

**Article 600 : Ground-Mounted Solar Photovoltaic Installations Overlay District**

To see if the Town will vote to amend the Zoning Bylaw Article 600 SPECIAL REGULATIONS by adding a new Section 618 GROUND MOUNTED SOLAR PHOTOVOLTAIC INSTALLATIONS OVERLAY DISTRICT, as set forth below, or take any other action related thereto.

**Section 618: GROUND-MOUNTED SOLAR PHOTOVOLTAIC INSTALLATIONS OVERLAY DISTRICT**

**618.1 Purpose and Intent**

618.1.1 The purpose of this Section 618: Ground-Mounted Solar Photovoltaic Installations Overlay District ("GMSP Overlay District") is to create a zoning overlay district that allows the installation, operation, maintenance and decommissioning of Ground-Mounted Solar Photovoltaic (GMSP) Arrays as a permitted use in such district, to provide standards for the placement, design, construction, operation, monitoring, modification, maintenance and decommissioning of such installations, to establish the process and procedures for review and approval of an installation, to address public safety, minimize impacts on scenic, natural and historic resources, and to provide adequate financial assurance for the installation, operation, maintenance and decommissioning of GMSP installations.

618.1.2 The requirements set forth in this Section 618 shall establish the set of standards that apply to the construction, operation, maintenance, and decommissioning of GMSP Installations in the GMSP Overlay District and the process and procedures for Site Plan review and approval of an application for a GMSP Installation.

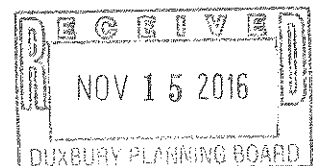
618.1.3 If an applicant does not receive GMSP Installation Site Plan Review approval or such approval lapses, then all requirements of the underlying district shall apply to the land and this alternative set of standards for the construction, operation, and/or repair of GMSP Installations shall not apply.

618.1.4 The Planning Board is the Site Plan Review Authority (SPRA) for all applications for GMSP Installations in the GMSP Overlay District defined in this article of the Bylaws.

618.1.5 An application for a GMSP Installation shall follow all Planning Board processes and procedures for a Site Plan Review as defined by these Bylaws unless either listed as an exception or modified by this article.

**618.2 Applicability**

618.2.1 Section 618 shall apply to proposal(s) for Site Plan Review and approval of GMSP Installations and construction of approved GMSP installations in the GMSP Overlay District after the effective date of this Section 618. This Section 618 shall also apply to physical modifications that materially alter the type, configuration, or size of these installations or related equipment over the operational life of the installation.



618.2.2 Location of GMSP Overlay District: The GMSP Overlay District shall be comprised of Town Assessors Map parcels \_\_\_\_\_ and \_\_\_\_\_ and the land identified as (address). The GMSP Overlay District is shown on a map entitled "(title of map)," which map is hereby incorporated by reference in and made part of this Zoning Bylaw.

Comment [VM1]: Reference to zoning map also

618.2.3 Areas for additional GMSP Overlay Districts may be added from time to time by vote at Town Meeting to amend this Bylaw article.

### 618.3 Definitions

As-of-Right Siting: As-of-Right Siting shall mean that development may proceed without the need for a special permit, variance, amendment, waiver, or other discretionary approval. As-of-Right development shall be subject to Solar Photovoltaic Installations Site Plan Review to determine conformance with the Town's Zoning Bylaw. Projects subject to Solar Photovoltaic Installation Site Plan Review that comply with the Town's Zoning Bylaw cannot be prohibited, but can be reasonably regulated by the Site Plan Review Authority.

Ground-Mounted Solar Photovoltaic (GMSP) Installation: A solar photovoltaic system that is structurally mounted on the ground and is not roof-mounted, and has a minimum nameplate capacity of 250 kW DC and a minimum area of one acre.

Site Plan Review Authority (SPRA): The Duxbury Planning Board is the SPRA for GMSP Installations.

Solar Photovoltaic Installation Site Plan Review: A review and approval by the Site Plan Review Authority ("SPRA") to determine conformance with the Town's Zoning Bylaw.

Nameplate Capacity: The maximum rated output of the electric power production of the photovoltaic system in Direct Current (DC).

### 618.4 Compliance with Laws, Bylaws and Regulations

618.4.1 The construction, installation operation, maintenance, decommissioning and interconnection with an electricity distribution utility of GMSP Installations shall comply with all applicable local, state and federal requirements, including but not limited to all applicable electrical, construction, noise, safety, environmental and communications requirements. No GMSP Installation shall be constructed, installed or modified without first obtaining a building permit.

618.4.2 Solar Photovoltaic Installation Site Plan Review: Prior to obtaining a building permit, construction, installation or modification, GMSP Installations shall undergo Solar Photovoltaic Installation Site Plan Review by the SPRA as provided below. In accordance with Section 22(c) of the Massachusetts Green Communities Act, Solar Photovoltaic Installation Site Plan Review shall be expedited and no decision shall be rendered more than one (1) year after the date of filing of a complete application, as determined by the SPRA.

## 618.5 Application and Plan Requirements

618.5.1 Subject to submittal requirements detailed in the Planning Board's "Site Plan Review Application Package," a completed application for Solar Photovoltaic Installation Site Plan Review shall be filed with the SPRA. Along with receipt of an application, the SPRA may engage, at the applicant's cost, professional and technical consultants, including legal counsel, to assist the SPRA with its review of the application, in accordance with the requirements of G.L. c.44, §53G. The SPRA may direct the applicant to deposit funds with the SPRA for such review at the time the application is determined to be complete, and may direct the applicant to add additional funds as needed upon notice. Failure to comply with this section shall be valid grounds for denying the application. Upon approval of the application, any excess amount attributable to the application processing by the SPRA, including any interest accrued, shall be refunded to the applicant.

### 618.5.2 Site Plan Review

The applicant shall follow the Site Plan Review policies and procedures as defined by Section 12.6 of these Zoning Bylaws and the "Site Plan Review Application Packet, Planning Board of the Town of Duxbury, Massachusetts" except as may be modified by this Section 618. The SPRA has the authority to reduce or waive the application fee. The following shall be specifically included in the Site Plan Review package:

- a. Site plan(s), prepared by a Professional Engineer licensed in the Commonwealth of Massachusetts, at a scale of one inch equals forty feet (1"=40'), including:
  - i. North arrow and locus map;
  - ii. Property boundaries and physical features, including roads;
  - iii. Name/Description of project;
  - iv. Topography, proposed changes to the landscape of the site, grading, vegetation clearing, including proposed drainage;
  - v. Zoning designation;
  - vi. Location of proposed structures, drives, etc., including setbacks;
  - vii. Sign(s) location(s);
  - viii. Landscaping, both existing and proposed;
  - ix. Lighting, including locations, type and wattage.
- b. Plans or drawings of the GMSP Installation prepared by a Registered Professional Engineer licensed in the Commonwealth of Massachusetts, showing the proposed layout of the system and any potential shading from nearby structures or vegetation.
- c. One or three line electrical diagram detailing the Ground-Mounted Solar Photovoltaic Installation, associated components, and electrical

interconnection methods, with all National Electrical Code compliant disconnects and overcurrent devices.

- d. Documentation of the major system components to be used, including the photovoltaic panels, mounting system, and inverter(s).
- e. Documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed installation.
- f. An operation and maintenance plan (see also "Operation & Maintenance Plan" Section 618.7).
- g. Proof of liability insurance. The owner or operator of the Ground-Mounted Solar Photovoltaic Installation shall provide the Town Clerk and SPRA with a certificate of insurance showing that the owner or operator has sufficient liability coverage pursuant to industry standards and naming the Town as an additional insured.
- h. Description of financial surety that satisfies "Financial Surety" Section 618.13.
- i. Name, address and phone number and signature of the applicant(s) and property owner(s), if the applicant is not the property owner. If the applicant is not the property owner, a statement, signed by the property owner, authorizing the applicant to proceed is required.

618.5.3 Application Submission: The application packet must comply with Section 6.15 of the Duxbury Zoning By-Law and the Duxbury Planning Board's Rules and Regulations concerning Commercial Site Plan Review.

#### 618.6 Construction

618.6.1 The Solar Photovoltaic Installation Commercial Site Plan Review Application must detail the proposed GMSP Installation's resistance to extreme wind, temperature snow, ice, rain, and humidity conditions. All resistance specifications to such elements must meet or exceed current State and Town building regulations.

618.6.2 Repair of damage sustained by the installation under these conditions shall be the responsibility of the owner/operator of the installation.

618.6.3 Glare shall be mitigated at the applicant's expense by the placement of fencing, vegetation or other means as reasonably required by the SPRA.

618.6.4 The GMSP Installation shall be enclosed by suitable fencing, access gates and/or other barriers to prevent unauthorized access and shall contain closed circuit cameras and motion detectors for security if required by the SPRA.

618.6.5 All utilities connections to the external electricity distribution network and lighting system shall be underground. This requirement may be partially or completely waived by the SPRA if the SPRA finds that this requirement is impractical for a specific installation.

618.6.6 All electrical installation shall be done by licensed, certified electricians. The SPRA/Town reserves the right to retain a licensed, certified electrician/engineer with experience in GMSP facility construction to inspect and approve the installation prior to the GMSP facility being placed into service.

#### 618.7 Operation & Maintenance Plan

The applicant shall submit as part of the Solar Photovoltaic Installation Commercial Site Plan Review Application an operation and maintenance plan for the Ground-Mounted Solar Photovoltaic Installation, which shall include measures for maintaining safe access to the installation, storm water controls, as well as general procedures for operational maintenance of the installation.

The Operation and Maintenance Plan shall include without limitation the following:

618.7.1 Plans for replacing damaged or inoperative array panels.

618.7.2 Plans for replacing panels that have deteriorated in efficiency in excess of the manufacturer's warranty.

618.7.3 Measures to ensure that the panels are kept clean including plans for snow/ice removal.

618.7.4 Measures to ensure that the structure and brackets that support the panels shall be maintained such that no major rust or corrosion is visible for the life of the installation.

618.7.5 Measures to ensure that all buildings, enclosures, fences and other facilities that are part of the installation shall be maintained in a manner that they retain the original appearance and operational function, reasonable wear and tear excluded, including but not limited to paint, shingles, siding, roofing, roadways, gates, access panels, etc.

#### 618.8 Dimension and Density Requirements

618.8.1 Structures: GMSP Installations and all appurtenant structures to Ground-Mounted Solar Photovoltaic Installations shall, to the extent not otherwise covered in this Section 618, be subject to the restrictions concerning the bulk and height of structures, lot area, setbacks, open space, and building coverage requirements set forth in this Zoning Bylaw for the zoning district in which the GMSP Overlay District is located, provided that only one parking space shall be required per GMSP Installation and the GMSP Installation may cover up to 70% of any lot, provided other setback requirements are met.

618.8.2 The maximum height from grade to the top of the Ground-Mounted Solar Photovoltaic Installation shall not exceed 15 feet for each individual solar panel.

618.8.3 All appurtenant structures, including but not limited to, equipment shelters, storage facilities, transformers, and substations, shall be architecturally compatible with each other. The SPRA may require that structures be screened from view by vegetation and/or joined or clustered to avoid adverse visual impacts.

#### 618.9 Design Standards

618.9.1 Lighting: Lighting of Ground-Mounted Solar Photovoltaic Installations shall be

consistent with local, state and federal law. Lighting of other parts of the installation, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be reasonably shielded from abutting properties. Where feasible, lighting of the Ground-Mounted Solar Photovoltaic Installation shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.

618.9.2 Signage: Signs on Ground-Mounted Solar Photovoltaic Installations shall comply with this Zoning Bylaw. A sign that identifies the owner and/or operator and provides a 24-hour emergency contact phone number shall be required. Ground-Mounted Solar Photovoltaic Installations shall not display any advertising. Advertising does not include signs providing reasonable identification of the owner, manufacturer or operator of the installation.

618.9.3 Utility Connections: Electrical lines for utility interconnections shall be routed underground unless found to be impractical by the SPRA or otherwise required by the interconnecting utility.

618.9.4 Color: The GMSP panels, including all replacement panels, which make up the GMSP Installation, shall each have similar color, reflectivity and tone. The SPRA may in its discretion grant a case-by-case exception.

#### 618.10 Safety and Environmental Standards

618.10.1 Emergency Services: The Ground-Mounted Solar Photovoltaic Installation owner or operator shall provide a copy of the project summary, electrical schematic and approved site plan to the Duxbury Fire Chief and Police Chief. The owner and operator shall cooperate with local public safety and emergency services in developing an emergency response plan. All means of shutting down the installation shall be clearly marked. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation. Access capability (lock keys, combinations, entry codes, etc.) shall be provided by the owner and/or operator to these public safety officials.

618.10.2 Land Clearing, Soil Erosion and Habitat Impacts: Clearing of natural vegetation shall be limited to what is necessary for the construction, operation and maintenance of the GMSP Installation or otherwise prescribed by applicable local, state and federal laws and regulations.

618.10.3 GMSP Installation on Landfill: If the GMSP Installation will be located on a landfill, it may be required to obtain a Post-Closure Use Permit from the Massachusetts Department of Environmental Protection pursuant to 310 CMR 19.143. The SPRA may defer action on any application until such Post-Closure Use Permit is obtained or evidence is provided by the applicant that a Post-Closure Use Permit is not required.

#### 618.11 Monitoring and Maintenance

618.11.1 GMSP Installation Conditions: The GMSP Installation owner or operator shall maintain the facility in good condition and repair. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures, buildings, roadways, access gateways, structural integrity, and elimination of rust and/or corrosion. Site access shall be maintained to a level acceptable to the Duxbury Fire Chief and other public safety officials. The Town may continue to maintain driveways and parking areas that exist at the time of the application. The owner, operator or property owner shall be responsible for the cost of maintaining the installation and any access road(s) installed by

such party, unless accepted as a public way.

618.11.2 Modifications: All modifications to a GMSP Installation made after issuance of the required building permit shall require approval by the SPRA.

618.11.3 Monitoring and Reporting: The operator or owner of the GMSP Installation shall monitor the facility for correct and efficient operation and to detect degradation, incorrect operation or other anomalies. The operator or owner shall provide a report once per quarter to the Town documenting all pertinent details surrounding the operation and maintenance of the GMSP Installation.

618.11.4 Clearing of Vegetation and Trees: The owner/operator of the GMSP Installation shall be responsible for maintaining the immediate area around the GMSP Installation by keeping vegetation, trees and any other growth trimmed for the operational life of the GMSP Installation. For the purpose of this section, trimming means:

- a. Grass or other ground vegetation no higher than 2 feet.
- b. Trees and bushes shall be maintained to eliminate additional solar shading, to ensure safe access, to prevent damage caused by weather (wind, rain, snow, etc.) if a tree or bush is in danger of falling across an array and to present a clean and professional aesthetic appearance.

#### 618.12 Abandonment and Decommissioning

618.12.1 Removal Requirements: Any GMSP Installation that has reached the end of its useful life or has been abandoned consistent with Section 618.12.2 "Abandonment" shall be removed by the owner or operator. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the SPRA by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

- a. Unless requested otherwise by the property owner (i.e. the Town), physical removal of all structures, equipment, security barriers and transmission lines associated with the GMSP Installation from the site.
- b. Disposal of all solid and hazardous waste associated with the decommissioning of the GMSP Installation in accordance with local, state, and federal waste disposal regulations.
- c. Stabilization or re-vegetation of the site of the GMSP Installation as necessary to minimize erosion. The SPRA may allow the owner or operator to leave landscaping or designated below-grade foundations and conduit in order to minimize erosion and disruption to vegetation.

#### 618.12.2 Abandonment

Absent written notice by the owner or operator to the SPRA of a proposed date of decommissioning or written notice by the owner or operator requesting an extension due to extenuating circumstances, the GMSP Installation shall be deemed abandoned when it fails to operate or operations are discontinued for more than one (1) year without the

written consent of the SPRA. If the owner or operator of the GMSP Installation fails to remove the installation in accordance with the requirements of this Section 618 within 150 days of abandonment or the proposed date of decommissioning, the Town may enter the property and physically remove the installation.

#### 613.13 Financial Surety

618.13.1 An applicant for a Ground-Mounted Solar Photovoltaic Installation shall provide a form of financial surety acceptable to the Town as set forth in 618.13.2.b below, to cover costs associated with:

- a. Decommissioning of the GMSP Installation and the return of the site to its state prior to the installation of the GMSP Installation at any time subsequent to the owner's discontinuance of operation or abandonment of the installation.
- b. Insurance coverage as specified in section 618.5.2.g.
- c. The financial surety must be of a form that survives the financial viability of the owner/operator of the facility.

618.13.2 The owner/operator shall furnish or cause to be furnished, for the Town's benefit, performance and payment bonds, or other security reasonably acceptable to the Town and the SPRA, issued by a surety licensed to do business in the Commonwealth and whose name appears on the U.S. Treasury Department Circular 570, in industry standard form and as follows:

- a. prior to the initiation of any ground disturbing or construction activities at the premises, a bond or other security reasonably acceptable to the Town/SPRA in an amount equal to the estimated cost to procure, install and fully commission the GMSP Installation; and
- b. no later than one (1) year prior to the expiration of the initial lease term for the GMSP Installation, a bond or other security reasonably acceptable to the Town/SPRA in amount equal to \$50 per kW of installed capacity of the GMSP Installation, as security to pay for the removal of the GMSP Installation from the premises upon expiration of the lease.

**A 2/3 vote is required.**