

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 Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL & CERTIFIED MAIL RETURN RECEIPT REQUESTED

December 21, 2023

Bruce McDermott, Esq.
Murtha Cullina LLP
One Century Tower
265 Church Street, 9th floor
New Haven, CT 06510-1220
bmcdermott@murthalaw.com

RE: **PETITION NO. 1588** – Endurant Energy petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the construction, maintenance and operation of a 7.0-megawatt AC battery energy storage facility located at 22 Deerfield Road, Windsor, Connecticut, and associated electrical interconnection. **Final Decision.**

Dear Attorney McDermott:

At a public meeting held on December 21, 2023, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal 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 Project changes be delegated to Council staff;
- 2. Provide a site construction plan consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control with specific construction methods for work within the Environmental Land Use Restriction area, if applicable prior to the commencement of construction;
- 3. Provide a construction Fuel Storage and Spill Prevention Control Plan prior to the commencement of construction;
- 4. Provide a final site plan including, but not limited to, final facility layout, access, electrical interconnection, equipment pads, and fence design prior to the commencement of construction;
- 5. Provide a copy of the final Emergency Response Plan to local emergency responders prior to facility operation, and provide emergency response training;
- 6. Provide a signed certification by the Fire Chief that training has been completed and the ERP is approved prior to commencement of operation;
- 7. Submit a copy of the building permit prior to commencement of operation;
- 8. 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;

- 9. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;
- 10. 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 Windsor;
- 11. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed **along with a representative photograph of the facility**;
- 12. 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; and
- 13. This Declaratory Ruling may be transferred or partially transferred, provided both the facility owner/operator/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. 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. Both the facility owner/operator/transferor and the transferee shall provide the Council with a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility, including contact information for the individual acting on behalf of the transferee.

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 August 17, 2023 and additional correspondence dated September 5, 2023, October 20, 2023 and November 29, 2023.

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

Sincerely,

Melanie A. Bachman Executive Director

Mulia Ruel

MAB/RDM/dll

Enclosure: Staff Report dated December 21, 2023

c: Peter Souza, Town Manager, Town of Windsor (souza@townofwindsorct.com) Service List dated August 17, 2023

STATE OF CONNECTICUT)		
	: ss. Southington, Connecticut	December 22, 2023	
COUNTY OF HARTFORD)		

I hereby certify that the foregoing is a true and correct copy of the Decision and Staff Report in Petition No. 1588 issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

MulikeReal

Melanie A. Bachman Executive Director Connecticut Siting Council

STATE OF CONNECTICUT)

: ss. New Britain, Connecticut December 22, 2023

COUNTY OF HARTFORD)

I certify that a copy of the Connecticut Siting Council Decision and Staff Report in Petition No. 1588 has been forwarded by Certified First Class Return Receipt Requested mail, on December 22, 2023, to each party and intervenor, or its authorized representative, as listed on the attached service list, dated August 17, 2023.

ATTEST:

Dakota Lofoutain

Dakota LaFountain Clerk Typist

Connecticut Siting Council

Date: August 17, 2023 Petition No. 1588
Page 1 of 1

LIST OF PARTIES AND INTERVENORS $\underline{SERVICE\ LIST}$

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Petitioner	⊠ E-mail	Endurant Energy	Bruce McDermott, Esq. Murtha Cullina LLP One Century Tower 265 Church Street, 9th floor New Haven, CT 06510-1220 Phone: (203) 772-7787 bmcdermott@murthalaw.com Brian Mehler Senior Vice President Energy Storage, Development Endurant Energy 320 West 37th, 15 Floor New York, NY 10018 Phone: (917) 608-9490 bmehler@endurant.com
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	□ E-mail		



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Petition No. 1588 Endurant Energy 22 Deerfield Road, Windsor

> Staff Report December 21, 2023

Introduction

On August 17, 2023, the Connecticut Siting Council (Council) received a petition from Endurant Energy (Endurant) for a declaratory ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k for the construction, operation and maintenance of a 7.0-megawatt (MW) alternating current (AC) battery energy storage facility (BESF) ¹ located at 22 Deerfield Road, Windsor, Connecticut, and associated electrical interconnection (Petition or Project).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40 on or about August 17, 2023, Endurant notified the abutting property owners and Town of Windsor (Town) officials, state officials and agencies of the proposed Project. On October 4, 2023, Endurant notified the Town of South Windsor of the proposed project². No comments were received.

On August 18, 2023, the Council sent correspondence to the Town and the Town of South Windsor stating that the Council has received the Petition and invited the municipalities to contact the Council with any questions or comments by September 16, 2023. No comments were received.

Also, on August 18, 2023, pursuant to RCSA §16-50j-40, the Council notified all state agencies listed therein, requesting comments regarding the proposed Project be submitted to the Council by September 16, 2023. No comments were received.

The Council issued interrogatories to Endurant on October 2 and November 14, 2023. Endurant submitted responses to the Council's interrogatories on October 20 and November 29, 2023, respectively.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take an action on a petition for a declaratory ruling within 60 days of receipt. During a regular public meeting held on September 28, 2023, 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 February 13, 2024, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

¹ CGS §16-50i(a)(3) - the Council has jurisdiction over energy storage facilities using any fuel throughout the state.

² The Town of South Windsor is located within 2,500 feet of the proposed facility.

Public Act 21-53

Public Act 21-53 "An Act Concerning Energy Storage" established a statewide goal to deploy 1,000 MW of energy storage in Connecticut by the end of 2030. It requires the Public Utilities Regulatory Authority (PURA) to develop programs for customer-side and grid-side energy storage systems connected to the electric distribution system and enables DEEP to issue requests for proposals for energy storage systems paired with renewable energy sources and stand-alone energy storage systems connected to the electric transmission or distribution system.³

Energy storage system is defined under CGS §16-1(48) as "any commercially available technology that is capable of absorbing energy, storing it for a period time and thereafter dispatching the energy."

On July 28, 2021, PURA developed a nine-year electric storage program, the Energy Storage Solutions (ESS) program⁴, that is administered by the Connecticut Green Bank, Eversource Energy (Eversource) and the United Illuminating Company (UI). It offers performance incentive payments to residential, commercial, and industrial customers who host on-site battery energy storage systems as follows:

- 1. <u>Behind the Meter (BTM)</u>: customer-side distributed resource that serves on-site load (paired or standalone) behind a customer meter; and
- 2. <u>Front of the Meter (FTM)</u>: grid-side distributed resource that does not serve on-site load behind a customer meter.⁵

A paired BTM or FTM storage system has a separate input and output source. For example, a paired system could have a solar facility-generated input and a 23-kV electric distribution line output. A stand-alone BTM storage system has the same input and output source, such as a 23-kV electric distribution line. Among the technical requirements for storage systems in the ESS program is the capability of the system to provide backup power or island from the grid during outage events.

The proposed BESF is a stand-alone BTM system that was selected and approved by PURA for the ESS program. It would deliver benefits identified by the ESS program, including, but not limited to, economic, resiliency and environmental benefits. The BESF would operate in parallel with the grid providing demand response, load shifting, backup power and peaking power.

Public Benefit

A "customer-side distributed resources" facility is defined under CGS §16-1(a)(34) as "generation of electricity from a unit with a rating not more than 65 MW at customer premises within the transmission and distribution system or a reduction in the demand for electricity at customer premises through conservation and load management. A "grid-side distributed resources" facility, is defined under CGS §16-1(a)(37) as "generation of electricity from a unit with a rating not more than 65 MW that is connected to the transmission or distribution system."

³ The interim goals of the program are 300 MW by year-end 2024 and 650 MW by year-end 2027.

⁴ https://energystoragect.com/

⁵ Energy Storage Solutions Program Manual, CT Green Bank, Eversource and UI, dated January 20, 2023, *available at* https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/a3ee00544b1b1fc285258940006564b 7/\$FILE/ESS%20Program%20Manual Updated%201.20.2023 CLEAN.pdf

The state Comprehensive Energy Strategy (CES) examines future energy needs and identifies opportunities to reduce ratepayer costs, ensure reliable energy availability, and mitigate public health and environmental impacts. CES Strategy No. 8(B) is "Integrate efficiency, storage, and renewables to meet peak demand." The state Integrated Resource Plan (IRP) assesses the state's future electric needs and a plan to meet those future needs. IRP Strategy No. 13 is "Support the development of energy storage resources that can support the reliable integration of variable renewables and avoid fossil peaking generation."

The proposed BESF is a customer-side distributed resource facility. It would benefit the state electric system by drawing energy from generation resources at times of low demand and subsequently injecting that energy back into the system at times of high demand. The proposed facility is designed to achieve the goals of the state Conservation and Load Management Plan, including, but not limited to, shifting energy demand and servicing system load. It would be located at the Taylor & Fenn Company (Taylor & Fenn) metalworks facility.

The BESF is designed to serve the metalworks facility as well as provide power to the grid when dispatched in accordance with the ESS Program. When the BESF is dispatched to serve the metalworks facility, it will shift the electrical load from more expensive 'peak' times to lower-priced 'off-peak' times. This load management will occur year-round and would represent approximately 25 percent of Taylor & Fenn's total annual electrical energy consumption.

Endurant would participate in the ISO-NE England, Inc. (ISO-NE) Forward Capacity Auction through the ISO-NE Passive (On-Peak) Demand Response program. Endurant will also participate in any other markets that are available and consistent with the ESS Program.

Proposed Site

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the BESF "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 facility "site." This includes portions of the host parcel retained by the property owner and portions of the host parcel the property owner may lease to third parties. Once a facility is decommissioned, the Council no longer has jurisdiction or authority over the "site."

Under a lease agreement with Taylor & Fenn, Endurant proposes to construct the BESF on an approximately 0.3-acre site on an approximately 14-acre parcel owned by Taylor & Fenn at 22 Deerfield Road in Windsor. The host parcel is zoned Industrial (I) and is developed with an approximate 180,000 square-foot building and several smaller buildings. The proposed BESF site is located in a lawn area at the northwest portion of the host parcel, west of the main building.

The surrounding area consists of mix of industrial/commercial development and undeveloped land. A railroad corridor and Interstate 291 are located east and south of the host parcel, respectively. The nearest residential property line from the proposed facility is approximately 600 feet to the south, on the opposite side of Interstate 291, at 11 Saville Street.

Proposed Facility and Associated Equipment

The proposed customer-side BESF would consist of six Canadian Solar Inc. Energy Storage SolBank battery storage units with a maximum export capacity of 7.0 MW AC. Each battery storage unit has a maximum storage capacity of approximately 2.8 MWh, for a total maximum storage capacity of approximately 16.8 MWh.⁶ The BESF would be capable of providing a maximum of 14.0 MWh of electrical energy to reduce load over a 2-hour duration at full output or 4-hours at 50% output. Its recharge cycle would require a minimum of 2 hours based on 7.0 MW at the point of interconnection; however, recharging would occur during off-peak hours based on Taylor & Fenn's energy demand and favorable energy pricing periods. Each battery storage unit includes 8 racks with 6 modules per rack, and 69 battery cells per module. Other equipment includes four EPC Power inverters, two 13.8-69-kV transformers and two switchgear.

The BESF would disturb an approximate 0.16-acre area and be located within an approximate 6,150 square foot gravel compound enclosed by an eight-foot tall chain-link fence. Each battery storage unit is self-contained and measures approximately 33 feet long by 6 feet wide by 20 feet high. Each unit includes, but is not limited to, batteries, thermal management system, battery management system, and electrical equipment. The thermal management system includes a liquid coolant system for battery cells and an air-cooling system for electrical components.

The facility would be accessed from an existing paved driveway off Deerfield Drive that serves the metalworks facility. No new access would be constructed.

The facility would interconnect to an existing 23-kV distribution feeder along the north property line via an underground line extending from the BESF to the metalworks facility's electrical room. No new utility poles are proposed.

ISO-NE is currently undertaking an Affected System Operator study as part of the utility interconnection process. Eversource's distribution impact study is under review. The interconnection agreement with Eversource is anticipated to be completed by June 2024.

Construction of the BESF is expected to begin by the second quarter 2024 and would take approximately six months. Construction hours would be from 8:00 a.m. to 5:00 p.m. Monday through Friday and from 7:00 a.m. to 6:00 p.m. during the delivery/installation of specialized equipment. Commercial operation is expected prior to the 2025 ESS program season, scheduled to start June 1, 2025.

Once operational, the facility would require semi-annual maintenance visits. The servicing of the refrigerant system will be contracted to a registered HVAC servicing company. Refrigerant that is changed out would be recycled.

The batteries would degrade annually from 1.4 to 2.5 percent per year, reducing the storage capacity by year 10 to approximately 77.2 percent. At the end of the approximate 10-year service life, Endurant would assess the facility components and consult with Taylor & Fenn to determine if the life of the facility could be extended. If the life of the facility could not be extended, all BESF components would be dismantled and removed.

The estimated cost of the facility is \$8.0 million.

⁶ While the facility would be theoretically capable of storing up to 16.8 MWh of energy, the maximum discharge to the grid is proposed to be limited to 14.0 MWh due to electrical losses, to prevent a full depletion of the batteries and to address degradation losses over the life of the BESF.

Environmental Effects and Mitigation Measures

Air and Water Quality

The facility would not require a DEEP Air Permit. No hazardous air emissions would be produced during the operation of the facility.

Operation of the facility would not consume water.

The nearest drinking water well is located approximately 1,200 feet east of the project site.

The site is not located within a DEEP-designated Aquifer Protection Area nor within a Federal Emergency Management Agency-designated flood zone.

There are no wetlands or vernal pools on the host parcel.

The proposed transformers are dry type transformers that are air cooled. No insulating oil would be used.

Pursuant to C.G.S. §22a-430b, a DEEP Stormwater Permit is required for any disturbance greater than 1 acre. The construction limit of disturbance for the proposed facility is approximately 0.16-acre, therefore the project would not require a DEEP Stormwater Permit.

The Project would be constructed in a lawn area adjacent to a paved area. Approximately 400 cubic yards of cut are required to construct the site. Excavated soils would be characterized before disposal off-site at an appropriate facility.

Portions of the host parcel are subject to a DEEP Environmental Land Use Restriction (ELUR). Final Project engineering is ongoing and trenching within the ELUR may be required based on the final design. If disturbance to the ELUR is required, Endurant would seek approval from DEEP and follow specified soil management procedures.

The facility compound would be surfaced with gravel, promoting stormwater infiltration. No other stormwater management features are proposed.

Forests and Parks

Development of the site would require the removal of one tree.

Windsor Meadows State Park is approximately, 1,000 feet northeast of the site. The proposed facility would have no impact on the park.

Scenic, Historic and Recreational Values

There are no properties on the National Register of Historic Places within a half-mile of the Site. On August 30, 2023 the State Historic Preservation Office submitted correspondence to Endurant stating the Project would have no effect on historic resources.

There are no recreation areas in proximity to the site.

There are no scenic roads or designated scenic areas in the vicinity of the site.

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Privacy slats would be installed on the perimeter fence to provide visual screening of the equipment from Taylor & Fenn parking areas. No landscaping is proposed due to the Project's location on an industrial property, remote from off-site visual receptors.

Fish, Aquaculture and Wildlife

The Project site is within the range of the peregrine falcon, a state-listed threatened species. On June 16, 2023, DEEP submitted correspondence to Endurant indicating the Project is not expected to have negative impacts to state-listed species.

The northern long-eared bat (NLEB), a federally-listed and state-listed Endangered Species occurs in Connecticut. However, there are no known occurrences in Windsor.⁷ Additionally, forested areas, used by NLEB as habitat, would not be impacted by the Project.

Agriculture

The site does not contain prime farmland soils. Soil at the site is classified as urban land.

Public Safety

Noise

The primary sources of equipment noise for the proposed BESF are the six battery storage units, four inverters and two transformers.

A noise analysis determined noise from operation of the facility would be no greater than 29 dBA at the nearest residential property boundary (11 Saville Street) and 65 dBA at the nearest industrial property boundary (90 Deerfield Road). Thus, the operation of the proposed BESF would meet DEEP Noise Control Regulations.

Construction noise is exempt per DEEP Noise Control Regulations.

Electric and Magnetic Fields

During operation of the BESF, electric and magnetic fields (EMF) would be produced by the power inverters and the underground line that extend to the metalworks facility's electrical room. EMF levels from these sources would dissipate quickly with distance and therefore would be similar to pre-existing EMF background levels at the property lines.

Security

The facility would be monitored on a 24/7 basis by a remote-operations control center to detect abnormalities in operation. It includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards. If operational abnormalities occur, the BESF can be remotely shut down and emergency responders can be notified if necessary.

The proposed site would comply with the Council's White Paper on the Security of Siting Energy Facilities. Security measures include, but are not limited to, a locked security fence and security cameras.

⁷ https://portal.ct.gov/-/media/DEEP/NDDB/NoLongEaredBat-Map.pdf

The BESF would be enclosed by an 8-foot tall chain-link fence in compliance with the National Electrical Code.⁸

The fence would be approximately five feet from the abutting property at 70 Deerfield Drive, a developed industrial property north of the site.

The site will have a locked gate and limited access for authorized personnel only. No lighting is proposed.

Fire Protection

Endurant developed an Emergency Response Plan (ERP) for the BESF that provides guidance on procedures to address a fire or other abnormal emergency conditions at the facility.

The BESF would be designed in accordance with the NFPA 855 and the 2022 Connecticut State Fire Code Chapter 52- Energy Storage Systems.

Each battery storage unit would contain heat, smoke and combustible gas detectors, and a fire alarm (audible and visual), monitored by the battery management system. In the event of fire detection via these sensors, the fire alarm panel would alert the BESF system operator which would then be relayed to the local fire department. The battery storage unit can be shut down manually or remotely. A system shutdown would result in electrical isolation of the battery strings and cessation of battery charging or discharging.

In accordance with NFPA 855, the battery storage unit is equipped with an exhaust fan that vents flammable/explosive gases upon detection by the gas detection system. Smoke from a battery fire can be a direct inhalation risk, however, the vent system would dissipate smoke levels above and around the facility to lower smoke risk levels. Emergency response personnel should remain outside of the BESF compound, away from smoke hazards. The fire department (Incident Commander) would determine if evacuation of nearby occupied structures/areas is necessary.

If a battery storage unit is on fire, it should be allowed to self-extinguish. Battery cells could burn for several hours. Destructive testing of the battery storage unit in accordance with Underwriters Laboratories (UL) 9540A methodology indicates a battery cell fire is not likely to spread to adjacent cells. Water for fire suppression should be directed to adjacent areas/structures to prevent the spread of a fire. Although the battery storage unit has an optional fire suppression system, Endurant would not include such a system into the design due to research indicating fire suppression agents are not effective for battery fires. A fire hydrant is five feet from the BESF, on the host property near the north property line. A second hydrant is approximately 275 feet to the south, also on the host property.

Fire response and command would be the responsibility of the fire department (Incident Commander). Endurant would have personnel available remotely on a 24-hour basis to assist with fire response. In addition, Accel would have a designated BESF contact/liaison available that is trained in emergency response. Endurant would dispatch personnel to the BESF as soon as possible. Signs would be posted at the BESF that comply with NFPA 855 as well as other detail that may be requested by the fire department.

The ERP will be updated to include additional site-specific input provided during further consultation with emergency responders. Endurant would provide training to local emergency responders prior to construction.

⁸ Section 110.31 of the National Electrical Code (NEC), 2020 Edition 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."

Aviation Safety

Delta One Heliport in Hartford is located 1.9 miles to the south of the facility site. Based on the Federal Aviation Administration's (FAA) Obstruction Evaluation Tool, the use of a temporary crane during construction of the Project would not be an aviation hazard and would not require notification to the FAA.

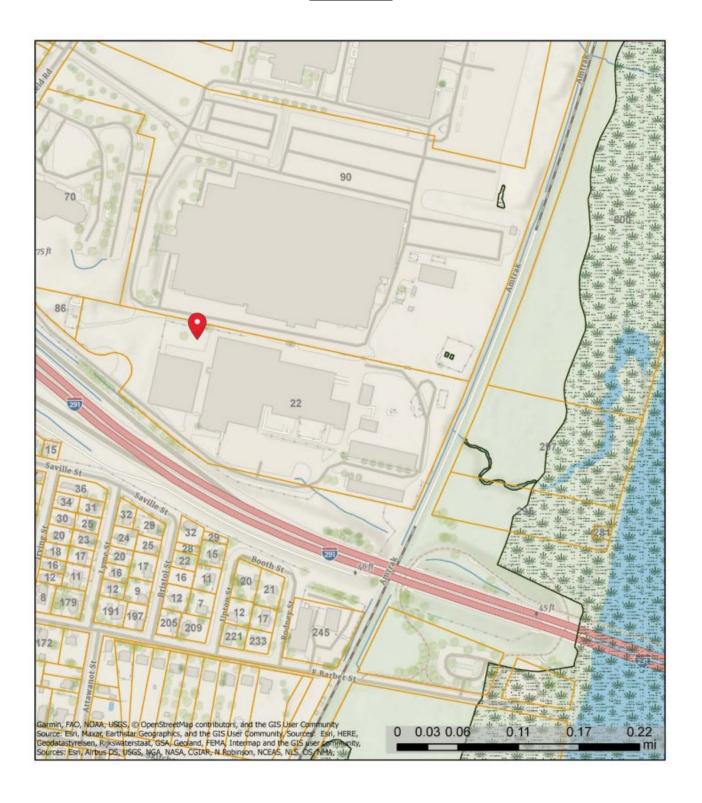
Conclusion

The BESF is a customer-side distributed energy resource with an output 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 further the State's energy policy by integrating storage to meet peak demand and support the reliable integration of variable renewable resources. Furthermore, the Project was selected under the state's ESS Program.

If approved, staff recommends the following conditions:

- 1. Approval of any Project changes be delegated to Council staff;
- 2. Provide a site construction plan consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control with specific construction methods for work within the Environmental Land Use Restriction area, if applicable prior to the commencement of construction;
- 3. Provide a construction Fuel Storage and Spill Prevention Control Plan prior to the commencement of construction;
- 4. Provide a final site plan including, but not limited to, final facility layout, access, electrical interconnection, equipment pads, and fence design prior to the commencement of construction;
- 5. Provide a copy of the final Emergency Response Plan to local emergency responders prior to facility operation, and provide emergency response training;
- 6. Provide a signed certification by the Fire Chief that training has been completed and the ERP is approved prior to commencement of operation; and
- 7. Submit a copy of the building permit prior to commencement of operation.

Site Location



Host Parcel - Existing Conditions



Proposed Site Layout

