporary sediment traps
- Phased disturbance to minimize bare soil exposure

All controls will be maintained per the SWPPP and NYSDEC guidance.

Regulatory Compliance

The proposed stormwater management system has been designed in accordance with the following:

- NYSDEC GP-0-25-001
- New York State Stormwater Management Design Manual
- NYSDEC Solar Design Guidance Documents

A **Stormwater Pollution Prevention Plan (SWPPP)** has been prepared and will be submitted for review, including hydrologic modeling, soil testing results, and maintenance plans.

Maintenance and Long-Term Inspection

Post-construction maintenance will be handled by the solar site operator or third-party contractor under a formal O&M plan. Routine inspections, sediment removal, and vegetation management will be scheduled to ensure functionality.

Summary

This stormwater approach under Scenario One integrates detention to manage runoff impacts while maintaining environmental compliance and site sustainability. It effectively addresses both quantity and quality of runoff, reduces peak discharges, and protects downstream resources. The project team will continue to coordinate with local and state reviewers to refine the design and ensure full compliance.