

DRAFT

**Petition No. 1460
Greenskies Clean Energy, LLC
Goshen, Connecticut
Staff Report
October 15, 2021**

Introduction

On August 13, 2021, the Connecticut Siting Council (Council) received a petition from Greenskies Clean Energy LLC (GCE or Petitioner) for a declaratory ruling (petition) pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k for the construction, operation and maintenance of a 4.0 megawatt (MW) alternating current (AC) solar photovoltaic electric generating facility located at 129 Bartholomew Hill Road, Goshen, Connecticut.

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, on or about August 13, 2021, GCE notified Town of Goshen officials, Town of Cornwall officials¹, state officials and agencies, the property owner, and abutting property owners of the proposed project. Three abutters did not claim the certified mailing. In response, GCE sent a second certified mailing to these abutters, of which two did not claim the certified mailing.

The Council issued interrogatories to GCE on September 8, 2021. On September 28 and 29, 2021 GRE submitted responses to the Council's interrogatories. The Petition contains photographic documentation of site-specific features that serves as a "virtual" field review of the project.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act (UAPA), an administrative agency is required to take an action on a petition for a declaratory ruling within 60 days of receipt. On October 8, 2021, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than February 9, 2022, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

Municipal Consultation

On June 3, 2021 GCE met with representatives of Goshen and Cornwall to discuss the Project.

On June 4, 2021, GCE sent letters to Project abutters in both Goshen and Cornwall that provided an overview of the proposed Project. In response to these mailings, five abutters contacted GCE for more information. On June 23, 2021, GCE met with the two nearest abutters to review site plans and project information.

No abutters contacted GCE after the August 13, 2021 certified mailings were sent.

On August 16, 2021, the Council sent correspondence to the Town of Goshen and the Town of Cornwall stating that the Council has received the Petition and invited both municipalities to contact the Council with any questions or comments by September 12, 2021. No comments were received from the municipalities.

¹ The Town of Cornwall is located within 2,500 feet of the proposed facility site.

State Agency Comments

On August 16, 2021, the Council sent correspondence requesting comments on the proposed project from the following state agencies by September 12, 2021: Department of Energy & Environmental Protection (DEEP); DOAg; Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Emergency Services and Public Protection (DESPP); Department of Consumer Protection (DCP); Department of Labor (DOL); Department of Administrative Services (DAS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO).

In response to the Council's solicitation, the CEQ² submitted comments on August 26, 2021 that recommended wildlife and vernal pool protective measures, a spill plan, and implementation of measures specified by DEEP and DOAg.

No other state agencies provided written comments on the proposed project.

While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies.³

Public Act 17-218

Public Act 17-218⁴ (PA 17-218) requires “for a solar photovoltaic facility with a capacity of two or more megawatts, to be located on prime farmland or forestland, excluding any such facility that was selected by DEEP in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the DOAg represents, in writing, to the Council that such project will not materially affect the status of such land as prime farmland or DEEP represents, in writing, to the Council that such project will not materially affect the status of land as core forest.” PA 17-218 requires a project developer to obtain a letter from DOAg **OR** DEEP. The Petitioner has secured written confirmation from both DOAg and DEEP.

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the construction, maintenance and operation of solar photovoltaic electric generating facilities throughout the state. PA 17-218 requires developers of solar facilities with a generating capacity of more than 2 MW to obtain a written determination from DOAg or DEEP that the project would not materially affect the status of land as prime farmland or core forest prior to submission of a petition for a declaratory ruling to the Council. PA 17-218 does not confer the Council's exclusive jurisdiction over the construction, maintenance and operation of solar photovoltaic electric generating facilities throughout the state upon DOAg or DEEP. PA 17-218 also does not permit DOAg or DEEP to impose any enforceable conditions on the construction, maintenance and operation of solar photovoltaic electric generating facilities under the exclusive jurisdiction of the Council.

Public Benefit

The project would be a distributed energy resource facility as defined in CGS § 16-1(a)(49). CGS § 16a-35k establishes the State's energy policy, including the goal to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent.” The 2018 Comprehensive

² [TO: Parties & Intervenors \(ct.gov\)](#) (CEQ comments dated August 26, 2021)

³ *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

⁴ Codified at Conn. Gen. Stat. §16-50k(a) and §16a-3k (2019).

Energy Strategy (2018 CES) highlights eight key strategies to guide administrative and legislative action over the next several years. Specifically, Strategy No. 3 is “Grow and sustain renewable and zero-carbon generation in the state and region.” Furthermore, on September 3, 2019, Governor Lamont issued Executive Order No. 3, which calls for the complete decarbonization of the electric sector by 2040. The proposed facility will contribute to fulfilling the State’s Renewable Portfolio Standard and Global Warming Solutions Act as a zero emission Class I renewable energy source.

The Project was selected in the statewide Shared Clean Energy Facility (SCEF) Program which is a competitive procurement process administered by the state’s electric distribution companies to develop utility scale renewable energy. New or incremental Class I renewable generation projects ranging in size from 100 to 4,000 kW (AC) are eligible to bid into the SCEF program for a SCEF Tariff Terms Agreement (Agreement) with a 20-year term. GCE executed an Agreement with The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) for the Project’s installed capacity and Renewable Energy Credits. PURA approved the terms of the SCEF Agreement template in Docket No. 19-07-01.

After the Agreement term expires, the Petitioner may seek an extension, if available, or pursue other revenue mechanisms.

The Petitioner does not plan to participate in the ISO-NE Forward Capacity Auction.

The proposed facility is not designed to operate as a microgrid or to accommodate a battery storage system.

Proposed Site

Pursuant to a lease agreement with the property owner, the Petitioner proposes to construct the solar facility on a 13.5-acre site⁵ located within an approximately 69.1-acre parcel at 129 Bartholomew Hill Road in Goshen. The subject property, located on the north side of Bartholomew Hill Road, is within a Residential Zone (RA-5). The Cornwall town line runs along the west property boundary.

The parcel is a former farm and contains open fields, forest and wetlands, and is developed with a residence and other structures. The proposed project would be constructed on existing open fields in the northern and central portion of the property.

Abutting land use includes undeveloped land to the north and west, and single family residences and farmland to the east and south. One of the properties to the east hosts the Wings Ago Airstrip, a private use grass airfield. The nearest property line from the proposed perimeter fence is 65 feet to the west at its closest point (77 Johnson Road, Cornwall).

The topography of the site consists of a south sloping hill with ground elevations ranging from 1,485 feet above mean sea level (amsl) to 1,585 feet amsl.

Considerations in Petitioner’s site selection process include, but are not limited to, the following:

- a) minimize natural resource and environmental impacts;
- b) minimize agricultural impacts;
- c) minimize disturbance to adjacent residences; and
- d) proximity to electrical infrastructure.

⁵ RCSA §16-50j-2a(29), “Site” means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located.

Pursuant to CGS §16-50p(g), the Council has no authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility.⁶

Proposed Project

The Project consists of the installation of 9,792, 475-watt photovoltaic modules oriented to the south at a fixed 25° angle. The modules would be installed on a racking system supported by driven posts or ground screws, depending on specific subsurface conditions. The modules would be arranged in linear rows, separated by 14-foot wide aisles. The modules would be installed approximately eight feet above final grade with a ground clearance of approximately three feet.

Two concrete pads would be installed within the array area, each supporting 12 inverters, one switchgear, and two transformers. Wiring from the panels would extend along the racking system. Wiring between rows and to the inverters would be installed underground within a PVC conduit.

The proposed site would be accessed using an existing driveway/farm road on the property that extends from Bartholomew Hill Road. GCE would construct a new 15-foot wide, 1,957-foot long gravel access drive, extending along the west side and through the central portion of the solar array area. The new drive would be installed on existing grades where feasible. Minor grading is required along the southern portion of the drive where it ascends along the side of a hill.

The proposed Project would interconnect to the existing Eversource electric distribution system located on Bartholomew Hill Road. An underground electrical line would carry power from the southern utility pad to a utility pole riser. From there, an overhead electrical service on six new utility poles would carry power to the point of interconnection. The new utility poles would be installed on the property to the west of the existing residence/farm buildings.

A three-phase line is located south of the Project site on Sharon Turnpike in Goshen. The facility interconnection study is currently underway and would be designed in accordance with Eversource's technical standards. GCE has contacted ISO-NE to determine if a transmission interconnection study is required for the project.

The Project's net capacity factor is estimated to be 14.5 percent. The efficiency of the proposed solar panels is approximately 20.5 percent with an estimated annual power degradation of approximately 0.45 percent per year.

GCE would maintain existing grades in the project area except where necessary to install the stormwater management system and provide for a level road surface for which 2,115 cubic yards of cut would be generated to construct these features. Excess cut material would be either spread on-site or trucked off-site.

Site construction would occur in two main phases. Phase 1 includes all work necessary to establish the stormwater management system, establish erosion control measures and conduct tree clearing/grubbing where necessary, followed by stabilization of disturbed areas. Phase 2 includes installation of site infrastructure and final site stabilization.

⁶ *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007); CGS §16-50p(g) (2019).

Construction is anticipated to commence in Spring 2022 and would last approximately 6 – 8 months. The SCEF agreement in-service date is December 31, 2023. Typical construction hours are as follows: Monday – Friday: 7:30 AM to 5:30 PM; Saturday and Sunday (if needed): 9:00 AM to 5:30 PM.

The estimated cost of the Project is approximately \$6 million.

Public Safety

The solar field would be enclosed by a seven-foot high chain link fence⁷. The main entrance to the Facility would be gated, limiting access solely to authorized personnel.

The proposed project would comply with the National Electrical Code, National Electrical Safety Code and National Fire Protection Association codes and standards, as applicable. The Project includes a 15-foot wide clearance zone between the perimeter fence and the solar panel rows, consistent with the CT State Fire Prevention Code, Section 11.12.3 - Ground Mounted Photovoltaic System Installations.

The Petitioner would conduct a site walk with the Fire Marshal prior to site operation to inspect and discuss site safety features and emergency response procedures.

The proposed facility would be remotely monitored and would have the ability to remotely de-energize in the event of a fault or other power outage event and/or emergency.

The Federal Aviation Administration (FAA) issued a Determination of No Hazard to Air Navigation letter for the proposed facility. The site is approximately 405 feet west of the private Wings Ago Airstrip. A 150 to 250-foot wide wooded buffer of varying density exists between the proposed Project and airstrip, with mature vegetation reaching approximately 50 - 70 feet tall. At the request of the CAA, GCE performed a glare analysis of the project in relation to the airstrip. The analysis found that under certain conditions and times during a landing approach, glare from the facility would occur for a brief period (6 - 8 seconds at approximately 800 feet from the southern edge of the airfield landing strip). GCE sent the results of the glare analysis to CAA for comment and is awaiting a response.

The proposed facility would be in compliance with DEEP Noise Control Standards. Project-related operational noise would be from the inverters on the equipment pads. The nearest residence is approximately 500 feet south of the pad. The calculated noise level would be 19.5 dBA at the residence, below the DEEP Noise Control Standard of the 61 dBA for a commercial emitter to a residential receptor during the day⁸. The facility is inactive at night. Construction noise is exempt from DEEP Noise Control Standards.

The Site is not located within a Federal Emergency Management Agency designated 100-year or 500-year flood zone.

A DEEP Dam Safety permit would not be required, however, the stormwater basin is classified as a Class AA Dam and would require registration with DEEP.

⁷ Section 691.4(2) of the National Electrical Code (NEC), 2020 Edition notes that, “Access to PV electric supply stations shall be restricted by fencing or other adequate means in accordance with 110.31...” Section 110.31 notes that for over 1,000 Volts, “...a wall, screen, or fence shall be used...A fence shall not be less than 7 feet in height or a combination of 6 feet or more of fence fabric and a 1 foot or more...utilizing barbed wire or equivalent.”

⁸ The inverse square law states that the intensity of sound decreases by approximately 6 dB for each doubling of distance from the sound source.

A Phase I Environmental Site Assessment (Phase I ESA) was conducted at the site. The Phase I ESA revealed no evidence of recognized environmental conditions or environmental issues in connection with the subject property and no further investigation was recommended.

Environmental Effects and Mitigation Measures

Historic and Recreational Resources

Based on a review of historic maps, aerial photographs, and soil profiles, the site possessed a potential for moderate archaeological sensitivity. Subsequent field evaluations of the site found no evidence of archaeological significance and no further investigation was warranted. By letter dated June 17, 2021, SHPO concurred with the findings of the historic/archeological study and recommended no further action.

No public parks or other publicly accessible recreation resources are located adjacent to the site. The Mohawk State Forest is located 0.6 miles to the southwest at its closest point.

Visibility

The proposed project is setback from Bartholomew Hill Road and occupies existing open field areas. An existing wooded buffer would remain to the north, east and west of the facility. The landowner's residence, a barn and other outbuildings are located to the south.

Due to area topography and intervening wooded areas that would remain in place, the project is not expected to be visible from the nearest residences (#121, #161, & #147 Bartholomew Hill Road). The project abuts undeveloped land to the north and west, and a farm to the east.

Due to the relatively low height of facility components and the presence of intervening vegetation and infrastructure that limits views of the facility, no landscaping is proposed.

Air Quality

The Project would not produce air or water emissions as a result of operation. The solar project would not produce air emissions of regulated air pollutants or greenhouse gases during operation.

Agriculture

The subject property contains prime farmland soils according to mapping maintained by the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS). Under PA 17-218, "prime farmland" means land that meets the criteria for prime farmland as described in 7 Code of Federal Regulations (C.F.R.) 657, as amended from time to time. 7 C.F.R. 657 defines prime farmland in relevant part as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses."

The subject property contains vacant agricultural land that has not been utilized since 2019. The current owner purchased the property in 1979 and used it for various agricultural/livestock activities. The property contains 20.5 acres of mapped prime farmland soil, of which 4.1 acres are within the proposed Project Area.

The proposed site consists of mostly open field areas. The southern portion of the site contains approximately 4.1 acres of mapped prime farmland soils. The host property is currently enrolled in the PA

490 Program for agricultural land tax abatement. Portions of the land are classified as “Tillable D,” “Pasture,” and “Forest”. Once constructed, the project area may still be eligible for this program depending on how site co-use is classified.

By using income from the proposed project, the property owner intends to resume agricultural operations. GCE, in consultation with the landowner, plans to establish agricultural activities within and adjacent to the project footprint, including cultivation of 0.2 acres of wine grapes, establishing an apiary supported by 12.7 acres of pollinator habitat within the project footprint, haying 2.7 acres outside of the east perimeter fence line, cultivation of 1.0 acre of shade crops under the solar panels in the southern portion of the site, and cultivation of 0.7 acres of produce in a field adjacent to the south side of the site.

By letter dated June 3, 2021, DOAg indicated that the proposed project would not materially affect the status of prime farmland on the site as long as the agricultural co-use plan developed by GRE and the landowner is implemented and sustained over the life of the project.

Core Forest

Under PA 17-218, “core forest” means unfragmented forest land that is three hundred feet or greater from the boundary between forest land and nonforest land, as determined by the Commissioner of DEEP. UCONN’s Center for Land Use Education and Research (CLEAR) defines “core forest” as forested areas that are essentially surrounded by more forested areas and fall into three classes – small core forest, medium core forest and large core forest. Small core forest is comprised of core forest patches that are less than 250 acres. Medium core forest is comprised of core forest patches that are between 250-500 acres. Large core forest is comprised of core forest patches that are greater than 500 acres. UCONN CLEAR utilizes the concept of “edge width” to capture the influence of a non-forest feature as it extends into the forest. Research found that the “edge influence” of a clearing will typically extend about 300 feet into the forest.

There are 43.3 acres of forest on the property. Development of the project would require the removal of 2.2 acres of forest associated with several windrows and select locations along the edge of the existing fields.

No core forest is located at the site. By letter dated March 30, 2021, DEEP indicated that there would be no material impact to core forest.

Wetlands and Watercourses

Three forested slope wetland systems with associated intermittent watercourses are located along the eastern and western boundaries of the property, comprising 7.3 acres of the property.

Tree clearing would generally occur 100 feet from wetland resources except for a small area along the east fence line and for work associated with the construction of the stormwater basin where clearing would occur 60 feet from a wetland. The total amount of tree clearing within 100 feet of wetlands is 2,713 square-feet.

The Limit of disturbance (LOD) would be approximately 80 to 90 feet from the wetland to the east with most of the project related work occurring in existing open field areas. A 100-foot buffer would be maintained from the LOD to the wetland to the west except for the wetland located south of the proposed stormwater detention basin where the buffer would be 60 feet. The solar panels and access road would be a minimum 100 feet from on-site wetlands.

Three vernal pool areas are located within the forested wetland areas to the west of the site. The vernal pools support vernal pool obligate amphibians (wood frog and spotted salamander). A buffer of more than 100 feet would be maintained between the LOD and the vernal pools.

The proposed stormwater detention basin would be approximately 200 feet from one of the vernal pools. The basin is not expected to act as a decoy pool for vernal pool species as it would not retain water for long durations in spring.

Water Quality

The site parcel is not within a DEEP-designated Aquifer Protection Area or a mapped Public Drinking Supply Watershed.

Groundwater in the area is suitable for human consumption. Soil borings indicate bedrock is 2 to 14 feet below grade.

Equipment that uses both gasoline, and oil would be used on-site. These fuels would be stored in appropriate containers. In the event of a spill, clean up and removal of contaminated material would occur. Spill kits would be kept in vehicles and near operating machinery.

Stormwater

Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater pollution. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. The DEEP Individual and General Permits for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Stormwater Permit) requires implementation of a Stormwater Pollution Control Plan to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a project after construction is complete. A DEEP-issued Stormwater Permit is required prior to commencement of construction.

A construction sequence on the site plans includes the establishment of erosion control measures that comply with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, construction and installation of the stormwater basin, and disturbed area stabilization.

Once the facility is constructed and the site is stabilized, the stormwater management system would consist of a stormwater basin along the west side of the site and two grass-lined swales to direct stormwater from the northern portion of the solar field to the stormwater basin. Runoff from the solar panels would drain directly onto the grass below along the panel drip edge and along the edges of each panel where it would infiltrate and travel over the grass area. Concentrated flows along the panel edge are not expected. Runoff would drain toward off-site areas north, west, and south of the site, consistent with existing site drainage patterns.

GCE consulted with the DEEP Stormwater Division on April 27, 2021 to review the Project. At the meeting, DEEP recommended the use of a pollinator seed mix for areas where a 100-foot buffer to wetlands cannot be maintained, implementation of agricultural co-uses, the use of pollinator species throughout the project site for stabilization and use of solar modules that have passed the Toxicity Characteristic Leaching Procedure (TCLP) test to reduce project decommissioning costs. GCE has incorporated these recommendations into the project design.

Wildlife

DEEP submitted correspondence to GCE on February 26, 2021, indicating the project would not affect any State-listed species. The correspondence recommended several measures to increase wildlife habitat at the site by promoting pollinator habitat within the solar array area, use of wildlife friendly fencing to allow for movement through the fenced solar array, and establishment of active nest box monitoring for the American Kestrel, a State Listed Special Concern species known to nest near the site.

To address these recommendations, GCE intends to establish pollinator habitat throughout the solar field area, install perimeter fencing with a six to eight-inch gap along the bottom to allow for small animal movement, and install nest boxes for the kestrel in consultation with a bird conservation group.

The northern long-eared bat (NLEB), a state-listed Endangered Species and federally-listed Threatened Species, is known to occur in Connecticut. However, there are no known NLEB habitat resources located in Goshen or Cornwall and therefore there would be no expected Project-related impacts to NLEB.

The site plans specify the use of Erosion Control Blankets (ECB) with synthetic netting. Due to the presence of nearby vernal pools with documented vernal pool obligate species, GCE would be willing to use natural fiber ECB at the site.

Operation and Maintenance

A post-construction Operations and Maintenance Program has been established that includes provisions for periodic inspections of physical site features and structural and electrical components. A field visit to check mechanical and vegetative site conditions would be performed annually. Preventative maintenance activities would be conducted in accordance with manufacturer recommendations.

The solar field area would be mowed two to three times per year. No pesticides would be used on site. Agricultural co-use within and outside the perimeter fence would be managed by the property owner.

Module cleaning would be conducted on an as needed basis with water that is trucked into the site.

Decommissioning

Project decommissioning will involve removal and disposal or recycling of all above-surface project components.

All recyclable materials will be transported to the appropriate nearby recycling facilities. Any non-recyclable materials will be properly disposed of at a nearby landfill. It is anticipated that the fencing, electrical cabinets, solar racking, solar modules, wiring, and waste concrete is recyclable. Underground cables and transmission lines would be removed to a depth of 24 inches below grade. Disturbed areas would be backfilled with native soil and stabilized. The gravel access road and stormwater management system would remain in place.

The manufacturer of the selected solar panels has conducted TCLP testing on the panels. The TCLP test indicates the panels would not be characterized as hazardous waste at the time of disposal, under current testing criteria.

The land lease requires site decommissioning to be completed within six months.

Conclusion

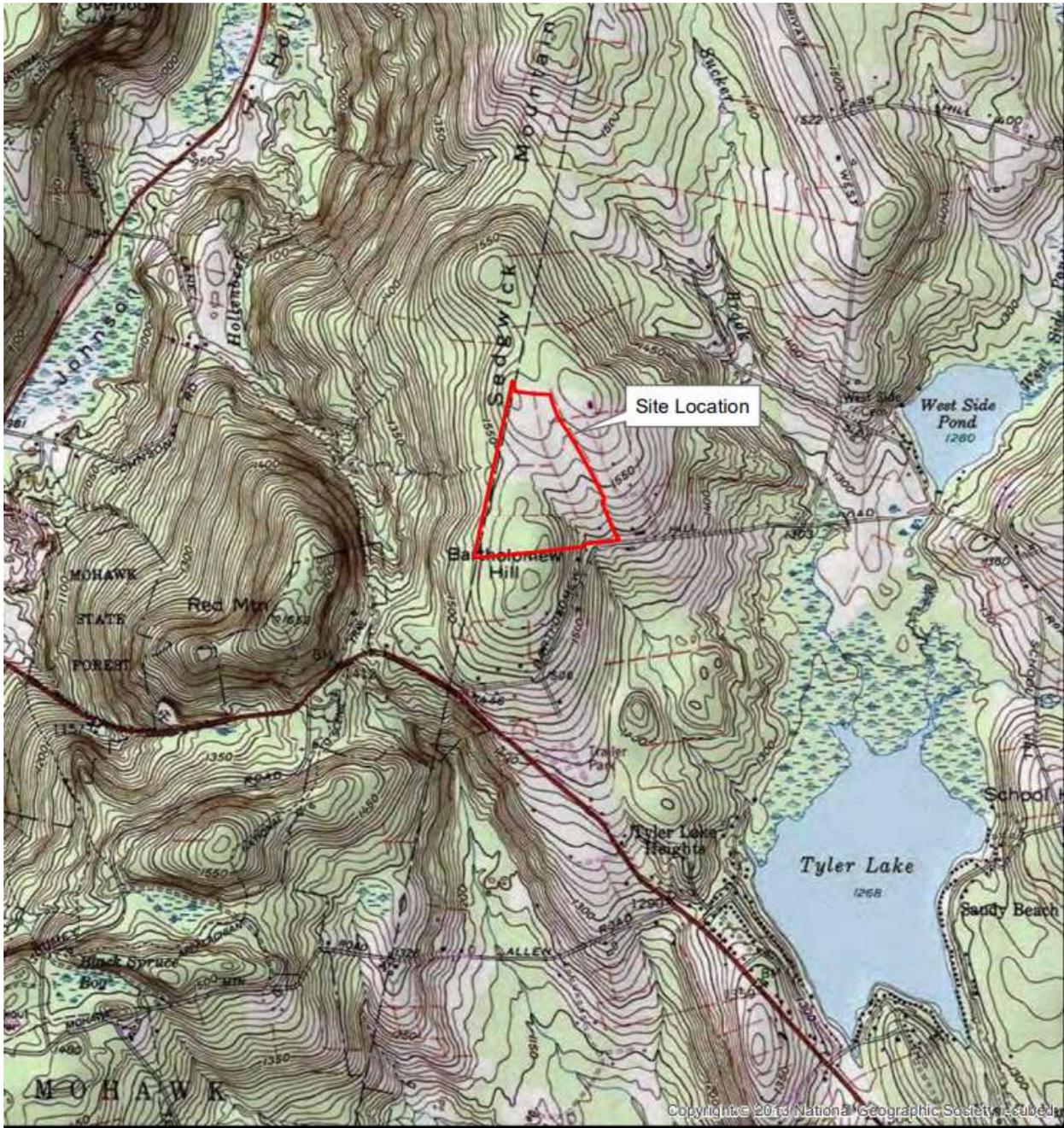
The project is a distributed energy resource with a capacity of not more than sixty-five megawatts that was selected in the state's SCEF Program, meets air and water quality standards of DEEP, would not materially affect the status of prime farmland or core forest, and would not have a substantial adverse environmental effect. The proposed project will not produce air emissions, will not utilize water to produce electricity, was designed to minimize environmental impacts, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources.

Recommendations

If approved, staff recommends the following conditions:

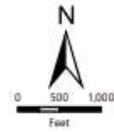
1. Approval of any project changes be delegated to Council staff;
2. Submit a copy of the DEEP Stormwater Permit prior to commencement of construction;
3. Submit any comments from CAA relative to the glare analysis, if applicable;
4. Use natural fiber ECB at the site in lieu of synthetic ECB; and
5. Submit the final structural design (for the racking system) stamped by a Professional Engineer duly licensed in the State of Connecticut prior to racking system installation.

Site Location



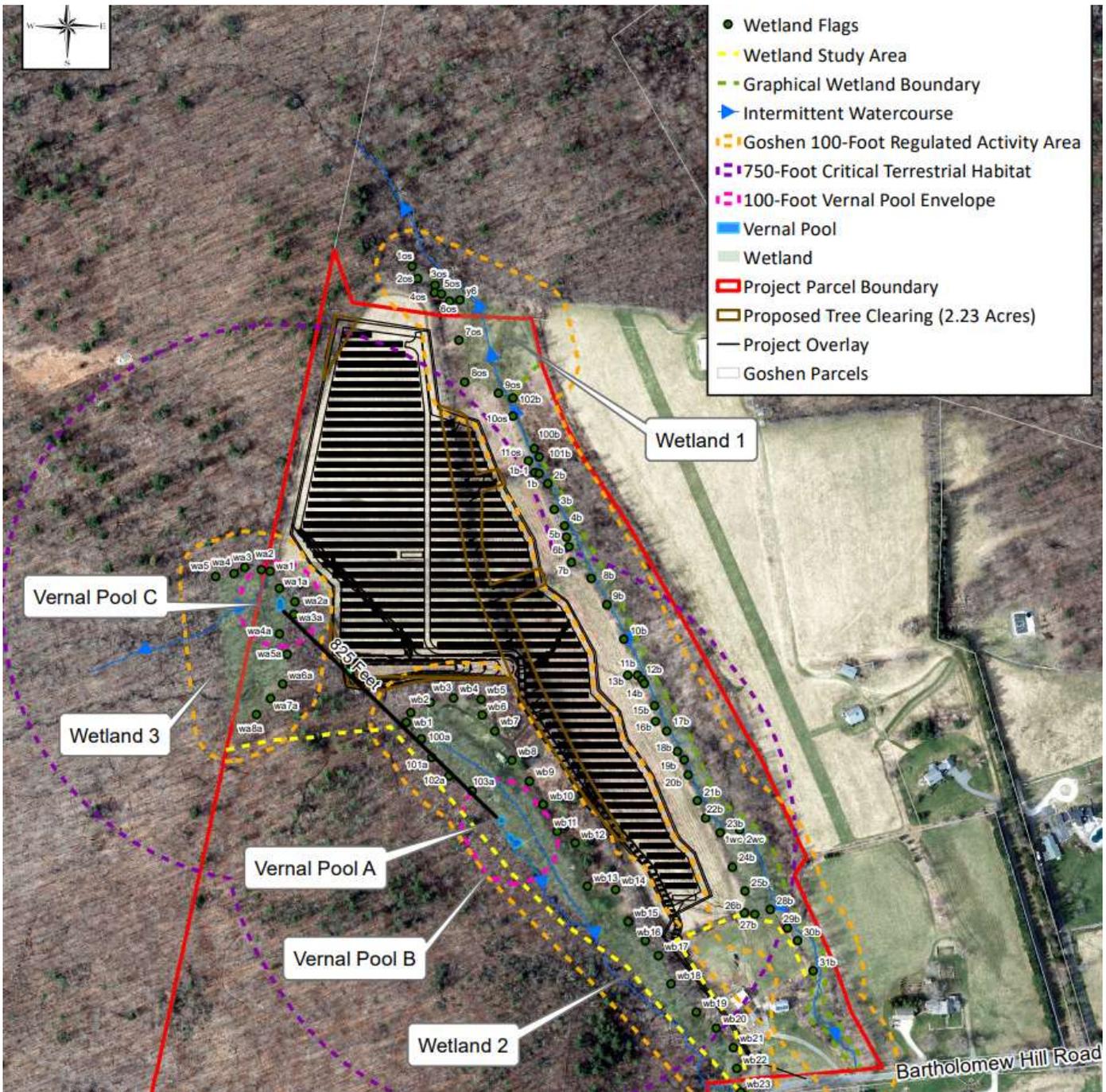
SLR
195 CHURCH STREET
7TH FLOOR
NEW HAVEN, CT 06511
203 244 7887

OVERVIEW MAP
GOSHEN PV SOLAR FACILITY
GREENSKIES RENEWABLE ENERGY
129 BARTHOLOMEW HILL ROAD
GOSHEN, CONNECTICUT



SCALE 1:24,000
DATE 1/27/2021
PROJ. NO. 16763-00011

Site Layout and Wetland/Watercourse Locations



Proposed Site Plan

