

DRAFT

Petition No. 1562
524 NLR LLC
524 New London Road, Colchester, Connecticut

Staff Report
June 2, 2023

Introduction

On March 21, 2023, the Connecticut Siting Council (Council) received a petition from 524 NLR LLC (Petitioner) for a declaratory ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k for the construction, operation and maintenance of a 4.0-megawatt (MW) alternating current (AC) solar photovoltaic electric generating facility located at 524 New London Road, Colchester, Connecticut, and associated electrical interconnection (Petition or Project).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40 on or about February 14, 2023, Petitioner notified the abutting property owners, the Town of Colchester (Town) officials, Town of Salem officials¹, state officials and agencies of the proposed Project. No comments were received.

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. On April 27, 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 September 17, 2023, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

The Council issued interrogatories to Petitioner on May 1, 2023. Petitioner submitted responses to the Council's interrogatories on May 22, 2023, one of which included photographic documentation of site-specific features intended to serve as a "virtual" field review of the Project.

Municipal Consultation

Petitioner met with Town officials in January 2023 to discuss the Project. The Town did not comment on the proposed Project and did not request a public information meeting.

On March 22, 2023, the Council sent correspondence to the Town and the Town of Salem stating that the Council has received the Petition and invited the Towns to contact the Council with any questions or comments by April 20, 2023. No comments were received.

State Agency Comments

On March 22, 2023, pursuant to RCSA §16-50j-40, the Council sent correspondence requesting comments on the proposed Project from the following state agencies by April 20, 2023: Department of Energy & 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

¹ The Town of Salem is located within 2,500 feet of the proposed facility site.

Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO).

No state agencies provided written comments on the Project.

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) 17-218³ 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 such land as core forest.” 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 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. 3 is “Grow and sustain renewable and zero-carbon generation in the state and region.” The state Integrated Resource Plan assesses the state’s future electric needs and a plan to meet those future needs, including, but not limited to, pathways to achieve a 100 percent zero carbon electric supply by 2040. Furthermore, Governor Lamont’s Executive Orders and Council on Climate Change examine existing policies and identify new strategies to combat climate change. 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.

The Project bid into the statewide Shared Clean Energy Facility (SCEF) Program which is a competitive procurement process administered by the state’s electric distribution companies to develop utility scale renewable energy. New or incremental Class I renewable generation projects ranging in size from 100 to 4,000 kW (AC) are eligible to bid into the SCEF Program for a Tariff Terms Agreement (TTA) with a 20-year term. The first procurement occurred in 2020, and the Project was selected in year 3 of the SCEF

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

³ Codified at Conn. Gen. Stat. §16-50k(a) and §16a-3k

program. After the 20-year SCEF contract expires, Petitioner would continue to operate the facility and seek other revenue mechanisms.

Petitioner would not participate in the ISO-New England, Inc. (ISO-NE) Forward Capacity Auction at this time but may do so in the future.

Proposed Site

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 the landowner and portions of the parcel the landowner may lease to third parties. Once a facility is decommissioned, the Council no longer has jurisdiction or authority over the project “site.”

Under a lease agreement with the property owner, Petitioner proposes to construct the solar facility on an approximate 16.5-acre site on a 35.5-acre parcel located at 524 New London Road (Route 85) in Colchester, owned by Five J LLC. The eastern portion of the property contains an automotive salvage yard and a metal storage building. The western portion of the parcel is forested.

The parcel is partially within the Rural zoning district. The eastern portion of the parcel, abutting Route 85, is within the Route 85 Arterial/Commercial overlay district. Land use in the surrounding area consists of undeveloped land, commercial, residential and agricultural.

The site is proposed to be located in the eastern portion of the parcel in an area occupied by the auto salvage yard. The site gently slopes to the west with elevations ranging from 560 feet above mean sea level (amsl) to 510 feet amsl.

Petitioner selected the site due to site availability, re-use of an existing salvage yard, and the lack of tree clearing necessary to develop the site. 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.⁴

The initial term of the lease is 25 years with a 10-year renewal option. The lease specifies that the property owner would remove the stored vehicles from the site prior to site construction. At the end of the lease, Petitioner must decommission the Project and restore the site to its pre-existing condition.

Proposed Project

The proposed 4.0 MW AC solar facility consists of a total of 7,655 solar panels rated at 665 Watts. Other equipment includes 24 string inverters, and two 2,000 kVA transformers. Two 45-foot by 10-foot concrete pads for electrical equipment would be installed along the north edge of the solar array area.

The panels would be installed on a single-axis tracker system supported by posts facing south. The tracker system will move along the north-south axis to a maximum angle of 60 degrees. At maximum tilt, the panels would be approximately 10 feet above grade at the highest point and 3 feet above grade at the lowest point.

Panel row wiring would extend along the tracker system within conduit to reduce potential damage from weather events, maintenance activities, or animals. The wiring would transition underground to the switchgear/transformer pads. From the northeast transformer pad, an underground line would extend for

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

approximately 40 feet, then transition to an overhead interconnection line for a distance of 17 feet to an existing utility pole on the west side of Route 85.

The proposed overhead electrical interconnection would require four new utility poles in the northeast portion of the site to connect to the existing electrical distribution system along Route 85. The new poles would be approximately 40 feet tall. Petitioner received a determination of no significant adverse effect to the system from ISO-NE in March of 2022 and entered into an Interconnection Agreement for the facility with Eversource on April 15, 2022.

The projected capacity factor for the Project is approximately 22 percent. The power output would decline over time with an anticipated annual power output loss of approximately 0.5 percent. The Project is not designed to support a battery storage system.

The facility would be accessed from Route 85 via an existing 100-foot long driveway, extending to an 18-foot wide swing access gate. From the gate and within the fenced solar array, an 18-foot wide gravel drive would extend around the perimeter of the facility (approximately 3,300 linear feet) to provide access to the transformer pads and interior areas of the site.

The facility would be enclosed by a new seven-foot tall chain link fence on the north, south and west sides and a new nine-foot tall solid fence on the east side, facing Route 85, that would match the existing solid fence located along the north and south sides of the property line. An existing ranch gate with a decorative metal arch at the entrance to the host parcel could be relocated to a similar position above the new perimeter fence line.

The nearest property line from the solar field perimeter fence is approximately 32 feet to the north. The nearest off-site residence from the solar field perimeter fence is approximately 180 feet to the south (536 New London Road).

The solar tracking system would be installed on existing grades. Earthwork at the site is primarily required for installation of temporary sediment traps along the west edge of the development area. Soil would be stockpiled near the traps in designated locations. The temporary cuts and fills are 5,192 and 630 cubic yards, respectively. The temporary sediment traps would be backfilled after soil stabilization.

A site construction phasing plan has been developed that includes two main construction phases. Phase 1 includes all work necessary to establish the temporary sediment traps and perimeter erosion control measures at the site. Once the temporary sediment traps have been stabilized Phase 2 would commence. It would include site infrastructure and access road installation and final site stabilization.

Construction is anticipated to begin in 2023, with commercial operation commencing in the first half of 2024. Typical construction hours and work days of the week are as follows: Monday – Saturday, 7:00 AM to 6:00 PM.

The estimated cost of the Project is approximately \$8 to \$9 million.

Public Safety

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

The nearest airport is the Skis Airport, a private airport located three miles to the north. The Federal Aviation Administration (FAA) issued a Determination of No Hazard to Air Navigation for the Project on

January 17, 2023. Under FAA criteria, the Project would not be a Hazard to Air Navigation or require a glare analysis.

The facility would be remotely monitored through a 24/7 data acquisition system. If a problem with the facility is detected, system diagnostics and/or facility shutdown can be performed remotely. Technicians can be dispatched, if required. A manual disconnect switch would be located at the front entrance and outside of the fenced area that could turn off the transformers, switchgear, and inverters.

Petitioner would conduct facility operation and safety training for local emergency responders including useful information related to fire safety at the site. Generally, fire personnel would have preferred means to extinguish electrical fires associated with solar equipment. If the panels caught on fire, typical procedure allows the panels to burn itself out. Fire personnel would concentrate on the vegetated areas around the perimeter of the array to ensure the fire does not spread to adjacent areas.

The Project would be enclosed by a seven-foot high fence.⁵ The entrance to the facility would be gated, limiting access to authorized personnel. Emergency responders would be provided access to a Knox Box at the entrance gate.

The proposed facility would be in compliance with DEEP Noise Control Standards. Noise modeling indicates noise from the Project would be approximately 49.2 dBA at the nearest property line.

Once operational, noise from the facility would be generated from inverters, transformers and tracker motors (daytime only). The final inverter model would be known at the time of procurement.

The inverters are the main source of noise for the Project. Each inverter would produce a sound level of approximately 49.3 dBA at a distance of 50 feet. The inverters would be installed along the north edge of certain panel rows, spread out along the rows rather than concentrated in one area. The nearest property line from the northern end of the panel rows, where the inverters are located, is approximately 50 feet to the north, an undeveloped, rural-zoned property with allowable commercial use on Route 85. Thus, the Project would comply with the DEEP Noise Control Standards for an industrial emitter to a commercial receptor (66 dBA day/51 dBA night).

The nearest residential structure from the nearest inverter is 347 feet to the north. The calculated inverter noise level at the residence is 32.5 dBA.

Construction noise is exempt from DEEP Noise Control Standards.

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

Petitioner met with DEEP's Remediation Division on December 5, 2022 to discuss any testing or remediation requirements for the soils that would be disturbed through development of the Project. DEEP indicated that no testing or remediation would be required for the installation of racking, panels, inverters, and associated equipment. If the excavated soils for the temporary sediment basins exhibit potential contamination, the soils would be handled in accordance with DEEP protocols.

⁵ 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."

Environmental Effects and Mitigation Measures

Historic and Recreational Resources

SHPO submitted correspondence to Petitioner on September 23, 2022, indicating that the proposed Project would not affect historic properties or known archeological resources. There are no “blue-blazed” trails maintained by the Connecticut Forest and Parks Association located proximate to the site.

There are no state or local designated scenic roads, scenic areas, Town or state parks within one-mile of the site.

Visibility

The proposed facility would be visible from the immediate area surrounding the site, extending for approximately 0.1 mile north and south of the site and along portions of Route 85. The four proposed utility interconnection poles would be visible from Route 85, but they would match the existing distribution poles located along the same side of the road. Additionally, the interconnection poles would be installed in a linear configuration, set back from the road.

To partially screen views of the lower portions of the utility poles and portions of the proposed solid fence from an open area northeast of the site, approximately 35 evergreens would be planted in the northeast corner of the parcel. An existing building on the property would also screen views of the facility from this area.

Agriculture

The entire site contains prime farmland soils according to mapping maintained by the United States Department of Agriculture (USDA) Natural Resource Conservation Service. 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.”

By letter dated October 17, 2022, pursuant to PA 17-218, DOAg determined that the proposed Project will not materially affect the status of prime farmland. There is no current agricultural production on site. The prime farmland soils are in areas currently used as an auto salvage yard.

Wetlands and Watercourses

Petitioner performed a wetland and watercourse survey in August 2022 that identified three wetlands on the host parcel. Wetland 1 is located in the northeast corner of the parcel, adjacent to the existing storage building. The wetland is partially disturbed with fill material and stored vehicles. Other portions contain wetland specific vegetation. Wetlands 2 and 3 are forested wetlands in the western portion of the parcel.

Wetlands 2 and 3 both contain a potential vernal pool (PVP). No additional surveys of these PVPs were performed as the forested area of the property would not be disturbed, maintaining connectivity between the two PVPs and associated wetland areas, as recommended by the 2015 US Army Corps of Engineers Vernal Pool Best Management Practices. All Project development would occur in existing, disturbed eastern portion of the property.

Petitioner would implement a wetland protection plan during construction that includes erosion and sedimentation control measures, contractor training, provisions for fuel storage and spill remediation, herbicide, pesticide and salt restrictions, and site inspection reporting.

Erosion and sedimentation controls would be consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. The site plans specify the use of meshless or jute erosion control netting to reduce the potential entanglement of amphibian and reptile species that may inhabit the site.

Wildlife

The proposed facility is not located within a Natural Diversity Data Base buffer area, and thus, the Petitioner did not consult with the DEEP Nddb program.

The northern long-eared bat (NLEB), a state and federally-listed Endangered Species, is known to occur in Connecticut. However, the nearest known NLEB habitat resource is located more than 10 miles from the site and no impact to NLEB is expected. A US Fish and Wildlife Service (USFWS) NLEB impact permit is not required. No forest clearing would occur at the site that could disturb NLEB. By letter dated May 9, 2023, the USFWS determined the Project would not likely have an adverse effect on NLEB.

Core 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 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.

The Project would not require tree clearing. By letter dated September 26, 2022, pursuant to PA 17-218, DEEP determined that the proposed Project will not materially affect the status of core forest.

Air Quality

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

Water Quality

The site is not within a DEEP-designated Aquifer Protection Area or a Public Drinking Supply Watershed.

Residences near the Project site are served by private water wells. Petitioner does not expect the installation of the tracking system support posts to have an impact to nearby wells.

The facility would not use or discharge water during site operations.

Fuel is anticipated to be stored on site during construction and Petitioner developed fuel storage and spill remediation procedures for the Project.

Stormwater

Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater discharges. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices.

The DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit) requires 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 proposed project after construction is complete. In its discretion, DEEP could require an Individual Permit for discharges and hold a public hearing prior to approving or denying any General or Individual Permit (Stormwater Permit) application.

A DEEP-issued Stormwater Permit is required prior to commencement of construction activities. The Stormwater Permit includes erosion control measures that comply with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and the *2004 Connecticut Stormwater Quality Manual*.

Petitioner discussed the Project with the DEEP staff on December 5, 2022. Petitioner performed a stormwater analysis that concluded no permanent stormwater detention basins are necessary as the proposed post-construction site conditions would be an improvement over existing conditions.

A construction sequence is included on the site plans that includes the establishment of erosion control measures, site clearing, where necessary, and construction and installation of four temporary sediment traps. Once the disturbed areas are stabilized, installation of site infrastructure would commence.

Use of the tracker system would disperse rainwater to vegetated ground areas east and west of the panels, preventing concentrated sheet flow that could cause channelization below the drip edge.

Portions of the existing soils at the site are bare or compacted. To establish both temporary and permanent vegetation within the array area, Petitioner would use a combination of soil amendments including compost, fertilizers, and lime to improve the nutrient-poor soil. Post-construction, a seed mix would be applied for final stabilization that contains grasses, legumes, and forbs specific to nutrient-poor soils. A seed mix that promotes pollinators would be applied in the temporary sediment trap backfill areas in the western portion of the site.

Operation and Maintenance

A post-construction Operations and Maintenance Plan has been developed that includes provisions for periodic inspections of the site. The inspections would include the electrical system/components, physical infrastructure, access roads, and site vegetation.

Approximately 10 replacement modules would be stored on an equipment pad within the fenced areas of the site for use of damaged panels are detected and need to be replaced.

The tracker system could remove snow by orienting the panels to maximum tilt.

It is not anticipated that pesticides and/or herbicides would be used at the site. If application is necessary, they would not be used within 100 feet of wetlands.

Decommissioning

At the end of the Project's useful life, the Project would be decommissioned and the site restored to its original condition. Project decommissioning would include removal and disposal or recycling of all above-surface project components.

All recyclable materials would be transported to appropriate recycling facilities. Any non-recyclable materials will be properly disposed in accordance with state and federal laws. The equipment pads and access roads and fencing would be removed.

Disturbed areas and racking post holes would be backfilled with native soil, stabilized and seeded. Any compacted areas that could inhibit the growth of new vegetation would be aerated.

Petitioner would select-solar panels for the Project that meet current Toxicity Characteristic Leaching Procedure (TCLP) criteria⁶ for characterization as nonhazardous waste in the event the solar panels are not recycled at the end of the Project's life.

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 SCEP 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 the DEEP Stormwater Permit prior to the commencement of construction;
3. Submit the final structural design for the tracking system stamped by a Professional Engineer duly licensed in the State of Connecticut prior to commencement of construction;
4. Submit TCLP test results for the selected solar panels that indicate the panels would not be characterized as hazardous waste at the time of disposal, under current testing criteria;
5. Include contact information for the spill response contractor within the fuel storage and spill remediation plan; and
6. Provide training to emergency responders.

⁶ <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-I/part-261/subpart-C/section-261.24>

Site Location

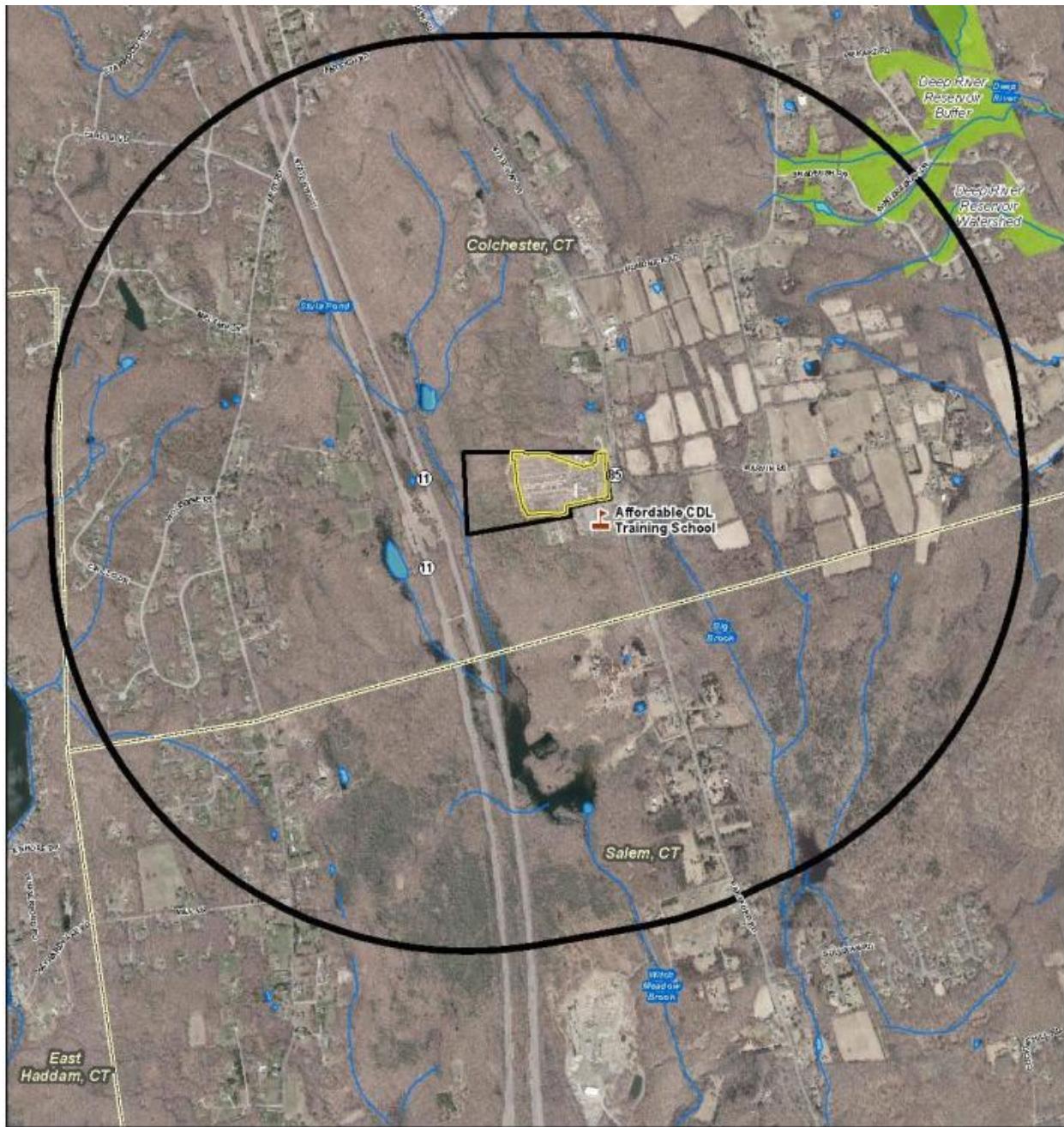


Figure 4
Surrounding Features Map
Proposed Solar Energy Facility
524 New London Road
Colchester, Connecticut

Host Property- Existing Conditions



Map Notes:
Base Map Source: 2019 Aerial Photograph (CTEDC)
Map Scale: 1 inch = 300 feet
Map Date: January 2023

300 150 0 300
Feet

Figure 2
Existing Conditions Map
Proposed Solar Energy Facility
524 New London Road
Colchester, Connecticut



Proposed Site

