

**DRAFT**

**Petition No. 1222A  
Windham Solar, LLC**

**southeast of Hartford Turnpike and south of Fisk Road, Hampton  
Staff Report  
April 16, 2021**

**Introduction**

***Petition 1222***

On March 22, 2016, Windham Solar LLC (WS or Petitioner) submitted a petition to the Connecticut Siting Council pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k for the construction, maintenance and operation of a 10-megawatt (MW) alternating current (AC) solar photovoltaic electric generating facility at 390 Hartford Turnpike (Route 6), Hampton, Connecticut. The project was originally proposed as three arrays of 2 MW each and four arrays of 1 MW each. This included one 2 MW array located directly southeast of Route 6 and separate from the remaining contiguous array areas. During a field review held on April 21, 2016, potential wetlands were discovered in the vicinity of this 2 MW array area; subsequently, it was removed from consideration by WS, and the total capacity of the proposed project was reduced to a maximum of 8 MW. On July 26, 2016, the Council issued a declaratory ruling approving 6 MW of capacity (known as Projects 1-5) and denying 2 MW of capacity (known as the Future Project) on the basis that the development plans and environmental impacts for the Future Project are incomplete and not ripe for review.

Projects 1-5 were approved with the condition that WS submit a Development and Management (D&M) Plan to include, but not be limited to, final site plans, an independent environmental inspector and a Vernal Pool Habitat Impact Mitigation Plan. On July 5, 2019, WS submitted a Partial D&M Plan. The final site plans included the grading and stormwater design elements for the Future Project. The Council approved the Partial D&M Plan on August 16, 2019. Condition No. 3 of the Council's D&M Plan decision required WS to submit a petition for a declaratory ruling for the Future Project, or alternatively, submit an amendment to Petition 1222 for the Future Project.

***Petition 1222A***

On October 26, 2020, pursuant to CGS §4-181a(b), WS filed a Motion to Reopen the Council's July 26, 2016 decision to deny in part a declaratory ruling to WS based on changed conditions. In its Motion to Reopen, WS requested that the Council reconsider the denial of the Future Project on the basis that WS had been issued a stormwater permit from the Connecticut Department of Energy and Environmental Protection (DEEP). There were no parties and intervenors of record to the original proceeding when the final decision on Petition 1222 was rendered, and therefore, there were no parties or intervenors of record to be notified of the Motion to Reopen nor to comment on the Motion to Reopen. On December 7, 2020, the Council granted the Motion to Reopen.

On December 30, 2020, the Council issued interrogatories to WS. WS responded to the Council's interrogatories on February 2, 2021.

### **Municipal Consultation**

On December 9, 2020, the Council sent correspondence to the Towns of Hampton and Chaplin (Towns) stating that the Council granted the Motion to Reopen and invited the Towns to contact the Council with any questions or comments by January 8, 2021. No comments from the Towns were received.

### **State Agency Comments**

On December 9, 2020, the Council sent correspondence requesting comments on the proposed project from the following state agencies by January 8, 2021: 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, CAA and CEQ submitted comments on December 16, 2020. These 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.<sup>1</sup>

### **Public Act 17-218**

Effective July 1, 2017, 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 proposed project will not materially affect the status of such land as prime farmland or DEEP represents, in writing, to the Council that such proposed project will not materially affect the status of such land as core forest." Petition 1222A is a reopening of Petition 1222 which was originally submitted to the Council on March 22, 2016, prior to the enactment of PA 17-218.

### **Public Benefit**

The Future 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 resource.

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<sup>1</sup> *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

WS was awarded a non-extendable 7-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."<sup>2</sup> The LREC/ZREC Program is not among the competitive energy procurement programs that are exempt from Public Act 17-218.

The energy from the Future Project would be sold to either Eversource or to a municipality via Virtual Net Metering and/or as wholesale supply under the Standard Service and Supplier of Last Resort Service.

Upon expiration of the power purchase agreement, it is likely that WS would utilize the wholesale market or pursue another power purchase agreement at that time.

WS currently has no plans to participate in the ISO-New England, Inc. (ISO-NE) Forward Capacity Auction.

### **Proposed Site**

The Future Project would be located on an approximately 99.3-acre wooded parcel owned by PLH, LLC and located in the Commercial Zone. The subject property is currently developed with 4 MW of approved solar arrays that are currently installed. 2 MW of approved solar arrays have yet to be installed.<sup>3</sup> The existing solar arrays were energized approximately August/September of 2020.

WS considered the following factors in selecting the site:

- a) Land use/zoning;
- b) Lack of known sensitive wildlife resources;
- c) Proximity of electrical infrastructure; and
- d) Availability of the property.

Pursuant to CGS §16-50p(g), the Council has not authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility.<sup>4</sup>

### **Proposed "Future Project"**

The Council's Partial D&M Plan approval for Projects 1-5 included a condition that WS submit a petition for a declaratory ruling for the Future Project, or alternatively, submit an amendment to Petition 1222 for the Future Project. In its Motion to Reopen, WS proposes to install the Future Project. The Future Project would be installed immediately to the west of the approved Projects 1-5 within the same fence boundaries as presented in Petition 1222.

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<sup>2</sup> Zero emission renewable energy credit (ZREC) contracts are limited to 1 MW, and LREC contracts are limited to 2 MW. (CGS §16-244r)

<sup>3</sup> The Council approved a partial Development and Management (D&M) Plan on August 16, 2019 which included clearing and seeding the approved 6 MW area and constructing 4 MW of solar arrays in the eastern portion of the site. To date, this 6 MW array area has been cleared; stormwater basins have been graded; the site was fully seeded for groundcover establishment; and 4 MW of arrays were constructed. If the Future Project is approved, WS will submit a partial D&M Plan for the remaining 2 MW of currently approved capacity to be constructed on this already established/seeded area.

<sup>4</sup> *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007); CGS §16-50p(g) (2019).

The Future Project would require approximately 5.3 acre of tree clearing along the western limits of the site.

The Future Project would consist of 5,256 solar modules of 475 Watts DC each. The modules would be installed on a fixed-tilt ground-mounted racking system and oriented to the south at a 25 degree angle with the horizontal.

The modules would be installed with a ground clearance of approximately 3 feet. The maximum height to the tops of the solar panels would be approximately 9 feet. The aisles between the solar panel rows would have 11.5 feet of clear space.

WS would utilize ground screws to serve as the racking posts. Ground screws can penetrate ledge and rock, if necessary, so installation refusals would be minimized. The embedment depth of the ground screws would be approximately six feet.

WS would construct an approximately 17-foot wide on-site access drive to connect the Future Project area to the already approved array areas directly to the east.

WS would perform the minimal amount of grading required to develop the site, and such grading would be consistent with its Stormwater Pollution Control Plan. Development of the stormwater basins for the Future Project would require about 5,146 cubic yards (cy) of cut. Access road development would require about 2,185 cy of fill. Array footprint grading would require about 2,196 cy of fill. Thus, development of the Future Project would result in a balanced cut and fill.

The Future Project would interconnect on Fisk Road utilizing existing on-site pole structures. On August 21, 2019, Eversource prepared an updated distribution impact study that confirmed that the maximum output for the site that could be accommodated is 7 MW AC. WS is working with Eversource on additional options to accommodate an output of 8 MW AC. If the increased output cannot be accommodated, WS would explore battery storage or other options, such as modifying the project AC/DC ratio. If approved, staff suggests including a condition that WS submit an updated distribution impact study to confirm 8 MW can be accommodated or alternatively, submit its plans to accommodate the capacity prior to commencement of construction.

### **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 string inverters would be installed such that if one section of the experiences an electrical problem and causes that section to shut down, the other sections of the solar array would still operate and transmit power to the local distribution system.

Once operational, WS would work with local emergency responders to ensure they have appropriate information about the solar facility and access to the facility as necessary.

The Future Project, as part of the larger solar contiguous solar facility footprint, would be secured by a 7-foot tall chain link in compliance with the National Electrical Code.

The nearest federally-obligated airport to the proposed facility is Windham Airport located approximately 5.3 miles west-southwest of the proposed site. The CAA notes that, given the distance of over 5 miles to Windham Airport, the Future Project is unlikely to pose obstruction issues; however, the CAA requested that a glare analysis be performed because it is located just off of the centerline to the approach of Runway 27. WS performed a glare analysis for the Future Project and found zero minutes of glare would occur in such flight path. WS notes that a Federal Aviation Administration No Hazard Review would not be required, and in its comments, CAA notes development of the solar facility is unlikely to pose obstruction issues.

The daytime and nighttime noise limits for a commercial emitter to a residential receptor are 55 dBA and 45 dBA. The emitting equipment such as inverters and transformers would emit approximately 60 dBA at a distance of 9.8 feet. Nighttime noise from the transformer would be expected. Such equipment would be located more than 55.1 feet from the nearest property line to result in a projected noise level of not more than 45 dBA in compliance with DEEP Noise Control Regulations.

Construction noise is exempt from DEEP Noise Control Regulations.

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

## **Environmental Effects and Mitigation Measures**

### *Historic and Recreational Resources*

No properties listed on the National Register of Historic Places have been documented within or proximate to the site.

### *Visibility*

Existing tree cover would remain to the north, west and south of the Future Project. The eastern side of the Future Project is already developed with the existing solar facility footprint. Additionally, the combined (existing plus Future Project) solar footprint will include landscape plantings along the northern limits of the site to mitigate visual impacts on residents along Fisk Road.

### *Agriculture*

There are no prime farmland soils located within the footprint of the Future Project.

### *Wetlands and Watercourses*

Wetland 1 is located to the south and west of the combined solar facility. Wetland 2 is located to the east of the existing solar arrays. There would be no solar panel installations within the 100-foot upland buffer areas. However, a portion of the stormwater basins for the Future Project would be located within the 100-foot buffer area for Wetland 1.

Two vernal pools (Vernal Pools 1 and 2) were identified within Wetland 1. Vernal Pool 1 is located approximately 218 feet southwest of the Future Project fence line. Vernal Pool 2 is located 338 feet southeast of the Future Project fence line. Both vernal pools have overlapping critical terrestrial habitat (CTH), the area that extends from 100 feet to 750 feet from the vernal pool edge. A vernal pool impact analysis specific to the Future Project determined that the amount of development within the overlapping

CTH of the vernal pools would increase by 4.7 acres bringing the total developed area to approximately 23.3 acres or from 32.8 percent to 38.7 percent of the overlapping CTH.<sup>5</sup>

The existing CTH is above the 25 percent development value as recommended by the United States Army Corps of Engineers Vernal Pool Best Management Practices (VP-BMPs) to maintain quality vernal pool habitat. However, construction of the Future Project would be consistent with the VP-BMPs in that an undisturbed wetland corridor with bordering undisturbed vegetation would remain between the two vernal pools to allow for unimpeded movement of vernal pool species.

In its Partial D&M Plan for Petition 1222, WS submitted a Vernal Pool Habitat Impact Mitigation Plan for Vernal Pools 1 and 2. WS also retained an independent environmental monitor to implement protections for amphibian populations, including, but not limited to, monitoring and inspections.

#### *Wildlife*

The Future Project is not located within 0.25-mile of any buffered area of the DEEP Natural Diversity Database.

The range of the northern long-eared bat (NLEB), a federally-listed Threatened Species and state-listed Endangered Species, encompasses the State of Connecticut. There are no known NLEB hibernacula within Hampton; the nearest known NLEB hibernacula is located in the Town of Granby. There are no known maternity roost trees in Connecticut. Notwithstanding, as a precaution, WS would prefer to perform tree clearing prior to June 2021 to avoid the June through July pup season for the NLEB.

#### *Forest*

"Core forest" means unfragmented forest land that is three hundred feet or greater from the boundary between forest land and nonforest land, as determined by the Commissioner of DEEP. UCONN's Center for Land Use Education and Research (CLEAR) defines "core forest" as forested areas that are essentially surrounded by more forested areas and fall into three classes – small core forest, medium core forest and large core forest. Small core forest is comprised of core forest patches that are less than 250 acres. Medium core forest is comprised of core forest patches that are between 250-500 acres. Large core forest is comprised of core forest patches that are greater than 500 acres.

UCONN CLEAR utilizes the concept of "edge width" to capture the influence of a non-forest feature as it extends into the forest. Research found that the "edge influence" of a clearing will typically extend about 300 feet into the forest.

Approximately 27.1 acres of small core forest and 5.2 acres of edge forest have been cleared for existing Projects 1-5. Total tree clearing area for the Future Project is approximately 5.3 acres, of which, approximately 5.2 acres are small core forest, and the remainder is edge forest.

#### *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.

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<sup>5</sup> The record of Petition 1222 reflects 9.8 acres of the CTH for Vernal Pool 1 would be developed for the Future Project. This would result in about 24.6 percent development area of the CTH for Vernal Pool 1.

Over the expected 45-year lifespan, the originally proposed 10 MW project in Petition 1222 was projected to result in the offset/elimination of 577,000 tons of CO<sub>2</sub> equivalent (CO<sub>2</sub>eq) or about 109,000 vehicles off the road. Accordingly, the 2 MW Future Project, that has 20 percent of the originally proposed nameplate capacity, would result in the offset/elimination of roughly 115,400 tons of CO<sub>2</sub>eq or about 21,800 vehicles off the road.

### *Water Quality*

The site parcel is not within a DEEP-designated Aquifer Protection Area. The facility would not use or discharge water during site operations.

There are no wells located within or proximate to the Future Project footprint. Notwithstanding, racking posts would not be expected to impact groundwater due to the shallow embedment depth.

### Stormwater

Pursuant to CGS §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) require implementation of a Stormwater Pollution Control Plan (SWPCP) 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 final DEEP-issued Stormwater Permit is required prior to commencement of construction.

DEEP issued WS a General Permit on June 28, 2019.

### **Decommissioning**

The Petition 1222 Decommissioning Plan has provisions for project removal, component recycling and site stabilization/restoration.

### **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 would 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.

### **Recommendations**

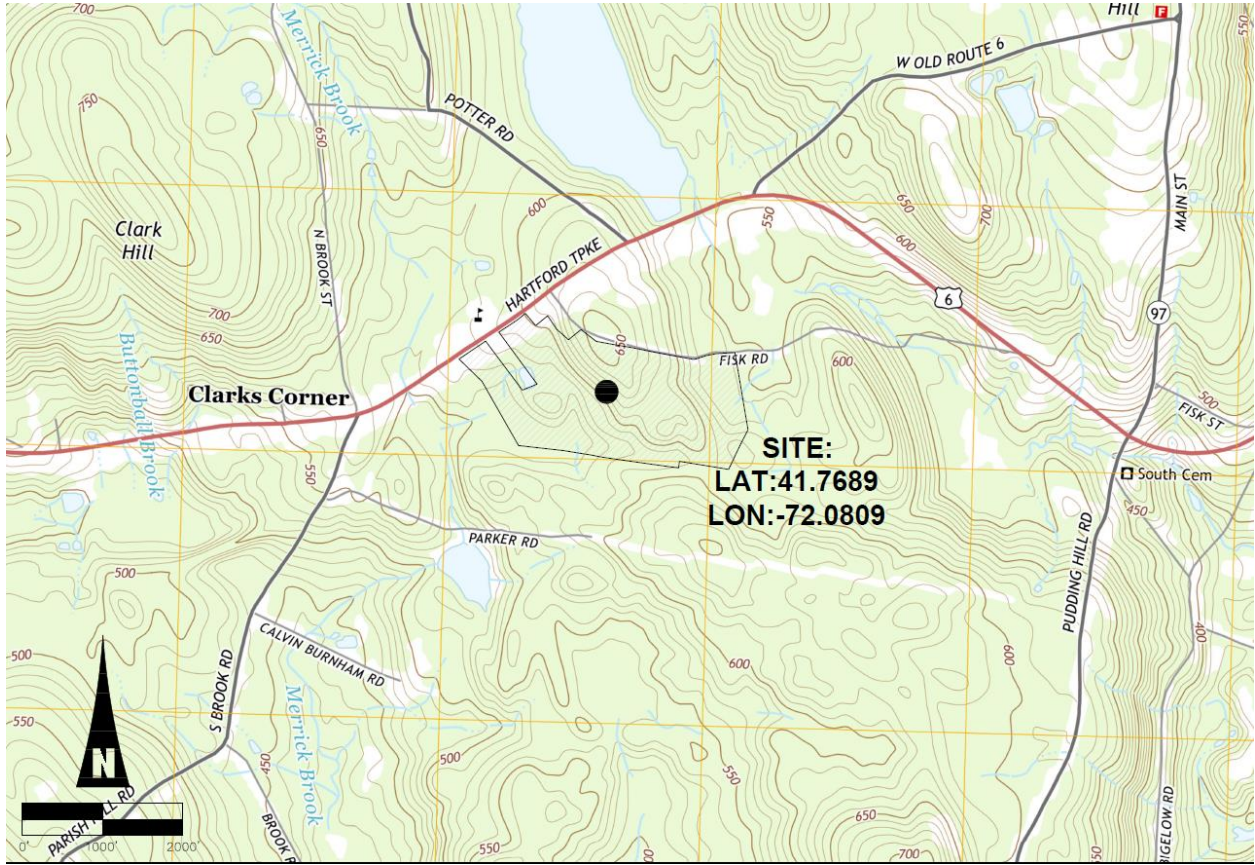
If approved, staff recommends the following conditions:

1. Approval of any project changes be delegated to Council staff;
2. Submit the name and resume of an independent environmental monitor prior to commencement of construction;
3. Submit a copy of the final DEEP Stormwater Permit prior to the commencement of construction;

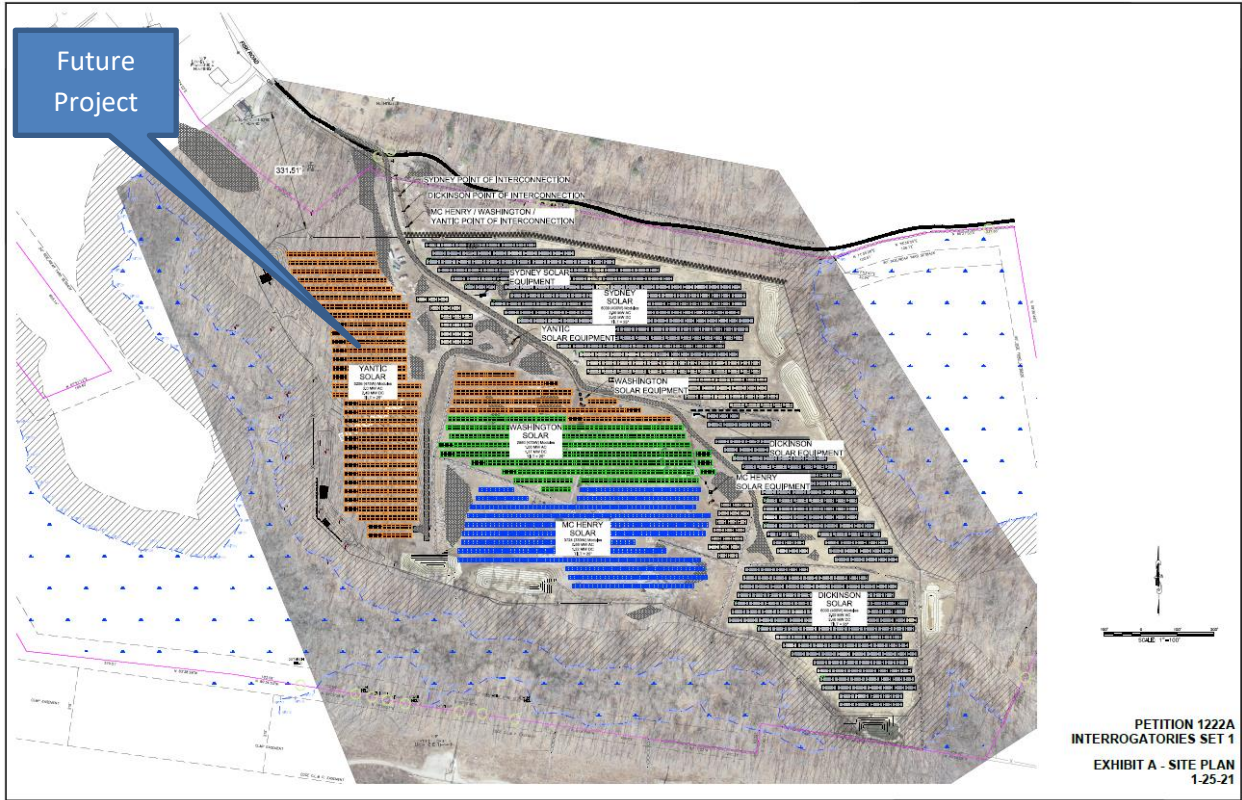
4. Submit a copy of an updated distribution impact study to confirm 8 MW can be accommodated or alternatively, submit plans to accommodate the capacity prior to commencement of construction;
5. Submit the final structural design for the racking system stamped by a Professional Engineer duly licensed in the State of Connecticut prior to commencement of construction; and
6. Implementation of the Vernal Pool Habitat Impact Mitigation Plan that was approved in the Petition 1222 Partial D&M Plan during construction.



**Site Location**



**Site Plan**



**Attachment A – CAA Comments**



TO: Robert J. Hannon, Connecticut Siting Council  
Linda Guliuzza, Connecticut Siting Council  
Daniel P. Lynch, Jr., Connecticut Siting Council  
John Morissette, Connecticut Siting Council  
Michael Harder, Connecticut Siting Council  
Edward Edelson, Connecticut Siting Council  
Robert Silvestri, Connecticut Siting Council  
Executive Director Melanie Bachman, Connecticut Siting Council

FROM: Kevin A. Dillon, A.A.E., Executive Director, Connecticut Airport Authority

DATE: December 16, 2020

RE: Petition No. 1222A - Windham Solar LLC declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of three 2.0 Megawatt and four 1.0 Megawatt Solar Photovoltaic Electric Generating facilities located southeast of Hartford Turnpike and south of Fisk Road, Hampton, Connecticut.

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Dear Distinguished Members of the Connecticut Siting Council and Executive Director Bachman,

Thank you for the opportunity to provide comments regarding Petition No. 1222A.

While it appears that this development is at least five miles away from Windham Airport, and therefore unlikely to pose obstruction issues, the CAA respectfully requests a copy of any glare studies that have been developed to understand the impacts that this could have to air traffic in the area. As I have noted to the council in the past, glare from photovoltaic facilities can sometimes impact pilots in the vicinity of those facilities, and a glare study would provide important information to understand the full impacts that this project could have on aviation in the state. Despite the distance from the airport, this project is just off the centerline to the approach of Runway 27 and a glare study would help confirm that there is no safety issue for arriving pilots.

Please feel free to contact me directly at 860-292-2054 if you have any questions or concerns.

Sincerely,

A handwritten signature in blue ink that reads "Kevin A. Dillon".

Kevin A. Dillon, A.A.E.  
Executive Director  
Connecticut Airport Authority



**Attachment B – CEQ Comments**



Keith Ainsworth  
*Acting Chair*

Alicea Charamut

David Kalafa

Lee E. Dunbar

Alison Hilding

Kip Kolesinskas

Matthew Reiser

Charles Vidich

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Peter Hearn  
*Executive Director*

STATE OF CONNECTICUT  
**COUNCIL ON ENVIRONMENTAL QUALITY**

December 16, 2020

Melanie Bachman, Executive Director  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

PETITION NO. 1222A - Windham Solar LLC declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of three 2.0 Megawatt and four 1.0 Megawatt Solar Photovoltaic Electric Generating facilities located southeast of Hartford Turnpike and south of Fisk Road, Hampton, Connecticut. **Reopening of this petition based on changed conditions pursuant to Connecticut General Statutes §4-181a(b).**

Dear Ms. Bachman:

The Council on Environmental Quality ("the Council") supports the development of clean, renewable energy technologies on appropriate sites in Connecticut and offers the following comments with regard to Petition No. 1222A (Petition):

On July 21, 2016, the Siting Council denied, without prejudice, a declaratory ruling for the construction, maintenance and operation of the 2.0 Megawatt Solar Photovoltaic Electric Generating facilities, known as the "Future Projects". The Siting Council, in its decision of July 26, 2016, stated that the basis for denial was because "the development plans and environmental impacts for the Future Project are incomplete and not ripe for review".

In a letter dated October 22, 2020, the Petitioner requested that the Siting Council reconsider the denial of the 2-Megawatt project because of "changed conditions. The "changed conditions" appear to include 1) the preparation of "Site/Electrical Layout, Grading/Drainage/Erosion Control/Landscaping" Plans (Cover sheet dated 1/30/19) and 2) the receipt of a general permit for stormwater from the Connecticut Department of Energy and Environmental Protection dated June 28, 2019.

Notwithstanding the two documents noted above, which may or may not satisfy the Siting Council's need for more data regarding the environmental impacts of the Future Project, the proposed 2-MW Future Project could have the following environmental impacts:

- The proposed development could affect approximately 9.8 acres of the critical terrestrial habitat (CTH) for Vernal Pool 1, which is approximately 25 percent of the CTH. It has been found that "development pressures (buildings,

impermeable surfaces, roads, lawns) higher than 25-30% cause declines in breeding populations”<sup>1</sup> of vernal pool species.

- The development of the proposed 2-MW facility in the “Future Project” area would require the removal of trees, the removal of stumps, and site work. While it is not possible to estimate the number of trees that would be removed from the materials recently provided or included in Petition 1222, the Council is concerned about the destruction of forest habitat for the development of energy facilities.
- It is unclear whether a “professional cultural resources assessment and reconnaissance survey” was ever completed, as requested by the Deputy State Historic Preservation Officer on June 23, 2016. Consequently, there could be cultural resources on the proposed project site.

Thank you for your consideration of these comments. Please do not hesitate to contact the Council if you have any questions.

Sincerely,



Peter Hearn,  
Executive Director

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<sup>1</sup> Calhoun, A. J. K. and M. W. Klemens. 2002. Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.