



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

October 16, 2020

TO: Service List dated August 7, 2020

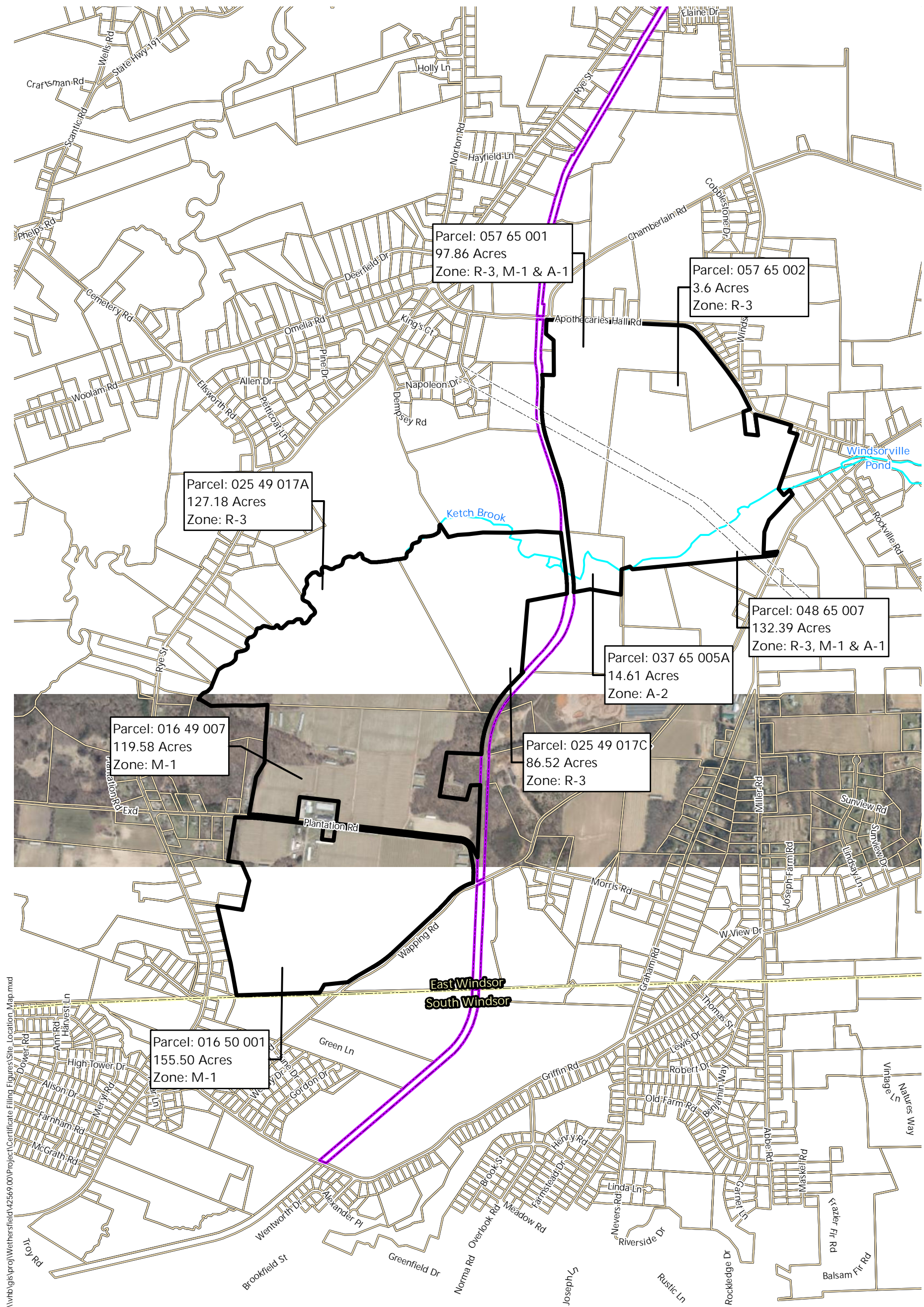
FROM: Melanie Bachman, Executive Director

RE: **DOCKET NO. 492** – Gravel Pit Solar application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 120-megawatt-AC solar photovoltaic electric generating facility on eight parcels generally located to the east and west of the Amtrak and Connecticut Rail Line, south of Apothecaries Hall Road and north of the South Windsor town boundary in East Windsor, Connecticut and associated electrical interconnection.

Comments have been received from The State of Connecticut Department of Transportation, on October 16, 2020. A copy of the comments is attached for your review.

MB/lm

c: Council Members



\\wbl\gis\proj\Wethersfield\42569.00\Project\Certificate Filing\Figures\Site_Location_Map.mxd



- Property Boundary
- Adjacent Parcels
- Town Boundary
- Approximate Railroad Boundary
- Approximate Eversource ROW
- Stream

Gravel Pit Solar

East Windsor, Connecticut

Site Location Map

Source: VHB, CTDEEP, ESRI

fixed-tilt system arrays, 138 acres for single-axis tracker system arrays and 10 acres for access roads. The proposed solar photovoltaic panels are likely to be between approximately 400 watts (W) and 550 W, and approximately 3.5 feet wide and 7 feet tall. Spacing between panels will be approximately 8.8 feet for fixed-tilt and 15.2 feet for single-axis trackers. There will be approximately 15-foot wide access roadways, with space provided for associated equipment and safety fencing. The fixed tilt panels will be arranged in east-west rows facing due south and will be supported on pile foundations. These solar panels will be fixed at a tilt of approximately 20 percent and will be elevated approximately 2 feet above ground and approximately 9 feet total height above grade. The tracker systems are oriented in north-south strings and will be elevated a minimum of 3 feet above grade with a maximum height of approximately 14.7 feet above grade.

The proposed photovoltaic panels are composed of crystalline silica cells supported in anodized aluminum frames. The panels are designed to have low irradiance (reflectance), and are approximately 97 percent efficient, meaning that very little light is reflected off the surface. The proposed array system is designed to absorb energy directly from the sun and should not be confused with the reflector-concentrator type systems that have been constructed in the western United States. The panels will be connected with cross-linked polyethylene (XLPE) cables which connect the panel arrays to electrical equipment pads.

Thirty-six inverter skids on piles with gravel aprons will be spaced throughout the Project footprint will contain transformers, inverters and electrical panels. This equipment is anticipated to have a height above adjacent grade of approximately 10 feet. The solar array will connect to the Switchyard described above via a buried XLPE electrical cable.

The facility will be surrounded by a minimum 7-foot-high agricultural fence topped with a single string of barbed wire. Substation and switchyard fencing will be enclosed by an 8-foot chain link fence with barbed wire. The Project fence is required to be posted with safety signage providing the warning that high voltage equipment is stored inside the fence. The National Electric Safety Code (NESC) dictates the height of the fence and the signage. The NESC also dictates the distance between the fence and electrified equipment to minimize arcing, as well as grounding requirements for the fence itself for the safety of those potentially contacting the fence. The security fence is not an electric fence. Outside the fence, an approximately 100-foot-wide zone around the east, west and south sides of the Project Site will be cleared of vegetation and managed as meadow, low growing shrubs or other low growing vegetation for the lifetime of the facility operation, in some areas stumps may be left in place within the clearing.

Through much of the Site, the Project will conform to existing surface grades. Within the fence line, where panels are proposed and steeper slopes are present, grading will be required to achieve maximum slopes of 15 percent. Maximum grade within the Project Site for areas outside of proposed array areas is 3:1. Limited grading will be necessary around the Project perimeter to meet existing grades. Proposed array foundations will be driven piles, either steel H-piles or pre-drilled concrete. Any direct buried XPLE cable will be trenched in approximately 3 to 4 feet below grade.

Access to the Project Site during operations will be off Plantation Road and Windsorville Road. The Project access roadways will connect to the public roadway at these locations.

Locked gates will be installed at the entrances to discourage driving along the access roads by unauthorized individuals. Gates will be aesthetically consistent with the setting, and include landscaping, architectural gates and other features to improve the look of the entrances (see Section 7.6). Minimal signage identifying the facility will be provided at each of these locations and will include contact information for personnel and/or a designated operator in charge of managing the facility. These signs will be designed with consideration of the signage guidance provided in the Town of East Windsor Zoning Regulations.

Visual screening for the Project will include a combination of landscape plantings, architectural fencing and meadow or grass seeding. Proposed screening is described in Section 7.6.

The Project layout is depicted on Figure: Project Layout Map provided at Exhibit A and the Site Plans are provided in Exhibit C.

Construction of the Project is expected to begin as soon as the third quarter of 2021 and will likely be completed in the fourth quarter of 2022 or early in 2023. Refer to Section 7.10 for information on construction work hours.

Interconnection

Electricity generated from the Project's solar panels will be collected via DC collector lines and combiner boxes, and then inverted to AC at the Project's 36 inverters. Electricity from the inverters will be transmitted back to the Project Substation at 34.5-kV. The Project Substation will step-up the 34.5-kV electricity to 115-kV, which is the voltage of the existing Eversource transmission lines. The Project (GPS) Substation will connect to the Transmission Owner (Eversource) Switchyard, which will be constructed adjacent to one another and are depicted on the Site Plans located at Exhibit C.

The GPS Substation will include:

- › Main power transformer and secondary containment
- › Circuit Breakers and disconnect switches
- › Electrical bus and conductors
- › Steel structures and concrete foundations for equipment support
- › Masts for lightning protection and lighting
- › Equipment enclosure containing protective relaying and monitoring systems

The Eversource Switchyard includes:

- › Circuit breakers and disconnect switches
- › Revenue metering equipment
- › Electrical bus and conductors
- › Steel structures and concrete foundations for equipment support
- › Masts for lightning protection and lighting
- › Equipment enclosure containing protective relaying and monitoring systems