

**PETITION OF BORRELLI SOLAR LLC
FOR A DECLARATORY RULING FOR THE CONSTRUCTION
AND OPERATION OF A 1.999 MEGAWATT
SOLAR PHOTOVOLTAIC RENEWABLE ENERGY GENERATING
FACILITY LOCATED OFF BORRELLI ROAD IN
EAST HAVEN, CONNECTICUT**

DECEMBER 19, 2024

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1.0 Introduction

Pursuant to Section 16-50k(a) and Section 4-176(a) of the Connecticut General Statutes (“CGS”) and Section 16-50j-38 *et seq.* of the Regulations of Connecticut State Agencies (“RCSA”), Borrelli Solar LLC (the “Petitioner”) requests that the Connecticut Siting Council (the “Council”) issue a declaratory ruling approving the construction and operation of the Petitioner’s 1.999 megawatt (“MW”) solar electric generating facility (the “Facility”), on a former gravel pit on Borrelli Road, East Haven, Connecticut (the “Site”) within the electric utility service territory of The United Illuminating Company (“UI”).

CGS § 16-50k(a) provides:

“Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling ... (B) the construction or location of ... any customer-side distributed resources project or facility ... with a capacity of not more than sixty-five megawatts, as long as such project meets the air and water quality standards of the Department of Energy and Environmental Protection ...”

Pursuant to CGS § 16-50k(a), the Council should approve the Facility by declaratory ruling the Facility is customer-side distributed resources facility under 65 MW in capacity that meets the air and water quality standards of the Connecticut Department of Energy and Environmental Protection (“DEEP”). Further, CGS § 16a-35k establishes the State’s energy policies, including the goal to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum extent possible.” As demonstrated from the information included in this petition, the Facility will result in no air emissions, will comply with DEEP’s air and water quality standards, and will have no substantial adverse environmental effects. The Facility will further the State of Connecticut’s energy policy by developing renewable energy resources and distributed energy resources. The Facility also furthers the State of Connecticut’s goals announced in the 2018 Comprehensive Energy Strategy (the “CES”).¹ The Facility will be an essential part of a clean energy future within UI territory.

2.0 Petitioner

The Petitioner is Borelli Solar LLC (“Borrelli”), a Connecticut limited liability company with its principal place of business in New Haven, Connecticut. Borrelli is affiliated with Ecos Energy LLC (“Ecos”), based in Minneapolis, MN. Both the Petitioner and Ecos have industry knowledge and the experience to develop, construct and operate the Facility in a way that maximizes the benefits to the citizens of Connecticut and

¹ https://www.ct.gov/deep/lib/deep/energy/ces/2018_comprehensive_energy_strategy.pdf

ensures all relevant regulatory bodies are satisfied during the project life-cycle development. Ecos and its affiliates have developed, constructed and currently operate 22 megawatts (ac) across 19 solar projects in the State of Connecticut.

Correspondences and communications regarding this petition should be addressed to:

Borrelli Solar LLC c/o Allco Renewable Energy Limited ATTN: Michael Melone 157 Church St, 19 th Floor New Haven, CT 06510 (917) 328-2001 [phone] mjmelone@allcous.com	Ecos Energy LLC Attn: Chris Little 80 S 8 th St, Suite 900 Minneapolis, MN 55402 (612) 237-1105 chris.little@ecosenergy.com
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3.0 Proposed Site

3.1. Site Overview

The host property (“Site”) for the proposed project is a 12.95 acres parcel located at 179 and 197 Borrelli Road in East Haven, Connecticut. The Town of East Haven’s Assessor Office has the parcels listed as MBL: 610-7241-002 and 610-7241-003 and the current zoning is ‘R3 – Residential Vacant Land’. The land is currently vacant with no structures existing at the time this Petition was submitted.

The ALTA Survey showing the Site’s general location, characteristics and boundaries is provided on Sheet 2 of Exhibit A (Facility Site Plan & Key Observation Point Plan). Exhibit B (GIS Maps) provides an aerial view of the Site. Exhibit A also contains photographs of the Site taken from ground level as well as cross-sections from key observation points.

3.2. Previous and Existing Site Land Use

The Site was formerly used as a gravel pit and for a construction business which the previous owner used to store equipment, materials and non-hazardous construction debris. The construction debris was eventually buried and capped with approximately 10 feet of clean soil. The site is now currently fallow and vacant. Most of the Site consists of a cleared field, but a northern portion of the site is wooded.

3.3. Surrounding Land Use

The Site is located in an area that is primarily composed of low-density residential, agricultural and undeveloped land. Properties in the vicinity of the Site include single-family residences, agricultural field and vacant land.

Area	Use
Northern Properties	Agricultural fields and undeveloped land
Eastern Properties	Agricultural fields and undeveloped land
Southern Properties	Borrelli Road followed by single-family residences and undeveloped land
Western Properties	Single-family residences

3.4. Project Site Selection

The project Site was selected by Borrelli Solar due to its suitability for solar and the minimal impacts to the environment. The Site is mostly cleared and only about 3.75 acres of trees will need to be removed from the Site to accommodate the Project. The project will also not have any impacts to wetlands and will have no adverse impact to small amount of prime agricultural land on the site, which is < 0.5 acres.

The Site was also selected due to its previous use as a gravel pit in the construction business.

4.0 Project Description

4.1. Site Access

The project will be accessed through an existing drive from Borrelli Road. An access road will be constructed along the westerly portion of the site, extending to the very north portion of the property. The internal access road will be a gravel roadway and will be constructed on prepared subgrades with a crushed aggregate topping which would match existing grades to the extent feasible. See [Exhibit A](#) (Site Plan). Access to the facility will be provided to local emergency services.

4.2. Description of the Facility

The State of Connecticut has recognized the benefits of local renewable energy development and implemented renewable portfolio standard (“RPS”) to encourage the development of renewable energy resources. The Facility will play an essential role in the State’s renewable energy goals. The Facility will provide a source of clean, renewable energy that is locally produced and will produce 100 percent clean, renewable electricity with zero carbon dioxide (“CO2”) emissions. Most importantly, the Facility will displace electricity produced by fossil fuels.

The proposed Facility is a 1.99 MW (AC) solar PV project that will consist of approximately 4,316 solar modules, based on an anticipated module size of 690 watts DC at Standard Test Conditions (“STC”). The exact number of size of the modules could vary depending on the module technology available at the time

of construction). The modules will be mounted on a fixed-tilt racking system, arranged two-high in portrait and set at a 25-degree tilt angle to maximize energy production within the available buildable area on the Site. The racking system will be designed to maintain a ground clearance of at least 24 inches throughout the array. The racking system will use a ballasted foundation with concrete or similar footings that will rest on the surface of the grade and will be designed to support the load of the solar panels as well as environmental loads from snow, wind and seismic forces.

The solar modules will be installed in a series of strings consisting of 26 +/- modules per string. Approximately 12-20 strings will be connected to each inverter mounted throughout the site or at a central location, depending on the final electrical design. The Facility will utilize string inverters (125 kWac +/-), which will alter the 1500V DC power output of the solar modules to a voltage between 600V and 800V three-phase AC.

The power output from the inverters will feed into a main switchgear unit, combining the power into a single 3-phase electrical output. The collected 3-phase AC power output is then input into a step-up transformer to increase the output voltage to 21 kV (or other voltage as determined by UI) for interconnection to the UI electric distribution system. The power output from the transformer will route via an above-ground cabling to a pad or pole mounted AC disconnect switch for the 1.99 MW (AC) Facility. From the disconnect switch, the 3-phase utility voltage will be routed to a pole mounted utility meter for the Facility's revenue generation. From the meter, the Facility's 3-phase voltage will be routed to a pole-mounted recloser, which will provide automated overcurrent protection for the facility and to the UI electric distribution/transmission system.

The Facility will also include a centralized equipment pad area that will house the inverters (if centrally located), a transformer, additional revenue metering, disconnect switches, a suite of monitoring equipment (data acquisition), communications and video security equipment. Conceptual details of the equipment throughout the Site and equipment pads is provided on Exhibit I (Electrical Equipment Information). All AC and DC wires/cables will be installed above-ground to avoid trenching and soil disturbance. Petitioner plans to use CAB cable management ²(or similar) to string all AC and DC wiring for the project.

² <https://www.cabproducts.com/solar/>

4.3. Electrical Interconnection

The facility has an executed interconnection agreement with UI executed in October 2024 which is attached as Exhibit O. The Facility is currently proposed to be interconnected to the UI electric distribution grid at an overhead electric line along Borrelli Road. The current circuit along Borrelli Road is currently a single-phase line that will require approximately 800 feet of upgrade to a 3-phase circuit located to the east on Thompson Street. The interconnection will be in accordance with UI technical standards, the State of Connecticut, ISO-New England (“ISO-NE”) and the Federal Energy Regulatory Commission (“FERC”) requirements. The point of interconnection (“POI”) will consist of installing UI-specified metering and circuit protection (breakers/switches/relays) equipment for the Facility.

4.4. Fencing and Site Security

The entirety of the Facility footprint will have an 8-foot tall fixed-knot game style security fence surrounding it, with an interior perimeter clear space for site accessibility and maintenance around the facility. The fence is necessary for added security and to comply with the requirements of the National Electric Code. Access to the Site will be via a padlocked gate in the perimeter fence at the location of the main access driveway from Borrelli Road. A series of motion-sensitive video security cameras will be installed around and within the perimeter of the fence for site monitoring and security. No night-time lighting of any kind is proposed for the Facility.

4.5. Stormwater Management

The Facility will not adversely impact surrounding water resources. The site’s current grading design implements the state of Connecticut’s 2002 CT Guidelines for Erosion and Sedimentation Control as well as the permeant stormwater treatment requirements outlined by the 2004 CT Stormwater Quality Manual to ensure adequate areas are available for stormwater control measures and complies with the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities effective December 31, 2020 as modified on November 25, 2022.

Most of the site where the solar racking and modules will be installed will remain un-altered from a grading standpoint. Existing topography of the site is gradual enough for the racking to follow the existing grade without any material site grading. During construction, the contractor will follow the requirements to maintain site stabilization per the requirements of the General Permit, and upon completion of construction, the site will be seeded in all areas with groundcover as illustrated on Sheet 6 of Exhibit A. of the type that would allow sheep grazing on the site. The solar racking provides adequate height above the ground to promote vegetative growth underneath the solar array and allow for natural overland drainage and

infiltration to continue to occur on site. Stormwater runoff from the solar array field will be directed into sediment traps via graded perimeter conveyance swales. The sediment traps will be maintained throughout construction and will ultimately remain as permeant Stormwater management system for post-construction runoff.

The Petitioner will register the Facility's final stormwater design and SWPCP under the DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities at least sixty (60) days before commencing any construction activities. The Petitioner intends to request coverage under the existing Connecticut General Permit, DEP-PED-GP-015, by submitting a complete and accurate General Permit Registration Form and Transmittal before construction activities and following applicable rules at the time of filing. This information will also be submitted to the CSC at the time of submitting a development and management plan for approval prior to construction.

After construction, the ground area within the Facility's footprint will be hydro-seeded with a botanist-reviewed seed mix that offers low/slow growth groundcover vegetation that is drought-tolerant and that will allow sheep grazing.

4.6. Construction Schedule

The Petitioner anticipates that construction of the Project will begin in February of 2025 and will take approximately four (4) to six (6) months. The facility has a contract under Connecticut's Non-Residential Solutions program with a commercial operation deadline of August 29, 2025. Construction activities within the Project Area will include: minimal tree clearing, grading to incorporate the Project's proposed stormwater management features, erosion and sedimentation ("E&S") control measures, and racking and module(s) electrical trenching; the installation of interconnection infrastructure; and, new access road(s) development. Existing grades within the large array located central to the site will remain, except in areas where the Project's stormwater management features are proposed. The grades within the small array located in the northwest of the property will be graded to except the racking system. The areas associated with the stormwater management features will be manipulated (i.e., cuts/fills) and regrading will be required.

Initial work would involve the installation of erosion and sediment control measures, including installation of sediment traps. A temporary staging area would be located toward the south of the Site.

Upon completion of the installation of the erosion control measures, the project will commence the required clearing and begin the racking installation. Upon completion of the racking installation the modules and

other electrical equipment will be installed. Final site stabilization, testing, and commissioning would be expected to be completed in the Summer of 2025 but no later than August 29, 2025. Construction activities would be expected to occur 7:00AM to 6:00PM Monday through Friday and Saturday between the hours of 8:00 a.m. and 5:00 p.m.

A Storm Water Pollution Control Plan (SWPCP) would be implemented by the project civil engineer that will include regular inspection of erosion control measures to prevent sedimentation or water quality impact that will comply and be covered by the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities from CT DEEP. The Stormwater Management Report provides Erosion and Sedimentation Control Best Management Practices – Maintenance/Evaluation Checklists for Construction Practices and Long- Term Practices. An application for a General Permit was submitted to DEEP on October 31, 2024.

4.7. Operation and Maintenance

Operation and Maintenance of the proposed Facility will be performed by Borrelli’s affiliates, Allco Finance Limited and Ecos Energy LLC. Allco and Ecos currently operate a number of solar facilities of similar size throughout the State of Connecticut. A detailed Site and Facility Operations and Maintenance Plan is provided on Exhibit M.

4.8. Decommissioning

At the end of its useful life, the Project will be decommissioned in accordance with the project’s Decommissioning Plan. See Exhibit H – Decommissioning Memo.

5.0 Facility Benefits

Projects that are “necessary for the reliability of the electric power supply of the state or for a competitive [electric market]” present a clear public benefit. Conn. Gen. Stat. § 16-50p(c)(1). The Facility provides the benefits contemplated in the statute and more, as it will generate much of its power during the typical high demand hours for electricity. By providing electricity when there is high demand, the Facility will reduce the load on the ISO-New England system.

Additionally, there exists a clear public need for renewable projects and undertaking them supports the State’s energy policies as codified in Conn. Gen. Stat. § 16a-35k, expressing the legislature’s goal to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum

practicable extent.” The facility’s enrollment in the Connecticut NRES program provides further evidence of the Legislature’s desire to have facility’s like this one built.

The Facility is considered a Class I renewable energy source under General Statutes § 16-1(a)(26). Over the life of the Facility, it will contribute to a significant reduction in emissions, such as NO_x, SO_x, PM, CO₂, and VOC emissions as compared to other electric generating facilities that produce greenhouse gases as a by-product. These figures are further outlined *infra*. Additionally, the Facility will deliver its generated power ‘locally’ by injecting that power into a distribution-level electric circuit for use by nearby homes and businesses. A local electric generating facility decreases the amount of power that will need to be brought into the area from further away, providing relief to the utility transmission infrastructure and increasing local grid reliability and transmission efficiency due to an increase in power quality.

The Facility will also help the State move closer to meeting its renewable portfolio standards. Concerning labor, the Company fully intends to employ local labor in completing the facility wherever practical, and the project’s construction will comply with prevailing wage requirements. As part of a broader state, federal, and global strategies, reductions in greenhouse gas emissions and project life-cycle carbon footprint reduction from the facility will have long-term positive secondary biological, social, and economic benefits.

6.0 Local Input and Notice

The Exhibit A (Facility Site Plan) submitted with this application will also be submitted to the Town of East Haven Engineer, Johnathan Bodwell, for review and comments. The plans will be circulated internally among town departments for comments, as well. Any comments received from the Town of East Haven’s review will be forwarded to the CT Siting Council.

In addition to contacting the Town directly, the Petitioner will provide notice of this petition to all persons and appropriate municipal officials and government agencies to whom notice is required pursuant to CGS § 16-50j-40(a). For details, reference Exhibit C (Notice Service List).

7.0 Potential Environmental Effects

7.1. Environmental Site Assessment

The Petitioner has evaluated the Site and taken inventory of the existing resources onsite. A Phase I Environmental Site Assessment (“ESA”) was prepared by Rincon Consultants, Inc. (“Rincon”) for the Site on May 20, 2022. The Phase I identified a recognized environmental condition (“REC”) due to “former

depressions and possible fill material, and current soil piles on the subject property”. Subsequently a Phase II ESA was prepared by Rincon and GZA GeoEnvironmental, Inc. (“GZA”) on September 1, 2022. The Phase II scope performed by GZA was as follows:

- GZA collected grab soil samples from three soil stockpiles identified in Rincon’s Phase I ESA and one soil stockpile identified by GZA during fieldwork at the site. The grab soil samples were composited by the analytical laboratory into one sample per soil stockpile. Additionally, one discrete sample per stockpile was collected for purposes of analyzing for volatile organic compounds (VOCs).
- GZA advanced eight soil borings, SB-1 through SB-8, at the site. Seven of the soil borings were advanced to 10 feet below ground surface (bgs) and one soil boring (SB-7) was advanced to 20 feet bgs. Soil samples were collected from 0.5-1 foot bgs, 2.5-3 feet bgs, and 7.5-8 feet bgs from each of the soil borings, except at SB-8. At SB-8, soil samples were collected from 0.5-5 feet bgs and 7.5-8 feet bgs. GZA “reviewed the boring logs and observed soils from each soil boring and selected the most appropriate samples for analysis primarily based on the presence of observed fill materials” and also to provide data at various depths within the fill material.
- Soil samples were analyzed for VOCs using United States Environmental Protection Agency (USEPA) Method 8260B, extractable total petroleum hydrocarbons (ETPH) using the Connecticut Department of Public Health (CTDPH) Method; semi-volatile organic compounds (SVOCs) using USEPA Method 8270; polychlorinated biphenyls (PCBs) using USEPA Method 8082 (Accelerated Solvent Extraction [ASE]); pesticides using USEPA Method 8081; and California Title 22 metals using USEPA Method 6010B and 7471A.

Results of soil sampling indicate that VOCs, PCBs, TPH, and metals were either not detected above the laboratory reporting limits or detected at concentrations below screening levels in the soil stockpiles and soil borings. The analytical results indicate the following constituents were detected in the soil samples collected from the soil stockpiles at concentrations exceeding screening levels:

- Two SVOCs (benz(a)anthracene and benzo(b)fluoranthene) were detected in sample Stockpile-1R at concentrations exceeding both the R-DEC and GA-PMC. Benzo(k)fluoranthene and chrysene were detected in sample Stockpile-1R at concentrations exceeding the GA-PMC. Benzo(a)pyrene was detected in sample Stockpile-1R at a concentration exceeding the R-DEC, I/C-DEC, and GA-PMC.
- The concentrations of the combined sum of the following organochlorine pesticides (OCPs), 4,4-dichlorodiphenyldichloroethane (DDD), 4,4-dichlorodiphenyldichloroethylene (DDE), and

4,4-dichlorodiphenyltrichloroethane (DDT), exceeded the GA-PMC in sample Stockpile-2R. There are no RSRs established for DDD, DDE, or DDT individually.

The analytical results indicate the following constituents were detected in the soil samples collected from the soil borings at concentrations exceeding screening levels:

- The OCP constituent chlordane was detected in sample SB-5 at 2.5-3 feet bgs and sample SB-8 at 0.5-5 feet bgs at concentrations exceeding the GA-PMC.
- The OCP constituent dieldrin was detected in sample SB-5 at 2.5-3 feet bgs at a concentration exceeding the GA-PMC.
- The concentrations of the combined sum of the following OCPs, DDD, DDE, and DDT, exceeded the GA-PMC in samples SB-3 at 0.5-1 foot bgs, SB-5 at 2.5-3 feet bgs, SB-6 at 0.5-1 foot bgs, and SB-8 at 0.5-5 feet bgs.

GZA concluded that because SVOCs and OCPs were detected in soil at the site at concentrations above the GA-PMC, GZA recommended further evaluation of onsite soil by the synthetic precipitation leaching procedure (SPLP). SPLP results can be used to determine compliance with the GA-PMC and whether the SVOCs and OCPs are leaching to groundwater at concentrations of concern.

In concurrence with GZA's recommendation for additional analysis of soil in the area of the former depression and in-place fill material in the central portion of the site and at Rincon's request, the four soil samples collected within the in-place fill material that exceed the GA-PMC for DDD/DDE/DDT (SB-3 at 0.5-1 foot bgs, SB-5 at 2.5-3 feet bgs, SB-6 at 0.5-1 foot bgs, and SB-8 at 0.5-5 feet bgs) were analyzed for OCPs by SPLP. OCPs were not detected above the laboratory reporting limits in these samples. Therefore, GZA recommended preparation of a soil and materials management plan (SMMP) "to provide direction for the management and/or disposal/reuse of these soils [in the area of the in-place fill material onsite] if they are to be disturbed during construction of the proposed solar array."

Based upon the information provided in GZA's Phase II ESA, Rincon concurs with the recommendation for preparation and implementation of a soil and materials management plan (SMMP) and implementation of the SMMP for appropriate management of the soil and fill material prior to or during construction of the proposed project at the Site.

Rincon further recommended that the property owner remove and properly dispose of all onsite soil stockpiles to an appropriate offsite facility prior to acquisition of the site.

In accordance with Rincon's recommendations Petitioner and Petitioner's affiliate, Vineyard Sky Farms, Inc. (legal owner of the parcel), removed the onsite soil stockpiles to an offsite facility. Copies of the shipping and truck logs can be found in Exhibit P. In addition, Petitioner has prepared a soil material management plan (SMMP) for implementation prior to and during construction, which is included as Exhibit L. Complete copies of the Phase I ESA and Phase II ESA have been provided in Exhibit D.

7.2. Natural Environment and Ecological Balance

The Site selected for the Facility's footprint is not within an area containing any sensitive, rare, or protected natural resources. Approximately 1.71 acres of the site will be cleared of tree/timber vegetation for the facility's construction. The clearing limits can be found on Sheet 6 of Exhibit A. No clearing is proposed within the wetland area.

Minimal grading will be required for the Facility, as the solar racking equipment is designed to follow the existing elevations of the Site's topography, therefore no major earthwork will occur in the array field. Approximately 2 acres of grading will be performed on the site to create stormwater conveyance swales the stormwater sediment and water quality basins. Additional grading will occur for the re-construction of the access driveway and transformer equipment pads.

7.3. Public Health and Safety

Overall, the Facility will meet or exceed all health and safety requirements applicable to the electric power generating facilities. During construction, each employee working onsite will:

- Receive required general and site-specific health and safety training.
- Comply with all health and safety controls as directed by local and state requirements.
- Understand and employ the site health and safety plan while on the job site.
- Know the location of local emergency care facilities, travel times, ingress and egress routes.
- Report all unsafe conditions to the construction managers.

During construction, heavy equipment, delivery trucks, and water trucks for dust suppression will be required to access the Site during typical weekday working hours. It is anticipated that during the peak periods of construction activity, approximately 10 to 15 construction vehicles will make daily trips to and from the Site during the approximate four to six-month construction period.

Solar PV is a long-proven solid-state, safe and benign technology for generating electricity. Authorized personnel visiting the Facility during operation will be fully licensed and adequately trained on how to

navigate a solar facility safely and how to quickly respond in the event of an emergency. Once operational, the Petitioner will work with local fire and law enforcement officials to ensure they have the appropriate knowledge and access to provide their services to the Facility if necessary.

7.4. Noise

During construction of the Facility, noise may be audible offsite so that all work will be conducted during regular weekday working hours, and measures will be set in place to mitigate construction noise levels below state and local noise limit standards. During construction operations, the Facility will not present a health or safety hazard to anyone located onsite or offsite. The Facility will generate no offsite noises, harmful glare, vibrations, or dangerous emissions of any kind.

Potential Facility-related noise is regulated by General Statutes 22a-69 and the Town of East Haven's Noise Ordinance.

The Town of East Haven's Noise Ordinance provides: "It is recognized that people have a right to and should be ensured an environment free from excessive sound and vibration that may jeopardize their health and safety or welfare or degrade the quality of life. This [noise ordinance] is enacted to protect, preserve and promote the health, safety, welfare and quality of life for the citizens of the town through reduction, control and prevention of noise. The Town's Noise Ordinance does not provide any specific noise limits (dBA), however, it defines a "Noise Disturbance" as any sound which (i) endangers or injures the safety or health of humans or animals; (ii) annoys or disturbs a reasonable person of normal sensitivities; or (iii) endangers or injures personal or real property".

General Statutes Section 22a-69 is applicable to the proposed Facility and requires the Facility to meet the following sound levels: 55 dBA at the nearest residential property during the day (when the Facility would be generating electricity); 45 dBA at the nearest property at night (when some accessory equipment might still be in operation); 55 dBA to the nearest commercial/educational property; and 62 dBA at the nearest agricultural/industrial property. The statute also accounts for impulses and other types of noise. Construction noise is exempt from the statute.

A Noise Study, found on Exhibit Q was prepared by a third-party engineer (Krebs and Lansing Consulting Engineers) to determine the noise levels at various locations surrounding the project, based on the proposed site plan and proposed equipment and their locations. Once constructed and operating, the

solar panels and racking themselves do not create any noise. The only equipment that will create any level of audible noise are the Kaco New Energy string inverters (Blueplanet 125 TL3) and the 2200 kVA pad-mounted transformer. The Kaco inverters have an acoustic noise rating of 59.2 dBA at a 1-meter distance and the transformer has an acoustic sound level of 62 dBA at a 1-meter distance. The nearest resident is located at 207 Borrelli Road, approximately 30 meters from the transformer and inverters. The noise study concludes that the noise level during the operation of the Facility will be 36.6 dBA, which is well below the statutory requirement of 55 dBA during the day and 45 dBA at night. The Noise Study also concludes that the noise level of the operating Facility as heard from all surrounding homes will be below the existing daytime ambient noise levels in the area. Sheet 3 of the Noise Study shows that the existing ambient noise level in the area ranges from 42 dBA to 56.6 dBA.

Due to the nature of the use, design of the Facility, required equipment and distance from potential noise receptors, the proposed Facility is expected to have no adverse noise related impact on the surrounding areas or nearby residents.

7.5. Air Quality

Overall, the Facility will have minimal air emissions of regulated air pollutants and greenhouse gases during construction, and no air permit will be required. During construction, any air emission effects will be temporary and will be controlled by enacting appropriate mitigation measures (e.g. water for dust control, avoiding mass early morning vehicle startups, etc.). Accordingly, any potential air effects as a result of the Facility's construction activities will be negligible. During operation, the Facility will not produce air emissions of regulated air pollutants or greenhouse gases (i.e. PM10, PM2.5, VOCs, GHG, or Ozone). Thus, no air permit will be required.

Additionally, the Facility will have a net beneficial effect on air quality because it will displace electricity that otherwise would be generated by fossil fuels. It is estimated that 3.75 acres of trees will be removed from the site during construction. The carbon debt payback period for the removal of these trees, based on the EPA estimate of 1.22 metric tons of carbon dioxide sequestered by one acre of average U.S. forest in one year, would be approximately 0.83 days. In other words, the solar generating facility would off-set the same amount of CO₂ sequestered by the 3.75 acres of trees being removed, within the first day of operation.

7.6. Visual Impact Assessment

The Facility will be minimally visible from neighboring property owners as well as viewsheds from Borrelli Road. A majority of the residential homes west of the Facility are separated from the property by a significant grade change. The residences west of the Facility are approximately 100 feet or greater from the nearest equipment pad. There are no residential homes east of the Facility.

To soften visual impacts from the nearest abutter to the west, a proposed arborvitae tree hedge is to be installed along the Facility's fence line as detailed on Sheet 6 of Exhibit A. The proposed plantings along the Facility's boundary will remain throughout the life of the project and will aid in screening the Facility from the abutting residences. The solar modules on the racking have a low profile rising less than 9-10 feet above the grade of the site. The solar equipment at the Facility equipment pad location is less than 7-8 feet in height. The tallest element of the Facility will be poles for video cameras and meteorological equipment, which are installed at 12-14' feet in height at each equipment pad. The proposed screening hedge is expected to grow higher than 14' at maturity, which is higher than the Facility's infrastructure. The Facility will have a minimum setback distance of 25-feet from Borrelli Road.

There are no protected or designated scenic areas, roadways, or trails at any vantage point within the Site boundaries. Given these details, and the proposed screening infrastructure the Facility will not have a significant adverse effect on the scenic values of the area. Current photographs of the Site, along with visual cross-sections of the Facility, can be found in Exhibit A.

7.7. State Historic Preservation Office Review

The State Historic Preservation Office (SHPO) has reviewed the potential effects of the 1.99 MW AC Borrelli Solar Facility on historic properties. The attached letter from SHPO, dated April 28, 2023 states that "No properties listed on the National Register of Historic Places have been reported within or adjacent to the Area of Potential Effects (APE) for this project." It goes on to state, it is the opinion of SHPO that no historic properties will be affected by the construction of the proposed solar facility". A copy of the correspondence from SHPO is provided in the Exhibit G.

7.8. Site Soils and Geology

A review of available NRCS online soil mapping indicated the presence of multiple soils throughout the project area, which are made up mostly of loam (0-5 inches) and gravel loam (5 to 80 inches) which are well drained and have a water table in excess of 80 inches below surface. In the areas of the mapped wetlands in the northeast portion of the site, the soils are made up of silt loam and are poorly drained,

however, this area will not be impacted by the proposed solar project. There is a small portion of the Site that contains Prime Farmland and some small pockets of Farmland of Statewide Importance on the south edge of the property. The proposed site plan/footprint of the solar project would impact less than 0.5 acres of Prime Farmland.

7.9. Wetlands and Watercourses/Vernal Pools

In Spring of 2022, Petitioner engaged Mr. Joseph R. Theroux, a certified soil scientist, to delineate the inland wetlands and watercourses on the Site. A wetlands delineation report, dated May 9, 2022, was prepared by Mr. Theroux, outlining the survey process and findings. A copy of this report is included in the Exhibit E. During his site visit, Mr. Theroux did not observe the presence of any vernal pools or species that may be associated with vernal pools.

The wetland delineation and a 50' upland buffer setback is represented on all pertinent plan sheets in Exhibit A. The Facility's solar footprint was designed to avoid the delineated wetlands features entirely, and provide a 50-foot buffer around them. Appropriate erosion control measures will also be installed to avoid the wetlands during construction.

7.10. Wildlife & Habitat

On May 2, 2023, the Petitioner submitted a request to DEEP for NDDDB for review of the Property and the Facility's footprint. DEEP responded on July 21, 2023 in writing with their findings and a request for additional information. A copy of this letter is attached as Exhibit F (NDDDB Determination). The NDDDB review documented the potential presence of the Sand blackberry (*Rubus cuneifolius*) – State Special Concern, in the vicinity of the Site.

The Petitioner hired a qualified botanist to perform a field survey to determine the presence or absence of the Sand blackberry on the Site. No Sand blackberry was discovered. See Exhibit N.

The NDDDB letter/response from DEEP did not identify the potential presence for any other plant or wildlife species on the Site.

7.11. Core Forest

Because the Facility is under 2 megawatts in size, it is not subject to Connecticut General Statute §16-50k(a) and therefore does not require a determination from DEEP that the Facility will not materially affect the status of such land as a core forest. Notwithstanding the foregoing, a review of the CT DEEP Forestland Habitat Impact Map indicates that *no known core forest exists at or in proximity to the Site*. Accordingly,

the Facility will not alter any areas of core forest. A map of the core forests in the vicinity of the Site is attached as Exhibit J.

7.12. Prime Agricultural Land

There is a small area (< 0.5 acres) of mapped prime agricultural land that will be impacted by the construction of the Facility, however, the Facility is under 2 megawatts and therefore is not subject to Connecticut General Statute §16-50k(a) and therefore does not require a determination that the project will not materially affect the status of such land as prime farmland. Notwithstanding the foregoing, Borrelli Solar will be grazing sheep on the site to maintain the ground cover. The sheep grazing will be performed by Petitioner's Affiliate Company, Vineyard Sky Farms Corp. which maintains a 120 head herd of sheep for the sole purpose of grazing solar farms throughout Connecticut. A map of the prime agricultural soils from the Town of East Haven's GIS system is attached as Exhibit K.

8.0 Additional Information

The Siting Council has previously reviewed petitions for other solar facilities similar to the one being proposed by the Petitioner. In these other dockets, the Council has sent out interrogatory requests with multiple questions about each facility. This section will attempt to answer some of those questions that were not addressed in the previous sections of this Petition.

Q01. How did the Petitioner become aware of the Site?

A01. The Site was actively being listed for sale at the time that the Petitioner was searching for an acceptable location for the Facility.

Q02. Did the Petitioner investigate any other properties as potential locations for the Facility? If so, identify these properties.

A02. The Petitioner investigated a large number of properties that were listed for sale. The Site was selected based upon favorable characteristics identified above.

Q03. Has the Petitioner conducted a shading analysis of the Site? If so, provide the results.

A03. No, a shading analysis has not yet been performed, but the array was set back from the clearing limits to minimize major shading of the array for preliminary project modeling.

Q04. What is the efficiency of the photovoltaic module technology that would be employed by the Petitioner at the proposed project? Does this efficiency decrease over time?

A04. The efficiency will be in the range of 21 to 23 percent, depending on the manufacturer and model of solar module selected for construction. The efficiency does decrease over time, at a predicted average rate of 0.5% per year.

Q05. Would the angles of the Facility's solar modules be adjusted during the year to maintain optimal alignment with the sun's changing path?

A05. No. The solar modules will be installed on a fixed-tilt racking system at approximately 15 degrees to 25 degrees.

Q06. Does the Petitioner have contracts to sell the electricity it expects to generate with the proposed Facility?

A06. The project has received a Tariff Agreement with The United Illuminating Company under the Non-Residential Renewable Energy Solutions Program.

Q07. Is the Facility located near any Important Bird Areas designated by the Connecticut Audubon Society?

A07. According to the Audubon Society's GIS mapping (<https://gis.audubon.org/portal/apps/sites/#/nas-hub-site>), the site is not located in or near any Important Bird Areas

Q08. What would be the construction timeline of the Facility from groundbreaking to full operation?

A08. Approximately 4 to 6 months.

Q9. Describe how the project would be decommissioned at the end of its useful life.

A9. A decommissioning memo is included as Exhibit H.

Q10. If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s)?

A10. It's anticipated that the following permits will be necessary prior to starting construction of the Project:

- Building Permit, Town of East Haven
- Electrical Permit, Town of East Haven
- General Permit, DEEP
- Siting Council approval of this Petition

Borrelli Solar LLC will hold the building permit, electrical permit and Siting Council Declaratory Ruling/Approval. The General Permit will be held either by Borrelli Solar LLC, an affiliate or the civil contractor.

Q11. Is the project being designed to accommodate a potential future battery storage system?

A11. Petitioner currently has no plans to add a battery storage system to the Facility at any date in the future. If this changes due to available incentives or energy policies, a separate petition would be submitted to the Siting Council for consideration.

Q12. What is the projected capacity factor for the proposed project?

A12. The projected capacity factor for the facility is approximately 22-23%.

Q13. Would the power output of the solar panels decline as the panels age? If so, estimate the percent per year.

A13. Yes, the solar panels are expected to degrade at a rate of 0.5% per year.

Q14. What is the expected useful life of the proposed solar facility.

A14. With proper maintenance, it's expected that the useful life of the Facility could be up to 45 years, however, the tariff agreement with UI is only for 20 years.

Q15. Referencing the existing electric distribution line along Borrelli Road, what distribution upgrades are required for the facility interconnection?

A15. A full list of the required interconnection upgrades can be found in Appendix G of the Interconnection Agreement attached as EXHIBIT P. The upgrades include, but are not limited to, 6 new poles, 3 reclosers and 9 spans of overhead 3-phase cabling.

Q16. Would the project comply with the current Connecticut State Building Code, National Electric Code and Connecticut Fire Prevention Code.

A16. Yes

Q17. What are industry Best Management Practices for Electric and Magnetic Fields at solar facilities? Would the site design conform to these practices?

A17. According to the Council's revised EMF Best Management Practices dated February 7, 2014, the Council recognized that a 2010 guideline established 2,000 mG as acceptable exposure level to EMF. The Council has also recognized that there is scientific consensus that there is no cause-and-effect link with EMF and any health effect, and that "scientific evidence to date does not warrant the establishment of MF exposure limits" surrounding transmission lines. In 2015, the Massachusetts Department of Energy Resources, Department of Environmental Protection and Clean Energy Center released a solar guide that states that PV arrays generate EMF in the same extremely low frequency range as electrical appliances and wiring found in most homes and buildings and that the measurements at three commercial PV arrays in MA gave off less than 0.5 mG at the sites' boundaries and typically PV arrays give off less than 1.0 mG within three inches of the panels, whereas a vacuum cleaner three feet away from a motor is approximately 2.0 mG. As such, Petitioner is not aware of any BMPs for EMF at solar facilities.

Q18. In the event of a brush or electrical fire, how are potential electrical hazards that could be encountered by emergency response personnel mitigated?

A18. To mitigate potential electrical hazards that could be encountered by emergency response personnel, the Facility will have comprehensive signage – with clear warnings relating to the equipment location(s) and hazards associated therewith – throughout the project area, including at the main entrance, on the exterior fencing and on major equipment cabinets such as the inverters, transformer, switchgear and disconnects. In addition, a main shutoff switch for the electrical feed for the entire solar facility will be identified with signage

Q19. What type of oil is used in the Facility transformers? Do the transformers have a containment system in the event of a leak? How are oil leaks detected?

A19. The transformer that will be used for the project will use FR3 or mineral oil, which is biodegradable (similar to vegetable oil). For this reason, a containment system for the transformer is not planned. Oil leaks are generally detected through low oil detection systems and/or routine maintenance of the transformer that is performed semi-annually. Petitioner would follow all State and Local requirements for spill reporting.

Q20. Identify the distance/direction of the nearest federally obligated airport from the site.

A20. The Tweed New Haven airport is located 5.8 miles south/southwest of the proposed Facility.

Q21. Has the Petitioner submitted an application for a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities from DEEP? If yes, what is the status of such permit?

A21. Yes, an application for a General Permit was submitted to DEEP on October 31, 2024.

Q22. Would the inverters last the life of the project? If not, at what time interval would the inverters need to be replaced?

A22. Petitioner will purchase inverters with an expected 10-year warranty. All the inverters are not expected to last the life of the Project and will be repaired or replaced as they fail.

Q23. Will the panels be cleaned periodically? If so, how?

A23. Solar panels in Connecticut generally do not need to be manually cleaned in order to perform at their designed capacity. Rainwater is typically sufficient to keep the panels clean and operating. In the event of a drought or some other event (e.g. wildfire soot) that requires the panels to be cleaned, Petitioner would use offsite water with a biodegradable solvent to clean the modules. Cleanings are typically performed by crews on foot with a backpack sprayer and a squeegee.

Q24. Would replacement modules be stored on-site in the event solar panels are damaged or not functioning properly? If yes, in what location?

A24. No. Petitioner would plan to acquire replacement modules when and if a module failed. The modules for the facility would expect to carry a 25-year warranty (longer than the NRES Tariff term), which would require the module manufacturer to provide replacement modules or a monetary payment for defective ones.

Q25. What is the length of the lease agreement with the host property owner?

A25. The host property owner is an affiliate of Petitioner. Petitioner has entered into a 25 year lease with the property owner entity, with the option to extend the lease for 4 – 5 year periods.

Q26. Does the lease agreement with the host property owner contain provisions for agricultural co-uses at the site?

A26. No, although Petitioner will be maintaining the vegetation at the site by grazing sheep during the growing season.

Q27. Is the site, or any portion of the host parcel, part of the Public Act 490 Program?

A27. No

Q28. Is any portion of the site under lease by any third party?

A28. No, Petitioner has exclusive rights to use both parcels for the purpose of developing and constructing the proposed Facility.

Q29. Who would be responsible for responding to concerns and/or complaints related to agricultural co-use on the site? How would contact information be provided for complaints?

A29. Ecos Energy would be responsible for such concerns and complaints, which can be directed to the contact information provided in this Petition or through our website at www.allcous.com/contact.

Q30. What is the output (MW AC) at the point of interconnection?

A30. 1.99 MW AC.

Q31. If one section of the solar array experiences electrical problems causing the section to shut down, could other sections of the system still operate and transmit power to the grid? By what mechanism are sections electrically isolated from each other?

A31. Yes, the inverters proposed for the Facility will be string inverters (~125 kW each) and if a string of solar panels is disconnected or not producing energy, the inverter can still operate so long as the voltage is sufficient to operate. Similarly, since the inverters operate independently, if one inverter is offline, the rest of the inverters can still function and deliver energy to the grid. The isolation primarily occurs by inverter, but also each string of modules is in many ways isolated as well.

Q32. Does the Petitioner have an Interconnection Agreement with United Illuminating? Provide a status of the agreement.

A32. Yes, please see Exhibit O.

Q34. Does the proposed fence design include a 4-to-6-inch gap at the bottom to allow for small animal passage?

A34. The fence design does not include a gap at its bottom in order to minimize the risk of predation of the sheep.

9.0 Conclusion

The Facility will provide numerous and significant benefits while producing significant environmental benefits with minimal undesired environmental impact. Pursuant to CGS § 16-50k(a), the Siting Council shall approve by declaratory ruling the construction or location of customer-side distributed resources project or facility with a capacity of not more than sixty-five (65) MW, as long as such project meets DEEP air and water quality standards. As shown in the attached exhibits and correspondences with regulatory officials, the Facility meets these criteria. The Facility is a “customer-side distributed resources facility” and a “grid-side distributed resources” facility, as defined in CGS § 16-1(a)(40), because the facility involves “the generation of electricity from a unit with a rating of not more than sixty-five megawatts on the premises of a retail end-user within the transmission and distribution system including, but not limited to . . . photovoltaic systems and, as demonstrated herein, the Facility will meet DEEP air and water quality standards. The Facility will not produce air emissions, will not utilize water to produce electricity, is designed to avoid wetland impacts, will employ a stormwater management plan that will result in no net increase in runoff to any surrounding properties, and furthers the State’s energy policy by developing and utilizing renewable energy resources and distributed energy resources (“DER”). Additionally, as demonstrated above, the Facility will not have an adverse environmental impact in the State of Connecticut.

Accordingly, the Petitioner respectfully requests that the Siting Council approve the location, construction, and operation of the Facility by the declaratory ruling.

Respectfully Submitted,

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