

Proposed Solar Energy Zoning Bylaw

Add the following terms to Section 1.4, Definitions:

Large Solar Energy Facility - A commercial solar facility whose primary purpose is electrical generation for the wholesale electricity markets. It includes service and access roads, equipment, machinery and structures utilized in connection with the conversion of solar energy into electrical power with a rated nameplate capacity of greater than 100kW/0.1MW.

Rated Nameplate Capacity - The maximum rated output of electric power production equipment. The manufacturer typically specifies this output with a “nameplate” on the equipment.

Small Solar Energy Facility - All equipment, machinery and structures utilized in connection with the conversion of solar energy into electrical power. This includes, but is not limited to, storage, electrical collection and supply equipment, and transformers that have a total rated nameplate capacity of not more than 100kW/0.1MW.

Amend Section 3.2, Schedule of Use Regulations by adding the following uses with the accompanying notation:

		District		
		RU	R	V
	3.25 Industrial			
	4. Small Solar Energy Facility	Y	Y	SP
	5. Large Solar Energy Facility	Y	SP	SP
	6. Renewable/Alternative Energy R&D Facility	N	N	Y
	7. Renewable/Alternative Energy Manufacturing Facility	N	N	Y

Add a new Section 12, Solar Energy Facilities

12.1 Purpose

The purpose of this bylaw is to promote the development of solar energy facilities by providing standards for the placement, design, construction, operation, monitoring, modification, and removal of such installations, to protect public safety, to minimize impacts on scenic, natural and historic resources of Warren, and to provide adequate financial assurance for the eventual decommissioning of such installations.

12.2 Applicability

This section applies to all ground-mounted solar energy facilities proposed after the effective date of this section and to physical modifications that materially alter the type, configuration, or size of these facilities or related equipment. Ground-mounted solar energy facilities on

municipal and school district properties are permitted in all districts upon site plan approval from the Planning Board. Solar facilities for the primary purpose of agriculture are exempt from this bylaw pursuant to MGL c. 40A, §3. Solar facilities for one and two family dwellings are also exempt from this bylaw but require a building permit prior to installation.

12.3 General Requirements

12.3.1 Site Plan Review: All solar energy facilities shall undergo site plan review by the Planning Board prior to construction, installation, or modification as provided in this section.

12.3.2 Required Documents: In addition to the submission requirements in the Planning Board's Site Plan Review Regulations, the applicant shall provide the following documents:

1. Plans and drawings of the solar installation signed and stamped by a Professional Engineer licensed to practice in Massachusetts showing the proposed layout of the system; for building integrated solar facilities, the application shall include a certification from a structural engineer that the building is capable of supporting the proposed facility;
2. One or three line electrical diagram detailing the solar installation, associated components, and electrical interconnection methods, with all National Electrical Code compliant disconnects and overcurrent devices;
3. Technical specifications of the major system components, including the solar arrays, mounting system, and inverter;
4. A glare analysis and proposed mitigation, if any, to minimize the impact of glare on affected properties;
5. The name, address, and contact information of the proposed installer and operator;
6. Proof of actual or proposed control of access ways and the project site sufficient to allow for installation and use of the proposed facility;
7. An operation and maintenance plan;
8. Proof of liability insurance; and
9. Financial surety that satisfies Subsection 12.5.4 of this Bylaw.

12.3.3 Operation & Maintenance Plan: The applicant shall submit a plan for the operation and maintenance of the solar installation, which shall include measures for maintaining safe access, storm water controls, and general procedures for operating and maintaining the installation.

12.3.4 Utility Notification: The applicant shall submit evidence that he has informed the utility company of his intent to install a solar energy facility and that the utility company has responded in writing to the notice. Off-grid systems are exempt from this requirement.

12.3.5 Dimension and Density Requirements

1. Setbacks: Ground-mounted solar energy facilities shall have a setback from front, side and rear property lines and public ways of at least twenty-five feet (25') in Rural and Residential districts and ten feet (10') in Village districts.
2. Natural Buffer for Large Solar Projects: The site plan shall provide an undisturbed natural vegetative buffer of fifty feet (50') between a large solar energy facility and a property in residential use, including houses across a street. If the visual buffer would have a

detrimental effect on the ability to generate power, the Planning Board may grant a waiver from this requirement.

3. Appurtenant Structures: All appurtenant structures, including but not limited to, equipment shelters, storage facilities, transformers, and substations shall be subject to reasonable regulations concerning bulk and height, setbacks, parking, building coverage, and vegetative screening to avoid adverse impacts on the neighborhood or abutting properties.

12.3.6 Design Standards

1. Lighting: Lighting shall be limited to that required for safety and operational purposes, and shall not be intrusive in any way on abutting properties. Lighting shall incorporate full cut-off fixtures to reduce light pollution.
2. Signage: The solar installation may have one sign not exceeding thirty-two (32) square feet. Such sign shall identify the operator and provide a 24-hour emergency contact phone number. Solar installations shall not display any advertising except for reasonable identification of the manufacturer or operator of the installation. The site may have a secondary sign providing educational information about the facility and the benefits of renewable energy.
3. Utility Connections: The applicant shall place all wiring from the solar installation underground, except in unique cases where the Planning Board finds that soil conditions, shape, and topography of the site make such wiring unfeasible.

12.3.7 Emergency Services: The operator shall provide a copy of the operation and maintenance plan, electrical schematic, and site plan to the Fire Chief. The operator shall cooperate with local emergency services in developing an emergency response plan; this plan shall be reviewed annually with local emergency officials and revised as necessary. All means of shutting down the installation shall be clearly marked. The premises shall identify a qualified contact person to provide assistance during an emergency; the operator shall change the contact information immediately whenever a change in personnel occurs.

12.4 Monitoring and Maintenance

12.4.1 Maintenance: The operator shall maintain the facility in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. The operator shall be responsible for maintaining adequate access for emergency vehicles and maintenance equipment.

12.4.2 Modifications: All material modifications to the facility proposed after issuance of the building permit require approval of the Planning Board and Inspector of Buildings, if required.

12.5 Abandonment or Decommissioning

12.5.1 Removal Requirements: Any solar installation that has reached the end of its useful life or has been abandoned shall be removed. The owner or operator shall physically remove the installation within one hundred fifty (150) days after the date of discontinued operations in compliance with the requirements of the Inspector of Buildings. The owner or operator shall notify the Planning Board by certified mail of the proposed date of discontinued operations and plans for removal.

12.5.2 Decommissioning: Decommissioning shall consist of:

1. Physical removal of the solar arrays, structures, equipment, security barriers, and electrical transmission lines from the site.
2. Stabilization or re-vegetation of the site as necessary to minimize erosion. The Planning Board may allow the owner or operator to leave landscaping or below-grade foundations in order to minimize erosion and disruption of vegetation.

12.5.3 Abandonment: Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the solar facility shall be considered abandoned when it fails to operate for more than one year without the written consent of the Planning Board. If the owner or operator fails to remove the installation in accordance with the requirements of this section within one hundred fifty (150) days of abandonment or the proposed date of decommissioning, the Town may enter the property and physically remove the facility.

12.5.4 Financial Surety: Prior to commencing operation, the applicant shall provide a form of surety, either through a cash deposit, bond or otherwise, in an amount determined by the Planning Board to cover the cost of removal and site restoration. Such surety will not be required for municipal facilities. The applicant shall submit a fully inclusive estimate of the costs associated with removal, prepared by a qualified engineer. The amount shall include an escalator for calculating increased removal costs due to inflation.