STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL

September 13, 2019

TO: Parties and Intervenors

FROM: Melanie Bachman, Executive Director MAB

RE: **PETITION NO. 1378** – Greenskies Renewable Energy, LLC (GRE) petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 5.0-megawatt AC solar photovoltaic electric generating facility on approximately 16.5 acres located generally east of Taugwonk Road and Taugwonk Spur Road and north of Interstate 95 in Stonington, Connecticut and associated electrical interconnection.

Comments have been received from the State of Connecticut Department of Energy and Environmental Protection, dated September 13, 2019. A copy of the comments is attached for your review.

MAB/emr

c: Council Members

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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September 13, 2019

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

RE: 5.0-MW Solar Photo-voltaic Generating Facility
Greenskies Renewable Energy, LLC
Stonington, Connecticut
Petition No. 1378

Dear Members of the Connecticut Siting Council:

Staff of this department have reviewed the above-referenced petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need will be required for the construction of a 5.0-MW solar generating facility located off 35 Taugwonk Spur Road in Stonington. A field review of the site was conducted on September 9, 2019. Based on these efforts, the following comments are offered to the Council for your use in this proceeding.

The proposed solar array, to be located on a mixture of active hayfield and some forestland, will employ 16,680 photovoltaic panels mounted on driven posts, and will operate as six independently-metered systems. The facility will be connected to an Eversource distribution line running along Taugwonk Road via an interconnection line to be constructed mostly along the alignment of an existing unpaved woods road, described in the Petition as a cart road, with a segment of the line crossing a horse pasture on the western end of its route. It is likely that vegetative removal beyond the limb management and selective clearing described on page 39 of the Petition will be necessary to accommodate this line due to the narrow and overgrown nature of the corridor. It also appears probable that the proposed access route to the solar farm site, which is an existing narrow road from Taugwonk Spur Road to the landowner's home and then to the proposed facility site, will need to be widened and potentially straightened to accommodate the construction vehicles which will need to access the site.

Most of the solar farm footprint consists of well-vegetated, gently sloping fields. Four acres west of the hayfield will be cleared for a portion of the array as well as for the western stormwater basin and for shading management. This wooded area consists predominantly of red maple forest with much lesser amounts of ash and white oak. This portion of the site approximates flat.

No homes are visible from the proposed site. The noise environment across the site is dominated by traffic noise from neighboring Interstate 95.

Overall the Taugwonk Solar site is well-suited for this proposed use and is a much more favorable site than most others that have been proposed for this type of facility.

Core Forest Impacts

Appendix N of the Petition includes an e-mail chain between Lee Hoffman of Pullman and Comley and Chris Martin, Director of DEEP's Forestry Division concluding that there is no material impact to core forest resources arising from this project. DEEP will endeavor to provide an independent letter communicating its findings relative to core forest impacts for future petitions.

Natural Diversity Data Base

As contained in Appendix M of the Petition, by letter of July 30, 2019, DEEP's Natural Diversity Data Base program concurred that the proposed work will be outside of any mapped NDDB area and accepted the applicant's proposed protection strategies for eastern box turtle.

Agricultural Resources and Prime Farmland Soils

The host property for the proposed Taugwonk Solar Farm is in active agricultural use and contains 16 acres of prime farmland which would be impacted by the proposal. Although the assessment of impacts to prime farmland soils lies with the Connecticut Department of Agriculture, DEEP commends the evaluation done by that department and the development of specific recommendations to preserve the viability of the host property for present and future agricultural use as contained in Commissioner Hurlburt's letter of August 15, 2019.

Stormwater Management

DEEP has met with representatives of the applicant both on the site and at 79 Elm Street, Hartford regarding stormwater management at the Robinson farm in connection with the development of the Taugwonk Solar Farm. Submission of a stormwater permit application is expected in the very near future. In view of the gentle slopes on the site and the well-established vegetative cover which will be maintained during the development and operation of the solar facility, stormwater management, including the avoidance of erosion and sedimentation impacts, appears to be more easily accomplished at this site than at most other solar farm sites DEEP has reviewed. Nevertheless, to provide additional guidance, the DEEP solar farm stormwater management guidelines of September 8, 2017 are attached to these comments.

Vernal Pool

One vernal pool, located within Wetland A in the southern portion of the host property, was identified in the Petition. Property owner Wayne Robinson pointed this location out during DEEP's September 8 field review. The vernal pool, which was dry as of the time of DEEP's site visit, is actually two pools, approximately 25' apart, both with well-defined bottoms of approximately the same depth relative to the surrounding vegetation. These pools are well removed from the footprint of the panels (865' of separation according to the Petition) or from any proposed work, with wide buffers of both well-established grassed vegetation and of forest buffer. Therefore, no impact to these features is expected to arise from the construction and operation of the solar farm.

Miscellaneous Commentary

There is an apparent discrepancy between the statement on page 47 of the Petition that the lowest vertical clearance of the solar panels above the ground will be 8 +/- feet to promote vegetative growth beneath the panels and Figure SD-2, on the last page of Appendix A, which shows the tilted PV panels extending down as low as 3' above ground.

During the DEEP site review, property owner Wayne Robinson expressed a desire to have the soil stockpile area moved from its proposed location immediately south of the PV panel array. He did not specify a preferred alternative location but indicated that the proposed location was a particularly inconvenient one for his operations.

At the bottom of page 4 of the SWCA report found in Appendix L, the statement is made that work in the wetland areas will likely require an inland wetlands permit from the Stonington Inland Wetlands and Watercourses Agency. This statement is incorrect as the approval of wetlands activities is vested in the Siting Council for projects that fall under its jurisdiction.

Lastly, in section 6 of the Operations and Maintenance Plan (Appendix E), which section covers stormwater management system inspection, the instruction to contact the Town of Royalston's Department of Public Works for repair and maintenance of the King Street catch basin appears to be an error.

Thank you for the opportunity to review this petition and to submit these comments to the Council. Should Council members or Council staff have any questions, please feel free to contact me at (860) 424-4110 or at frederick.riese@ct.gov.

Respectfully yours,

Frederick L. Riese
Senior Environmental Analyst

Attachment: (1)
cc: Dept. Commissioner Betsey Wingfield
Dept. Commissioner Susan Whalen

Connecticut Department of
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ENVIRONMENTAL
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Stormwater Management at Solar Farm Construction Projects September 8, 2017

Solar farms are on-the-ground installations of arrays of photovoltaic cell panels, supporting structures and related equipment for the production of electricity. As with other types of construction projects, the construction of solar farms can involve land clearing, grading, excavation, trenching, dewatering and similar activities that create land disturbances which potentially result in soil erosion and sediment discharges polluting wetlands, streams and other surface waters. Construction-related land disturbances of 0.5 acres or larger are regulated in Connecticut pursuant to the Connecticut Soil Erosion and Sediment Control Act under Sections 22a-325 to 22a-329, inclusive, of the Connecticut General Statutes ("CGS"). Constructionrelated land disturbances of one (1) acre or larger are also regulated under CGS Section 22a-430 and under Section 402(p) of the federal Clean Water Act and the National Pollutant Discharge Elimination System ("NPDES") program. Prior to the start of such regulated activities, authorization is required from local authorities and, for larger projects, the Connecticut Department of Energy and Environmental Protection ("Department"). Construction projects involving five (5) or more acres of land disturbance require an individual NPDES discharge permit from the Department, or may be eligible to register for coverage under the Department's NPDES General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit).

The Department has encountered repeated problems associated with solar farm construction projects covered under the general permit, from the registration process through construction activities. Although in no way an exhaustive list, the following are common problems associated with solar farm general permit registration applications and ways to address such problems:

- Applicants have been submitting registration applications that lack the requisite information or the requirements necessary for authorization under the general permit. The Department requires a complete and sufficient application when a registration application is filed, and may reject any registration application it deems to be incomplete or insufficient.
- Applicants are not adhering to the sixty (60) day/ninety (90) day time frame for Department review as required by Section 3(c) of the general permit. While the Department has on occasion shortened the review timeframe, Applicants are expected to allocate no less than the requisite time frame for the registration application review process and must plan accordingly.
- Registration applications for solar farm projects often fail to identify the project's contractor and sub-contractors. Section 5(b)(1)(viii) of the general permit mandates that this information be included in the registration application.

- Applicants have been repackaging the Siting Council submittal, which is not acceptable. Section 3(c)(2)(D) of the general permit mandates that the application submittal include only materials required to support the Stormwater Pollution Control Plan ("SWPCP"). This information must be up-to-date and accurate. Any superfluous information delays the registration application review process.
- SWPCPs for solar farm projects are often lacking sufficient detail and information. An approvable SWPCP shall include, but not be limited to, the location of all erosion, sediment and stormwater control measures including detailed design cut sheets with supporting calculations, construction means and methods, project phasing (i.e., site planning, pre-construction, construction, and post-construction stabilization, etc.), construction sequencing and a construction schedule.
- The Applicant's design professional must be well-versed in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control ("E&S Guidelines"), specifically the techniques found in Chapter 4, Large Construction Sites, the 2004 Connecticut Stormwater Quality Manual, as well as *current* best management practices (BMPs) recognized by the International Erosion Control Association (IECA), provided such BMPs are equal to or better than the E&S Guidelines.
- From the Department's perspective, an approvable SWPCP will include methods for avoiding compaction of soils, disconnection and reduction of runoff associated with solar panel arrays, avoidance of concentration of stormwater, and other measures necessary to maintain or improve pre-construction hydrologic conditions.
- Applicants need to follow the SWPCP review checklist when preparing the SWPCP, giving specific attention to post-construction stormwater controls and the development of a detailed long-term maintenance plan to ensure that the SWPCP meets the terms and conditions of the general permit.

Subsequent to authorization for coverage under the general permit, the Registrant is responsible for ensuring compliance with all terms and conditions of the general permit and the approved SWPCP once construction has been initiated. However, for solar farm projects, Registrants often fail to comply with the terms and conditions of the general permit, including the approved SWPCP. In particular, Department staff have observed the following issues that a routine inspection protocol and proper oversight, as required under the general permit, would have prevented, including but not limited to:

- pre-construction site planning and management deficiencies (e.g., existing vegetation, scheduling, training, phasing/sequencing, tree protection, etc.)
- ineffective placement, maintenance, and/or repair of administrative/procedural, vegetative, and structural BMPs (e.g., erosion, sediment and stormwater runoff controls, good housekeeping, materials management, and training)
- lack of thorough inspections
- ineffective or untimely corrective action
- ineffective stabilization practices
- ineffective permanent post-construction controls (i.e., store, treat and direct stormwater quality and quantity to pre-construction levels)

Such issues at solar farm construction projects raise concerns, since such projects often create areas of land disruption larger than the generally accepted BMPs of five (5) acres anticipated under the general permit. As a result, any applicant seeking coverage under the general permit for a solar farm construction project should take care to address the issues noted above. While

by no means exclusive, some recommendations that should be incorporated into a SWPCP to address these issues include:

- Ensuring that only a Professional Engineer and/or Landscape Architect, as defined in Section 2 of the general permit, who meets the qualifications described in Section 5(b)(4)(A)(ii) and who has been approved in writing by the Commissioner, serve as the Commissioner's agent to inspect the site and also serve as the qualified inspector for the purposes of Section 5(b)(4) of the general permit ("authorized professional"). Such authorized professional must remain in good standing with the Connecticut Department of Consumer Protection and be technically and ethically qualified to inspect the site and be retained for the duration of the construction project until the Notice of Termination acceptable to the Commissioner has been filed as described below.
- Ensuring that the authorized professional prepare a proposed inspection checklist to assure the construction project is being conducted in compliance with the terms and conditions of the general permit, and the approved SWPCP is implemented in accordance with the general permit. The inspection checklist shall comply with Section 5(b)(4)(B)(iii) of the general permit, and include a space for the authorized professional's signature and professional stamp.
- Ensuring that the credentials for the authorized professional proposed by the Applicant and the proposed inspection checklist prepared by such authorized professional be submitted for the review and approval of the Commissioner and be included with the registration application for the general permit. No other professional may serve as the authorized professional without the prior submittal of relevant credentials and inspection checklist for the Commissioner's review and written approval.
- Ensuring that the authorized professional personally perform all pre-construction, construction, and post-construction site inspections; perform inspections at the end of any storm event whether or not such storm generates a discharge; and prepare and submit all inspection reports including the supporting inspection checklists in compliance with Sections 5(b)(4)(A) and 5(b)(4)(B) of the general permit.
- Ensuring that the authorized professional report any violations of the terms and conditions of the general permit or the SWPCP to the Commissioner's designee within two (2) hours of becoming aware of such violation, or at the start of the next business day of becoming aware of such violation outside normal business hours and shall, within five (5) days, prepare and submit a signed and stamped written report, which documents the cause of the violation, duration including dates and times, and corrective action taken or planned to prevent future occurrences.
- Ensuring that if circumstances necessitate a revision to the SWPCP, the authorized professional works with the Permittee's design professional to ensure compliance with the terms and conditions of the general permit, and any such change to the SWPCP shall be submitted for the review and written approval of the Commissioner.
- Ensure that the authorized professional reviews all stormwater monitoring reports to evaluate the effectiveness of the SWPCP and to document any adverse impacts that any stormwater controls on the construction site or discharges from the construction site may have on wetlands, streams, any other receiving waterbodies. Such evaluation shall be documented in the inspection reports and inspection checklists performed pursuant to Section 5(b)(4) of the general permit.
- Ensuring that, in the event the authorized professional identifies a violation of the terms and conditions of the general permit, the SWPCP, or otherwise identifies adverse impacts on wetlands, streams or any other receiving waterbodies, that construction

activity shall immediately cease and the site stabilized until such violation or adverse impacts have been corrected.

- Ensuring that reporting and record-keeping of all inspection checklists and inspection reports comply with the requirements of Section 5(d) of the general permit, except that a copy shall also be submitted electronically to the Department within ten (10) days from the date such inspection was performed.
- Ensuring that all inspection checklists and inspection reports comply with the requirements for Certification of Documents in Section 5(i) of the general permit, including the requirement that such checklists and reports shall also be prepared, stamped and signed by the authorized professional.
- After completion of a construction project, ensuring that a Notice of Termination is filed in compliance with Section 6 of the general permit, including the requirement that such Notice of Termination be stamped and signed by the authorized professional certifying that such authorized professional has personally inspected and verified that the site has been stabilized following the first full growing season (i.e., April through October) in the year following completion of the construction project.
- Ensuring that any transfer of the registration comply with the requirements of Section 5(m) of the general permit.

These recommendations are by no means intended to be exclusive. To help address the issues noted above, the Commissioner will also be considering the posting of a performance bond or other security, in accordance with Section 22a-6(a)(7) of the Connecticut General Statutes, to assure the solar farm construction project maintains compliance with the terms and conditions of the general permit and the SWPCP.