



TOWN OF PLYMOUTH

26 Court Street
Plymouth, Massachusetts 02360
(508) 747-1620

To: Plymouth Zoning Board of Appeals
From: Plymouth Planning Board
Date: June 4, 2019
Re: Zoning Board of Appeals Case: #3955

At a regularly scheduled meeting held on June 3, 2019, the Planning Board VOTED (5-0) to make the following findings and recommendations:

PETITIONER: 978 Solar Development, LLC (978 Solar - "Petitioner" or "Applicant")
CASE: #3955
LOCATION: 143 Hedges Pond Road
PARCEL: MAP: 55 LOTS: 52A-001, 52B & 53
ZONE: Rural Residential (RR) Zone
STREET CLASS: Major Collector

REQUEST: Special Permit per Section 207.11 C (g)(ii) to waive the 200' Buffer for systems greater than 2 Mega Watts (MW) DC.

PURPOSE: To install a 3 MW ground-mounted solar photovoltaic facility, consisting of approximately 7,398 panels.

SUBMISSION REQUIREMENTS

LOCUS MAP:	YES
ACTUAL LOT SHAPE & SIZE:	YES
EXISTING CONDITIONS:	YES
ADJACENT LOTS:	YES

SUBMITTED DOCUMENTS:

1. Site Plan entitled "*143 Hedges Pond Road, Plymouth, MA 02360, 2,885.22 kW DC STC Rated Solar Electric System*" (7 pages), dated February 28, 2019 and revised March 5, 2019 and April 5, 2019, prepared by Borrego.
2. "*Project Narrative*" (6 pages) dated April 11, 2019, prepared by Borrego.
3. Manufacturer's Equipment Specifications (21 pages), submitted by 978 Solar.

4. Zoning Board of Appeals "Memorandum" (1 page), received May 9, 2019.
5. Department of Inspectional Services "Zoning Permit" (1 page), dated February 22, 2019.
6. Department of Inspectional Services "Revised Zoning Permit" (1 page), dated February 22, 2019.
7. Zoning Board of Appeals Petition (1 page), dated May 1, 2019, submitted by Serkey & Kelman, PC, 81 Samoset Street, Plymouth, MA 02360.
8. Zoning Board of Appeals Amended Petition (1 page), dated May 14, 2019, submitted by Serkey & Kelman, PC, 81 Samoset Street, Plymouth, MA 02360.
9. Plymouth Fire Department Response to Commercial and Industrial Zoning Application, dated May 14, 2019.

FINDINGS:

1. The Petitioner is requesting a Special Permit, per Section 207-11 C (g)(ii) of the Zoning Bylaw, to waive the 200' buffer requirement to construct a ground-mounted solar energy generation facility. Solar energy is a rapidly developing technology that has many benefits. Utilizing a renewable energy source provides an alternative to the consumption of finite fossil fuels and offsets harmful emissions from fossil fuel electricity generation. Regionally, utilizing distributed energy sources helps to diversify the energy mix in the New England region, and will improve system reliability. Although more environmentally benign than other commercial-scaled sources of electricity, solar energy facilities may impose visual influences or have impacts on protected species or habitat. These relative benefits and detriments will be weighted (sic) through the Zoning Board of Appeals' Special Permit modification process.
2. The Petitioner is requesting to install and operate one (1) 2,885.22 kW ground-mounted solar array with associated transmission line infrastructure. Approximately 7,398 photovoltaic panels are proposed, covering an area of less than 5 acres, being a portion of Lots 52A-001, 52B & 53, shown on Assessors Map #55, encompassing 78.5+/- acres and situated within the Rural Residential (RR) Zone: Lat: 41° 50' 0.1" N, Long: 70° 33' 20" W.
3. The Petitioner's Special Permit filing, under Section 207.11 of the Zoning Bylaw, pertains to minimum setback distances; this petition and review thereof also constitutes the requirement for Site Plan Review.
4. The property in question is located on 143 Hedges Pond Road, along the northeast lot line, abutting a portion of Mountain Hill Road (cart path). Hedges Pond Road is classified as "Major Collector", a public road.
5. Site distance from the proposed solar array to nearest residence is shown on the submitted plans, Page C-3.0, at \pm 562 feet.
6. The property resides outside any Plymouth Well Recharge Area including DEP-defined Zone I & II, based on the 2009 Town of Plymouth Aquifer Protection District mapping data.
7. Portions of the proposed solar generating facility underground utility line falls within Conservation jurisdiction and will require Conservation Commission review.
8. The proposed site appears to fall within Zone X, an area of minimal flood hazard, outside the Special Flood Hazard Area and higher than the 0.2-percent-annual-chance flood, based

- on 2017 Federal Emergency Management Agency (FEMA) Flood Insurance Rate map data.
9. No portion of the site lies within the Natural Heritage Estimated Habitat of Rare Wildlife and Priority Habitat for Rare Species and does not appear to contain any certified vernal pools.
 10. **Natural Features and Relationship to Surroundings** – The property consists of mainly excavated land, along with a cranberry growing operation. The proposed solar array will occupy a heavily vegetated slope, primarily consisting of scrub pine, which will be cleared prior to rack installation. Approximately 90 acres of protected open space, under Conservation Commission jurisdiction, abuts the proposed site along three lot lines and will provide vegetative screening to existing residential housing lots.
 11. **Vehicular and Pedestrian Circulation** – The proposed solar project is considered a passive use and does not require any permanent employees. The site will be unmanned; inspection and maintenance visits to the site will not adversely impact existing traffic patterns. Portions of existing road infrastructure will be utilized during construction and ongoing scheduled maintenance; a 14-foot-wide existing gravel road is depicted on the site plans as access and emergency vehicle access way. A 14-foot wide gravel pull off and 4-foot gate are proposed to access the electrical equipment pad. Pedestrian traffic will be minimal due to the project's remote siting.
 12. **Siting and Design of Structure** – The proposed solar array, consisting of approximately 7,398 photovoltaic panels, each at 390 watts, will be erected at a 25-degree racking tilt angle on less than 5 acres of the 78.5+/- acre parcel. All interconnection equipment will be placed at a single location, east of the solar array, within the subject property. A 7-foot grey vinyl security fence is depicted on the plans. Fence detail includes an 8-inch wildlife passage gap between the bottom fence rail and final grade.

The proposed electric transmission line will be trenched along the existing gravel service road to the south, terminating along the Hedges Pond Road primary electric feed lines. Several cranberry bogs lie west and south of the project.

The proposed solar facility will be installed along a sloped portion of the lot, thereby, will not be visible from residences to the north.
 13. **Surface Water Drainage** – The site plan includes limited stormwater controls for the proposed solar facility. The intent is to design stormwater management so that discharge rates do not exceed pre-construction levels and limit excess runoff.
 14. **Erosion Control** – Erosion control measures are depicted on the submitted site plans, including the use of silt fencing.
 15. **Stormwater Drainage** – The Applicant asserts that no surface/groundwater discharges or withdrawals will be made during project construction.
 16. **Utilities** – Underground electric transmission lines are proposed within the Applicant's property and are depicted on the submitted site plans. The Petitioner shall contact Dig-Safe prior to any construction.
 17. **Signs** – Under the Bylaw, Section 205-9 Special Permits, Part B (2) c, Conditions and Safeguards, there is a limitation of signs or other advertising features. Owner identification, a twenty-four (24) hour contact number and other pertinent information may be allowed on site.

ADVISORY REPORTS:

Fire Department – G. Edward Bradley, Fire Chief: Please see attached Response to Plymouth Zoning Board of Appeals, dated May 14, 2019.

RECOMMENDATIONS:

It is recommended that the petition for a **Special Permit** be **GRANTED** for the following reasons:

1. Solar power generation is an appropriate use within the proposed area in the RR zone and will not negatively affect existing agricultural/commercial operations.
2. While the nearest site line distance from the proposed solar array to abutting open space lot line is 60+/- feet, exceeding the minimum 200-foot setback distance for solar projects greater than 2MW, the nearest distance from a residential structure to the array is 562 feet.
3. The proposed solar array will be a benign use thereby requiring minimal town services while increasing the Town's tax base.
4. There will be no hazard to pedestrians or vehicles due to the project's remote siting from traffic corridors.
5. The proposed project complies with §202-6 A (1,2&4), Special Permit Standards of the Plymouth Zoning Bylaw.

CONDITIONS:

1. The Applicant may be required to file with Massachusetts Environmental Policy Act (MEPA) Office if a state permit is required and/or state funds are provided for this project.
2. The Applicant agrees to prepare a Construction Storm-water Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI), in accordance with EPA NPDES Requirements, if required.
3. All emergency vehicle access ways shall conform to dimensional and access requirements per the Plymouth Fire Department.
4. Portions of the proposed solar project (underground electric transmission lines) fall within Plymouth Conservation Commission jurisdiction and may require Conservation review/filing.
5. The Applicant agrees to record a professionally prepared plan, delineating the vegetated buffer located along the northeast portion of the proposed construction site prior to issuance of building permits.
6. The Petitioner agrees to limit additional vegetative disturbance during construction and will re-seed, upon project completion, with a pollinator friendly, wildlife/native species mix. Seed mix detail shall be submitted prior to granting of Special Permit.
7. Any changes or additions to the project shall be submitted to the Zoning Board of Appeals in writing. The Zoning Board of Appeals shall determine if said changes are non-substantial. If deemed non-substantial, the Board may approve said changes in an informal hearing.
8. The land is subject to Chapter 61A and will require the Applicant to file necessary chapter removal documentation to the Board.

9. The Petitioner shall address the concerns of the Town Engineer punch-list of any remaining items as they evolve through the public hearing process to the satisfaction of the Zoning Board of Appeals.
10. The Town shall receive a positive report from the Cedarville Steering Committee.
11. Prior to the certificate of completion, said energy generation facility shall be installed under the supervision of a registered professional engineer. The engineer must certify that the physical improvements noted in the site plan have been installed in accordance with the conditions noted here and accepted installation practices.
12. The Applicant agrees to submit racking system details including: Manufacturer, composition, method of anchoring and rack installation time schedule.
13. The Building Commissioner is authorized to allow internal site field changes to the plans that do not amount to a substantial modification of the plans. Such changes may include substituting or moving plant material, number of shrubs or trees; moving a structure in a manner that does not materially change the project; reconfiguring drainage areas; or similar changes where it is impractical to install or construct as originally designed.
14. The Town is entitled to pursue the remedies set forth in Section 207.11 of the Bylaw in the event that the terms of this Special Permit approval are violated.

PLEASE NOTE: ONCE AN APPLICATION TO THE ZONING BOARD OF APPEALS HAS BEEN FILED IN THE ZONING BOARD OF APPEALS' OFFICE, NO CHANGES MAY BE MADE BY THE APPLICANT TO ANY PLANS ACCOMPANYING SUCH APPLICATION UNLESS THE CHANGES HAVE BEEN REQUESTED OR ALLOWED BY THE BOARD OF APPEALS DURING THE PUBLIC HEARING.

Patrick M. Farah
Planning Technician/Energy Officer

cc: Paul McAuliffe, Director of Inspectional Services
Lawrence Winokur, Serkey & Kelman, PC
C. Dean Smith, P.E., Borrego Solar