



**Petition by Greenskies Clean Energy LLC for a  
Declaratory Ruling, Pursuant to Connecticut General  
Statutes §4-176 and §16-50k, for the Proposed  
Construction, Operation and Maintenance of a 3.0 +/-  
MW AC Ground-mounted Solar Photovoltaic Electric  
Facility Located on Elm Ridge Rd. and N. Anguilla Rd. in  
Pawcatuck (Stonington), Connecticut**

**Prepared for  
The Connecticut Siting Council**

**June 4, 2020**



## Table of Contents

1.0	Introduction.....	4
2.0	Petitioner .....	5
3.0	Proposed Project .....	6
3.1	Project Site Overview.....	6
3.1.1	Existing Site Land Use and Zoning.....	6
3.1.2	Surrounding Land Use and Zoning .....	7
3.1.3	Project Site Alternatives .....	8
3.2	Project Description.....	9
3.2.1	Site Access .....	9
3.2.2	Solar Facility Design and Layout .....	9
3.2.3	Electrical Interconnection .....	10
3.2.4	Fencing and Site Security.....	11
3.3	Stormwater Management .....	11
3.4	Construction Schedule and Phasing.....	12
3.5	Operation and Maintenance .....	12
3.6	Decommissioning.....	13
4.0	Project Benefits and Needs .....	15
4.1	Project Benefits .....	15
4.2	Project Needs .....	16
5.0	State and Local Outreach/Input .....	17
6.0	Potential Environmental Effects/Impacts.....	20
6.1	Site/Community Setting and Scenic Character and Values .....	20
6.2	Public Health and Safety .....	21
6.3	Noise.....	22
6.3.1	Noise Level Guidelines and Regulatory Requirements .....	22
6.3.2	Proposed Project-generated Noise .....	23
6.3.3	Assessment of Potential Project-generated Noise.....	24
6.4	Air Quality.....	25
6.5	Environmental Site Assessment/Conditions.....	25
6.6	Site Soils and Geology .....	26
6.6.1	Existing Site Soils and Geology .....	26
6.6.2	Prime Agricultural Soils Mapping .....	26
6.6.3	– Agricultural Dual-Use .....	26
6.7	Historic and Archaeological Resources.....	27

6.7.1	Overview of Studies and Field Surveys .....	27
6.7.2	Findings .....	27
6.8	Wetlands and Watercourses .....	28
6.8.1	Wetlands Delineation and Methodology .....	28
6.8.2	Existing Wetlands and Watercourses.....	28
6.8.3	Vernal Pools .....	29
6.9	Wildlife and Habitat .....	30
6.9.1	Rare, Threatened and Endangered Plants and Wildlife.....	30
6.9.2	Potential Impacts and Mitigation .....	30
6.9.2	Core Forest .....	31
6.10	Water Supply.....	31
6.10.1	Proposed Solar Project Water Usage.....	31
6.10.2	Existing Golf Course Turf Maintenance and Water Usage.....	32
6.11	Stormwater Management .....	33
6.11.1	Existing Conditions.....	34
6.11.2	Soil Mapping Verification and Test Pit Study .....	34
6.11.3	Proposed Conditions.....	35
6.11.3	Findings .....	36
6.12	Project Visibility Analysis .....	36
6.12.1	Viewshed Analysis.....	37
6.12.2	Existing Views/Visibility Assessment.....	37
6.12.3	Proposed Views/Visual Simulations.....	40
6.12.4	Screening/Visibility Minimization.....	42
7.0	Conclusions .....	43

## **LIST OF FIGURES:**

- Figure 1 – Site Location Map
- Figure 2 – Proposed Project Area Aerial
- Figure 3 – Zoning Map
- Figure 4 – Tax parcel Map
- Figure 4A – Recommended Road Designations
- Figure 4B – Adopt-a-Road Signs
- Figure 5 – Overall Site Plan
- Figure 6A – Site Layout & Grading Plan - Site 1
- Figure 6B – Site Layout & Grading Plan – Site 2 (North)
- Figure 6C – Site Layout & Grading Plan – Site 2 (South)
- Figure 7 – Construction Schedule
- Figure 8 – Prime Farmland Soils Map
- Figure 9 – Sample Soil Array Seed Mix Photos
- Figure 10 – Sample Wildlife Conservation Seed Mix Photos
- Figure 11 - Wetlands Delineation Map
- Figure 12 – NDDB Review Request – Detailed Site Map
- Figure 13 – Core Forest Map
- Figure 14 – Stonington Zoning Map Atlas – Aquifer Protection Area (APA) and Groundwater Protection Overlay District (GPOD)
- Figure 15 – Slope Percent Rise (East)
- Figure 16 – Slope Percent Rise (West)

## **LIST OF APPENDICES:**

- Appendix A – Permit Plans/Drawing Set
- Appendix B – Electrical Drawings & Equipment Specifications
- Appendix C – Operation & Maintenance Documentation
- Appendix D – Draft Decommissioning Plan
- Appendix E – Carbon Debt Analysis
- Appendix F – Phase I Environmental Site Assessment
- Appendix G – Site Soils Information
- Appendix H – Cultural Resource Assessment Documentation
- Appendix I – Wetlands Delineation Report; Vernal Pool Study
- Appendix J – Wildlife and Habitat Review Documentation
- Appendix K – Public Outreach Documentation
- Appendix L – Stormwater Analysis Report and Preliminary Stormwater Pollution Control Plan
- Appendix M – Viewshed Photo Log and Visual Simulations

## 1.0 Introduction

This is a Petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public need is required for the development, construction, operation and maintenance of the proposed Greenskies project proposed by Greenskies Clean Energy LLC (GCE; Petitioner) in the Town of Stonington, Connecticut, pursuant to Connecticut General Statutes §4-176 and §16-50k. The Project consists of the development of a 3.0 +/- megawatt (MW) alternating current (AC) ground-mounted solar photovoltaic (PV) facility on a portion of the Elmridge Golf Course land located at 223 Elm Ridge Road and N. Anguilla Road, Stonington, Connecticut. The landowner will continue to operate the golf course with 18 holes, the driving range and clubhouse facilities, continuing to provide a public recreational use. See Figure 1 – Site Location Map and Figure 2 – Project Overview Map

The Project will participate in the SG2 tariff, selling power into the wholesale market. GCE was awarded three (3) zero emission renewable energy credits (ZRECs) and entered into three (3) *Standard Contract for the Purchase and Sale of Connecticut Class 1 Renewable Energy Credits from Low or Zero Emission Projects* with Eversource dated August 16, 2019. The delivery term start date for all three contracts is April 1, 2021, with additional extension options.

Authorization by the Connecticut Siting Council (CSC) via approval of this Petition will allow the Project to be constructed and assist the State of Connecticut in achieving its goal of energy conservation and sustainability. Pending approvals, the Project will commence financing, detailed engineering, procurement, and construction efforts in 2020, with commercial operation planned for the entire Project in 2021.

The Project is located on two parcels (East and West) within the Town of Stonington's RR-80 (Rural Residential) and GBR-130 (Residential) zoning districts. The East project area is comprised of approximately 10 +/- acres of the total 87.5 +/- acre parcel. The West project area is comprised of 5 +/- acres of the total 26 +/- acre parcel. The total project area consists of 15 +/- acres of the existing, 250-acre, 27-hole Elmridge Golf Course. See Figure 3 – Zoning Map. The East Project parcel is bounded to the north by Elm Ridge Road, within a lot containing nine (9) holes of the golf course, a driving range, club house, small maintenance building, and a residence. To the east, the parcel is bounded by open space, to the South, residential uses and to the west N. Anguilla Rd. The West Project parcel is bounded by residential lots to the north, N. Anguilla Rd. to the east, open space and a residential lot to the south and Interstate I-95 to the west. See Figure 4 – Tax Parcel Map.

## 2.0 Petitioner

Petitioner Greenskies Clean Energy LLC (“GCE”), is a limited liability company with offices at 127 Washington Avenue, North Haven, CT 06473. With this Project, GCE proposes to develop, engineer, procure, construct (EPC) and own a Class I renewable energy resource (as defined by Section 16-1 (a) (20) of the Connecticut General Statutes. GCE develops, finances, constructs, and maintains clean, renewable-energy projects throughout the United States. The company offers integrated solar and battery-storage solutions to commercial/industrial, municipal, and utility customers. GCE focuses on delivering clean energy, peak performance, and maximum energy savings. The company is an offshoot of Greenskies Renewable Energy LLC, which was founded in 2009 and has constructed and operates over 230 MW of commercial and industrial solar projects throughout the country. The power generated by the portfolio is sold under long-term contracts that are typically 20 years, and the majority of the buyers have investment-grade credit ratings.

As a vertically-integrated company, GCE manages every step of the solar development and implementation process. From project origination to design and engineering to construction and, ultimately, operation and maintenance, Greenskies Clean Energy brings years of industry knowledge and expertise at every level. Moreover, with hands-on management of on-site performance, both during construction and operation and maintenance, and sophisticated reporting processes in place, the company is able to ensure safety, quality control and optimal electrical generation throughout the life of each project.

Correspondence and communications regarding this Petition should be addressed to both of the following individuals:

Gina L. Wolfman  
Senior Project Developer  
Greenskies Clean Energy LLC  
127 Washington Ave., West Building, Garden Level  
North Haven, CT 06473  
gina.wolfman@cleanfocus.us  
(860)398-5408

Lee D. Hoffman  
Pullman & Comley, LLC  
90 State House Square  
Hartford, CT 06103-3702  
lhoffman@pullcom.com  
(860) 424-4315

## 3.0 Proposed Project

### 3.1 Project Site Overview

The Project area makes up a portion of the Elmridge Golf Course, which was designed and built by Joseph and Charles Rustici, and opened for play in 1966. Originally, the course opened with 9 holes, later expanded to 18 holes and eventually to its current 27-hole configuration covering 250 +/- acres on both sides of Elm Ridge Rd. The Project site is located on two parcels. As noted above in Section 1.0, the East project area is comprised of approximately 10 +/- acres of the 87.6 +-acre lot fronting the south side of Elm Ridge Rd. and the West project area is sited on 5.0 +/- acres of a 26-acre lot fronting the western side of N. Anguilla Rd. The Stonington Assessment Department lists the parcels as 22-2-1 and 39-1-9 and ownership is currently vested in Joseph and Nancy Rustici Trustees.

While the Rusticis continue to try to maintain the existing golf course use, the economic realities threaten the vitality of the family's business. Maintaining the 27-hole golf course and driving range has become an increasingly challenging task. GCE intends to lease the project site from the Rustici family so that the land will remain with the Rusticis. The income generated by the Project lease will allow the Elmridge Golf Course to continue operating in the near future with an 18-hole configuration and driving range.

#### 3.1.1 Existing Site Land Use and Zoning

The Project site is located within a mixed residential, recreational and highway/transportation area of New London County. The parcel itself straddles two zones in the Pawcatuck section of the town of Stonington: the West area is in the Greenbelt Residential (GBR-130) zone, and East area is in the Rural Residential (RR-80). Joseph and Nancy Rustici live in an existing farmhouse on a lot within the East project parcel.

The existing facility includes the golf course, club house with a pro shop and restaurant. The project site is designated "Managed Open Space" in the Town of Stonington - 2015 Plan of Conservation and Development. Managed open space is defined as "currently undeveloped land, or land that is used for activities that by their nature provide open space but has no legal or special protection that ensures that it remain open space. Examples are farms, golf courses and other municipal and privately-owned land that is not protected by an open space deed or easement."

Uses allowed in the GBR-130 zoning district by Special Permit include: communication and water towers, public utility structures and facilities, municipal facilities, and

lumbering and mills. Section 3.1.4.1 of the Zoning Regulations requires a minimum 100-foot non-infringement area from wetlands and other regulated resources. In addition to public utility structures and facilities, municipal facilities, and lumbering and mills, uses allowed in the RR-80 zoning district by Special Permit include: excavation operations; cemeteries, crematoriums and funeral homes; congregate living facilities and convalescent homes.

The proposed use of the Project site for a solar energy facility is a compatible land use within the neighborhood and surrounding area. Factors considered to support this assertion include local zoning, the lack of any historic or scenic designations by the State and Town for the Project parcels, and the siting and design of the two solar arrays to minimize impacts to public viewsheds. In addition, the Proposed project will not generate any detectable noise (at any potential receptors), lighting, public safety or environmental impacts. And finally, the proposed use will allow for the continued “Managed open space” classification of the property. It is intended for the solar arrays to be decommissioned at the end of the Project’s life, and the land can revert to an undeveloped status or put to other uses as the property’s owner(s) see fit.

### 3.1.2 Surrounding Land Use and Zoning

The area surrounding the project site varies in both landscape and use. Interstate 95 defines the project area’s western boundary. The golf course use continues north of the East Project parcel across Elm Ridge Rd. There are a few single-family residences on Elmridge Road to the north/northwest, as well. Conservation land owned by the Stonington Land Trust borders the East Project parcel to the east beyond the driving range, and single-family residences (part of the High Ridge development) are situated along the southern property line of the East Project parcel.

The West Project parcel is bordered by two residential lots to the north, N. Anguilla Rd. and the golf course to the east, property owned by the Stonington Land Trust to the south and I-95 to the West. See Figure 4 – Tax Parcel Map.

In addition, recommended road classifications are provided in the Town of Stonington - 2015 Plan of Conservation and Development in the table and map on pages 110-11 of the document. Designated road categories include: Limited Access/Expressway, Arterials, Major Connectors (Collector Road), Major Feeder Roads (Collector Road), Minor Feeder Roads (Local Streets) and Residential Access. Both Elm Ridge and N. Anguilla Roads are classified as “Major Feeder Roads. Neither of these road segments within the project area is designated as a “Scenic Road” by the Town or the State. A portion of N. Anguilla Rd. outside of (and .5 +/- mi. north of) the project area starting at I-95, and stretching to the north, was recommended for a Stonington “Scenic Roads” classification



but has not been designated as such, nor have any other roads in Stonington. There are no State listed scenic roads in the project vicinity. See Figure 4A – Recommended Road Classifications Map.

The stretch of N. Anguilla Rd. from Pequot Trail to the corner of Elm Ridge Rd. has been posted and adopted by the Stonington Land Trust (SLT). As part of their land stewardship program, and as a volunteer organization, SLT has adopted this section of N. Anguilla Rd. to provide an opportunity to organize work parties to collect road-side refuse and recyclables a couple times a year. In addition, bus traffic was restricted on this stretch of road via Town Ordinance. The stretch of N. Anguilla Rd. to its end point north of I-95 was adopted by the Stonington Uplands Assn. See Figure 4B – Stonington Adopt-a-Road Signs.

An ordinance that addresses “Scenic Roads” was adopted by the Town of Stonington in February 1990. The ordinance restricts certain activities relating to the road including: widening of the right-of-way or of the traveled portion of the highway, paving, changing the grade, straightening, removing stone walls and mature trees, except for good cause determined by the Planning and Zoning Commission. The Superintendent of Highways has discretion with regard to minor road improvements for drainage and safety purposes.

### 3.1.3 Project Site Alternatives

The Elmridge Golf project site was selected by Greenskies to not only be suitable for a solar PV project but to also have minimal natural resource and environmental impacts, to not have adverse effects on quality forest land or agricultural land, and to have minimal effects on scenic character of the surrounding area. Another important criterion in the selection of the project site was the interconnection of the generation facility to a feeder and substation of the utility company that is compatible with the grid and goal of better serving customers.

Greenskies conducted an extensive search researching both public and private undeveloped land resulting in the selection of this parcel. Third party contractors are used to understand the biological, environmental, historical, and archeological impacts of solar development on selected sites. While all development has impact on the area and community in which a project is located, for the purposes of this Project, the social and environmental impacts of the proposed Project and Project Site are a net positive.

In the course of selecting the Project Site, members of GCE evaluated several potential sites for renewable energy projects throughout the state. Alternative sites that were of suitable size were investigated, and in each case, environmental concerns and cost

considerations rendered the sites less suitable than the Project Site. The cost considerations were chiefly due to either measures that would need to be taken to address wetlands or wildlife concerns or due to the costs of interconnection to distribution or transmission facilities from these sites. As such, the Project Site was selected as the site that most appropriately balanced the land required to construct the project with the least amount of impact to wetlands, wildlife, core forest and/or prime farmland soils.

## 3.2 Project Description

### 3.2.1 Site Access

There will be two site entrances for the Project – one for the east and one for the west array. The entrance for the east array will be from the existing drive into the Elmridge Golf Course. Improvements to this drive are not anticipated. The east array access road will run from the existing parking area and west into the array. A 7-foot double swing locking gate will be installed to restrict access into both project areas. The entrance for the west array area will be from N. Anguilla Rd. The surrounding road network is expected to readily support construction-related traffic, and no improvements are anticipated. The site is located between I-95 interchanges 91 and 92. See Figure 1 – Site Location Map.

The new access roads will be constructed according to the details provided in Drawing SD-2 of the permit plan set (Appendix A). Subgrade will consist of approximately 6 inches of gravel with 4 inches of process/crushed stone aggregate. Temporary material staging areas will be used during the approximately 4-6-month construction period. Staging for the West Project area will be within the buffer area and will be restored to original conditions; staging for the East Project area will be coordinated with Elmridge Golf Course management and will be incorporated into final construction plans. See Drawing SE-1 of the permit plan set (Appendix A).

### 3.2.2 Solar Facility Design and Layout

The proposed Project is comprised of three, independently-metered systems with a total design capacity of about 3.0 +/- MW AC. There will be two 1,000 +/- kW systems on the East Project area and one 1,000 +/- kW system on the West. Each system will have its own equipment pad and utility interconnection. The proposed solar PV facility has been sited on the parcel to avoid and minimize potential impacts to natural and cultural resources, including public view sheds and other areas of interest, while maximizing the use of previously disturbed areas. The proposed facility layout is shown in Figure 5 – Project Site Plan and Figures 6A through 6C – Site Layout & Grading Plans.

The basis of design for the proposed layout/site plan includes 395-watt PV design modules (final size to be determined during procurement), 13-foot row spacing, and an approximately 25-degree tilt above horizontal. Each of the three systems will be comprised of approximately 3,200 modules for an estimated total panel count is 9,600 (3,200 on the West and 6,400 on the East Project parcels). Driven post panel racking systems, with a fixed angle of tilt, will be utilized throughout the project site, unless subsurface conditions require an alternative installation method, which will be determined during pre-construction, geotechnical analysis. Posts are typically driven into the earth to depth of 9 feet below grade. The final site plan and layout will be provided in the final permit plan/design drawing set. A standard detail of a driven post foundation is provided as a detail on Drawing SD-2, Appendix A.

Wiring that connects the panels will be placed in above grade wire systems/cable trays or trenched conduits. The area under the panels will remain vegetated and will be seeded with a pollinator mix consisting of native New England species.

### 3.2.3 Electrical Interconnection

The interconnection facility design will be conducted in accordance with the requirements of Eversource, which is the utility for the area. The design will allow for interconnection of the proposed Project to the existing Eversource distribution system. On June 7, 2019, GCE submitted three Interconnection Requests to Eversource, for the three 1,000+/- kW systems, each separately metered. No impact/feasibility study was required; only a distribution analysis/study) was needed. Results of the limited study and associated cost estimates were provided and GCE received draft Interconnection Agreements (IAs) the end of November 2019. GCE worked with Eversource to revise the IAs, executed/signed the agreements, and submitted them at the end of March 2020 with a note that final electrical drawings will be provided upon completion. GCE's electrical engineers coordinated with Eversource regarding design of the Point of Interconnection (POI) and incorporated that design into the final plans. Eversource has received such plans and IAs are expected to be fully executed during the Council's review process on this Petition. See Appendix B for final electrical plans.

The proposed Project will use both DC and AC electric lines, all to be contained within the project site. Buried electrical feeders are anticipated to be used throughout the site, as safety constraints are not expected. At the point of common coupling with Eversource, the feeders transition to overhead lines along Elmridge Road for the East array area and along the site access drive for the West array area. The final, designated POIs for both array areas will be determined in coordination with Eversource and incorporated into construction drawings.

### 3.2.4 Fencing and Site Security

The entire proposed solar PV facility/Project site, including all equipment, will be enclosed within a 7-foot tall chain-link fence with green slats, consistent with all applicable codes (e.g. National Electric Code and National Electric Safety Code). There will be locked gates at the entrances to both project areas. Locked gates will be used for emergency access and for standard operation and maintenance inspections and activities. Town of Stonington emergency response personnel will be provided full access to the Site. To allow the passage of small wildlife species through and into the site, and prevent unauthorized access, all fencing will be installed with a gap at the bottom of the fencing of approximately six inches above the ground. See Figure 6A through 6C – Site Layout & Grading Plans.

### 3.3 Stormwater Management

Water quality measures included in the stormwater management design will maintain water quality both during construction and after completion of the Project. See Section 7.11, below, for a more detailed discussion of stormwater analysis methodology and design.

Implementation of a post-construction Operation and Maintenance Plan shall sustain long-term functionality of stormwater BMPs and enhance protection of areas downgradient of the site. The Erosion & Sedimentation (E & S) Control Plan shall mitigate the short-term impacts of the site improvements during construction (see Appendix A). The E&S Control Plan includes descriptive specifications concerning land grading, topsoiling, temporary vegetative cover, permanent vegetative cover, vegetative cover selection and mulching, and erosion checks. Disturbed areas of the Project Site where construction activities permanently cease shall be stabilized with permanent seed after the last construction activity. The permanent seed mix shall be in accordance with the project specifications and plans. A Stormwater Construction Waste Management Plan is also included as part of Appendix L.

As the Council is well aware, the permitting of solar projects for stormwater compliance is an evolving process, and the Petitioner is willing to work with both the Council and CT DEEP to ensure that the Project meets all applicable stormwater permitting requirements. As part of this compliance, the Petitioner anticipates obtaining a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities from CT DEEP. GCE also anticipates that the Project will comply with the most recent version of the Appendix I guidance document released by CT DEEP. Outreach to CT DEEP's stormwater unit has already begun, and the Project anticipates

receiving its General Permit contemporaneously with its Siting Council approvals. Due to COVID-19 restrictions, a pre-application meeting was held remotely on May 27, 2020. Petitioner anticipates that it will apply to CT DEEP for a Construction Stormwater General Permit shortly after the submittal of this Petition. A pre-construction site visit will be scheduled after the application is submitted.

### 3.4 Construction Schedule and Phasing

Construction of the Project is expected to begin in late 2020. Initial work will include site preparation activities such as installation of related erosion and sedimentation control measures. Official notice to proceed for construction is anticipated in mid-late fall of 2020, depending on when the Project obtains full approval from the Siting Council. Work will begin at the East Project parcel and will occur during the off-season of golf course operations. Installation of the West Project will follow, since all golf operations will cease on that section after the 2020 season. The ground surface will be stabilized upon completion of each area of installation; BMPs for stormwater management will stay in place until final all construction is complete, and all stabilization has occurred. Site preparation and site work is anticipated to begin October 2020. Final installation of all solar facility equipment is expected in spring of 2021, along with interconnection, testing, commissioning, and final site stabilization. Expected/tentative construction hours are Monday through Friday between the hours of 7:30 AM and 5:30 PM. If weekend hours are required, the schedule will be the same. A construction schedule is provided in Figure 7.

A Project construction health and safety plan, addressing site specific concerns as well as those associated with the surrounding land uses, will be prepared by the selected contractor prior to construction. A stormwater pollution control plan (SWPCP) will be finalized and implemented throughout the duration of construction activities to prevent sedimentation or impact to water resources. Implementation will include regular inspections and documentation of all site activities, in accordance with applicable regulations.

### 3.5 Operation and Maintenance

Upon commissioning of the Project, no on-site staff/personnel will be required for ongoing operations since the solar PV system will be automated. Ongoing site maintenance activities will occur regularly and to ensure on-site and public safety and prevent shading impacts to the facility. GCE is based in North Haven, Connecticut, and its O & M division will be responsible for all required Project monitoring and maintenance activities. Project monitoring is performed continually via an online

system to confirm proper performance and operation of the solar facility. Remote telemetry is also used for energy metering at the site.

The Project area will be thoroughly inspected by GCE Operations & Maintenance (O & M) personnel, at a designated frequency, for evaluation of potential issues associated with security, safety, and environmental protection. Routine, general inspection tasks include: verifying that safety and identification labeling is present and legible; inspecting and confirming site access/egress locations are free of obstructions and hazards; checking security means and installation methods; verifying equipment access lanes are free of obstructions and hazards; and inspecting for changes of environmental conditions, such as nearby construction activity, agricultural activities, water table changes, acts of vandalism, and shading.

In addition to general inspections, GCE O & M personnel will perform inspections of mechanical systems (e.g. racking, modules); DC and AC electrical system (e.g. DC collection panels, AC collection panels, safety disconnect switches); inverters; stormwater management system (e.g., where applicable, drainage swales, basins, impervious areas); and data acquisition system. Issues found by O&M personnel during inspection visits and deemed readily repairable will be promptly attended to. A draft O&M Plan for the Project and company information sheet are provided in Appendix C.

### 3.6 Decommissioning

Decommissioning consists of physical removal of all facility components, such as solar arrays, equipment (e.g. batteries, inverters, and transformers), structures, security barriers and fencing, facility signage and transmission lines from the site. In addition, to the extent any is generated, GCE will dispose of all waste in accordance with applicable regulations. Decommissioning will also include restoration of the site. GCE will stabilize and re-vegetate the site to minimize erosion if the site is to remain undeveloped. If desired, GCE would seek Council approval to leave landscaping or specified below-grade foundations in order to minimize erosion and site disturbance.

When operation of the Project has been discontinued or the facility has been decommissioned, abandoned or has reached the end of its useful life, GCE plans to remove the facility within 180 days of discontinued operations. GCE will notify the Council and appropriate Town officials of the proposed date of discontinued operations and will provide plans for removal. In the event of major damage, GCE plans to initiate repairs within 30 days of the damage.

GCE has provided a fully inclusive estimate of the costs associated with removal in its Draft Decommissioning Plan, which is included as Appendix D. The amount includes an escalator for calculating increased removal costs due to inflation.

Key assumptions in estimating decommissioning costs include the fact that fencing, electrical cabinetry, solar racks, solar panels, wiring and all other equipment are one hundred percent recyclable, therefore, the primary cost of decommissioning is the labor to dismantle and load as well as the cost of trucking. The concrete pads will be broken up at the site and hauled to a nearby facility where it will be accepted, most likely without charge. Most items from the array will be recycled, and many of these will have a salvage value in 20 years.

## 4.0 Project Benefits and Needs

### 4.1 Project Benefits

The Project will provide the state's electrical system with additional generating capacity that will meet demand using renewable energy and contribute to grid stability. The project is consistent with Connecticut's 2013 Comprehensive Energy Strategy (CES). This version of the CES, along with the most recent version of the CES, sets forth clear goals for increasing the use of renewable energy as a part of the state's power generation portfolio:

*The Global Warming Solutions Act (Connecticut Public Act 08-98) sets a goal of reducing Greenhouse gas emissions by 80% by 2050. Connecticut's Renewable Portfolio Standard (RPS) requires that 20% of generation serving state customers be from renewables by 2020. Meeting the 2020 RPS goal will require the development of 6,196 gigawatt-hours, or nearly 3 gigawatts of low-carbon supply – more than 25 times the amount of power generated by Class I resources (i.e., solar power, wind power, and fuel cells) within Connecticut in 2011.*

As the Council is well aware, Connecticut's RPS has only increased since the 2013 CES. The construction of the Project becomes even more important in light of the 2018 CES's aspirations for even greater greenhouse gas emission reductions through the promotion of grid-scale renewable energy, as is evidenced by Governor Lamont's issuance of Executive Order No. 3, which calls for the complete decarbonization of the electric generation sector by 2040. The Project is consistent with the state's energy plans and objectives. In addition to the direct contribution the Project will make to increase the use of renewable energy, additional reduction of greenhouse gases and criteria air emissions will be associated with the displacement of older, less efficient fossil fuel generation.

Another benefit of the project is the environmental benefits of decommissioning nine holes of the existing golf course. This will result in a 33% decrease in the use of chemicals and fertilizer for turf maintenance, as well as a 33% decrease in water withdrawn from Anguilla Brook (under a CT DEEP diversion permit) for irrigation purposes.

The Project anticipates using local and regional labor, as practical, for construction, and will be a source of both direct and indirect revenue contribution to the local community. During construction, jobs will be created including direct, indirect, and induced. From a municipal perspective, the proposed Project will result in no impact to Town services



such as education/schools, highway maintenance, emergency services, and water and/or wastewater consumption.

## 4.2 Project Needs

Connecticut has committed to develop its renewable energy market and mitigate the negative environmental impacts associated with traditional electric power generation. In so doing, it has set aggressive targets to reduce greenhouse gas (GHG) emissions and to increase the deployment of Class I renewable energy.

The Global Warming Solutions Act (GWSA), for example, requires the State to reduce its total GHG emissions to 10 percent below 1990 levels by 2020, to 45 percent below 2001 levels by 2030, and to 80 percent below 2001 levels by 2050. Further, in April, 2019, Governor Lamont signed an executive order directing state office buildings and vehicle fleets to become greener and more energy efficient. This initiative calls for state operations to achieve a 70 percent reduction in GHG emissions from 2016 levels by 2040 and net zero GHG emissions by 2050. As mentioned above, Executive Order No. 3 also called for the complete decarbonization of the electric generation sector in Connecticut by the year 2040.

Additionally, Connecticut's Renewable Portfolio Standard (RPS) policies require utilities to purchase an increasing percentage of electric power from Class I renewables. Under current law, utilities must obtain at least 21 percent of their retail loads from Class I renewable energy sources by January 1, 2020 and 40 percent by January 1, 2030. These levels of required renewable energy sourcing will likely increase in the ensuing years if the recommendations of Governor Lamont's Energy Policy Committee are followed. That Committee recommends revising the Class I RPS goals to 35 percent by 2025, 50 percent by 2030, 80 percent by 2040 and 100 percent by 2050.

These policies significantly increase demand for new, zero-emitting renewables in the State. Development of the Project would not only help satisfy this demand, but would assist the State in meeting the GWSA requirements and the RPS goals.

## 5.0 State and Local Outreach/Input

GCE has been in communication with and has engaged State and local regulators, as well as neighbors and abutters, regarding the design and development of the Project.

### *State Agency Outreach*

On January 30, 2020, Petitioner and Petitioner's counsel met with representatives of the CT Dept. of Agriculture (DOAg) to review the project and request approval to submit a Petition to the CT Siting Council based on existing site conditions. The DOAg stated its opinion that, although prime farmland soils are mapped on the site, the 50 + years of golf course operations and intense turf management would allow for "demapping" of these soils by NRCS. Following the January meeting, GCE contacted NRCS to request such a change in soils classification but was told staff are not assigned remapping responsibilities for private projects.

GCE then prepared additional information in response to the CT Department of Agriculture's Solar Energy Project Considerations guidance, dated January 16, 2020. GCE submitted a letter on March 27, 2020, addressing the new guidance criteria and reiterating that the project as outlined will have no impact on agriculture. On May 28, 2020 GCE outlined plans to take appropriate measures to provide passive co-use to support native pollinators). On June 2, 2020, DOAg provided the Council with a letter stating that the DOAg has "found that there does not appear to be any material impact to the status of prime farmland" as a result of the construction of the Project. See Appendix K for all relevant correspondence on this item.

On March 27, 2020, GCE contacted Christopher Martin via email at DEEP's Division of Natural Resources to request a "core forest" review and determination on the Project. GCE provided a map showing forestland habitat on the site, the development areas and limits of disturbance. On April 27, 2020, Rick Jacobson, Chief, DEEP Bureau of Natural Resources, submitted a letter to the Siting Council indicating the review was complete and the proposed project will not materially affect the status of such site as core forest. See Appendix K for relevant correspondence.

On April 24, 2020, GCE contacted Neal Williams of CT DEEP Stormwater Permitting to inquire about scheduling the pre-application meeting and to inform DEEP staff the stormwater analysis/design/re-design, stormwater test pit study and soil mapping verification survey, and draft civil permit plans for the project were complete. On May 12, 2020, Mike Gagnon (MMI), project civil engineer, submitted a request for pre-application meeting via DEEP's electronic permitting application system, and this pre-application meeting took place on May 27, 2020 via Zoom. GCE anticipates submitting

its application for a General Construction Stormwater Permit for the proposed Project shortly. This process will run in parallel to Siting Council review and decision on this Petition.

### *Town of Stonington Officials Outreach*

On January 23, 2020, GCE personnel and the landowner met with the Town of Stonington First Selectwoman, Danielle Chesebrough, Town Planner, Keith Brynes and Wetlands and Zoning Officer, Candy Palmer, to present the Project. At this meeting, GCE and the landowner provided information on existing site conditions, described the landowner's background, and proposed a preliminary site plan and layout. The Project was well received; formal support could not be considered without the opportunity to review final site plan drawings and attend a site walk/visit with the Project team and landowner.

On April 23, 2020, GCE contacted (via email) the same Town officials with whom they had met, providing current, revised site plans/layout and requesting a letter of support for the Project. At the request of the Town, GCE arranged a site visit/walk with Keith Brynes and Candy Palmer on May 6, 2020 to review project plans, walk the proposed project areas and take note of any concerns. Before the site visit, GCE marked the project area boundaries with brightly colored pin flags so that scale and perspective could be observed by Town officials. GCE provided a status of all field studies and communications with various State agencies regarding wetlands and wildlife, core forest, farmland, stormwater. GCE reviewed plans for landscaping and screening of the project and provided the distances from the project areas to various neighboring property lines. Both Town officials expressed they had no concerns at the time. The Town planner advised that once the Petition and plans were submitted to the Siting Council, the Town's third-party engineering consultant would review and provide comments. See Appendix K for correspondence.

Due to Covid-10 social distancing restrictions, GCE will not be able to meet with any Town Commissions or Boards until after May 20 as mandated by Governor Lamont. Although review of civil engineering/permit plans does not lend itself to remote/virtual meetings, GCE is willing to participate in such a meeting. GCE will stay in touch with the Town to accommodate any requests that are made.

### *Neighbor/Abutter Outreach*

As required by Regulations of Connecticut State Agencies (RCSA) §16-50j-40(a), Petitioner/GCE provided notice of its intent to file this Petition to: (a) appropriate adjacent property owners and (b) the municipal officials and government agencies listed

in Appendix K. The letters to the abutters were sent out via certified mail on May 29, 2020. The letters to state and municipal officials were sent out on June 3, 2020.

In addition, and as a courtesy, on April 20, 2020, GCE sent an informational letter to select neighbors/abutters whom GCE believed would have the greatest concerns regarding potential visual impacts associated with the Project. In the letter, GCE provided an overview of the Project and attached a map showing the boundary of the proposed Project areas. Contact information was provided as well, and GCE offered to speak with and address any concerns they might have. Responses were received via phone and email from several individuals. GCE spoke with three neighbors and explained this outreach was out of courtesy so that GCE could obtain feedback and try their best to address any concerns during the planning and permitting process. GCE explained this is a project subject to CT Siting Council authority/jurisdiction. Based on these conversations, the key concerns that were described to GCE include: visibility of the project from their property and possibility of depreciating property values. As a follow-up to the calls, GCE scheduled meetings with two of the respondents. See Appendix K for relevant correspondence.

## 6.0 Potential Environmental Effects/Impacts

### 6.1 Site/Community Setting and Scenic Character and Values

Petitioner believes there will be no significant impact to the scenic character of the Project area. This assertion is due to the siting/design of the proposed solar arrays, primarily distance and setbacks from public viewsheds along Elm Ridge and N. Anguilla Rds., as well as maintenance of vegetative buffers, proposed landscaping and use of green slatted fencing around the perimeter of each array area. The nearest point of the West project area will be 140 +/- feet from N. Anguilla Rd. and Petitioner will maintain and extend an existing evergreen screen on both sides of the proposed access road. The northern boundary of the East array area ranges from 200 to 240 +- feet from Elm Ridge Rd. and the western boundary is 600 to 650+- feet from N. Anguilla Rd. There's existing shrub cover along the stone wall on Elm Ridge Rd. and a tree line that will be maintained within the golf course running parallel to the northern fence line. Additional landscaping will also be provided outside the fence. See Section 6.12 Project Visibility Analysis.

As noted in Section 3.1.2, above both Elm Ridge and N. Anguilla roads are classified as "Major Feeder Roads." Neither of these road segments within the project area is designated as a "Scenic Road" by the Town or the State. A portion of N. Anguilla Rd. beginning approximately .5 mi. north of the project area, and I-95, was recommended for "Scenic Road" classification by the Town of Stonington in its Plan of Conservation and Development. There are no State listed scenic roads in the vicinity of the project. See Figure 4A – Recommended Road Classifications Map.

The stretch of N. Anguilla Rd. from Pequot Trail to the corner of Elm Ridge Rd. has been posted by the Stonington Land Trust (SLT). As part of their land stewardship program, and as a volunteer organization, SLT has adopted this section of N. Anguilla Rd. up to the intersection with Elm Ridge Rd. to provide an opportunity to organize volunteer work parties to collect road-side refuse and recyclables periodically throughout the year. The stretch of N. Anguilla Rd. from Elmridge all the way to its northern end point was "adopted" by the Stonington Uplands Association. The effect of such postings is not relevant to "Scenic Road" designation by the Town or Stonington or the State of Connecticut. Although the project is located in an area with residential and recreational uses, due to the siting of the East and West project areas, distance from property boundaries, topography and location of existing vegetation and screening, as well as proposed landscaping, Petitioner believes visual impacts to the public view shed and scenic character will be minimal and are mitigatable. A discussion of potential visual impacts and mitigation is presented in Section 6.12, below.

The Project site is located in the RR-80 and GBR-130 zoning districts and designated “Managed Open Space” in the Town of Stonington - 2015 Plan of Conservation and Development. The proposed solar facility is a use that will allow this land to remain “Managed Open Space” since the project can be decommissioned and removed at the project life’s end. Interstate 95 defines the western project area boundary. As noted above in Section 3.1.1, uses allowed in the GBR-130 zoning district by Special Permit include: communication and water towers, public utility structures and facilities, municipal facilities, and lumbering and mills. In addition to public utility structures and facilities, municipal facilities, and lumbering and mills, uses allowed in the RR-80 zoning district by Special Permit include: excavation operations; cemeteries, crematoriums and funeral homes; congregate living facilities and convalescent homes, more intensive uses than the proposed solar facility.

Historic sites are protected by the State and Town in order to preserve the historic character of neighborhoods, as well as cultural resources. The Project Site is not located in any designated historic districts within Stonington or the state of Connecticut. In January 2020, Heritage Consultants finalized a Phase 1A Cultural Resources Assessment Survey of the Project site and concluded that it is unlikely that the proposed solar power development will impact any significant historical resources. The Phase 1A Cultural Resource Assessment, as well as a concurrence letter from the State Historic Preservation Office, are included in Appendix F. A discussion of cultural resources can be found in Section 6.7, below.

## 6.2 Public Health and Safety

The proposed Project is not expected to create any impact with regard to public health or safety issues. The proposed Project will meet or exceed all local, state, national and industry health and safety standards and requirements. During construction and post-construction operations and maintenance, workers and personnel will follow all health and safety standards applicable to solar energy generating facilities.

A site-specific construction health and safety plan will be developed prior to initiation of any on-site Project-related tasks. During the construction phase of development, all contractors, sub-contractors and personnel will be appropriately trained and briefed on any potential site health and safety issues. There will be a designated construction manager and/or site safety officer or representative present at all times during construction, and such individual will be responsible for overseeing/implementing the site construction health and safety plan.

Due to the site’s location within a residential area, the proposed Project will have a limited, temporary impact on local traffic patterns. Traffic relative to the site includes

standard construction trucks, small earth moving equipment, and all terrain fork lift equipment. Vehicle trips would be relative to scheduled deliveries of the major materials such as solar racking, solar panels, electrical equipment to serve the solar site, and fencing materials to be installed around the perimeter of the solar field. Construction activity and associated traffic will generally take place between the hours of 7:30 AM to 5:30 PM daily Monday through Fridays.

Environmental items considered “chemicals” that might be used on the site would include PVC glue for use with electrical conduit installations and carbon-based fuels for vehicles and equipment. It is anticipated that there will be less than one gallon of PVC glues and less than 25 gallons of fuel stored on-site. All flammable liquids will be kept in code compliant cabinets and containers. Spill kits will be in all vehicles and equipment on-site and daily monitoring of chemical usage will be managed to ensure compliance to requirements. No risk of release to the environment is anticipated. A traffic and site safety summary narrative is provided in Appendix C.

Operation of the proposed solar facility will not require chemical usage of any kind. Electrical equipment is located on concrete pads and such equipment does not contain any petroleum-based or other hazardous chemical liquids or solids. Petitioner has not experienced the unlikely event of a fire at such a solar facility. Regardless, standard procedure and coordination with Town emergency response personnel will be followed. Appropriate personnel will have the opportunity to review all civil and electrical plans and before bringing the project online, Petitioner will offer to do a site walk with such staff to identify equipment, signage and system components.

## 6.3 Noise

### 6.3.1 Noise Level Guidelines and Regulatory Requirements

Applicable regulations pertaining to potential Project-related noise are provided in Connecticut regulations for the Control of Noise established by CTDEEP at Conn. Gen. Stat. §22a-69 and the Town of Stonington’s Nuisance Ordinance.

The local ordinance provides: “It shall be unlawful for any person to create, make, permit or allow unreasonably loud, disturbing, or unnecessary activity or noise if generated to such a volume as to be objectionable when heard within the confines of a residential home or residential premises before 6:00 AM and after 10 PM Monday through Saturday and before 8:00 AM and after 10:00 PM on Sunday. Such activity or noise shall violate this Ordinance when it is of such character, intensity or duration as to be detrimental to the quiet, comfort, repose, life or health of others.....”

The CTDEEP regulatory sound levels applicable to the proposed Project are provided in the following table:

**Table - CT DEEP Noise Limits**

Emitter	Receptor (dBA <sup>a</sup> )			
	Class C	Class B	Class A Daytime (7:00 am – 10:00 pm)	Class A Nighttime (10:00 pm – 7:00 am)
Class C – Industrial	70	66	61	51
Class B – Commercial and Retail Trade	62	62	55	45
Class A – Residential Areas and Other Sensitive Areas	62	55	55	45

According to these regulations, noise generated by the proposed Project must be at or below 55 dBA at the nearest residential property line during the day (when the Project would be generating electricity); and below 45 dBA at night. The regulations also account for impulse and other types of noise. Construction noise is exempt from the regulations.

### 6.3.2 Proposed Project-generated Noise

Due to the nature of the use, facility design, required equipment and distance from potential noise receptors, the proposed Project is expected to have no adverse noise-related impact on the surrounding area. Existing uses around the perimeter of the East project area include: residences to the north/northwest, west and south with open space east. Existing uses around the West project parcel include Interstate 95 to the west, the golf course to the east, two residential parcels to the north and one residence (beyond an on-site wooded buffer) and open space to the south.

Based on information provided by specified equipment manufacturers, the selected inverters for the proposed Project will typically generate 55 dBA at a distance of 3.0 meters or 9.8 feet; all other selected system equipment will typically generate the same or lower levels of noise. See Appendix B for electrical equipment specifications. There will be one equipment pad for the West project area, located approximately 150 ft. from N. Anguilla Rd. off the site entrance/access road. There will be two equipment pads for the East project area, one located near the site entrance and one approximately midway



through the eastern side of the array off the access road. See Figures 6A – 6C – Site Plan & Layout.

### 6.3.3 Assessment of Potential Project-generated Noise

#### *East Project Area*

The residential property line nearest to the northern equipment pad at East Project area is located at 224 Elm Ridge Road, 403 ft. from the on-site equipment, with the residence 470 ft. away. All other residential parcel boundaries along Elm Ridge Rd. are > 500 (252 Elm Ridge Rd.; 532 ft.) and > 600 (258 Elm Ridge Rd.; 635 ft.) feet from the equipment pad, with residences 960 ft. and 716 ft. away, respectively. The property at 154 N. Anguilla Rd. is 702 ft. from the equipment pad with the residence 828 ft. away. Property lines at 153 – 177 N. Anguilla Rd range from 702 ft. to 897 ft. from the equipment pad, with residences 1,076 ft. to 1,532 ft. away. The residential property lines of the nearest parcels on Woodland Ct. are 868 ft. and 700 ft. from the closest equipment pad, with the residences 902 ft. and 770 ft. away, respectively. The residential property lines of the nearest parcels on Fairway Ct. are 783 ft. and 1,045 ft. from the closest equipment pad, with the residences 938 ft. and 1,194 ft. away, respectively. The residential property lines of the nearest parcels on N. Anguilla Rd. to the south range from 1,039 ft. to 1,820 ft. from the closest equipment pad, with residences well beyond.

No project-generated noise will impact any of the residential communities around the East project area. All equipment pads will be within the fence line. Any sound generated by the equipment located at the pads is expected to be attenuated by distance, slatted fence and existing vegetation and will not be detectable beyond the Project parcel.

#### *West Project Area*

The residential property line nearest to the equipment pad at the West Project area is located at 139 N. Anguilla Rd., 204 ft. from the on-site equipment and the residence at this property is 392 ft. away. The residential property lines of parcels at 143 and 153 N. Anguilla Rd. are 418 ft. and 567 ft. from the closest equipment pad, with the residences 470 ft. and 703 ft. away, respectively. All other residential parcel boundaries are > 370 feet from the equipment pad with residences to the south > 400 ft. and >600 ft. away. No project generated noise will impact any of the residential communities around the East project area. The equipment pads will be within the fence line and the fence will be slatted. Any sound generated by the equipment located at the pads is expected to be

attenuated by distance, slatted fence and existing vegetation and not be detectable beyond the Project parcel.

#### 6.4 Air Quality

Due to the nature of the proposed Project as a solar energy generating facility, no air emissions will be generated during operations and, therefore, an air permit will not be required. A Carbon Debt Analysis is provided in Appendix E and shows the net improvement in carbon debt that will result from the proposed Project. As reflected in the results, the proposed solar energy generating facility will result in elimination of 3,502 metric tons of carbon dioxide (CO<sub>2</sub>) equivalent emissions based on 4,953,277 kW-hours of electricity generated within the first year of operation. This amounts to an equivalent reduction of taking off the road 757 carbon-based fuel operated, moving vehicles.

Temporary, potential, construction-related mobile source emissions will include those associated with construction vehicles and equipment. Any potential air quality impacts related to construction activities can be considered *de minimis*. Such emissions will be mitigated using available measures including limiting idling times of equipment; proper maintenance of all vehicles and equipment and watering/spraying to minimize dust and particulate releases. In addition, all on-site and off-road equipment will meet the latest standards for diesel emissions, as prescribed by the United States Environmental Protection Agency (USEPA) and will consider reducing exhaust emissions by utilizing effective controls.

#### 6.5 Environmental Site Assessment/Conditions

GCE had a Phase I Environmental Site Assessment (ESA) performed at the Project site in accordance with the scope of work and limitations of ASTM Standard Practice E1527-13, the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (AAI) (40 CFR Part 312). The purpose of the ESA was to identify existing or potential Recognized Environmental Conditions (as defined by ASTM Standard E1527-13) affecting the subject property that: 1) constitute or result in a material violation or a potential material violation of any applicable environmental law; 2) impose any material constraints on the operation of the subject property or require a material change in the use thereof; 3) require clean-up, remedial action or other response with respect to Hazardous Substances or Petroleum Products on or affecting the subject property under any applicable environmental law; 4) may affect the value of the subject property; and 5) may require specific actions to be performed with regard to such conditions and circumstances.

The Phase I ESA revealed no evidence of recognized environmental conditions or environmental issues in connection with the project areas. Based on the conclusions of the assessment, no further investigation of the subject property was recommended. The Phase I ESA report is provided in Appendix F.

## 6.6 Site Soils and Geology

### 6.6.1 Existing Site Soils and Geology

Based on information obtained from the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey online database, the entirety of the West project area located west of North Anguilla Road is mapped as the Haven silt loam series. The Haven series consists of very deep, well drained soils formed in loamy over sandy and gravelly outwash. The East project area is mapped mostly as Canton and Charlton fine sandy loam with the eastern third within the Paxton and Montauk fine sandy loam. Both of these soil series consist of very deep, well drained soils formed in a loamy mantle underlain by a sandy glacial till. A soils map and information on all site soil types are provided in Appendix G.

### 6.6.2 Prime Agricultural Soils Mapping

As noted above in Section 5.0, the DOAg agreed that, although prime farmland soils are mapped on the site, the 50 + years of golf course operations and intense turf management would justify/allow for “demapping” of these soils by NRCS. GCE contacted NRCS to request such a change in soils classification but was told staff are not assigned remapping responsibilities for private projects. GCE then prepared additional information in response to the CT Department of Agriculture’s Solar Energy Project Considerations guidance, dated January 16, 2020 to show the project will not result in impact to prime agricultural soils. On June 2, 2020, DOAg provided the Council with a letter stating that the DOAg has “found that there does not appear to be any material impact to the status of prime farmland” as a result of the construction of the Project. See Appendix K for all relevant correspondence on this item. See also Figure 8 – Prime Farmland Soils Map.

### 6.6.3 – Agricultural Dual-Use

Considering the presence of mapped prime farmland soils but no recent history of agriculture on this site, dual-use will not be integral in preserving the agricultural character of the area. GCE intends to use a native pollinator habitat seed mix within both project areas and proposes to install nesting boxes for native pollinator species in the West project area, in consultation with Dr. David Wagner of UCONN’s Dept. of

Ecology and Evolutionary Biology and/or staff at the CT Agricultural Experiment Station in New Haven. For photos of sample seed mixes typically used on solar facilities in New England (e.g. solar array and wildlife conservation seed mixes) see Figures 9 and 10.

## 6.7 Historic and Archaeological Resources

### 6.7.1 Overview of Studies and Field Surveys

#### *Phase 1A Cultural Resources Assessment Survey*

Heritage Consultants, LLC (Heritage) performed a Phase IA Cultural Resources Assessment Survey (Phase 1A CRAS) at the project site in accordance with the Environmental Review Primer for Connecticut's Archaeological Resources (Poirier 1987) promulgated by the Connecticut Historic Commission, State Historic Preservation Office. The Phase IA CRAS, provided in Appendix H, consisted of the completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the study area; 3) a review of readily available historic maps and aerial imagery depicting the study area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the access roads and the limit of work in order to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report. Heritage reviewed and assessed the two project areas. See Appendix H – Cultural Resource Assessment Documentation.

### 6.7.2 Findings

Heritage completed a pedestrian survey of the project area, specifically the two parcels that comprise the limit of work (LOW), on October 23, 2019. The pedestrian survey involved a thorough inspection of the project area, mapping of any significant features, detailed note taking, and digital photography. As seen in Figure 1 of the Phase 1ACRAS, the LOW consists of two parcels located within the confines of the Elmridge Golf Course located at 229 Elmridge Road in Stonington, Connecticut. Due to large scale land altering activities related to the construction of the existing golf course, it is believed that any archaeological deposits contained within the two parcels that make up the LOW, have already been disturbed and no longer retain research potential. As such, no additional archaeological survey of the Low is recommended prior to construction of the proposed solar array center.

Heritage send a request for review to the SHPO and received a letter of concurrence dated January 30, 2020 (included in Appendix H).

## 6.8 Wetlands and Watercourses

### 6.8.1 Wetlands Delineation and Methodology

MMI investigated the 26.4-acre western property and the 26.2 acres in the center of the eastern property for presence or absence of wetlands and watercourses. Wetland boundaries were demarcated (flagged) with blue surveyor's tape or small flags (on wire stakes) that are generally spaced a maximum of every 50 feet. Complete boundaries are located along the lines that connect these sequentially numbered flags. See Appendix I for more information.

A second-order soil survey in accordance with the principles and practices noted in the United States Department of Agriculture (USDA) publication Soil Survey Manual (1993) was completed at the subject site. The classification system of the National Cooperative Soil Survey was used in this investigation. Soil map units identified at the project site generally correspond to those included in the Soil Survey of the State of Connecticut (USDA, 2005).

Wetland determinations were completed based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land (e.g., a pond). Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, test pits and/or borings (maximum depth of 2 feet) were completed at the site.

Intermittent watercourse determinations were made based on the presence of a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

### 6.8.2 Existing Wetlands and Watercourses

Wetland 1 is a forested wetland occupying approximately 4.43 acres within the eastern study area, adjacent to North Anguilla Road. Supported by glacial till soils, the wetland is supported hydrologically by groundwater and surface runoff from the adjacent golf course. The wetland drains west and is culverted beneath North Anguilla Road in two locations, connecting to Wetland 2 within the western study area. A cart path exists in the center of this wetland, connecting golf greens on the eastern property to North

Anguilla Road and separating the wetland in three parts. A potential vernal pool was identified within this wetland, adjacent to North Anguilla Road north of the cart path.

Wetland 2 is located within the western property, adjacent to North Anguilla Road, and occupies approximately 2.53 acres of the property. This wetland consists of low gradient slope forested wetland that contains a short length of an intermittent watercourse as well as a small (0.03-acre) isolated wetland area north of this corridor. Wetland 3 occupies approximately 2.5 acres in the northern portion of the western study area. A manmade pond exists offsite to the north, and an intermittent watercourse draining this pond flows southwest through wetland 3. The watercourse is culverted beneath the golf course at the south end of this wetland and drains to Wetland 4 to the south.

Wetland 4 is comprised of a 0.42-acre wet meadow surrounding a 0.24-acre open water pond in the center of the western study area. An intermittent watercourse flows south from Wetland 3 through this wetland and discharges to the pond. An outlet pipe located at the south end of the pond connects this wetland to wetland 5. Wetland 5 is a forested wetland abutting Anguilla Brook on the west side of the western property. The intermittent watercourse flowing south from Wetland 4 also provides surface water to this wetland. Wetland 5 occupies approximately 2.37 acres. Locations of wetlands within the project area are provided in Figure 11.

### 6.8.3 Vernal Pools

Vernal pools are wetland areas that provide unique habitat attributes beyond basic wetland functions. In Connecticut, the working definition of a vernal pool is as follows: “vernal pool means a seasonal watercourse in a defined depression or basin that lacks a fish population and supports, or is capable of supporting, breeding and development of amphibian or invertebrate species recognized in such watercourses. These species include spotted salamander, Jefferson salamander, complex marbled salamander, wood frog, and fairy shrimp” (CAWS website).

Vernal pool habitat is comprised of three distinct areas (Calhoun and Klemens, 2002). Specifically, 1) the vernal pool depression, which is the active breeding area; 2) the vernal pool envelope, the area within 100-feet of spring high water to the depression; and 3) the critical terrestrial habitat, which is the area within 750 feet of the depression. Critical terrestrial habitat is comprised of adjacent upland or drier wetland areas where wetland obligate amphibians spend the majority of their life cycle absent breeding. Forested areas are considered preferred overwintering habitat. Open fields lack the structural complexity in the duff layer and are not typically utilized in this capacity. In ascertaining potential impacts to vernal pool habitat, an evaluation of activities within each component of the complex is necessary.

In the Fall of 2019 and early Winter 2020, MMI delineated wetlands and watercourses within two study areas. During the course of these investigations, MMI identified two areas within delineated wetland boundaries as potential vernal pools. The potential habitat areas were identified in Wetland 1, east of North Anguilla Road, and Wetland 2, west of North Anguilla Road (Figure 11). These areas were identified based upon morphological features, e.g. depressions, and hydrologic indicators indicating persistent standing water, such as stained leaves. To verify whether these areas provide functional vernal pool habitat, MMI visited the wetlands three times in spring 2020 during active wetland obligate amphibian breeding period.

In summary, neither potential vernal pool provided obligate wetland amphibian development. The results of the seasonal investigation reveal these wetlands are not active vernal pool systems, therefore, the proposed solar project will have no impact on any vernal pools. See the Vernal Pool Impact Assessment memo provided in Appendix I.

## 6.9 Wildlife and Habitat

### 6.9.1 Rare, Threatened and Endangered Plants and Wildlife

Based on the Department of Energy & Environmental Protection's (DEEP) Natural Diversity Data Base (NDDB), there is mapped Natural Diversity Area in the northwest portion of the East project area that encompasses a wooded area and part of the existing driving range at the golf course. The NDDB area is shown on Figure 12 – NDDB Map.

All proposed activities are well outside the mapped NDDB polygon. The mapped habitat is east of the golf course entrance drive and clubhouse and is 0.19 mi. from the East Project area and .65 mi. from the West Project area. An initial request for NDDB State Listed Species Review was submitted by MMI and an initial response from DEEP was received November 8, 2019. The response identified two species. According to agency records, the only known extant location of State Special Concern Nine-spotted lady beetle (*Coccinella novemnotata*) and potential habitat for State Endangered Eastern spadefoot (*Scaphiopus holbrookii*) in the vicinity of the proposed project. See Appendix J for documentation.

### 6.9.2 Potential Impacts and Mitigation

Based on existing site conditions, the active use of the property as a golf course with managed turf, and the distance between proposed project areas and the mapped NDDB habitat, MMI submitted an NDDB Final Determination Request to DEEP on March 17, 2020. A final determination from NDDB was received April 24, 2020 with the a few

recommendations. With regard to the Nine-spotted lady beetle, NDDB requires protection measures including: 1. Pesticide use should be avoided when possible. If pesticide use cannot be avoided, use chemicals that target only the pest, treat only infested areas, and select chemicals that do not persist; and 2. only use native grass and herbaceous plants to re-establish any ground disturbance. Use seed mixes, if necessary, for native pollinators.

With regard to the Eastern spadefoot, NDDB stated since there is only potential habitat for this species in this area, and after reviewing the site conditions provided by MMI in the March 17, 2020 letter, no further conservation action is required for this species. See Appendix J for Final Determination letter. GCE will abide by the recommendations provided to it in the NDDB final determination of April 24, 2020.

### 6.9.2 Core Forest

In July 2018, the Connecticut Department of Energy and Environmental Protection, in collaboration with UCONN, produced the Forestland Habitat Impact Map. The tool is designed to help developers screen sites that would require the clearing of core forest. A significant portion of the West project area has been mapped as Forestland Habitat, however, the entire area within the project footprint was cleared and has been part of the golf course since the 1960's, managed and maintained as turf. See Figure 13 – Core Forest Map.

On March 27, 2020, representatives of the project emailed the Connecticut Department of Energy and Environmental Protection's Bureau of Natural Resources, requesting a review of the project and a determination on potential impact to "core forest." Petitioner provided mapping and proposed site plan and layout. On April 27, 2020, DEEP Bureau Chief sent a letter to the CSC indicating the proposed project will not materially affect the status of such site as "core forest." See email correspondence and letter, provided in Appendix K.

### 6.10 Water Supply

#### 6.10.1 Proposed Solar Project Water Usage

Solar energy facilities, such as this Project, do not require usage of water derived on-site, do not generate wastewater, and do not contain chemicals or hazardous materials that can leach into groundwater, as part of operations and maintenance. The proposed Project will not impact public water supplies or groundwater because it does not require consumption of water resources, nor does it generate water discharges. In addition,



there is no potential for indirect impact to water supplies or groundwater based on the site location, setting and existing conditions.

According to the Town of Stonington Zoning Atlas, the West Project site is located within a mapped Groundwater Protection Overlay District (GPOD); see Figure 14. Groundwater beneath the entire Project site is not designated through CTDEEP's ground water classifications for drinking water.

During construction activities, if dust control is required, water will be supplied by tanker trucks on a temporary basis. As far as sanitation, portable restrooms will be provided during construction for site workers. No permanent sanitary facilities will be installed. Stormwater will be managed during construction and post-construction operations and maintenance. See Section 6.11, below, for a discussion of Stormwater Management on the Project site. Erosion and sediment control measures will be utilized to prevent on- and off-site impacts.

During operation, the Project will not require water use and will not generate wastewater. The Project will be unstaffed and, therefore, no potable water supplies will be provided, and no sanitary discharges will occur. *De minimis* quantities of flammable liquids or fuels will be properly stored at the Project construction; no such materials will be used/stored on-site during operations and maintenance.

### 6.10.2 Existing Golf Course Turf Maintenance and Water Usage

The Elmridge golf course property is approximately 240 acres in size. Of that acreage, approximately 40 acres consists of intensively maintained turfgrass, with the remainder being made up of lightly maintained turf, forests, and wetlands. The cultural practices on the intensively maintained turfgrass consist of daily mowing, semi-annual aeration, irrigation as needed (dependent on natural precipitation levels) and the application of fungicides, herbicides, and insecticides in accordance with manufacturer's recommended rates, as well as State and Federal regulations. Application of all control products is carried out by licensed employees possessing either a CT Pesticide operator certificate or a CT Pesticide Supervisory certificate. In addition, the landowner holds a diversion permit from CT DEEP (Permit #DIVC-201809964) to divert/withdraw up to 40,000,000 gallons of water annually from Anguilla Brook, south of the West project parcel, for use in irrigation of the golf course. The five-year average withdrawal for 2015 through 2019 is 8,400,000 gallons/year.

The proposed solar facility will require 15 +/- acres, or 6% of the total land area of the property. However, the net decrease in water usage and control products will be much greater on a percentage basis, due to the fact that 9 of the current 27 golf holes will be

de-commissioned as a result of the solar project and will revert to lightly maintained or unmaintained acreage. Thus, the actual decrease in water usage and control products will be closer to 33% of the totals listed. This reduction is expected to result in improved groundwater and surface water quality, as well as less of an impact to water quantity/volume at the source, Anguilla Brook.

### 6.11 Stormwater Management

A hydrologic analysis was conducted to analyze predevelopment versus post-development peak-flow rates from the project site. In order to analyze the peak rates of runoff from the site, four analysis points were chosen as shown on the existing and proposed drainage area maps. Runoff analysis points are chosen based on drainage patterns that drain toward similar points for existing and proposed conditions.

Watershed areas encompassing the Project site were used to determine the peak-flow rates based on the topography and drainage patterns to develop the existing conditions hydrology model. Similar drainage areas were used for the proposed conditions model and were modified to reflect the proposed land cover, grading, and the stormwater management system. The total drainage area is similar under both existing and proposed conditions. A drainage area map for both existing and proposed conditions is included in the Appendix L.

Peak flows were determined using the NRCS hydrologic method. The HydroCAD computer program was used to conduct watershed modeling. The input data includes information on land use, hydrologic soil group, vegetative cover, contributing watershed area, time of concentration, rainfall data, storage volumes, and the hydraulic capacity of structures. The input data for rainfall events with statistical recurrence frequencies of 1, 2, 10, 25, and 100 years was obtained from the Hydrometeorological Design Studies Center of the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS). Land use and coverage for the analysis under existing and proposed conditions were determined from project base mapping and review of orthophotos of the project area.

Soil types in the watershed were obtained from the NRCS Web Soil Survey for New London County, Connecticut. The entirety of the solar array and stormwater basin located west of North Anguilla Road is mapped as the Haven silt loam series. The Haven series consists of very deep, well drained soils formed in loamy over sandy and gravelly outwash. The array and stormwater basin located east of North Anguilla Road is mapped mostly as Canton and Charlton fine sandy loam with the eastern third within the Paxton and Montauk fine sandy loam. Both of these soil series consist of very deep,

well drained soils formed in a loamy mantle underlain by a sandy glacial till. See Appendix G for soils information.

### 6.11.1 Existing Conditions

The western parcel (West Site) is mostly maintained grass and contains three of the golf course's twenty-seven holes. The site is wooded on the northerly, easterly and southerly sides of the parcel, and there is an intermittent stream leading to a manmade pond in the central area of the site. Site topography mainly consists of gentle slopes (2%-9%) with some undulating slopes (0.5%-2%) at the north end of the array area.

The eastern parcel (East Site) contains approximately 12 of the twenty-seven golf course holes as well as a paved drive off of Elm Ridge Road that leads to the Club House and parking area in the central area of the site. The East Site is mostly maintained grass with intermittent pockets of trees in the golf course areas, and there are undeveloped forested areas on the westerly, easterly and southerly sides of the site. Site topography mainly consists of gentle slopes to the east with some moderate slopes (9%-15%) along the west side of the array area. See Figures 15-16 – Slope Percent Rise (East) and (West).

### 6.11.2 Soil Mapping Verification and Test Pit Study

On November 26, 2019, MMI completed a field investigation to confirm the mapped soil series and verify the hydrologic soil group. A total of five test pits were dug by hand to depth of 24-inches or 2-feet below grade within project limits. The test pits were dug within the existing golf course layout where the proposed solar panels will be located.

The soil encountered within the eastern project area consisted of a thin Oi horizon overlying an A to 9 inches; dark grayish brown (10YR 3/2) fine sandy loam; strong fine granular structure; very friable with a clear distinct boundary; followed by a Bw1 horizon from 9 to 19 inches; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; 5 percent gravel; and Bw2 brownish yellow (10YR 6/6) sandy loam; massive; 5 percent gravel.

Test pits TP-4 and TP-5 were located within the western project area. The soil encountered within these test pits were consistent with NRCS mapping. In general, the soils consisted of a thin Oi overlying an A to 6 inches; dark grayish brown (10YR 4/2) loam; weak fine blocky structure; friable; followed by Bw1 from 6 to 13 inches; brown (7.5YR 4/4) loam; weak subangular blocky structure; 5 percent gravel; Bw2 from 13 to 24 inches strong brown (7.5YR 5/6) loam; weak subangular structure; 5 percent gravel.

In general, the soils encountered were consistent with NRCS mapping. The hydrologic groups designated for the soils within most of the project area is Group “B” with a relatively limited area in the eastern area designated Group “C”. Soils designated Group “B” have moderately low runoff potential when thoroughly wet with water transmission through the soil unimpeded. A Group “C” soil is defined by the NRCS as soils having a slow infiltration rate when thoroughly wet and consist chiefly of soils with a layer that impedes downward movement of water or soils of moderately fine texture or fine texture.

Based on the test pits the mapped hydrologic group of “B” is consistent with the results of the field investigation. In general, the upper 12-inches of soil consists of fine sandy loam to loam texture within the active golf course layout (fairways or rough) underlain by loam to sandy loam with approximately 5-percent gravel that would not impede downward movement of water. There were no observed or visual indications of semi-confining layers of silt or clay within the sub-soil that would impede downward flow through the soil profile within any of the test pits completed. For the purposes of the stormwater assessment, the soils were assigned a hydrologic soil group “C” for proposed conditions in accordance with recent CTDEEP policies regarding solar projects. CTDEEP require the hydrologic soil group be reduced by one step to account for soil compaction due to construction activity.

Five deep-hole test pits were dug on the site on March 31, 2020 in the vicinity of the proposed stormwater management basins. Test Pits 1 and 2 were dug on each end of the proposed basin at the West Site. No groundwater was observed in either Test Pit 1 or 2, which were dug to 5.4’ and 5.5’, respectively. Test Pits 3, 4 and 5 were dug at the East Site. Test pits 3 and 4 were dug on each end of the proposed basin, and Test Pit 5 was dug farther to the south. Groundwater was found in Test Pits 3 and 5 at 5.5’ and 1.7’, respectively. No groundwater was found in Test Pit 5, which was dug to a depth of 5.8’. Test pit logs and a location map can be found in the Appendix L.

### 6.11.3 Proposed Conditions

Existing site drainage patterns will be maintained under proposed conditions. Two stormwater management basins will be constructed as depicted on the drawings to provide peak-flow reduction of site runoff as a result of the hydrologic soil group “step down” pursuant to the SWGP. Swales will be constructed in the solar array field as shown on the drawings to direct runoff to the basins. Runoff from the site and stormwater basins will continue to drain toward off-site areas south and west of the sites, which is consistent with existing site drainage patterns. Under proposed conditions, the site is divided into the drainage areas as shown on the watershed mapping in Appendix L.

Proposed stormwater BMPs utilize nonstructural practices consisting of disconnection of impervious runoff from the PV solar panels, grass swales, and stormwater basins. Runoff from the elevated PV solar panel arrays will drain directly onto the grass below where it can infiltrate and travel over the grassed area. No new connected impervious area is proposed in this project. Peak-flow attenuation and stormwater quality enhancements will be improved with the construction of the stormwater management basins. A conservation seed mix will be applied on all disturbed slopes.

### 6.11.3 Findings

The results of the hydrologic analysis show an overall reduction in peak flows from the project site for all storm events modeled. Peak-flow attenuation is attributed to installation of two stormwater basins. In addition, the PV solar panel arrays are unconnected impervious areas that allow runoff from each individual panel array to contact the ground directly below and dissipate over the surrounding grassed surface.

Water quality measures included in the stormwater management design will maintain water quality both during construction and after completion of the project. Implementation of a post-construction Operation and Maintenance Plan shall sustain long-term functionality of stormwater BMPs and enhance protection of areas downgradient of the site.

Petitioner will apply to CT DEEP for a Construction Stormwater General Permit. Implementation of a post-construction Operation and Maintenance Plan shall sustain long-term functionality of stormwater BMPs and enhance protection of areas downgradient of the site. The E&S Control Plan shall mitigate the short-term impacts of the site improvements during construction (see Appendix A). The E&S Control Plan includes descriptive specifications concerning land grading, topsoiling, temporary vegetative cover, permanent vegetative cover, cover selection and mulching, and erosion checks. Disturbed areas of the project site where construction activities permanently cease shall be stabilized with permanent seed no later than 7 days after the last construction activity. The permanent seed mix shall be in accordance with the project specifications and plans. Construction and maintenance of E&S control measures are in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control. A Stormwater Construction Waste Management Plan is also included as Appendix L.

### 6.12 Project Visibility Analysis

Three methods were used for determining visibility of the proposed Project throughout the visual study area. First a viewshed analysis was performed, followed by field

verification and visual simulations from key view/vantage points. The methodology employed for each of these assessment techniques, and the results of these analyses, are described below.

Although compliance with local zoning is not required, as a baseline for the visibility analysis, Petitioner reviewed the local zoning ordinance. To place the project design in perspective, the proposed solar facility has been sited well within the applicable regulations. Residential zone bulk requirements for the GBR-130 district include: front, side and rear yard setbacks of 75 ft., 30 ft. and 100 ft. and maximum height of 30 ft. Bulk requirements for the RR-80 zone include: front, side and rear yard setbacks of 50 ft., 25 ft., and 25 ft.

Setbacks in the East array area include a front yard of 180 – 200+/- ft., a west side yard of > 500 ft. and a rear yard of 180 +/- ft. Setbacks for the West array area include a front yard of >100 +/- ft., a northern side yard of 80 – 140 +/- ft., a southern side yard of >300 ft. and a rear yard of >450 ft. Buffer requirements for the RR-80 zone include 100 feet for processing and excavations, 50 feet for duplex, trailer parks and community facilities, and 25-100 feet for significant natural resources. Buffer requirements for the GBR-130 zoning district are limited to a minimum 100-foot non-infringement area from wetlands, streams, ponds and other significant natural resources. The West Project area meets this requirement.

### 6.12.1 Viewshed Analysis

Potential visibility of the Project was evaluated through field visits from November 2010 through May, 2020, to identify available open views of the proposed Project within the surrounding area, to establish the visual and scenic character of the Project area and to obtain photographs for use in the development of visual simulations. Weather conditions ranged from partly sunny to sunny. Weather conditions are not expected to significantly influence Project visibility.

During the field surveys, project engineer/consultant and internal team members visited public vantage points and drove public roads within the Project area to document points from which the Project likely would be visible, partially screened, or fully screened. These vantage points were determined by referencing the locations in which the Project is proposed. Photographs were taken from several viewpoints within the Project area. See Appendix M – Visibility Assessment Overview Map and Greenskies Viewshed Photo Log.

### 6.12.2 Existing Views/Visibility Assessment

Field review of selected public views/photos suggested that Project visibly would generally be restricted to locations void of vegetation and directly adjacent to the Project Area areas. Views along Elm Ridge Road and N. Anguilla Rd. were assessed in relation to the East Project area. Views along N. Anguilla Rd. were studied in relation to the West Project area. See Appendix M – Visibility Assessment Overview Map

### *East Project Area Visibility*

Visibility of the East Project area heading south on Elm Ridge Rd. in the vicinity of the golf course entrance drive is expected to be limited/minimal due to distance, topography and existing trees within the golf course. Distance to the northeast corner of the solar array ranges from 200 ft. to greater than 400 ft. from the roadway and the project will be set behind evergreen and deciduous trees that will remain in place (see Appendix M – Photo/View 1 and 2). Moving west on Elm Ridge Rd., the East Project area is not expected to be visible throughout most of the year along the frontage of 224 Elm Ridge Rd. and 252 Elm Ridge Rd. There is an existing berm and vegetative buffer/screen that will be maintained along the edge of the golf course and an evergreen screen along the frontage of 224 Elm Ridge Rd. (see Appendix M – Photo/Views 3, 4 and 5 and MMI Photographic Log – Photos 8 - 11). In addition, the north side of the array will be sited 200 +/- ft. south of the project parcel property line. The East Project area fence line is approximately 240 ft. from the property line in the vicinity of 258 Elm Ridge Rd. and 418 feet from the property line at 154 N. Anguilla Rd. Although the perimeter fence for the array will be visible from these locations, it is set behind an existing evergreen and deciduous tree line that separates two golf holes; these trees will remain in place and will break up/restrict the view (See Appendix M - MMI Photographic Log – Photo 13 - 19).

The East Project area is greater than 600 ft. from the property line in the vicinity of 153 N. Anguilla Rd. View of the solar array will be limited/greatly restricted by the existing tree line within the golf course and uphill topography (See Appendix M – Photo/View 6). The East Project area is not expected to be visible from the roadway or abutting property in the vicinity of 143 and 139 N. Anguilla Rd. due to the distance from the property line (greater than 600 ft.) and existing deciduous and evergreen trees within the golf course, topography and screening along the road at the Project parcel property line (See Appendix M – Photo/View 7 and MMI Photographic Log – Photos 21-26)

### *West Area Visibility*

The view toward the West Project area, while heading north on N. Anguilla Rd., is currently restricted at the approach due to the existing trees/vegetative buffer along the west side of the road (Appendix M – Photo/View 5 ). The view opens up beyond the

wooded buffer and the West Project area is visible looking directly west from the center of the frontage in the vicinity of the two cart paths (See Appendix M – Photo/View 6 & 7). These views are to the northwest/west approaching and passing the site. An existing evergreen screen is located along the road north of the cart path and completely obscures the view into the Project area (See Appendix M – Photo/View 13 and MMI Photographic Log – Photos 27-28). Heading south on N. Anguilla Rd., there will be expected to be a limited view of the solar array, for most of the year in the vicinity of 139 N. Anguilla Rd. There are existing mature trees and an understory buffer, both deciduous. Just beyond this abutting property the West Project is visible for a short distance before becoming obscured by the existing evergreen screen that will remain in place and will be extended to the site entrance and beyond to the south where an existing tree line will remain (See Appendix M – MMI Photographic Log – Photos 27-28).

#### *Private Views from Abutting Properties*

As a good will gesture, Petitioner/GCE chose to assess private views from abutting properties, which are not part of the public view sheds within the Project's surrounding area. There are residential properties bordering the East Project parcel to the south. The southern end of the East Project area will be most visible from the property lines at 5 and 6 Woodland Ct., which are approximately 190 ft. from the proposed fence line and 217 ft. from the nearest row of panels. Although these are private views, GCE selected these locations for visual simulations since they are the closest to the proposed project. The view is somewhat restricted from within the properties by existing mature trees and understory vegetation during the growing season.

The northeastern property line at 5 Fairway Ct./northwestern property line of 6 Woodland Ct. is approximately 380 ft. from the southeast corner of the Project area fence line and 450 ft. from the nearest module, since there is a turnaround inside the fence. The northwestern property line at 5 Fairway Ct./northeastern property line of 6 Fairway Ct. is approximately 750 ft. from the southeast corner of the Project fence line and > 800 ft. to the nearest module. The East Project area will be visible from these properties from a great distance. Again, there is a vegetative buffer with mature trees and understory vegetation that will restrict views from within the property to varying degrees throughout the year. (See Appendix M – MMI Photographic Log – Photos 1 - 6)

The West Project area is approximately 180 ft. south of the northeast property line at N. Anguilla Rd. and 260 +/- ft. from the driveway at 139 N. Anguilla Rd. Visibility of the solar array area is broken up/restricted by existing vegetation (both trees and understory). The nearest point from the Project perimeter fence to the rear property line is 80 – 90 ft. and there is a wooded buffer present between the property line and



residence, which is > 300 ft. from the nearest module. (See Appendix M –MMI Photographic Log – Photos 31-32) and Figure 6A - .Site Layout and Grading Plan.

As noted in Section 5.0, above, GCE met with the owners of 139, 143, 153 and 175-177 N. Anguilla Rd. During the property visit, GCE took photos from various points within the landowner's properties where they expressed concern about views of the West Project area. See a MMI Photographic Log – Photos 33 -36 for private views from the front walkway of 139 N. Anguilla Rd., the rear and side yards of 143 and 153 N. Anguilla Rd. The West Project area will be visible from these locations within the noted properties, however, there are mature trees and existing vegetation restricting such views. The solar array will be sited at elevations 55 to 65 ft. and the rear yards of the above referenced residences are sited at 70 to 75 ft., approximately 10 to 20 ft. higher than the proposed system.

### 6.12.3 Proposed Views/Visual Simulations

This visibility assessment evaluated not only potential visibility of the Project, but also evaluated and examined the appearance of the proposed solar array from various locations within the Project area. Two views along Elm Ridge Road were selected to represent the public viewshed from the residential neighborhood north of the East Project site in the vicinity of properties at 224 and 258 Elmridge Rd. A third simulation was provided from the corner of Elm Ridge Rd. and N. Anguilla Rd in the vicinity of the property at 154. N. Anguilla road. And, finally, two views were selected from the East Project area's southern property line shared with residents on Woodland Ct so that the proposed landscape plan could be visualized from the properties and from a section of the golf course that will remain in play.

This analysis involved generating computer models of the proposed East Project solar array and above-ground system components. Representative viewpoints within the project area were selected and computer assisted visual renderings of the project were prepared. The resulting simulations were used to show the anticipated type and extent of visibility from the solar facility post-construction. Viewpoints were selected based on a few criteria such as locations that will provide views of the proposed project, as well as points that will show typical views from varied orientations and distances.

Table 1. Viewpoints for Simulation and Analysis

View Point	Location	Representative Land Use	Distance to Nearest Module Property Line (ft.)	Distance to Nearest Module (Residence)	Direction of View	Date Taken
VS-1	View to East array from 224 Elm Ridge Rd.	Recreational/ Residential	259 ft.	320 ft.	South	4/30/2020
VS-2	View to East array from 258 Elm Ridge Rd.	Recreational/ Residential	278 ft.	340 ft.	South	4/30/2020
VS-3	View to East array from 154 N. Anguilla Rd	Recreational/ Residential	395 ft.	541 ft.	Southeast	4/30/2020
VS-4	View to East Array from 5 Woodland Ct.	Recreational/ Residential	217 ft	315 ft.	North	4/30/2020
VS-5	View to East Array from 6 Woodland Ct.	Recreational/ Residential	217 ft.	330 ft.	North/ Northwest	4/30/2020

### *Simulation Methodology*

Computer-enhanced imaging was used to show anticipated changes from existing to proposed visual conditions expected to occur with the construction of the proposed solar facility. High resolution digital image processing was used to create realistic photographic simulations of the proposed Project areas from each of the five selected viewpoints. These simulations were prepared by constructing a digital model of the proposed solar arrays based on the civil site plan/layout and survey coordinates. Potential mitigation measures were also simulated to reflect the proposed array with mitigation in place.

### *Simulation Results*

The nearest module in the East Project area is 259 ft. from the property line frontage of the residence at 224 Elm Ridge Rd. and 320 ft. from the residence. As noted above in Section 6.12.2, the East Project area is not expected to be visible throughout most of the year along the frontage of 224 Elm Ridge Rd. and 252 Elm Ridge Rd. There is an existing berm and vegetative buffer/screen that will be maintained along the edge of the golf course and an evergreen screen along the frontage of 224 Elm Ridge Rd. (See Appendix M – Before and After Views 1).

The nearest module in the East Project area is 278 ft. from the property line frontage at 258 Elm Ridge Rd. and 340 ft. from the residence. As noted above in Section 6.12.2, although the project will be visible from this location, the view will be limited since the

solar array is set behind the existing tree line that separates two golf holes (See Appendix M – Before and After Views 2). Proposed landscaping along the fence line was not simulated for this effort, however, evergreens and a shrub hedge will be installed and will further limit visibility of the solar array.

The nearest module in the East Project area is 395 ft. from the property line frontage and 541 ft. from the residence at 154 N. Anguilla Rd. Although the project will be visible from this location, it is set behind the existing tree line that separates two golf holes (See Appendix M – Before and After Views 3).

The nearest module in the East Project area is 217 ft. from the rear property line and 315 ft. from the residence at 5 Woodland Ct. Although the project will be visible from this location, existing evergreens will remain within the view and a landscape plan has been developed along the southern and southeastern fence lines. The plan calls for a shrub hedge with mixed, native evergreen and deciduous plantings (See Appendix M – Before and After Views 4; and Appendix A – Permit Plans, Sheet LA-3).

The nearest module in the East Project area is 217 ft. from the rear property line and 330 ft. from the residence at 6 Woodland Ct. Again, although the project will be visible from this location, existing evergreens, shrubs and deciduous trees will remain within the view and a landscape plan has been developed along the southern and southeastern fence lines. The plan calls for a shrub hedge with mixed, native evergreen and deciduous plantings (See Appendix M – Before and After Views 5; and Appendix A – Permit Plans, Sheet LA-3).

#### 6.12.4 Screening/Visibility Minimization

Petitioner will provide mitigation measures for potential visibility concerns arising from the proposed Project. Such measures will include screening measures such as: 1. the use of green slats on perimeter fencing; 2. evergreen plantings outside the fence line in select areas; 3. infill evergreen plantings within existing tree lines between proposed Project and property boundary; 4. full landscaping in areas identified as most sensitive to existing residential uses (See Appendix A – Permit Plans/Drawing set, Landscape Plan); and 5. Expansion/extension of existing roadside evergreen screens along N. Anguilla Rd. (See Figure 6A – Site Layout and Grading Plan for West Project area).

Specifically, the existing evergreen screen along the northeastern side of the West Project area will be extending south to the proposed site entrance and will continue south to the existing wooded buffer. The West Project area is not expected to be visible from N. Anguilla Rd. In addition, the green slats will be installed on the perimeter fence and the areas visible from along Elm Ridge Rd will include evergreen plantings with a shrub hedge to break the view of the East Project area (See Figure 6B – Site Layout &

Grading Plan and Appendix A – Landscape Plans). A hedge with a mix of native evergreen and deciduous species will be installed outside the southern fence line of the East Project array. It will wrap around the southeast corner of the project to the north, as well. Visibility of the proposed project will be minimal with the top of the fence expected to be 7.5' ft. (allowing for a gap at ground level for wildlife to pass through), top of the modules 8-9 ft. above grade, and the first row of modules set 30 ft. back from the fence (See Figure 6C – Site Layout & Grading Plan and Appendix A – Landscape Plan).

Some mitigation/screening measures have been incorporated into the permit plans, however, additional plantings will be coordinated with the Elmridge Golf Course owner during and post-construction. As noted in Section 5.0, above, GCE attempted to engage abutters in effective conversation regarding screening but, well before this Petition and project plans were available for review, they informed GCE of their intention to take legal action.

## 7.0 Conclusions

The Project clearly meets the standards set forth in Conn. Gen. Stat. §16-50k(a). Specifically:

- The proposed Project will result in no adverse impact with regard to public health or safety issues. The proposed Project will meet or exceed all local, state, national and industry health and safety standards and requirements. During construction and post-construction operations and maintenance, workers and personnel will follow all health and safety standards applicable to solar energy generating facilities.
- The Project will result in no adverse impact to air quality. Due to the nature of the proposed Project as a solar energy generating facility, no air emissions will be generated during operations and, therefore, an air permit will not be required. A Carbon Debt Analysis is provided in Appendix E and shows the net improvement in carbon debt that will result from the proposed Project. Temporary, potential, construction-related mobile source emissions will include those associated with construction vehicles and equipment. Any potential air quality impacts related to construction activities can be considered *de minimis* and will be mitigated using available measures.
- Due to the nature of the use, facility design, required equipment and distance from potential noise receptors, the proposed Project is expected to have no adverse noise-related impact on the surrounding area.

- The Project will result in no adverse environmental impact. The Phase I ESA revealed no evidence of recognized environmental conditions or environmental issues in connection with the subject property. Based on the conclusions of the assessment, no further investigation of the subject property was recommended.
- The Project will not result in impact to agricultural use of this property or to soils classified by the NRCS as Prime Farmland or Farmland of Statewide Importance. The Project will implement passive, secondary agricultural use through enhancement of native pollinator habitat and provision of nesting boxes for native species.
- The Project will result in no adverse impact to cultural or historical resources. Heritage Consultants, LLC (Heritage) performed a Phase IA Cultural Resources Assessment Survey. No further action was recommended and SHPO provided a concurrence letter.
- The Project will not result in impact to onsite wetlands and watercourses and wetland buffer/setback area.
- Installation and utilization of a solar facility will not adversely affect vernal pool habitat. Hydrology to the wetland system will be maintained both in terms of water quality and quantity.
- The Project is not expected to result in adverse impact to wildlife habitat or species of concern. Protection measures for the Nine-spotted lady beetle will be implemented; no further studies or action was required by NDDB for the Spadefoot toad.
- The proposed Project will not impact public water supplies or groundwater because it does not require consumption of water resources, nor does it generate water discharges. as part of operations and maintenance. In addition, there will be a 33% reduction in chemicals used for turf maintenance and irrigation water to be withdrawn from Anguilla Brook. The solar facility will not contain any chemicals or hazardous materials that could impact groundwater.
- Water quality measures included in the stormwater management design will maintain water quality both during construction and after completion of the project. Implementation of a post-construction Operations and Maintenance Plan shall sustain long-term functionality of stormwater BMPs and enhance protection of areas downgradient of the site.
- The Project is expected to result in no significant adverse impact to the visual character of the surrounding neighborhood. There will be a 220 +/- ft. setback

along Elm Ridge Road and the project will be screened by existing trees and landscaping within the golf course, mature trees and a vegetative buffer along most of the northern parcel boundary, as well as provision of green slatted fencing with evergreen plantings and a shrub hedge. The view of the East Project area from N. Anguilla Rd. will not be significantly impacted due to the great distance between the fence line and array, upward sloping topography and an existing tree line within the golf course. The West Project area will be nearly fully screened from N. Anguilla Rd. with extension of an existing evergreen screen along both sides of the proposed site entrance. Additionally, the Project site is not located in any designated historic districts or along any "scenic roads" within Stonington or the state of Connecticut.

Given the Project is expected to result in no adverse environmental impact and the benefits this Project will provide to the State of Connecticut, Greenskies Clean Energy LLC respectfully requests that the Siting Council approve this Petition for the Project as currently designed.

Respectfully Submitted,

GREENSKIES CLEAN ENERGY LLC

By: Lee D. Hoffman

Lee D. Hoffman

[lhoffman@pullcom.com](mailto:lhoffman@pullcom.com)

Pullman & Comley, LLC

90 State House Square

Hartford, CT 06103-3702

Ph. (860) 424-4315

Fax (860) 424-4370

Its Attorneys