

To see if the Town will vote to amend the Zoning by-Laws as shown below, or to take any other action relative thereto:

**Article XX: Zoning Amendment – Large-Scale Ground-Mounted Solar Photovoltaic Installations:**

The Table of Uses shall be amended as set forth below

PRINCIPAL USE	R20	R30	R40	GC	HC	I	TB	Fw	CB	TO	T	MUPD
G. INDUSTRIAL, WHOLESALE AND TRANSPORTATION USES												
(7) Large-Scale Ground-Mounted solar photovoltaic installations	N	N	SP	N	SP	Y	Y	N	N	N	N	SP
Small-Scale Roof-mounted Solar Equipment	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

and further, to amend the Town of XXX Zoning By-Law, by adopting the following new section, XXXX:

**XXXX. LARGE-SCALE GROUND MOUNTED SOLAR PHOTOVOLTAIC INSTALLATIONS**

**XX10. Purpose.**

The purpose of this bylaw shall be to promote the creation of new large-scale ground-mounted solar photovoltaic installations in the appropriate locations by providing standards for the placement, design, construction, operation, monitoring, modification and removal of such installations that address public safety, minimize impacts on scenic, natural and historic resources, and to provide adequate financial assurance for the eventual decommissioning of such installations.

The provisions set forth in this section shall apply to the construction, operation, and/or repair of large-scale ground-mounted solar photovoltaic installations.

XX11. Applicability. This section shall apply to large-scale ground mounted solar photovoltaic installations proposed to be constructed after the effective date of this section. This section also pertains to physical modifications that materially alter the type configuration or size of these installations or related equipment.

XX20. 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 may be subject to site plan review to determine conformance with local zoning ordinances or bylaws. Projects cannot be prohibited, but can be reasonably regulated by the inspector of buildings, building commissioner or local inspector, or if there is none in a town, the board of selectmen, or person or board designated by local ordinance or bylaw.

**Building Inspector:** The inspector of buildings, building commissioner, or local inspector, or person or board designated by local ordinance or bylaw charged with the enforcement of the zoning ordinance.

**Building Permit:** A construction permit issued by an authorized building inspector that evidences that the project is consistent with the state and federal building codes as well as local zoning bylaws, including those governing large-scale ground-mounted solar photovoltaic installations.

**Designated Location:** The locations designated by the Town, in accordance with Massachusetts General Laws Chapter 40A, section 5, where large ground – mounted scale solar photovoltaic installations may be sited are limited to the locations indicated in section XXX of the Zoning By-Laws. Said locations are shown on a Zoning Map pursuant to Massachusetts General Laws Chapter 40A Section 4. This map is hereby made a part of this Zoning Bylaw and is on file in the Office of the Town Clerk.

**Large-Scale Ground-Mounted Solar Photovoltaic Installation:** A solar photovoltaic system that is structurally mounted on the ground and is not roof-mounted, and has a minimum nameplate capacity of 250kW DC, or requires an area larger than 1 acre for installation.

**On-Site Solar Photovoltaic Installation:** A solar photovoltaic installation that is constructed at a location where other uses of the underlying property occur.

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

**Special Permit:** A special permit review by the Site Plan Review Authority to determine conformance with local zoning ordinances or bylaws.

**Small-Scale Roof-Mounted Solar Energy Equipment.** Roof-mounted solar equipment that shall be located so as not to increase the total height of the structure more than one (1) foot above the applicable zoning regulations related to height in the District in which it is located or such other height as determined by the Building Inspector to be essential for proper operation, but in no case more than four feet above the applicable zoning regulations related to height in the District in which it is located.

**Site Plan Review Authority:** For purposes of this bylaw, Site Plan Review Authority refers to the body of local government designated as such by the municipality.

**Special Permit:** A Special Permit from the XXXXXXXX shall be obtained before the development proceeds.

**Solar Photovoltaic Array:** an arrangement of solar photovoltaic panels.

**Zoning Enforcement Authority:** The person or board charged with enforcing the zoning ordinances or bylaws.

XX40. General Requirements for all Large-Scale Ground-Mounted Solar Power Generation Installations. The following requirements are common to all solar photovoltaic installations to be sited in designated locations.

XX41. Compliance with Laws, Ordinances and Regulations. The construction and operation of all large-scale ground-mounted solar photovoltaic installations shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, electrical, and communications requirements. All buildings and fixtures forming part of a solar photovoltaic installation shall be constructed in accordance with the State Building Code.

XX42. Building Permits and Building Inspections. No large-scale ground-mounted solar photovoltaic installation shall be constructed, installed or modified as provided in this section without first obtaining a building permit and only in accordance with the requirements of the Table of Uses and this section. Smaller scale ground – mounted or small-scale roof-mounted solar equipment installations which are an accessory structure to an existing residential or non-residential use do not need to comply with this Section, but shall conform to the Table of Uses and shall require a building permit and shall comply with the other provisions of this Zoning By-law as applicable.

XX43. Fees. The application for a building permit for a large scale ground-mounted solar photovoltaic installation must be accompanied by the fee required for a building permit.

XX44. Site Plan Review. Large scale ground-mounted solar photovoltaic installations with 250 kW or larger of rated nameplate capacity shall undergo site plan review by the Site Plan Review Authority prior to construction, installation or modification as provided in this section.

XX44.1. General. All plans and maps shall be prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts, except in accordance with any exemption provided for under G.L. c.112, §81R.

X44.2. Required Documents. Pursuant to the site plan review process, the project proponent shall provide a site plan showing:

- A. Property lines and physical features, including roads, for the project site;
- B. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures;
- C. Blueprints or drawings of the solar photovoltaic installation signed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts showing the proposed layout of the system and any potential shading from nearby structures. The proponent may not take any actions to modify any existing structures or vegetation on adjacent properties which may shade the installation without express written consent of the property owner.
- D. One or three line electrical diagram detailing the solar photovoltaic installation, associated components, and electrical interconnection methods, with all National Electrical Code compliant disconnects and over current devices;
- E. Documentation of the major system components to be used, including the PV panels, mounting system, and inverter;
- F. Name, address, and contact information for proposed system installer;
- G. Name, address, phone number and signature of the project proponent, as well as all co-proponents or property owners, if any;
- H. The name, contact information signature of any agents representing the project proponent; and
- I. Documentation of actual or prospective access and control of the project site;
- J. An operation and maintenance plan;
- K. District designation for the parcel(s) of land comprising the project site (submission of a copy of a zoning map with the parcel(s) identified is suitable for this purpose);
- L. Proof of liability insurance; and
- M. Description of financial surety that satisfies Section 3763.

The Site Plan Review Authority may waive documentary requirements as it deems appropriate.

XX45. Site Control. The project proponent shall submit documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed solar photovoltaic installation.

XX46. Operation & Maintenance Plan. The project proponent shall submit a plan for the operation and maintenance of the large-scale 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.

XX47. Utility Notification. No proposed large-scale ground-mounted solar photovoltaic installation shall be submitted for review until evidence has been given to the Site Plan Review

Authority that the utility company that operated the electrical grid where the installation is to be located has been informed of the solar photovoltaic installation owner or operator's intent to install an interconnected customer-owned generator, and that the electrical grid can safely transmit the proposed power output of the installation. Off-grid systems shall be exempt from this requirement.

#### XX48. Dimension and Density Requirements.

XX48.1. Setbacks. For large-scale ground-mounted solar photovoltaic installations, front, side and rear setbacks shall be at least 50 feet; provided, however, that where the lot abuts a Residential District or Residential Use **or is in a Residential District**, the setbacks shall not be less than 100 feet. Every abutting property shall be visually screened from the installation through either existing vegetation or new plantings of not less than 6 feet in height at the time of planting throughout the required setback dimension, or alternately shall provide a minimum setback of 2,000 feet. The provided screening shall obscure from view at least 75% of the project from adjacent properties, including upper levels of existing structures, within five years of the issuance of the permit. Security fences, roadways, and equipment shall not be placed within the required setback, except for that which is required to access the site from an adjacent roadway, or to transmit the generated power to the grid.

The provided setbacks shall be suitable to limit the noise generated by the installation to no more than 40 decibels at the property lines.

XX48.2. Appurtenant Structures. All appurtenant structures to large-scale ground-mounted solar photovoltaic installations shall be subject to reasonable regulations concerning the bulk and height of structures, lot area, setbacks, open space, parking and building coverage requirements. All such appurtenant structures, including but not limited to, equipment shelters, storage facilities, transformers, and substations, shall be architecturally compatible with each other. Whenever reasonable, structures should be shaded from view by vegetation and/or joined or clustered to avoid adverse visual impacts.

#### XX49. Design Standards

XX49.1. Lighting. Lighting of 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 solar photovoltaic installation shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.

XX49.2. Signage. Signs on large-scale ground-mounted solar photovoltaic installations shall comply with the Town's sign requirements. A sign consistent with the Town's sign requirements shall be required to identify the owner and provide a 24-hour emergency contact phone number. Solar photovoltaic installations shall not be used for displaying any advertising except for reasonable identification of the operator of the solar photovoltaic installation.

XX49.3. Utility Connections. Reasonable efforts, as determined by the Site Plan Review authority, shall be made to place all utility connections from the solar photovoltaic installation underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.

XX49.4. Hazardous Materials. Hazardous materials stored, used, or generated on site shall not exceed the amount for a Very Small Quantity Generator of Hazardous Waste as defined by the DEP pursuant to Mass DEP regulations 310 CMR 30.000 and shall meet all requirements of the DEP including storage of hazardous materials in a building with an impervious floor that is not adjacent to any floor drains to prevent discharge to the outdoor environment. If hazardous materials are utilized within the solar equipment, including the photovoltaic panels, then impervious containment areas capable of controlling any release to the environment and to prevent potential contamination of groundwater are required.

XX50. Safety and Environmental Standards.

XX51. Emergency Services. The large scale ground-mounted solar photovoltaic installation owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the Fire Chief. Upon request, the owner or operator shall cooperate with local emergency services in developing an emergency response plan. All means of shutting down the solar photovoltaic installation shall be clearly marked, and training required to allow emergency response personnel to safely shut down the installation in event of an emergency provided at no cost to the Town as requested by the Town. The owner or operator shall identify a responsible person for public inquires throughout the life of the installation. All changes in the identity or contact information for the responsible person shall immediately be brought to the attention of the Town.

XX52. 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 large-scale ground-mounted solar photovoltaic installation or otherwise prescribed by applicable laws, regulations, and bylaws.

XX53. Control of Vegetation. Herbicides may not be used to control vegetation at the large-scale ground-mounted solar photovoltaic installation. Mowing or the use of pervious pavers or geotextile materials underneath the solar array is a possible alternative.

XX54. Monitoring and Maintenance.

XX55. Solar Photovoltaic Installation Conditions. The large-scale ground-mounted solar photovoltaic installation owner or operator shall maintain the facility in good condition. Maintenance shall include, but not be limited to, snow removal, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the Fire Chief and Emergency Medical Services. The owner or operator shall be responsible for the cost of maintaining the solar photovoltaic installation and any access road(s), unless accepted as a public way.

XX56. Modifications. All material modifications to a solar photovoltaic installation made after issuance of the required building permit shall require approval by the Site Plan Review Authority.

XX57. Annual Reporting. The owner or operator of the installation shall submit an Annual Report demonstrating and certifying compliance with the Operation and Maintenance Plan and the requirements of this bylaw and their approved site plan including control of vegetation, noise standards, and adequacy of road access. The Annual Report shall also provide information on the maintenance completed during the course of the year and the amount of electricity generated by the facility. The report shall be submitted to the Board of Selectmen, Town Manager, Planning Board, Fire Chief, Building Inspector, Board of Health and Conservation Commission (if Wetlands Permit was issued) no later than 45 days after the end of the calendar year.

XX58. Abandonment or Decommissioning.

XX58.1. Removal Requirements. Any large-scale ground-mounted solar photovoltaic installation which has reached the end of its useful life or has been abandoned through intent or discontinuance for two years or more shall be removed. The owner or operator shall physically remove the installation no more than 120 days after the date of discontinued operations. The owner or operator shall notify the Site Plan Review Authority by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

XX58.2 Physical removal of all large-scale ground-mounted solar photovoltaic installations, structures, equipment, security barriers and transmission lines from the site.

XX58.3. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.

XX58.3. Stabilization or re-vegetation of the site as necessary to minimize erosion. The Site Plan Review Authority may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to vegetation.

XX58.4. Abandonment. Each site plan approval and special permit shall require that, absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the solar photovoltaic installation shall be considered abandoned when it fails to operate for more six months without the written consent of the Site Plan Review Authority or Special Permit Granting Authority. Each site plan approval and special permit shall provide that, if the owner or operator of the large-scale ground-mounted solar photovoltaic installation fails to remove the installation in accordance with the requirements of this section and the site plan approval or special permit, within 120 days of abandonment or the proposed date of decommissioning, then the Town shall be provided with all necessary permission to enter the property and physically remove the installation. As appropriate, cost of removal shall be charged to the property owner in accordance with the provisions of G.L. c.40, §58.

XX58.5. Financial Surety. Proponents of large-scale ground-mounted solar photovoltaic projects shall provide a form of surety, either through escrow account, or other means mutually agreed

upon with the Town, under G.L. c.44, §53A or by other lawful means, to cover the cost of removal in the event the Town must remove the installation and remediate the landscape, in an amount and form determined to be reasonable by the Site Plan Review Authority, but in no event to be less than 75 percent nor to exceed more than 125 percent of the cost of removal and compliance with the additional requirements set forth herein, as determined by the project proponent. Such surety shall not be required for municipally- or state-owned facilities. The project proponent shall submit a fully inclusive estimate of the costs associated with removal, prepared by a qualified engineer. The amount shall include a mechanism for calculating increased removal costs due to inflation.

XX59. Severability. If any provision herein is determined to be unlawful, it shall be severed from this section and all remaining provisions shall remain in force and effect.

BY THE PLANNING BOARD