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Petition for a Declaratory Ruling

Date:

May 23, 2018

Prepared By:

Pawcatuck Solar Center, LLC



**PETITION OF PAWCATUCK SOLAR CENTER, LLC
FOR A DECLARATORY RULING THAT A CERTIFICATE OF ENVIRONMENTAL
COMPATIBILITY AND PUBLIC NEED IS NOT REQUIRED FOR THE
CONSTRUCTION, OPERATION AND MAINTENANCE OF A 15MWAC SOLAR
PHOTOVOLTAIC PROJECT ON ELLA WHEELER ROAD IN NORTH STONINGTON,
CONNECTICUT**

MAY 23, 2018

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1. 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”), Pawcatuck Solar Center, LLC (“Petitioner”) hereby petitions the Connecticut Siting Council (the “Siting Council”) for a declaratory ruling that a Certificate of Environmental Compatibility and Public Need (“CECPN”) is not required for the construction, operation and maintenance of a ground-mounted solar photovoltaic (“PV”) facility of 15MWac¹ to be constructed in the Town of North Stonington, Connecticut (the “Project”).

CGS § 16-50k(a) provides, in relevant part:

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 . . . the construction or location of any . . . grid-side distributed resources project or facility with a capacity of not more than sixty-five megawatts, as long as: (i) Such project meets air and water quality standards of the Department of Environmental Protection [and] , (ii) the council does not find a substantial adverse environmental effect....,

As described more fully below, the construction, operation and maintenance of the proposed Project satisfies the criteria of CGS § 16-50k(a) and will not have a substantial adverse environmental effect.

As a participant and awardee of the CT DEEP Tri-State RFP for Long-term Contracts under Public Act 15-107 1(b) and CGS § 16-50j, this Project is exempt for the

¹ Direct current (dc) is used for the bulk transmission of electrical power and is the type of electric power produced by the solar panels (i.e., the panel nameplate rating). Alternating current (ac) is the form in which electric power is delivered to businesses and residences from the utility (i.e., the project’s actual output). Accordingly, a solar facility must convert the “dc” power to “ac” before it can be delivered to the utility, which is achieved by the project inverters. Because the sun does not shine all the time and allow the panels to produce at 100% of their nameplate “dc” rating, a higher “dc” rating always exists once the power is converted into “ac” and delivered to the utility (e.g., Pawcatuck will need approximately 20MWdc to produce 15.0MWac).

requirements of CGS § 16-50k(a)(iii) as established through Public Act No. 17-218.

2. PETITIONER

Pawcatuck Solar Center, LLC is a Connecticut limited liability company with an office at 321 E. Main St., Suite 300, Charlottesville, VA 22902. Pawcatuck Solar Center, LLC was organized in 2016 for the purposes of developing, constructing and operating a 15MWac solar photovoltaic project in the Town of North Stonington, Connecticut.

Leading the development on behalf of the Petitioner is Coronal Energy, LLC (“Coronal”), a company based in Pasadena, CA, with development headquarters in Charlottesville, VA. Coronal is a leading developer, constructor, and operator of solar energy projects, with clients in over forty (40) states across the United States. Coronal Energy is owned in part by Panasonic, N.A. The collective experience of Coronal Energy, powered by Panasonic, includes projects in 40 states totaling 2.3 GW, with more than 3.4 GW of greenfield and brownfield projects under construction/contract or in development.

Panasonic’s backing allows Coronal to offer a fully integrated, streamlined development solution extending from project origination through financing, construction, and long-term operation, and ensures that a high-performing and financially strong energy asset will be constructed to contribute to the State’s renewable energy portfolio. In addition, Coronal, under its former names, Coronal Development Services and HelioSage Energy, successfully secured Siting Council approval for the development of the Fusion Solar Center in Sprague, Connecticut in 2015, and Somers Solar Center in Somers, Connecticut in 2013.² The Fusion and Somers projects are 20MWac and 5.0MWac respectively and are among the largest solar PV projects in the state.

² See, generally, Petition Nos. 1178 and 1042. The Fusion Solar Center project in Sprague, Connecticut was conveyed to DESRI CT Fusion Acquisition, LLC in 2017, prior to the commencement of construction. The Somers Solar Center project was conveyed to CleanPath Energy before it was conveyed to Dominion Energy in 2013 who oversaw construction of the facility.

Correspondence and/or communications regarding this petition should be addressed to:

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3. PROPOSED PROJECT

3.1. PROJECT HISTORY

Sections 1(b) and 1(c) of Public Act 15-107, *An Act Concerning Affordable and Reliable Energy*, gave the Connecticut Department of Energy and Environmental Protection (DEEP) the authority to solicit proposals for Class I renewable energy sources, Class III sources, passive demand response, and energy storage systems to secure cost-effective resources to provide more affordable and reliable electric service, consistent with the state's energy and environmental goals and policies established in the 2014 Integrated Resources Plan and 2013 Comprehensive Energy Strategy. Pursuant to this authority, in March 2016, the DEEP conducted a request for proposals ("RFP"). The Project was one of twenty five selected by DEEP pursuant to the RFP.

3.2. SITE SELECTION

The site selection for the Project was based on a detailed evaluation of the following key criteria:

- Site suitability (solar resource size, grade and surrounding topography);
- Site availability (ability to lease or purchase land);
- Proximity to critical infrastructure (suitable electrical grid access);
- Congruence with local zoning and planning.

Once the initial evaluation was completed, a preferred site was selected by the Petitioner for development and preliminary due diligence work was initiated. The development plan included two parcels totaling 278 acres on Ella Wheeler Road owned by Congeries Realty, Inc., a subsidiary of the Mashantucket Pequot Tribal Nation (MPTN). These parcels are adjacent to a suitable interconnection substation, have

willing landowners, and were thought to have enough suitable land to build the Project. The use of this site for a solar array represents a comparable increase of tax revenue for the Town of North Stonington (“Town”) and favorable low-impact industrial development of the land as opposed to other proposed uses including an amusement park, shopping center, or golf course.

Prior to award, Coronal commissioned All-Points Technology Corporation (APT) to perform a Critical Environmental Issues Analysis (CEIA) of the parcels. This CEIA indicated that finding the approximately needed 120 acres for solar within the two MPTN parcels alone would be challenging due to the presence of a vernal pool, multiple wetlands, challenging topography, and the potential presence of the state endangered Eastern Spadefoot Toad. Coronal secured a lease option on additional lands across I-95 to the north of the site but, after commissioning a separate CEIA, found this additional land to be unusable due to multiple vernal pools. Coronal employed real estate brokers but was unable to find other suitable properties for use as a part of the Project. As such, Coronal expanded its lease option with MPTN to include two additional adjacent parcels owned by Congeries Realty and continued efforts to work within the bounds of the 4 parcels outlined herein.

The Petitioner retained the following consultants to assist in the evaluation and design of the Project: (1) Rema Ecological Services, LLC (REMA), a local consulting firm specializing in vernal pools; (2) Terracon Consultants, Inc., geotechnical consulting engineers and scientists; (3) Blue Oak Energy, LLC, photovoltaic designers and civil engineers (a wholly-owned subsidiary of Coronal); (4) All Points Technology Corporation, P.C. (APT), a regional environmental consulting firm; (5) Eric Davison of

Davison Environmental, environmental scientist as a subcontractor to APT; (6) Dennis Quinn, Connecticut Herpetologist as a subcontractor to APT; and (7) Heritage Consultants, LLC, a cultural resources management firm as a subcontractor to APT. These Project consultants conducted preliminary due diligence investigations, wetland and natural habitat assessments, cultural resources and archaeological studies, geotechnical exploration, visual and civil engineering analysis, and communicated with the Town and applicable state agencies such as DEEP and the State Historic Preservation Office (“SHPO”) regarding the Project.

3.3. PROPERTY DESCRIPTION

The Petitioner has recorded lease options for the entirety of two parcels totaling 278 acres and a portion of 2 parcels totaling approximately 75 acres on or accessed by Ella Wheeler Road and partially abutting Pendleton Hill Road (Hwy 49) and Interstate 95 (collectively the “Property”). The Property is owned by Congeries Realty, Inc., a subsidiary of the Mashantucket Pequot Tribal Nation (“MPTN” or “Owner”). Zoned in the Town’s Industrial District and located within the Town’s Economic Development District, it has been both the Town’s as well as Owner’s aspiration for over two decades to see these properties develop for some industrial use. Currently, a majority of the Property is open agricultural land (row crop cycling between soybean and corn) intermixed with forested uplands and wetlands, with two cemeteries centrally located on the Property. See Exhibit A.

The Property is outside of the Town’s Village Overlay Area and Rural Preservation Zone and is abutted by property in the Industrial District, Economic Development District, and Medium Density Residential Zone. See Exhibit L. Land uses adjacent to the Project and within the immediate locale are mostly dominated by forest,

commercial and industrial developments, a ~50 acre gravel pit, and, to a lesser extent, agricultural use, open space, and single family residence.

The “Site”, as defined herein, consists of the entirety of two parcels totaling 278 acres and a portion of 75 acres that is comprised by additional parcels located off Ella Wheeler Road in the Town of North Stonington, Connecticut. The Site is bounded partially by Pendleton Hill Road, Interstate 95 (“I-95”), Boom Bridge Road and the Pawcatuck River.

In totality, the “Project Area”, representing the limits of disturbance, would encompass approximately 144 acres to accommodate the Solar Facility, temporary construction staging areas, access and peripheral tree-free zones (to mitigate shading effects). This will require clearing of approximately 98 acres of existing forest with 14 of those acres restricted from grubbing activities to maintain the woody understory and 8 of those acres subject to selective tree removal. Upon completion, the fence-enclosed Solar Facility will comprise approximately 118 acres.

3.4. PROJECT DESCRIPTION

The Project will consist of the installation of approximately 61,000 PV modules and associated ground equipment, upgrading and installation of an access road, installation of perimeter maintenance/access roads and installation of electrical interconnection facilities. See Exhibit A.

The Project will use PV module technology, which has been extensively tested, is in wide use across the solar industry and meets the traditional level of reliability reflected in the solar power generation industry. The Project will use a single-axis, steel or aluminum tracker system with pile-driven or ground screw foundations to allow for

optimal utilization of the Project Area. A single-axis tracking system allows for greater energy production per solar module.

The Site will be accessed off of Ella Wheeler Road as illustrated in Exhibit A. Inside the project fence line, the Petitioner will install perimeter maintenance/access roads throughout the Project area, which will be approximately 20 feet wide and approximately 26,000 linear feet long in total. A gravel staging and parking area is also planned along the north and east sides of the access drive in the central-western portion of the Site.

The entire Project will be surrounded by a six-foot (6') chain linked fence topped with one foot (1') of barbed wire in accordance with National Electric Safety Code ("NESC") regulations and with mesh size to be determined but no greater than 1.25" in compliance with Siting Council requirements. The fence will be raised 6" above ground level in all locations to accommodate wildlife movement. A copy of the Site development plans illustrating the above-described Project attributes is included as Exhibit A.

At the point of interconnection with The Connecticut Light and Power Company d/b/a Eversource Energy ("Eversource"), Pawcatuck will provide a utility class circuit interruption device equipped with a multifunctional relay to serve as the Interconnection Interruption Device. Revenue metering and a gang operated disconnect switch will be provided on the utility side of the meter. Additional equipment to monitor circuit voltage and to disconnect the facility from the grid will also be installed as needed on existing grid circuits to protect the system during system outage.

The Project is expected to produce in excess of 31,500,000 Kilowatt-Hours (kWh) of energy in the first year of operation. Energy produced by the Project will be sold at

rates specified in the Project's Power Purchase Agreement ("PPA") with Eversource and The United Illuminating Company ("UI") to said parties. The Project will have a design life of 30 years and efficiency loss of approximately 0.5% per year.

The total estimated cost of the Project is approximately \$21,900,000, which includes:

- Materials and equipment costs (approximate): \$14,300,000
- Project construction labor costs (approximate): \$ 6,400,000
- Other business costs and overhead (approximate): \$ 1,200,000

Construction of the Project is expected to begin in the first quarter of 2019 with mobilization of equipment and land clearing efforts. Further site work and land preparation is expected to be completed by late Spring 2019 with construction and installation efforts for the array equipment completed in Fall 2019. Final site stabilization, testing, and commissioning is expected to be completed by late 2019. Note, however, that Project construction timing is subject to change due to various factors.

At the end of its useful life, the Project will be decommissioned in accordance with the requirements of the Property leases and the decommissioning plan attached hereto as Exhibit B.

3.5. INTERCONNECTION

The Project will be interconnected to the Eversource distribution network via one new dedicated 13.8 kV distribution feeder that Eversource will construct from the Shunock substation, located adjacent to the Site on Pendleton Hill Road, to the Project location.³

³ Eversource will seek the necessary permits/approvals (if any) for this work.

The interconnection facilities at the Site will consist of the installation of approximately five new 40-foot tall poles⁴ with connecting spans of distribution line from the location where the feeder crosses Pendleton Hill Road to its termination at a riser pole near the Project fence line. From there, the feeder will then connect to the main revenue meter and Project switch gear, which will be either pole- or pad-mounted. All inter-array wiring will be installed underground between the groups of panels, equipment pads and the Project switch gear. In addition, inverters, transformers, and communications and control equipment will be installed at the Site. The inverters and transformers will be mounted on approximately 20' x 40' concrete equipment pads at or just above grade. See Exhibit A.

The interconnection facility design and construction will be performed in accordance with the Eversource and UI Guidelines for Generator Interconnection and State of Connecticut, ISO-New England (“ISO-NE”), and Federal Energy Regulatory Commission (“FERC”) requirements as applicable. As part of the interconnection process, the Petitioner has successfully completed a utility-sponsored Scoping Meeting, Interconnection Application Request and an Application Review, Feasibility Study, and is now completing Distribution and Transmission System Impact Studies. The scope of these studies includes:

- Circuit Modeling;
- Power Flow Analysis;
- Voltage Impact Study;

⁴ This is a preliminary estimate based on Coronal’s experience installing similar projects and is subject to change based on the final results of Eversource’s facilities study. The final interconnection design, including the number and height of the poles will be included in the Project’s Development and Management (“D&M”) Plan.

- Thermal Impact Study;
- Short Circuit Study;
- Review of Distribution Equipment Interrupting Ratings;
- Protection Coordination Review;
- Assessment of Transfer Trip Requirements; and
- Review of Protection Schemes.

It is not anticipated that the Project will require a Facilities Study per Eversource feedback, but the Applicant may choose to pursue one, if desired. If the Applicant does not choose to pursue a Facilities Study, then completion of the Distribution and Transmission System Impact Studies is the final step prior to receiving an Interconnection Agreement, Interconnection Authorization, Installation, Commissioning Test(s) and final approval to energize the system.

4. PROJECT BENEFITS

A public benefit exists if a project “is necessary for the reliability of the electric power supply of the state or for a competitive market for electricity.” CGS § 16-50p(c)(1). The Project will generate much of its power at peak times, when the demand for electricity is greatest, and will thereby provide the electrical system with flexible peaking capacity that is necessary to keep the electrical grid stable.

Further, the Project supports the State’s energy policies as set forth in CGS § 16a-35k, including the goal to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent.” The Project will provide clean, renewable, solar-powered electricity and assist the State in meeting its legislatively mandated obligations under the Renewable Portfolio Standard.

The Project will also assist the State of Connecticut in reducing greenhouse gas emissions and reducing criteria air emissions pollutants associated with the displacement of older, less efficient, fossil fuel generation. As part of larger state, national and global strategies, reductions in greenhouse gas emissions from this Project will have long-term secondary biological, social and economic benefits. Similarly, the advancement of renewable resources at a distributed level contribute to our Nation’s desire for energy independence and reduces our dependency upon foreign countries where geo-political issues may not align with National policy. The Project will also hire local labor, as practical, and be a source of increased revenue for local businesses during construction.

5. LOCAL INPUT & NOTICE

Throughout the Project planning process, the Petitioner has kept officials from the Town apprised of the Project's progress and the Petitioner is committed to continuing to solicit input from Town officials, other relevant agencies and from the general public in an effort to develop an ultimate design that results in the most public benefit with the least environmental impact. The Petitioner has developed a good working relationship with Town officials and the local community by pursuing a multi-faceted and inclusive public outreach effort that included:

- Meeting on May 28, 2017 with North Stonington's First Selectman Shawn Murphy and Economic Developer Juliet Hodge;
- A Project presentation at the Board of Selectman on June 6, 2017 attended by then-First Selectman Murphy, Nicholas Mullane, and Mark Donahue and North Stonington citizens at North Stonington Town Hall building, 40 Main Street, North Stonington, CT 06359;
- Outreach by phone and letter to the Town of Stonington, CT and Westerly, RI and letters to adjacent landowners to brief local officials and surrounding landowners regarding Project location and development.
- Introductory meeting by phone with newly elected First Selectman Michael Urgo December 14, 2017 and an on-Site meeting on April 12, 2018 with First Selectman Michael Urgo and Economic Developer Juliet Hodge.

Through continued coordination with Planning, Development and Zoning Official Juliet Hodge and then-First Selectman Murphy, the Project obtained an official letter of support from the Town. See Exhibit H. The Petitioner has continued its communication with the newly elected First Selectman Michael Urgo. In addition, because of the Project's proximity to their borders, on June 8, 2015, the Petitioner also conducted outreach with officials from the Towns of Stonington, CT and Westerly, RI to discuss the Project. As required by RCSA § 16-50j-40(a), the Petitioner also provided notice of its intent to file this petition to: (a) the Property owners; (b) those adjacent property owners

listed on Exhibit I; and the municipal officials and government agencies listed on Exhibit J.

The Petitioner conducted outreach to CT DEEP and met on December 7, 2017 with Robert Hannon, Oswald Inglese, Sharon Yurisciweiz, and Bea Milne to discuss the Project's location, key environmental characteristics and findings such as wetlands and stormwater, and receive their feedback. Additionally, on November 29, 2017 the Petitioner met with Jason Bowsza, Steve Anderson, and Kip Colson of the CT Department of Agriculture for a review of the Project and an opportunity to comment. Each of these consultations were done in order to incorporate early comments into the Site Layout and Design. Particularly, early engineering efforts for the project focused heavily on stormwater and erosion control design, and site vegetative stabilization, in order to address lessons learned from similar solar PV facilities in Connecticut. Comments from the Department of Agriculture during this meeting have been considered in the development of the Site Plan and Grading and Drainage Plans. Further refinement of these plans will be completed once the Petition is approved by the Siting Council and will be incorporated into the Project's Development and Management Plan.

6. POTENTIAL ENVIRONMENTAL EFFECTS

The Petitioner and its consultants, REMA, APT and its subcontractors, conducted a comprehensive environmental and cultural resources assessment of the Project in November 2016 – March 2018. As part of this process, relevant agencies were consulted, Project facilities were overlaid onto the Site, environmental impacts were evaluated and mitigation was applied as appropriate.

6.1. NATURAL ENVIRONMENT AND ECOLOGICAL BALANCE

Historical aerial photographs indicate that the majority of the Project Area was cleared agricultural land dating back prior to 1934, and remnant field stone walls can still be seen in many wooded areas of the Site. Consistent with ACS' recommendations, stone walls and piles within the fence line area will be removed as part of the clearing and site preparation process. Stone walls and piles outside of the Project's fence line, including those demarcating property boundaries, will be maintained to the fullest extent possible. See Section 6.5.

The solar array layout utilizes existing grades to the fullest extent possible in order to minimize the required amount of earth work, but some earth work is proposed throughout a majority of the array area in order to control stormwater runoff and meet equipment tolerances. Soil disturbance is also required to install foundations for the PV panels, associated equipment, and access roads. Panel foundations will be secured using a driven pile technology or ground screw foundations. All racking will be designed to meet applicable local building codes for wind and snow loads.

Some hazardous substances are required to be used or stored on Site during construction or operation of the Project, including gas or diesel-powered equipment

during construction activities, requiring fuel storage. Industry best practices for the management and containment of such substances will be strictly enforced during construction and incorporated into operations and management plan for the facility. Further, the inverter step-up transformers located at each equipment pad will use biodegradable oil for cooling. Accordingly, the appropriate Spill Prevention, Control, and Countermeasure (SPCC) plans will be implemented at the Site. A November 2017 Phase I Environmental Site Assessment (“ESA”) prepared for the Site concluded that no recognized environmental conditions (“REC”) or other related concerns exist.

In order to design and install the most efficient Project, while also avoiding unnecessary forest impacts, the Petitioner conducted a “shading” study and analysis in order to determine the extent of tree clearing required to avoid a shading effect on the PV panels. See Exhibit A. Due to the constrained usable area for siting PV panels at the site, some tree removal will be required in order to accommodate the array footprint itself, as well as to ensure that shading to the panels is kept to minimal levels during the most productive times of the day. The final Project design and configuration attempt to minimize the removal of trees from the Property.

The proposed layout results in an average annual shading loss of approximately 3%, which the Petitioner has determined will allow for the achievement of target energy output numbers under the Power Purchase Agreement (PPA) with Eversource and United Illuminating. In order to achieve this percentage, the Petition will need to clear approximately 98 acres of trees, resulting in the clearing of approximately 13,720 trees with a six inch (6”) or greater diameter at breast height. See Exhibit A and Exhibit G.

At the end of design life of the Project, all equipment (e.g. racking system, panels, inverters, electrical collection system, etc.) will be removed in accordance with the Decommissioning Plan. See Exhibit B.

6.2. PUBLIC HEALTH AND SAFETY

Overall, the Project will meet or exceed all health and safety requirements applicable to electric power generation. Each employee working on Site 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 Site;
- Know the location of local emergency care facilities, travel times, ingress and egress routes; and
- Report all unsafe conditions to the construction manager.

During construction, heavy equipment will be required to access the Site during normal working hours (7 a.m. to 7 p.m. Monday through Saturday), and it is anticipated that 50 – 60 construction vehicles (average size light-duty) will make daily trips onto the Site. After construction is complete and during operation, minimal traffic is anticipated. For standard operations and maintenance activities, one to two light-duty vehicles will visit the Site on a monthly recurring basis, on average. There will not be permanent staff present at the Site.

The Project will not produce significant noise during operation. While, during the construction of the Project, higher levels of noise are anticipated, all work be conducted during normal working hours and it is not anticipated that the levels of noise will exceed State or local noise standards or limits. See Exhibit G.

Because the solar modules are designed to absorb incoming solar radiation and minimize reflectivity, only a small percentage of incidental light will be reflected off the panels. This incidental light is significantly less reflective than common building materials, such as steel, and the surface of smooth water. Additionally, since the project will utilize a single-axis tracking system for the PV panels, which tracks the sun as it traverses the sky from East to West, almost all incident light will be reflected back toward the direction of the Sun. Most importantly, a majority of the Project will be shielded from view due to existing landscaping and topographical conditions.

The Applicant submitted the Project location to the Federal Aviation Administration's (FAA) Notice Criteria Tool and received a result indicating "You do not exceed Notice Criteria". Thus, the Project does not require further notification or coordination with the FAA and poses no direct hazard to air navigation for any adjacent airport approach ways by default. See Exhibit M.

Prior to operation, the Petitioner will meet with Town first responders to provide them information regarding response to emergencies at PV facilities, discuss industry best practices, and provide a tour of the Project.

6.3. AIR QUALITY

Overall, the Project will have minor emissions of regulated air pollutants and greenhouse gases during construction, however no air permit is required for these activities. During construction of the Project, any air emission effects will be temporary and will be controlled by enacting appropriate mitigation measures (e.g., water for dust control, avoid mass early morning vehicle startups, etc.). Accordingly, any potential effects on air quality as a result of the Project construction activities will be de-minimus.

During operation, the Project will not produce air emissions of regulated air pollutants or greenhouse gases (e.g., PM10, PM2.5, VOCs, GHG or Ozone). Thus, no air permit will be required. Moreover, over 30 years, the Project will result in the elimination of approximately 690,000 metric tons of CO₂ equivalent, which is equal to taking approximately 150,000 vehicles off the road and the amount of carbon sequestered by approximately 825,000 acres of U.S. forests in one year.⁵

6.4. SCENIC VALUES

No scenic areas would be physically or visually impacted by development of the Project. No recognized scenic areas, outlooks or designated scenic roads are located proximate to the Site. Furthermore, no public hiking trails or other potential public non-vehicular trails were found to be present in the area that would serve as potential observation points.

The Project will be set back generally in the central portion of the Site and in those surrounding locations to the east, west and south, the Petitioner will maintain the substantial vegetative buffer between the Site and potential observation points. The Project is bounded to the north by Interstate 95.

6.5. HISTORIC VALUES

On behalf of the Petitioner, Heritage Consultants, LLC (“Heritage”) of Newington, Connecticut prepared a Phase I-A Cultural Resources Survey Report for the Site in November 2017. Heritage identified historic resources in portions of the Property and coordinated with the Petitioner and APT in the preliminary design phase to avoid direct impacts by excluding these areas from the Project’s footprint to the extent possible. Heritage also identified ±69 acres considered to possess moderate to high sensitivity for

⁵ U.S. EPA Greenhouse Gas Equivalencies Calculator

containing archaeological resources and recommended that these areas be subjected to subsurface testing using shovel tests.

On April 16, 2018, APT requested a review of the Project by the SHPO. See Exhibit E and Exhibit F. In an email response received April 16, 2018 from SHPO via Ms. Catherine Labadia, Deputy State Historic Preservation Officer and Staff Archaeologist, SHPO concurred with Heritage's findings and proposed scope of work for a future Phase I-B Archaeological Field Analysis to be performed at the Site to evaluate sensitive areas. The Petitioner is working with APT and Heritage to complete this field work prior to Site construction activities.

6.6. WILDLIFE & HABITAT

Extensive field and habitat surveys were conducted to characterize potential special-status plants, wildlife and their associated habitat that may occur on the Site. In particular, REMA and APT performed the following:

- Critical Environmental Issues Analysis – June 2016
- Vernal Pool Habitat Investigation – January 2017 and April 2017
- Eastern Spadefoot Toad Survey – April 2017 and ongoing
- Wetland and Waterway Delineation – December 2017; and
- Environmental Assessment – May 2018 (see Exhibit G).

Based upon a review of available DEEP Natural Diversity Database (“NDDB”) mapping, threatened, endangered, or special concern species or critical habitats were identified on the Property along the Pawcatuck River and the far eastern end of the Property. It should be noted that the majority of the Site is not located within a NDDB buffer area. In order to confirm those findings, in June 2016, APT requested an NDDB State-Listed Species review by DEEP. DEEP noted the presence of four listed species

in the vicinity of the Project: Sparkling jewelwing (Threatened; *Calopteryx dimidiata*), Eastern pearlshell (Special Concern; *Margaritifera margaritifera*), Red bat (Special Concern; *Lasiurus borealis*) and Eastern spadefoot toad (Endangered; *Scaphiopus holbrooki*). Extensive surveys for Eastern spadefoot toad were performed in 2017 (and are ongoing), resulting in a significant redesign of the solar project to both avoid and enhance critical spadefoot toad habitat. APT's assessment concluded that none of the listed species would be negatively impacted by the Project with implementation of mitigation measures to protect and enhance toad habitat and applicable protective measures during construction activities to promote avoidance of unintentional injury or mortality to any listed species potentially using the Property. See Exhibit G.

6.7. WATER QUALITY

The Project will use no water during operations in the production of electricity. Any water utilized during the construction of the Project for dust suppression will be minimal and have no impact on the water quality in the vicinity of the Site. The majority of the Site is within Flood Zone X, designated by the Federal Emergency Management Agency ("FEMA") as an area outside of the 500-year floodplain area with a minimal risk for flooding. Extreme southern portions of the Host Property, along the Pawcatuck River, are classified as Zone AE, which is identified as a high flood risk area. No Project activities are planned within Zone AE. No public water-supply wells or aquifer protection areas are located proximate to the Site. Thus, no impacts on water quality or supply would occur with the construction or operation of the proposed Project.

6.7.1 Wetlands

APT completed wetland inspections and delineations in October, November and December 2017 (see Exhibit G) and those delineations were used to design the Project's physical layout in an effort to avoid wetlands features.

The vast majority of the Site is comprised of upland areas dominated by cultivated agricultural fields. Twelve (12) distinct wetland areas are located within and bordering the Site. These wetlands consist of complexes of hillside seep wetlands, interior intermittent/perennial watercourses, bordering wetlands to the Pawcatuck River, isolated pocket wetlands, and hummock/hollow depressional wetlands. All of the wetlands resources identified on and proximate to the Site have experienced varying degrees of anthropogenic influence resulting from nearby heavy agricultural use. These existing impacts include edge clearing, storage of manure, stormwater discharges, and regular maintenance of the agricultural fields. A single vernal pool was identified on the Site. It is a cryptic vernal pool embedded within Wetland 4, located in the central portion of the Site. Significant disturbance is occurring within both the pool and surrounding terrestrial habitat due to ongoing agricultural activities that include intensive monoculture cultivation with associated annual tillage, fertilizer applications and herbicide/pesticide spraying. Chicken manure has routinely been stockpiled within and adjacent to the vernal pool, the farm road crosses the southern limits of the pool and untreated runoff from the adjacent cultivated field discharges into the pool; activities that have resulted in significant degradation of the pool's water quality and concern for the long-term sustainability of this breeding habitat.

With the exception of a proposed crossing at a narrow point in Wetland 1, the Solar Project will not result in direct wetland impacts. The proposed crossing of Wetland

1 is required to access the far western solar module and the electrical transmission interconnection facility. The wetland crossing was selected at a narrow point within this north-south oriented wetland corridor to minimize permanent wetland impacts, which only total $\pm 1,650$ square feet.

In addition, the Project involves the partial clearing and conversion of approximately 5.31 acres of wetland forest to wetland woodlands and scrub/shrub habitat. This conversion will include the selective overstory removal of any mature wetland forest. In some locations this will require removal of all tree growth resulting in a conversion to scrub/shrub cover. In other areas where the understory contains smaller sapling tree growth the cover type will be converted to wetland woodland. Trees removed within wetland areas will primarily consist of red maple. These trees will not be treated with an herbicide allowing them to naturally stump sprout.

No direct impact to the vernal pool is proposed and no activity is proposed within the vernal pool envelope conservation zone (i.e., 0 to 100 feet). The Project would improve water quality of Vernal Pool 1, restore the vernal pool envelope and result in limited loss of forest cover (as opposed to the loss of cornfield that provides suboptimal terrestrial habitat for amphibians). See Exhibit G. Therefore, the Project is not expected to adversely impact vernal pool indicator species.

Potential short-term, temporary impacts associated with construction activities will be minimized through the proper design, installation and maintenance of sedimentation and erosion controls in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. Further, due to the close proximity of the proposed development to nearby wetlands, the Petitioner will implement a wetland and vernal pool

protection plan during construction to provide additional measures to avoid temporary wetland impacts. See Exhibit G, Appendix.

6.7.2 Storm Water Management

As detailed in earlier sections, the Petitioner has taken Stormwater Management very seriously from an early stage in the development process for the Project. Design and engineering of stormwater and erosion control measures are integral to the overall development plan for the Project and inextricably linked to the environmental protection and mitigation plan to be implemented as described in Exhibit G. Accordingly, the Petitioner has prepared a Grading and Drainage Concept Plan and associated Stormwater Engineering Concept Report (see Exhibit C and Exhibit D) for the Project that details the method and plan for stormwater management at the Site.

Since construction of the Project will disturb more than one (1) acre of land, the Petitioner will register under the DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities at least thirty (30) days prior to commencing any construction activities. The Petitioner intends to request coverage under the existing Connecticut General Permit, DEEP-PED-GP-015, by submitting a complete and accurate General Permit Registration Form and Transmittal prior to construction activities and in accordance with applicable rules at the time of filing. In connection with that registration, the Petitioner will implement a storm water management plan to minimize any potential adverse environmental effects. These procedures will be outlined in the Storm Water Management Plan with Storm Water Pollution Prevention Plan ("SWMP" with "SWPPP") for the Project. Upon receipt, the Letter of Coverage under the General Permit will become part of the SWMP with SWPPP for the Project. Additionally, an Erosion and Sediment Control Plan will be

prepared in accordance with Connecticut General Statutes §§ 22a-325 through 22a-329 during the final site design of the Project.

The Connecticut Department of Energy and Environmental Protection (CT DEEP) stormwater regulations require site planning that strives to preserve pre-development hydrologic conditions. Pre-development runoff volume and rate, groundwater recharge, stream baseflow, and runoff water quality are primary areas the CT DEEP design methodology addresses. Concepts such as designing the development to fit the terrain, limiting land disturbance activities, providing setbacks and vegetated buffers, and maintaining pre-development vegetation shall be utilized to the maximum extent practicable to preserve pre-development hydrologic conditions. Utilizing sizing criterion, and design concepts identified in Exhibit D, the Project's watersheds were analyzed hydrologically in order to provide preliminary site stormwater management design, including permanent stormwater management facilities to meet CT DEEP requirements.

As per the Grading and Drainage Concept Plans, some Site disturbance is required in order to facilitate installation of the arrays and associated equipment to satisfy equipment tolerances and ensure appropriate stormwater control. Analysis shows the need for various temporary and permanent stormwater and erosion control features, including silt fencing, fiber rolls, diversion ditches, and stormwater basins.

As can be concluded from the Stormwater Engineering Concept Report in Exhibit D, the project stormwater engineering design will mimic existing conditions of the historic drainage patterns to the maximum extent practicable, and limit environmental impacts to wetlands, streams, and habitat. Post-Construction, a native seed mix will be implemented. Once the Site is stabilized, temporary erosion and sediment control

structures will be removed. Sediment Basins located on the Northeast Site Location will be converted into permanent structures to provide peak flow attenuation post-development per the Stormwater Concept Report analysis. No other permanent stormwater controls are necessary due to natural attenuation of runoff that is caused by changing the existing cover type from row crops to a meadow condition of the proposed solar farm.

7. CONCLUSION

The Project will provide numerous and significant benefits to the Town, the State of Connecticut and its citizens, and will place the Town at the forefront of green energy development while producing substantial environmental benefits with minimal environmental impact. Pursuant to CGS §16-50k(a), the Council shall approve by declaratory ruling the construction or location of a grid-side distributed resources project or facility with a capacity of not more than 65 MW, as long as such project meets DEEP air and water quality standards and will not have a substantial adverse environmental effect. As amply demonstrated within this petition, the Project meets these criteria.

The Project is a “grid-side distributed resources” facility, as defined in CGS §16-1(a)(37), because the Project involves “the generation of electricity from a unit with a rating of not more than sixty-five megawatts that is connected to the transmission or distribution system...” and, as demonstrated herein, the Project will meet DEEP air and water quality standards. Further, the Project:

- Will not produce air emissions during operations (PM10, PM2.5, VOCs, GHG or Ozone);
- Will not utilize water to produce electricity or be in conflict with any Federal, State, or Local requirements related to water quality and quantity;
- Will not produce significant noise;
- Was designed to avoid wetland and biological impacts to the extent possible, and improve certain biological features of the Property;
- Will not have substantial adverse visual, land use, storm water, recreational, cultural, human or biological impacts; and
- Will further the State's energy policy by developing and utilizing renewable energy resources.

For all the foregoing reasons, the Petitioner requests that the Siting Council issue a declaratory ruling that the proposed Project will comply with DEEP air and water quality standards, will not have a substantial adverse environmental effect and, therefore, that a CECPN is not required for the construction, operation and maintenance of the Project.

Respectfully submitted,
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