



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

June 11, 2018

Emilee Mooney Scott, Esq.
Earl W. Phillips, Jr. Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

RE: **PETITION NO. 1341** – The Durham Manufacturing Company petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 1.215-megawatt AC solar photovoltaic electric generating facility located at the Durham Manufacturing Company, 201 Main Street, Durham, Connecticut.

Dear Attorneys Scott & Phillips:

At a public meeting held on June 7, 2018, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal meets air and water quality standards of Department of Energy and Environmental Protection and would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need, with the following conditions:

1. Approval of any minor project changes be delegated to Council Staff;
2. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;
3. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the Town of Durham;
4. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
5. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;

6. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and
7. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

The Council recommends that Durham Manufacturing Company consult with the Department of Energy and Environmental Protection regarding the location of a potential groundwater monitoring well that may be installed on their property prior to construction of the facility, install erosion and sedimentation controls to account for Type C soils; and to properly construct, and control discharge from, the dewatering basin.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition dated March 16, 2018, and additional information received on May 9, 2018.

Enclosed for your information is a copy of the staff report on this project.

Sincerely,

A handwritten signature in blue ink that reads "Robert Stein" followed by "UAB" in smaller letters.

Robert Stein
Chairman

RS/RDM/lm

Enclosure: Staff Report dated June 7, 2018

c: The Honorable Laura L. Francis, First Selectman, Town of Durham
Geoffrey L. Colegrove, Town Planner, Town of Durham
John Gowac, Sr., Vice President, Durham Manufacturing Company



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Petition No. 1341

Durham Manufacturing Company

1.21 MW AC Solar Photovoltaic Electric Generating Facility

201 Main Street, Durham

Staff Report

June 7, 2018

Introduction

On March 16, 2018, the Durham Manufacturing Company (DMC or Petitioner) submitted a 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 a 1.21 megawatt (MW) alternating current (AC) solar photovoltaic electric generating facility located at 201 Main Street in Durham, Connecticut.

DMC is the owner/developer of the Project. Pfister Energy Inc. (Pfister) is the Engineering Procurement Construction contractor for the Project. DMC would obtain necessary Department of Energy and Environmental Protection (DEEP) and U.S. Army Corps of Engineer permits. Pfister would secure necessary local building and electrical permits.

On March 20, 2018, the Council sent correspondence to the Town of Durham stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by April 19, 2018.

On April 12, 2018, pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, which requires an administrative agency to take action on a petition within 60 days of receipt, the Council voted to set the date by which to render a decision on the petition as September 12, 2018. September 12, 2018, is the statutorily-mandated 180-day decision deadline for this petition under CGS §4-176(i).

On April 17, 2018 a field review of the project was held at the site that was attended by the following: Council member Robert Silvestri, Council staff member Robert Mercier, First Selectman of the Town of Durham Laura Francis, DMC Vice President John Gowac, and Petitioner representatives Emilee Mooney Scott, Esq., Michael Libertine, Brad Parsons and Doug Bagwill.

On April 18, 2018, the Council issued interrogatories to the Petitioner. The Petitioner submitted responses to the interrogatories on May 9, 2018.

Municipal Consultation

On December 14, 2017, the Petitioner hosted a project information meeting in the Town of Durham. The Petitioner sent meeting notification letters to Town officials and all abutting property owners. After the meeting, First Selectman Laura Francis and Robert Francis, Supervisor of Buildings and Grounds for Regional School District 13 sent letters, dated December 21, 2017 and January 29, 2018 respectively, to the Council in support of the project. These letters were included within the petition filing.

On or about March 15 and March 16, 2018, the Petitioner notified Town of Durham officials, state officials and agencies, and abutting property owners of the proposed project. A copy of the Petition was sent to the Town of Durham Inland Wetlands Commission on April 18, 2018.

State Agency Comments

On March 20, 2018, the Council sent correspondence requesting comments on the proposed project from the following state agencies: 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 Construction Services (DCS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO). The Council requested that comments be submitted by April 19, 2018.

The CAA responded on April 2, 2018. CAA's comment letter is attached to this staff report. No other state agencies commented on the project.

Public Act 17-218

Effective July 1, 2017, Public Act 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."

The proposed solar project has a capacity of 1.21 MW AC; therefore, it is exempt from the provisions of Public Act 17-218.

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 2013 Connecticut Comprehensive Energy Strategy (CES) emphasizes low- or no-emission sources of electric generation and development of more distributed generation. The 2018 CES identifies Strategy No. 3 as, "Grow and sustain renewable and zero-carbon generation in the state and region." The proposed facility is distributed generation and will contribute to fulfilling the State's Renewable Portfolio Standard as a zero emission Class I renewable energy source.

The Petitioner has two contracts with Eversource for the purchase and sale of Connecticut Class I Renewable Energy Credits. The project has not participated in any DEEP renewable energy procurement programs and is a privately funded project.

The project would provide approximately 80 percent of DMC's electrical needs when the system is operating. During weekends or other times when DMC's plant is not operating, electricity generated by the facility would be routed to Eversource's local distribution network. The Project would have a capacity factor of 14.7 percent.

Project Site

The project site is located on an approximate 18 acre parcel located south of Maiden Lane and east of Main Street in Durham. The western portion of the property, fronting Main Street, is developed with the DMC manufacturing plant. The eastern half of the property, separated from the developed DMC portion of the property by Ball Brook, a north-to-south flowing stream, contains a former Christmas tree farm that closed in December 2017. The site property is zoned Main Street Residential (MR) and Farm Residential (FR).

The proposed solar facility is located on the former Christmas tree farm portion of the property, zoned FR. Land use adjacent to the solar facility site consists of open fields, residential, the DMC plant, and Regional School District 13 school facilities.

A FR zone allows for farms and agricultural operations, dwellings, private garages and home daycares as of right. Other types of development are permitted through site plan review (ex. commercial, utility buildings) or by special exception (ex. apartment buildings, earth materials). No development plans have been previously approved in the solar field portion of the property.

Proposed Project

The proposed project consists of a 1.21 MW AC (1.42 MW direct current) solar facility comprised of approximately 4,194 solar modules located within a 4.7 acre area. The 340 watt modules would be installed on a fixed-tilt racking system and oriented to the south at a 30 degree angle. The 30 degree tilt angle would maximize power production from the site.

The solar modules would be installed on a post racking system, arranged in 23 rows with 13-foot spacing between the rows. The 16-foot long galvanized steel posts would be driven into the ground to a depth of 10 feet. A specialized post driving machine would drive the posts into the ground. Based on soil borings, bedrock is not expected in the project area. If bedrock is encountered, a concrete pier, rock anchors or other footing options would be used.

The solar panels would be attached to the racking system so that the top and bottom edges of the solar panels would be approximately 9.5 feet and 3.0 feet above grade, respectively. The racking system would be constructed to a 115 mph design wind speed standard, using bracing and a bolt fastening system to prevent separation of the solar modules from the racking system during high wind conditions. The racking system would be designed to the 2012 International Building Code for snow loading (30 pounds per square foot).

The Petitioner would install a string inverter design which would require approximately 24 50-kilowatt inverters and one 15 kW inverter. Each string inverter would be 2 to 3 feet above grade, mounted on posts set in concrete. The string inverter design was chosen over a centralized inverter system to reduce project costs and to maximize power production in the event one inverter goes out of service, causing a small portion of the solar facility to be inoperable.

The efficiency of the solar modules is 17.1 percent. The power output would decrease over time at an average rate of 0.5 percent per year as the panels age. Electrical losses associated with the inverters and project wiring have been factored into the output of the facility. The operational life of facility equipment is a minimum of 25 years and could extend to 40 years.

From the inverters, conduits would extend underground within a 900-foot long utility corridor to the main DMC building, connecting at two points referred to as "front service" and "rear service". Both interconnect locations are at two transformers on the property. Eversource and DMC have signed a facility interconnection agreement.

The solar field area would be enclosed by a six-foot tall chain link fence with two strands of barbed wire. The nearest residence to the solar field perimeter fence is approximately 100 feet to the west at 63 Maiden Lane. Vehicle access to the site would be from Maiden Lane using a new 12-foot wide by 30-foot long asphalt driveway leading to a 16-foot wide swing gate.

Construction is expected to occur Monday through Saturday from 7:00 a.m. through 6:00 p.m. and Sunday from 9 a.m. to 6:00 p.m. Construction of the facility is expected to take two months with another two months for equipment inspection and testing.

Public Safety

The CAA requested an aviation glare analysis due to the proximity of the Maplewood Farm Airport to the Project. The airport is approximately 1.73 miles southwest of the site. Per the CAA's request, the Petitioner performed a glare analysis and determined the project would meet Federal Aviation Administration (FAA) requirements applicable to solar installations on airport properties. The Petitioner also filed an obstruction hazard notification with the FAA on April 13, 2018. The FAA issued a determination of No Hazard to Air Navigation on April 30, 2018 for both the construction and operation of the facility.

Prior to project operation, the Petitioner would meet with emergency first responders regarding site access and appropriate training for emergencies related to photovoltaic facilities. The entrance gate would have an on-site key as required by the Durham Fire Marshall. In the event of a fire, the solar array can be shut down using disconnect switches at either the DMC building or at an electrical panel in the southeast portion of the solar field area.

The Project would be designed in accordance with the National Electrical Safety Code and National Fire Protection Associate standards. Project interconnection would be in accordance with Eversource standards.

Environmental

The solar field area would disturb a 6.40-acre area, consisting of 5.10 acres of early open field/small evergreen habitat used for the former Christmas tree farm, with the remaining acreage (approx. 1.3 acres) consisting of bordering woodlands and a deciduous windrow that separates the open areas of the Christmas tree farm in two sections. An approximate 0.41-acre area would be disturbed for the underground utility line installation and associated equipment staging.

Two forested wetland areas are near the east side of the solar field area; a large forested wetland to the south and east of the solar field area (Wetland 1) that extends onto abutting property and a small depressional wetland along the east property line (Wetland 3). Wetland 2 consists of Ball Brook.

The solar field perimeter fence would be approximately 70 feet from Wetland 1 at its closest point. Some clearing of upland forest would occur within the 100-foot buffer around Wetland 1 to eliminate potential solar panel shading.

Wetland 3 is approximately 40 feet long and 20 feet wide and contains a vernal pool that supports wood frog, a vernal pool obligate species. No mature vegetation would be cleared around Wetland 3 within the vernal pool envelope as a majority of the west side, where the solar field development will occur, is field and shrub habitat associated with the Christmas tree farm. The temporary erosion control fence and perimeter solar field fence would be 50 feet and 62 feet, respectively, from Wetland 3. Areas to the east, northeast and southeast of the wetland would remain as undisturbed forest.

The Petitioner would implement a wetland and vernal pool protection plan to reduce impacts to wetland/vernal pool habitats and species. The protection plan includes project and work area isolation, retention of stumps to avoid soil disturbance where feasible, site inspection, herpto-fauna sweeps, contractor education and reporting.

The project area is upstream from Hersig Brook, a watercourse known to contain slimy sculpin, a state listed species of special concern. The slimy sculpin is a cold-water fish that inhabits rocky riffles of cold streams and rocky areas of other bodies of water. The Ball Brook utility crossing is 350 feet upstream of the confluence of Ball Brook and Hersig Brook. The Petitioner also examined an overhead utility line crossing of the Ball Brook corridor but it was determined to be cost prohibitive due to the necessity of multiple step-up transformers and clearing required to create and maintain an overhead utility corridor over the brook and through adjacent woodland.

Due to the close proximity of the project area to Hersig Brook, the Petitioner and DEEP met at the site in March 2018 to review the utility crossing area. Site plans were developed based on the meeting to include a sequential coffer dam installation method affecting 15 linear feet of stream, with in-stream work restricted to June 15 to September 30. Approximately 288 square feet of stream and adjacent riparian wetland would be impacted. Tree clearing would be minimized and stumps would remain in place for any trees that are removed.

Connecticut is within the range of the northern long-eared bat (NLEB), a federally-listed Threatened species and State-listed Endangered species. There are no known NLEB hibernacula or known maternity roost trees near the project area and thus the construction of the proposed facility is not likely to have an adverse impact or incidental take of the NLEB.

A four to six-inch gap between ground level and the bottom edge of the solar field fence would be incorporated into the project fence design to allow for small animal movement.

The solar field area has gently sloping terrain and the Petitioner would maintain existing grades to the extent possible. Some minor grading would occur in the windrow area between the two Christmas tree field areas. There will be no net cut or fill associated with construction.

Following construction, any graded/disturbed ground area within the solar field would be hydro-seeded with a turf mix. The area outside of the solar field perimeter and within the shade management zone would be managed every four to seven years to maintain naturally occurring shrub growth. The solar field area would be mowed twice per year or as necessary. No pesticides or herbicides would be used for project maintenance.

The project would comply with noise and air regulations. Due to the minimal amount of tree clearing, the carbon payback period for facility operation would equal 0.33 day to produce a net improvement in carbon reduction. The solar project would not produce air emissions of regulated air pollutants or greenhouse gasses during operation.

The proposed project is not within an aquifer protection area. Although neighboring properties are served by private wells, well water quality is not expected to be impacted by excessive vibrations during post installation due to existing soil conditions (loose to medium dense silt, sand gravel).

The Ball Brook utility crossing is located within a Federal Emergency Management Agency-designated 100-year flood zone and a flood way. The utility crossing would not have any permanent effect on existing hydrology or the flood storage capacity of Ball Brook.

Reducing the Project footprint in order to preserve more site resources is not practical. Although higher capacity solar panels are available, they are more expensive and the project would not have a favorable power production/project cost ratio. The 13-foot solar row spacing is necessary to prevent intra-facility shading. Altering the tilt angle to decrease row spacing would negatively affect power production.

Stormwater

The petitioner applied for a DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities on March 28, 2018 (General Permit). As part of the permit, a Stormwater Pollution Control Plan was developed in accordance with General Permit requirements. According to the stormwater analysis, the project site would remain essentially unchanged from pre-development conditions. The clearing of the windrow in the center of the solar field development area would alter stormwater time flow concentrations slightly. To maintain time flow patterns, the Petitioner would install a strip of woodland plantings on the southwest side of the site.

The Petitioner would first clear vegetation as necessary to install perimeter erosion and sedimentation controls around the approximate 6.4 acre solar field construction area. Erosion and sedimentation controls would be installed in accordance with the DEEP 2002 Guidelines for Erosion and Sediment Control and the Project erosion and sedimentation plan. The perimeter silt fence would feature silt fence “wings” such that no section of silt fence would receive stormwater flows from more than a one-acre disturbed area. Two temporary soil stockpiles would be established in the solar field area, each enclosed by double rows of silt fencing. The Petitioner would comply with the DEEP Stormwater Guidelines for “Stormwater Management at Solar Farm Construction Projects”, dated September 8, 2017, to the extent practical.

In addition, the Petitioner has developed an erosion and control plan specific to the underground trench through Ball Brook. A secondary erosion control fence would be installed at the southwest end of the solar field development area. Straw wattles would be used along the slopes of Ball Brook. Clearing in this area would be kept to a minimum and stumps would be retained where feasible. Staging areas would be kept a minimum of 50 feet from Ball Brook. After trenching is completed, coir logs would be installed along the stream banks to prevent erosion and facilitate soil stabilization.

A straw bale dewatering basin would be established in a lawn area on the west side of Ball Brook. A soil stockpile, surrounded by two rows of silt fencing would also be established in the lawn area. Excess soil would be characterized and disposed of properly. Trench plugs (compacted fill and sandbags) would be installed within the utility trench to prevent alteration of the hydrology of Ball Brook. Upon completion of the utility crossing, a stream bank restoration plan would be implemented, consisting of appropriate seed mixes as well as 30 riparian shrubs/small trees. Invasive multi-flora rose would be removed during shrub plantings.

Cultural Resources

The Main Street Historic District is located 0.1 mile west of the site at its closest point, along Maiden Lane. Several historic homes within the district are listed on the National Register of Historic Places. Open views of the facility are not expected from the district or from the listed historic homes due to intervening vegetation. There are no reported archeological sites within a half-mile of the Project. SHPO reviewed the Phase 1A historic/cultural resource assessment contained within the Petition and recommended that a Phase 1B cultural resource assessment be conducted for the solar field area of the Project.

Visibility

The module frames are light grey anodized aluminum alloy and the solar cells on the face of the modules are dark blue. The solar cells are covered with an anti-reflective glass.

Existing trees and other vegetation would be maintained outside of the project limits to screen the facilities from views along Maiden Lane and surrounding properties. Some of the existing small evergreens on the Christmas tree farm would be re-located to the north and northwest perimeter to enhance project screening from Maiden Lane and an adjacent residence. Other areas of the project site are surrounded by mature woodland. The nearest recreational area consists of athletic fields on abutting property to the south. The intervening area is forested and would minimize any views of the facility from this area.

Agriculture

The solar field development area is mapped as prime agricultural soil. The property is not part of the farmland preservation program. The project parcel is not enrolled in the Public Act 490 Program. No portion of the property is currently in agricultural use. DOAg did not comment on the proposed project.

Decommissioning

A Decommissioning Plan was included in the Petition and has provisions for project removal upon termination of service life. Following the removal of project related equipment; the site would be restored and re-vegetated with soils being de-compacted, as necessary to promote vegetative growth.

Conclusion

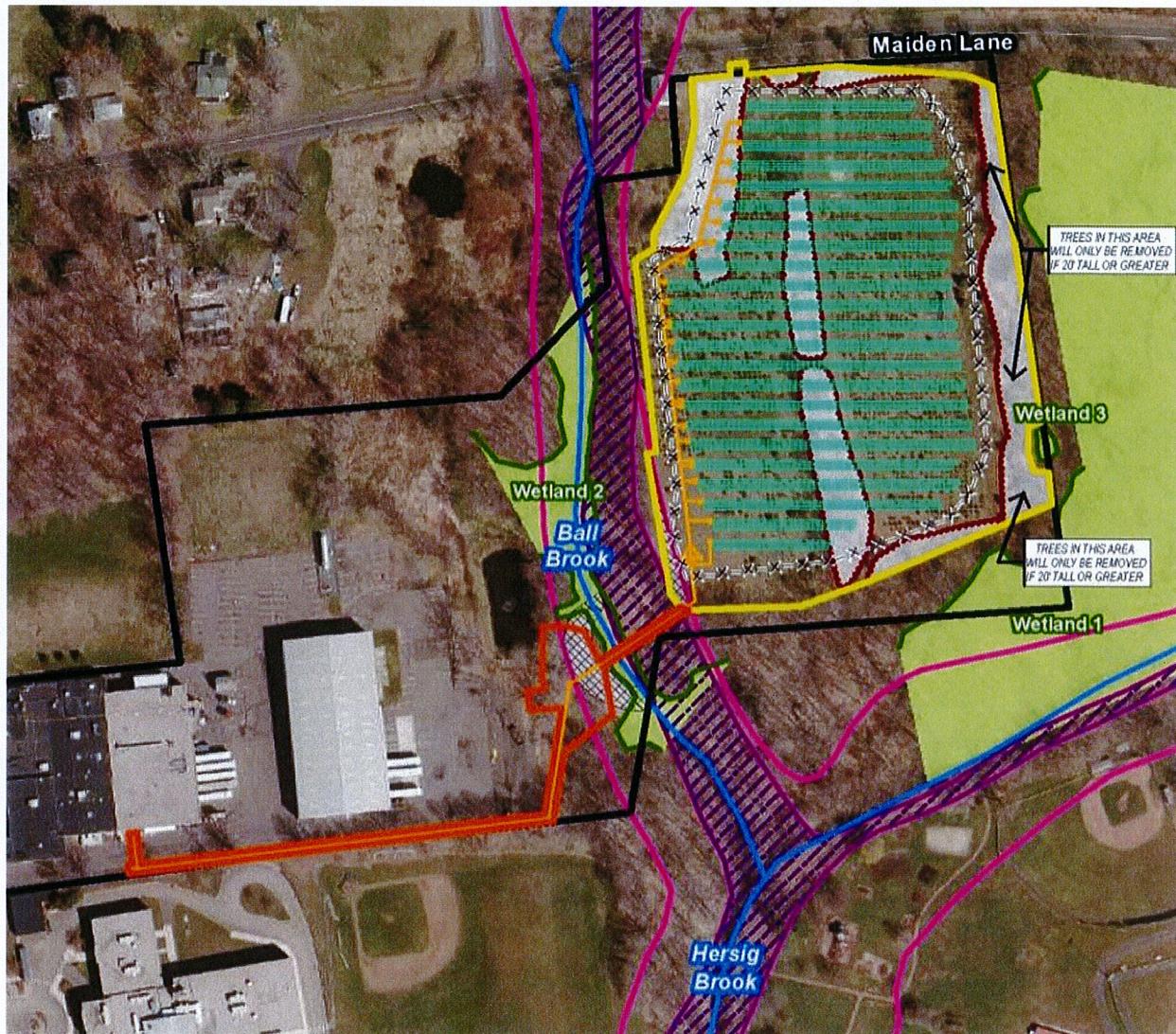
The project is a customer-side distributed resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. The proposed project will not produce air emissions, will not utilize water to produce 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.

Recommendation

Staff recommends inclusion of the following condition:

1. Approval of any minor project changes be delegated to Council Staff.

Proposed Site Layout



Legend

Approximate Site Boundary	Limit of Natural Tree/Vegetation Clearing	FEMA Flood Zones (FEMA NFHL)
Project Area	Delineated Wetland Boundary	100-Year Flood Zone
Ground-mounted Fenced Facility	Wetland Area	Floodway
Utility Corridor	Watercourse (CTDEEP)	
Electrical Conduit	Wetland/Flood Impact Area	
Module		

Map Notes

Base Map Source: CTECO 2016 Aerial Photograph
Map Scale: 1 inch = 250 feet
Map Date: March 2018

250 125 0 250
Feet

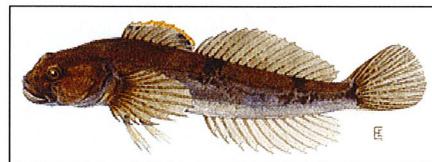


Project Photo-simulation

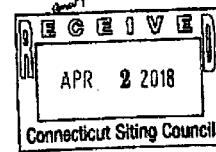


(Maiden Lane is in upper left of photo-simulation)

Slimy Sculpin



Comment Letter from CAA to Council



TO: Chairman Robert Stein, Connecticut Siting Council
Vice Chairman James J. Murphy, Jr., Connecticut Siting Council
Robert J. Hannon, Connecticut Siting Council
Larry Levesque, Connecticut Siting Council
Daniel P. Lynch, Jr., Connecticut Siting Council
Dr. Michael W. Klemens, 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

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

DATE: April 2, 2018

RE: Petition No. 1341 – The Durham Manufacturing Company petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 1.215-megawatt AC solar photovoltaic electric generating facility located at the Durham Manufacturing Company, 201 Main Street, Durham, Connecticut.

Dear Chairman Stein, Vice Chairman Murphy, Executive Director Bachman, and Distinguished Members of the Connecticut Siting Council,

Thank you for the opportunity to provide comments regarding Petition No. 1341.

Due to the proposed project's proximity to a nearby private airport, Maplewood Farm Airport, the CAA respectfully requests that the petitioner conduct a glare study to understand the impacts that this could have on air traffic in the area. There have been concerns raised that glare from the project could affect pilots in the vicinity, and a glare study would provide important information to understand the full impacts that this project could have on aviation in the state. Regarding any potential obstruction issues, the petitioner should file a FAA 7460-1 form "Notice of Proposed Construction or Alteration" and receive final FAA Determinations for the proposed facility along with the construction equipment used to construct the facility.

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

Sincerely,

A handwritten signature in black ink that appears to read 'Kevin A. Dillon'.

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

Administrative Offices · Windsor Locks, CT 06096