DRAFT

Petition No. 1424
Southington Solar One, LLC
1012 East Street, Southington
Staff Report
May 14, 2021

Introduction

On July 29, 2020, Southington Solar One, LLC (SSO or Petitioner) submitted a petition (Petition) to the Connecticut Siting Council (Council) for a declaratory ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k for the construction, operation and maintenance of 4.725-megawatt (MW) alternating current (AC) solar photovoltaic generating facility located at 1012 East Street, Southington, Connecticut (Project).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, on or about July 23, 2020, the Petitioner notified Town of Southington (Town) officials, state officials and agencies; the property owner, and abutting property owners of the proposed project.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act (UAPA), an administrative agency is required to take an action on a petition for a declaratory ruling within 60 days of receipt. September 27, 2020 was the deadline for action on this petition under CGS §4-176(e). In response to the Coronavirus pandemic, Governor Lamont issued Executive Order No. 7, as subsequently extended, that provides for a 90-day extension of statutory and regulatory deadlines for administrative agencies thus extending the deadline for action to December 26, 2020.

On August 27, 2020, Michael and Diane Karabin (Karabins) requested intervenor status and Connecticut Environmental Protection Act (CEPA) intervenor status. The Karabins indicated "they have a direct interest in the proceedings which will be adversely and specifically impacted and substantially affected as they lease, use and farm" portions of the host parcel that is owned by the Catholic Cemeteries Association of the Archdiocese of Hartford, Inc. (CCA) where the proposed Project site is located.

On September 11, 2020, the Council granted intervenor status and CEPA intervenor status to the Karabins limiting their participation under CGS §4-177a(d) to environmental matters that are jurisdictional to the Council, which include potential impacts to agriculture, but do not include the evaluation and/or determination of rights under any lease with the property owner of the proposed site. Also on September 11, 2020, a revised schedule was developed with an October 2, 2020 deadline for the exchange of interrogatories between participants.

The Council issued interrogatories to the Petitioner on September 1 and September 3, 2020, March 9, and April 1, 2021. The Petitioner submitted responses to the Council's interrogatories on September 22, 2020, and March 31, April 8, and April 23, 2021. In response to one of the September 3, 2020 interrogatories, the Petitioner submitted photographic documentation of site-specific features intended to serve as a "virtual" field review of the project.

On September 25, 2020, the Karabins issued interrogatories to the Petitioner and the Petitioner submitted responses to the Karabins' interrogatories on October 16, 2020. On November 11, 2020, the Karabins submitted an Objection to Petitioners' Responses to the Karabins' Interrogatories and a Request for Production of Documents. The Council overruled the Karabins' Objection and Request for Production of Documents on December 4, 2020.

Also on December 4, 2020, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than April 25, 2021, which was the 180-day statutory deadline for a final decision under CGS §4-176(i) with the 90-day extension granted by Governor Lamont's Executive Orders, as extended. A revised schedule was developed evidencing the Council's December 4, 2020 vote to set the date by which to render a decision on the Petition in accordance with the 60-day agency action deadline under CGS §4-176(e), as extended by Governor Lamont's Executive Orders.

On February 22, 2021, pursuant to CGS §4-176(i), the Council requested an extension of time to render a final decision on the Project to October 22, 2021. On March 1, 2021, the Petitioner and the Karabins agreed to grant the Council the extension of time. A revised schedule was developed evidencing the consent of the parties and intervenors to the Council's request for a 180-day extension of the final decision deadline under CGS §4-176(i).

On April 16, 2021, the Karabins requested a public hearing. Due to the passage of the UAPA 60-day agency action deadline and the Council's December 4, 2020 vote to issue a declaratory ruling by April 25, 2021, the request for a public hearing was moot. There is no provision in the UAPA that provides for any extension of the 60-day agency action deadline within which the Council must act on a Petition.[1]

On April 19, 2021, a revised schedule was developed with a final deadline of April 26, 2021 for the exchange of additional interrogatories between participants and a final deadline of May 10, 2021 for responses to the interrogatories. No further interrogatories were issued by the Council, Petitioner or the Karabins.

On April 20, 2021, with consent from the property owner, Council staff members Melanie Bachman and Robert Mercier visited the site.

Municipal Consultation

In January 2020, the Petitioner informed municipal officials in the Town of its plans to develop the proposed project. Over several months, the Petitioner remained in contact with municipal officials to keep them apprised of the project's progress and the permitting and development schedules.

The Petitioner appeared before the Town's Conservation Commission on May 7, 2020, and the Planning and Zoning Commission on May 19, 2020.

In April 2020, the Petitioner engaged in public outreach efforts. Such public outreach included, but was not limited to, launching a project website; and distributing a project fact sheet with frequently asked questions and contact information for the Petitioner. The Petitioner received email correspondence and phone calls from 6 individuals who expressed visibility, wildlife and land use concerns about the Project.

On July 30, 2020, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by August 5, 2020. The Town Planning and Zoning Commission submitted comments on August 27, 2020. The Petitioner responded to the Planning and Zoning Commission comments in its responses to the Council's interrogatories dated March 31, 2021.

[1] Governor Lamont's Emergency Orders extended the 60-day agency action deadline from September 27, 2020 to December 26, 2020; *A. Gallo & Co. v. McCarthy*, 2010 Conn. Super. LEXIS 1788 (Conn. Super. 2010) (Engrafting a tolling provision by regulation onto the statute to be applied within the sole discretion of the agency undermines the streamlined procedure contemplated by the statutory scheme.)

State Agency Comments

On July 30, 2020, the Council sent correspondence requesting comments on the proposed project from the following state agencies by August 28, 2020: Department of Energy and Environmental Protection (DEEP); Department of Agriculture (DOAg); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Emergency Services and Public Protection (DESPP); Department of Consumer Protection (DCP); Department of Labor (DOL); Department of Administrative Services (DAS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO).

In response to the Council's solicitation, the CEQ and DEEP both submitted comments on August 28, 2020. The comments are attached.

While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies.[2]

Public Act 17-218

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

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

Public Benefit

The project would be a distributed energy resource facility as defined in CGS § 16-1(a)(49). CGS § 16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent." The 2018 Comprehensive Energy Strategy (2018 CES) highlights eight key strategies to guide administrative and legislative action over the next several years. Specifically, Strategy No. 3 is "Grow and sustain renewable and zero-carbon generation in the state and region." Furthermore, on September 3, 2019, Governor Lamont issued Executive Order No. 3, which calls for the complete decarbonization of the electric sector by 2040. The proposed facility will contribute to fulfilling the State's Renewable Portfolio Standard and Global Warming Solutions Act as a zero emission Class I renewable energy source.

[2] *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

Energy produced by the facility would be sold to Eversource at market rates specified in the applicable utility tariff for any self-generation facility. Alternatively, in the event that virtual net metering capacity becomes available, energy produced by the proposed project may be delivered to Eversource via the Virtual Net Metering (VNM) Rider or any successor rider thereto. Eversource's VNM program is accepting applications for the state, municipal[3] and agricultural host funding program. Funding for the program is currently capped, and projects are being placed on a waitlist in the event that funding is increased or already allocated projects do not move forward. Notwithstanding, the proposed project is still viable via the market-based tariff if VNM is not available.

The Petitioner was awarded a 15-year contract with Eversource under the state's Low and Zero Emissions Renewable Energy Credit Programs (LREC/ZREC Program) to sell the renewable energy credits (RECs) from the facility. The LREC/ZREC Program was developed as part of Public Act 11-80, "An Act Concerning the Establishment of the [DEEP] and Planning for Connecticut's Energy Future." The LREC/ZREC Program is not among the competitive energy procurement programs that are exempt from Public Act 17-218.[4]

The Petitioner intends to participate in the ISO-New England Forward Capacity Market.

Proposed Site

Pursuant to a lease agreement with the property owner, the Petitioner proposes to construct the solar facility on a 37.45 acre site[5] located within an approximately 102.4-acre parcel at 1012 East Street in Southington. The subject property is located within the Residential R-40 Zone[6] and is owned by the CCA.

There are two existing leases on the property; one has been executed by the Petitioner for the area of the host parcel that includes the proposed project site while the other has been executed by the Karabins for the area of the host parcel that is not otherwise leased to the Petitioner. No portions of the proposed project site are under lease by another party.

The parcel is currently used for agricultural purposes, primarily as hay field. The parcel is encumbered with multiple utility easements including two underground gas pipelines extending in a north/south direction in the central portion, an aboveground electric transmission line right-of-way (ROW) and an adjacent gas pipeline easement extending in an east/west direction along the southern property line, and a Town sewer line extending in a north/south direction in the western portion. Other features include forested areas and several wetlands and associated watercourses.

Surrounding land use consists of residential development and an electric transmission line ROW to the south, residential and undeveloped land to the east and north, and undeveloped land to the west.

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[3]Pursuant to CGS §16-244u, the state's VNM program incentivizes the use of renewable energy by allowing municipalities and other end use customers to assign surplus energy production to other metered accounts.

[4] Zero emission renewable energy credit (ZREC) contracts are limited to 1 MW, and LREC contracts are limited to 2 MW. (CGS §16-244r).

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

[6]Farming, together with accessory uses as provided in Section 2-01.A.11, including agriculture, orchards, forestry, truck and nursery gardening, dairy farming, livestock and poultry raising excluding the commercial raising of pigs and fur bearing animals, provided that no buildings erected subsequent to the adoption of these Regulations for the purpose of housing livestock or poultry shall be located less than 100 feet from any street or lot line. (Town Zoning regulations, July 2, 2020)

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

a) No tree clearing required to develop the site;
b) Large buffer to adjacent residences; and
c) Proximity to the electrical infrastructure.

The proposed facility would be constructed on approximately 37 acres, mostly in open field areas in the central portion of the property.

Pursuant to CGS §16-50p(g), the Council has no authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility.[7]

Proposed Project

The solar facility would include a total of 18,434 solar photovoltaic modules with a facility output of 4.725 MW AC. The facility would be separated in three array areas, divided by the alignment of the north-south easements on the property. The three array areas are as follows;

a. Western Array - 7,296 400 W modules (2.9 MW DC)
b. Central Array - 3,120 380 W modules and 1,778 400 W modules (1.9 MW DC)
c. Eastern Array - 1,404 395 W modules and 4,836 W modules (2.5 MW DC)

The modules would be installed at a 30 degree angle on a fixed-tilt ground-mounted racking system with the modules oriented to the south. The modules would be installed with a minimum ground clearance of approximately 3 feet, extending to a height of 10 feet. The racking system would be supported by 14-foot long posts driven into the ground to an embedment depth of about 8 feet. A geotechnical investigation supports the driven post methodology. The use of ground screws is not anticipated. Each racking table could support 12, 16, or 20 modules in portrait.

Other Project equipment includes 38 inverters; 3 pad mounted switchgears; 3 transformers, and 1 service interconnection line. The transformers and related switchgear would be located on three, 10-foot by 24-foot concrete pads in the northern portion of the facility, adjacent to the gavel access road.

The Project's net capacity factor is estimated to be 22.12 percent. The solar field would be designed with inter-row spacing of 17.1 feet which is the optimal distance that minimizes shading effects and increases the overall output of the facility. The efficiency of the proposed solar panels is approximately 19-20 percent with an estimated annual power degradation of approximately 0.5 percent per year.

The majority of the wiring would be installed on the racking system. Where wiring is not installed on the racking system, it would run in conduit. The power output from the inverters would feed into a step-up transformer to raise the voltage to match the existing electric distribution system.

The Project would connect to the distribution system from an underground feeder extending from the switchgear pad, then transitioning to an overhead line supported by 6 new utility poles that would be installed on the north side of the existing access road and one new utility pole near the site entrance on East Street. The Project would complete a three-phase line extension to the 4C17 Distribution Circuit located on East Street. The interconnection would meet Eversource, State of Connecticut, ISO-NE, and Federal Energy Regulatory Commission requirements.

The Petitioner finalized an interconnection agreement with Eversource in February 2020. An ISO-NE interconnection study is not anticipated due to the small scale of the Project. The interconnection to the distribution circuit would reduce the overall electrical load on the interconnecting circuits, thereby

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

reducing risks of outages caused by overloads on the transmission network, equipment failures in other locations, or centrally located generator malfunctions. As a distributed generation project, it would reduce strain and congestion on the distribution network, as well as the interlinked transmission grid.

The proposed site would be accessed using an existing 900-foot long gravel road extending from East Street. The Petitioner would upgrade the road by resurfacing it with three inches of new gravel. An additional 3,170 feet of new, 12-foot wide gravel roads would be constructed that extend along the north side of the site as well as the interior of the three array areas. The access road along the north side of the site would also provide access to agricultural fields located west of the project lease area.

The topography of the site consists of gentle slopes (less than 5 percent) with ground elevations ranging from 210 feet above mean sea level (amsl) in the northwest to 190 feet amsl in the southeast.

SSO would maintain existing grades in the project area except where necessary to install the stormwater management system. Approximately 8,920 cubic yards of cut would be generated to construct two stormwater basins in the eastern portion of the site. This excess material would be used to construct berms associated with a stormwater basin in the southwestern portion of the site. Any remaining material would be distributed on site.

Site construction would occur in two main phases. Phase 1 includes all work necessary to establish temporary sediment basins and other erosion control measures at the site, followed by stabilization of the basins by site seeding and/or the application of erosion control blankets. Phase 2 includes installation of site infrastructure and final site stabilization.

Construction of the site is anticipated to take six months. Typical construction hours are as follows: Monday – Friday: 7:00 AM to 4:00 PM; Saturday (if needed): 9:00 AM to 4:00 PM; Sunday (if needed): 11:00 AM to 4:00 PM.

Public Safety

The proposed project would comply with the National Electrical Code, National Electrical Safety Code and National Fire Protection Association codes and standards, as applicable. The Petitioner has designed the system in accordance with the CT State Fire Prevention Code, Section 11.12.3 - Ground Mounted Photovoltaic System Installations.

The nearest federally-obligated airport to the site is the Meriden Markham Airport in Meriden, located 5.5 miles south of the proposed facility. Under Federal Aviation Administration (FAA) criteria, the Project would not be a Hazard to Air Navigation or require a FAA glare analysis.

The Petitioner is willing to offer training to local emergency responders, if requested. The proposed facility would be remotely monitored using a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system can remotely operate a breaker to de-energize the facility in the event of an emergency.

The proposed facility would be in compliance with DEEP Noise Control Standards. The nearest noise producing equipment is an inverter/transformer located 575 feet south of the property line of 38 Windsor Way. Project-related operational noise is not expected to exceed 12.8 dB at this property line. Construction noise is exempt from DEEP Noise Control Standards.

The solar array area would be enclosed with a six-foot tall[8] chain-link fence set flush to the ground. Vehicle access gates would be located along the north access road to provide access to internal solar field roads. Secondary gates would be installed to access the stormwater management basins at the south end of the site. Each gate limits access to authorized personnel and emergency response personnel.

The solar field portion of the site is not located within a Federal Emergency Management Agency designated 100-year or 500-year flood zone. The eastern extent of the proposed access road is located within a 100 year-flood zone associated with Misery Brook. No additional fill would be used to upgrade the existing access road in this area and no impacts to the flood zone are anticipated.

A DEEP Dam Safety Permit for the stormwater basins is not required because they will each retain less than three acre-feet of water at maximum storage elevation.

A Petroleum Materials Storage and Spill Prevention plan is included on the Project site plans.

Environmental Effects and Mitigation Measures

Historic and Recreational Resources

Four properties listed on the National Register of Historic Places are within one mile of the Site, but they are not near the project area and no impact to these properties would occur. Based on a review of historic maps, aerial photographs, and soil profiles, the site possessed a potential for archaeological sensitivity. Subsequent field evaluations of the site found no evidence of archaeological significance and no further investigation is warranted.

No state or locally-designated scenic roads would be impacted by development of the Project. The nearest recreational area is the YMCA Camp Sloper located east of the Site but due to intervening woodland, the project would not be visible from camp recreational areas. The Metacomet Trail, a CT Blue Blaze Hiking Trail maintained by the CT Forest and Parks Association, is located approximately one mile to the southeast of the Project area at a higher elevation than the site. The Project would be visible from some areas of the trail as it extends along a ridgeline.

Visibility

The proposed project would be visible year round primarily from developed residential properties to the south including, but not limited to, the northern ends of Partridge Drive, Pin Oak Drive and Hamilton Avenue. Most of the properties have a narrow band of trees along the property line. Additional year-round visibility from elevated locations approximately 0.75-mile southeast of the site along Copper Ridge Road may also be possible.

In general, views of the proposed facility beyond the immediate area would be minimized by a combination of the relatively low height of facility components and the presence of intervening vegetation and infrastructure.

The Petitioner proposes to plant a row of Spartan Junipers (3 for every 10 feet and 5 to 6 feet tall at planting) along the fence line that faces residences to the west and southwest along Partridge Drive area.

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

In addition to plantings, the Petitioner would install privacy slats on the western and southern fence lines to provide additional screening of project components.

No exterior lighting is proposed for the facility.

Agriculture

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

A majority of the property is used as agricultural land. The site host property contains 48.7 acres of mapped prime farmland soil. Approximately 26.6 acres of mapped prime farmland are present within the project footprint. Of this, approximately 5.3 acres would be disturbed by excavation/grading related to the establishment of the stormwater management system and construction of the access road along the north edge of the facility. Topsoil that is removed would be temporarily stockpiled on-site for reuse in the disturbed/excavated areas. Grading and topsoil removal is not proposed for other areas of the site.

By letter dated September 16, 2020, pursuant to PA 17-218, DOAg indicated that although SSO proposed a livestock co-use plan for the site, it could not make a representation to the Council that the project would not have a material effect on the status of prime farmland. SSO subsequently revised its agricultural co-use plan and agreed to include additional measures to reduce project-related impacts to prime farmland.

On February 19, 2021, DOAg submitted a second letter to the Council indicating that the proposed project would not materially impact the status of prime farmland as long as the Petitioner and the landowner implement the following measures;

a. co-location activities which will include, throughout the project's existence, grazing sheep and an apiculture area on the project site;
b. establishment of a community garden on the project site;
c. CCA sell the development rights to preserve approximately 60 acres of the host parcel, applied to the DOAg's Farmland Preservation Program; and
d. CCA grant DOAg a Right of First Offer on the remaining acreage of the host parcel.

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the proposed solar electric generating facility "site." Under RCSA §16-50j-2a(29), "site" means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located. The Council does not have jurisdiction or authority over any portion of the host parcel beyond the boundaries of the project "site." This includes portions of the parcel retained by CCA and portions of the parcel CCA may lease to third parties. Once a facility is decommissioned, the Council no longer has jurisdiction or authority over the project "site."

SSO would contract with a sheep farmer to rotationally graze sheep within the fenced solar field area from April/May to October/November. The density of sheep flock would be determined by site specific forage quantity and weather conditions. Currently, sheep grazers that contract with solar developers are based in New York and Massachusetts.

The potential for module damage from sheep is minimized by the three-foot leading edge and angle of the modules. Sheep are not likely to jump onto and damage modules. Sheep are also unlikely to damage the wiring mounted on the racking system. A livestock shed is not proposed at the site as the sheep would seek shelter beneath the solar modules on hot or rainy days.

If ElectroNet electric fence is used to create smaller paddocks within the solar field, protocols would be established to protect the public and emergency response personnel from any electric fence shock hazard. Electric fences would be marked with proper signage and the shut-off mechanism would be clearly marked for emergency response personnel.

The solar field would be seeded with the Ernst Fuzz and Buzz seed mix developed to promote pollinator species and to provide sufficient forage for livestock.

An apiculture area to facilitate beekeeping and honey production would be established outside of the south-central fenced limits of the Project, adjacent to a stormwater basin. The beehives would be protected from nuisance wildlife using ElectroNet fencing that is powered by battery. The apiculture area would not require electricity, a water source, a shed or other structure for equipment storage. It would be managed by a professional beekeeper and the beehives would be registered with the State Entomologist pursuant to CGS §§ 22-89 and 22-90.

A wildflower pollinator area, approximately one acre in size, would be established in the eastern gas easement area between the Central array and the East array. This area would not be subject to sheep grazing.

SSO would establish a 0.46-acre publicly accessible community garden in the northeast corner of the site and an adjacent parking area along the edge of the access road. A garden fence with a gate would enclose the area. No permanent water source has been identified but it is possible that a connection would be made to existing Southington Water Department water lines on East Street. To accommodate the garden, 376 solar modules would be relocated to other areas in the eastern section of the array.

There is no formal agreement between the Town and SSO related to a community garden. SSO would discuss maintenance/operational responsibilities of the community garden with the Town. Insurance liabilities would either be covered by the Town or SSO depending on specifics of any agreement reached with the Town. It is possible for SSO to exclude the community garden from the boundaries of the solar project "site" defined by the existing lease, but still remain under a separate lease with the per DOAg's February 19, 2021 letter.

If the Project is sold and/or transferred to another entity, that entity would assume SSO's obligations related to the management and maintenance of the agricultural co-uses for the Project, including, but not limited to, the community garden, apiculture area, pollinator area, and the vernal pool mitigation area/purple milkweed translocation area.

Wetlands and Watercourses

The Petitioner performed wetland and watercourse delineations at the site in December 2019. Six wetlands, two perennial watercourses and one intermittent watercourse were identified on or proximate to the site property. Five of the wetlands are located along the periphery of the property. The sixth wetland, (W6) extends in a north-south direction across a portion of the eastern portion of the property.

Four of the wetlands (W3, W4, W5 & W6) and all three watercourses are located along the existing access road in the eastern portion of the property. Minor impacts to W3 (0.05 acre) and W6 (0.004 acre) would occur from the reconstruction of the road. There would be no impacts to any of the wetlands

through the construction of the solar field and associated stormwater basins. A 100-foot buffer would be maintained between the solar field/stormwater basins except for a portion of northeast stormwater basin where a 50-foot buffer would be maintained from the basin and an approximate 40-foot buffer from the limit of construction. This basin would be located in an open field area that extends to the delineated wetland boundary and no shrubs/trees would be removed within the limits of disturbance.

Vernal pool surveys were conducted on March 19 and April 7, 2020 and three vernal pools (VP) were identified on the site property. Vernal pool habitats include a vernal pool envelope (VPE), which extends from the VP edge to a distance of 100 feet, and Critical Terrestrial Habitat (CTH) which extends from 100 feet to 750 from the VP edge. Both the VPE and CTH protect the water quality of the pools for VP obligate species. The Project would not impact the VPE associated with any of the three vernal pools

Two of the vernal pools, VP 1 and VP-3, are located 850 feet and 780 feet from the solar field limits of disturbance, respectively. Although the CTH of both pools would be slightly impacted by the construction of stormwater basins, the amount of existing and proposed project development within each VP CTH would not exceed 25 percent, as recommended by the United States Army Corps of Engineers Vernal Pool Best Management Practices (VP-BMPs) guidance document.

Vernal pool 2 (VP-2) is located within W6 in the eastern portion of the property. VP-2 has a narrow (<50-foot) vegetated buffer between the boundary of the vernal pool and the existing hayfields to the east and west. Due to the narrow existing wooded/shrub buffer, VP-2 productivity is somewhat limited since a portion of the VPE contains active agricultural land that is not optimal habitat for VP species. Additionally, the existing CTH contains 46 percent hayfield and 6 percent developed area, or 52 percent of suboptimal to no habitat. Construction of the Project would alter these values so that the developed area is 33 percent and the hayfield 17 percent of the CTH, or 50 percent of suboptimal to no habitat. Although the developed area of the CTH increased by 27 percent, it would occur within existing hayfield and includes solar field grasses similar to hayfield.

A portion of the existing VPE and CTH of VP-2 contains active agricultural land that is not optimal habitat for VP species. To increase the amount of optimal habitat near VP-2, SSO would implement a Habitat Enhancement Plan within their lease area, restoring a 2.57 acre area of hayfield west of the vernal pool to a distance of 200 feet from the vernal pool edge. The restoration plan would be overseen by a biologist and involves the removal of undesirable vegetation, and seeding the area with appropriate conservation seed mixes.

To protect wetland and watercourses during construction, the Petitioner would implement a Wetland Protection Plan (WPP) to minimize potential adverse impacts to wetland resources. The WPP includes erosion and sedimentation controls consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, contractor education, inspections and reporting by an environmental monitor, and a fuel materials storage and spill prevention plan.

Wildlife

A DEEP Natural Diversity Data Base (NDDB) project review, dated March 9, 2020, identified two State-listed Special Concern species; the Spotted turtle and the Purple milkweed. DEEP recommended that the Petitioner perform site surveys for both species.

The Petitioner performed a spotted turtle survey on March 18, April 7 and May 19, 2020. Spotted turtles were found on the property within VP-2. In addition to the vernal pool, the spotted turtles would travel along the wetland corridors, and use adjacent forest/shrub habitat. Suitable nesting habitat is present on the site property along the perimeter of the hayfield, as well as within the utility right-of-way at the south end of the property. DEEP recommended turtle protective measures during the turtle's active period (March 15- November 1) and dormant period (November 1 to March 15). Installing the perimeter fence

flush with the ground in order to maintain the livestock co-use of the project should not impede the movement of the spotted turtle or exclude potential habitat as it prefers forest/shrub areas and wetland corridors.

SSO would implement a spotted turtle protection plan for construction activities during the turtle's active period and dormant period that conform to DEEP's recommendations. The plan, to be implemented along with the WPP, includes contractor training, protective barriers, an on-site environmental monitor to perform periodic inspections and project reporting. Additionally, once the community garden is operational, the Petitioner would install turtle/wildlife crossing signs along the road and in the community garden parking area to increase awareness of area wildlife that may be in the roadway.

A purple milkweed survey was conducted on July 8 and August 12, 2020. A stand of milkweed was found in the southwest portion of the site; however, poor field conditions due to drought and haying activities impeded exact species identification. SSO has assumed the milkweed in this area is purple milkweed and has developed a translocation plan to move the plants to the vernal pool restoration area. A copy of the translocation plan was submitted to DEEP.

The northern long-eared bat (NLEB), a state-listed Endangered Species and federally-listed Threatened Species, is known to occur in Connecticut. However, the nearest known NLEB habitat resource is located 14 miles south of the site and therefore, no project-related impacts to NLEB are expected.

Forest

Under PA 17-218, "core forest" means unfragmented forest land that is three hundred feet or greater from the boundary between forest land and nonforest land, as determined by the Commissioner of DEEP. UCONN's Center for Land Use Education and Research defines "core forest" as forested areas that are essentially surrounded by more forested areas and fall into three classes – small core forest, medium core forest and large core forest. Small core forest is comprised of core forest patches that are less than 250 acres. Medium core forest is comprised of core forest patches that are between 250-500 acres. Large core forest is comprised of core forest patches that are greater than 500 acres. Forestland that that does not meet the definition of core forest is considered "edge forest". Edge forest is a forested area extending up to 300 feet from a non-forest feature such as a road.

No core forest would be affected by the Project. By letter dated May 20, 2020, pursuant to PA 17-218, DEEP indicated that the proposed project will not materially affect the status of core forest.

Approximately 1.2 acres of woodland would be removed to install the sediment basins and the overhead utility line along the access road.

Air Quality

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

The Petitioner estimates that there would be an 89 percent reduction in greenhouse gas emissions from Project operation over a 20-year period when compared to the operation of a natural gas fueled electric generating facility with equivalent megawatt-hour (MWh) production.

The proposed project would generate about 174,731 MWh of electrical energy over approximately 20 years. Taking into the account the carbon dioxide emissions that would result from an equivalent-sized natural gas-fueled generating facility (in lieu of the proposed facility), the proposed solar facility would achieve a net improvement (i.e. reduction) with respect to greenhouse gas emissions.

Water Quality

The site is located within a DEEP Aquifer Protection Area for the Southington Water Department's Wells #7 and #8. The Petitioner would develop an Aquifer Protection Plan that conforms to DEEP and DPH work practices, including the *General Construction Best Management Practices for Sites within a Public Drinking Water Supply Area*.[9] The plan would have spill emergency response procedures, on-site spill kits, a designated area for vehicle parking, vehicle refueling, and routine equipment maintenance that are of sufficient distance away from exposed surfaces or storm drains, no onsite fuel or hazardous material storage.

During operation, the Project would not require water use and will not generate wastewater. No potable water supplies would be provided, and no sanitary discharges would occur.

Stormwater

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

The Petitioner met with the DEEP Stormwater Program in January 2020. DEEP recommend that SSO design the site in accordance with the current version of the DEEP's Stormwater Permit Appendix I guidance document.

SSO has designed the project in accordance with Appendix I criteria. Five 'dry" grass-lined stormwater basins are proposed for the site. A geotechnical study of the site was conducted that determined the stormwater basins can be designed as proposed.

The outlet structure for one of the basins (Basin 4) is 20 feet from the property line in the southwest section of the site. The abutting property in this area contains the Eversource right-of-way. Flows from the outlet structure are not designed to be erosive or excessive and would mimic flows as they occur today. The other stormwater basin outlet structures are remote from abutting property lines.

Animal waste from the livestock co-use of the project would not affect downgradient water quality of wetlands and watercourses since the fenced solar field is greater than 100 feet from any of these water resources. This riparian buffer would assist in filtering stormwater runoff that may contain elevated levels of nutrients before it either runs off to an adjacent area or collects within the stormwater basins.

[9] https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/drinking_water/pdf/BMPFactSheetpdf.pdf

Operation and Maintenance

The solar panels are not anticipated to require regular cleaning. No cleaning agents are anticipated to be used at the site. Snow that accumulates on the panels would be allowed to melt or slide off.

Required maintenance of the facility would be minimal. It is anticipated that the Facility would require mowing and routine maintenance of the electrical equipment once per year. Repairs to the equipment would be made on an as needed basis. Replacement modules would not be stored on site.

Vegetation management would not be conducted within the Vernal Pool Management Area (VPMA). For other areas, mowers would be set no lower than seven inches above the ground surface to minimize potential harm/injury to spotted turtles. Specific vegetation management procedures would be included in the site specific Operations and Maintenance Plan that is distributed to all field maintenance personnel. Additionally, the Petitioner would install signage along the perimeter fence to alert the field maintenance personnel of any specific mitigation measures in certain areas.

Decommissioning Plan

The Project has an operational life of approximately 35 years. Project decommissioning includes the removal of all facility infrastructure followed by site restoration. All wirings, cables, conduits, inverters, transformers, solar modules, steel racking/posts and fencing would be removed and recycled as applicable. The concrete equipment pads and interior access road would be removed, if requested. Any resulting holes from the removal of the steel piles, fence posts, and concrete pads would be backfilled with topsoil from the property. A final seed mix would be applied to stabilize disturbed areas. The community garden would also be removed if the landowner decides not to extend its use. The interconnection poles would be removed if future electrical service to the site is not needed by the landowner.

The Prime Farmland Soils on the site would not need to be restored when the project is decommissioned because a majority of these soils will remain undisturbed throughout the operational life of the facility, except for the stormwater basins and access road areas (5.3 acres). The stormwater basins would be removed and the basin areas restored.

SSO intends to recycle the solar modules at the end of the life of the project. However, in the event they are disposed of, the manufacturers of the proposed Trina and Risen solar modules have conducted Toxicity Characteristic Leaching Procedure (TCLP) testing on the modules to determine waste characterization of the modules when disposed of at the end of the Project's life. The TCLP test indicates the selected panels would not be characterized as hazardous waste at the time of disposal, under current testing criteria.

Conclusion

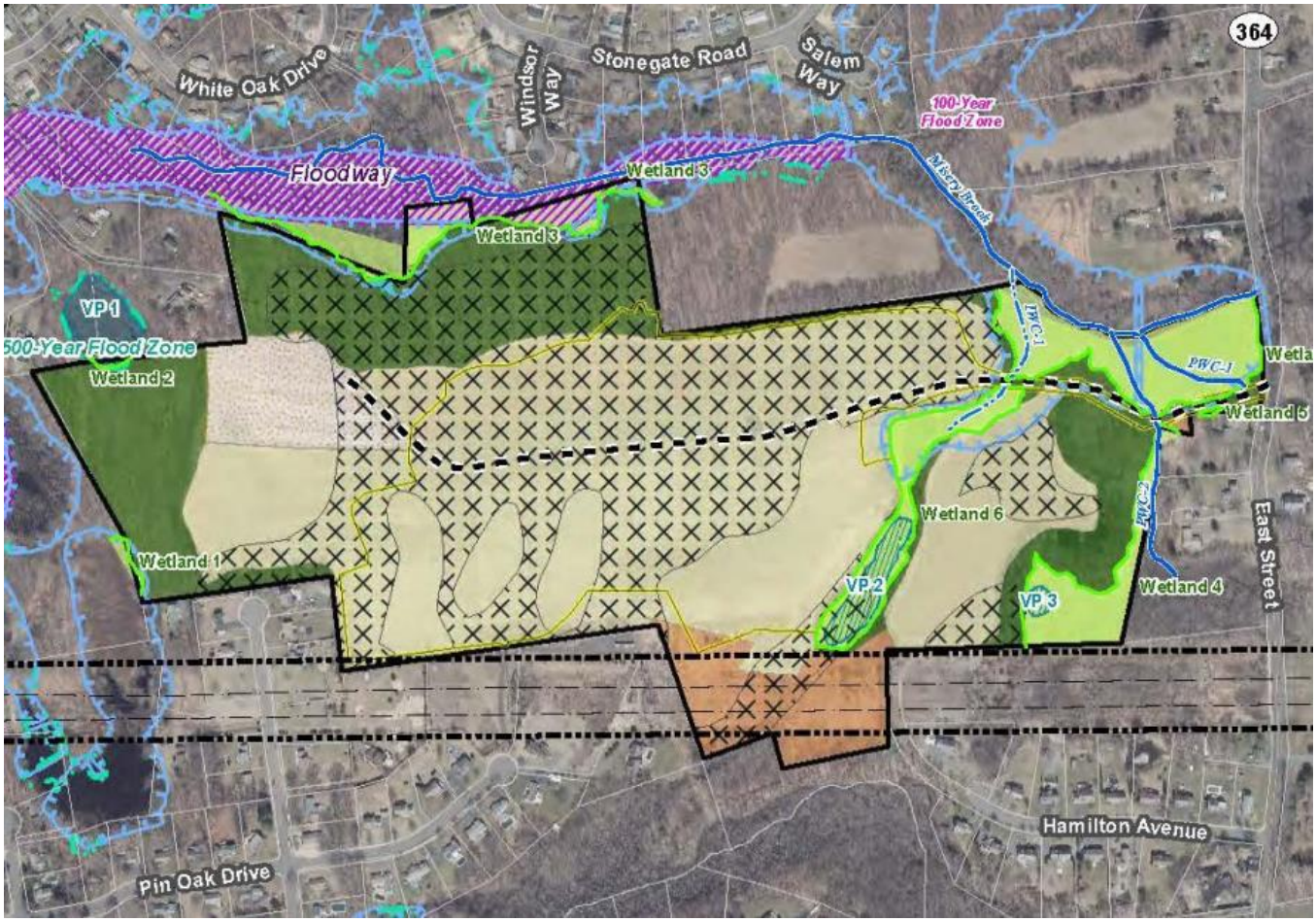
The project is a grid-side distributed resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. The proposed project will not produce air emissions, will not utilize water to produce electricity, was designed to minimize environmental impacts, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources. Furthermore, the project was selected under the state's LREC/ZREC Program and may further the state's VNM program.

Recommendations

If approved, staff recommends the following conditions:

1. Approval of any project changes be delegated to Council staff;
2. Submit a copy of a DEEP Stormwater Permit prior to commencement of construction;
3. Submit the final fence design in compliance with the National Electrical Code prior to the commencement of construction;
4. Submit the final structural design (for the racking system) stamped by a Professional Engineer duly licensed in the State of Connecticut prior to commencement of construction;
5. Submit an Aquifer Protection Plan prior to the commencement of construction;
6. SSO offer training to local emergency responders;
7. The facility owner/operator shall file an annual report on a forecast of loads and resources pursuant to Conn. Gen. Stat. §16-50r;
8. Submit an Amendment of Lease excluding the community garden from the boundaries of the solar project site prior to the commencement of construction; and
9. Submit an Agricultural Co-use Plan for the site that includes the livestock grazing, apiculture area, and wildflower pollinator components.

Existing Conditions

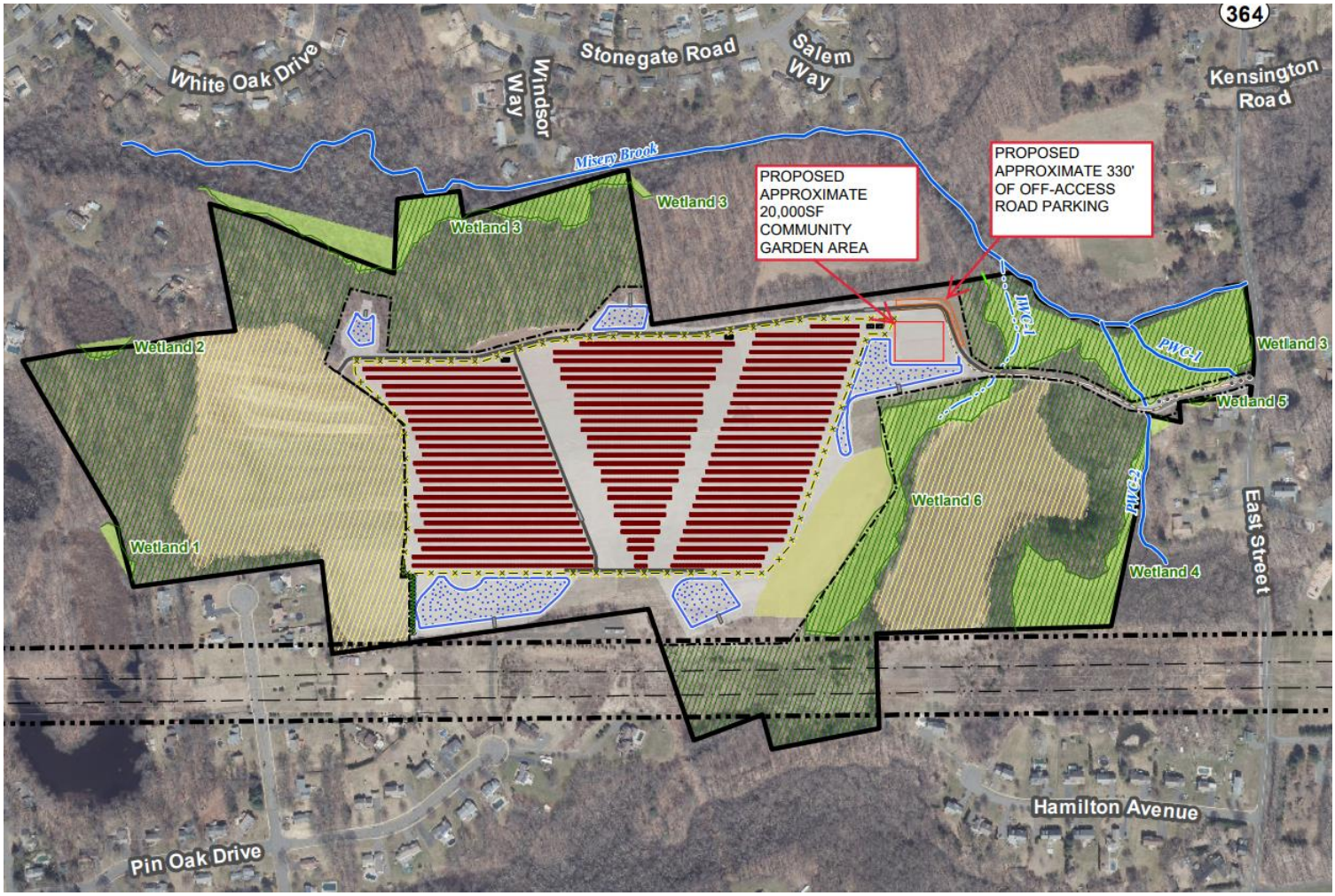


Aerial Photos of Site Property

View west to east

View east to west

Proposed Project



Legend

- Site
- Lease Area
- Existing Farm Field
- Existing Woods/Wetlands
- Utility ROW
- Transmission Line
- Perennial Stream
- Intermittent Stream
- Delineated Wetland Boundary
- Delineated Wetlands Area
- Limit of Disturbance
- Treeline (Clearing Limit)
- Perimeter Fence
- Interconnection Path (Overhead)
- Interconnection Path (Underground)
- Interconnection Utility Pole
- Solar Modules
- Conc. Equipment Pad
- Gravel Access Road
- Gravel Access Road to be Improved
- Stormwater Basin
- Stormwater Basin Outlet Gravel
- Vernal Pool Mitigation Area
- Landscape Screening

N W E S