

Section 5.12 Large-Scale Ground-Mounted Solar Photovoltaic Installations

A. Purpose and Applicability

1. Purpose: The purpose of this Section is to promote the creation of new large-scale ground-mounted solar photovoltaic installations by providing standards for the placement, design, construction, operation, monitoring, modifications 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.
2. Applicability: The provisions set forth in this Section shall apply to the construction, operation and/or repair of large-scale ground-mounted solar photovoltaic installations proposed to be constructed after the effective date of this Section. This Section also applies to physical modifications that materially alter the type, configuration, or size of these installations or related equipment.

B. Definitions: For purposes of this Section 5.12 the following definitions shall apply:

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 conform to local zoning ordinances or bylaws. Projects cannot be prohibited, but can be reasonably regulated by the Building Inspector.

Building Inspector: The inspector of buildings, building commissioner or local inspector

Building Permit: A construction permit issued by an authorized building inspector; the building permit 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 location designated by the Leyden Planning Board, in accordance with Massachusetts General Law Chapter 40A Section 5, where large-scale ground-mounted solar photovoltaic installations may be sited as-of-right, specifically 7.85 acres shown as "Parcel C" on Document No. 1815 in Plan Book 134, Page 40 at the Franklin County Registry of Deeds, owned by the Town of Leyden.

Large-Scale Ground-Mounted Solar Photovoltaic Installation: A photovoltaic system that is structurally mounted on the ground and is not roof-mounted, and has a minimum nameplate capacity of 25KW DC.

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).

Site Plan Review: Review by the Site Plan Review Authority to determine conformance with local zoning ordinances or bylaws.

Site Plan Review Authority: For the purposes of this Section, Site Plan Review Authority refers to the Leyden Planning Board.

Zoning Enforcement Authority: For the purposes of this Section, the Zoning Enforcement Authority is the Building Inspector.

C. General Requirements for all Large-Scale Solar Power Generation

Installations. The following requirements are common to all solar voltaic installations to be sited in designated locations.

1. **Compliance with Laws, Ordinances and Regulations:** The construction and operation of all large-scale 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.
2. **Building Permit and Building Inspection:** No large-scale solar photovoltaic installation shall be constructed, installed or modified as provided in this Section without first obtaining a building permit.
3. **Fees:** The application for a building permit for a large-scale solar photovoltaic installation must be accompanied by the fee required for a building permit.
4. **Site Plan Review:** Ground-mounted large-scale solar installations with 25KW or larger of rated nameplate capacity shall undergo site plan review by the Site Plan Review Authority prior to construction, installation or modification as provide in this Section.
 - 4.1. **General:** All plans and maps shall be prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts.

4.2 **Required Documents:** Pursuant to the site plan review process, the project proponent shall provide the following documents:

1. **A site plan showing:**
 - i. Property lines and physical features, including roads, for the project site;

- ii. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures;
- iii. Blueprints or drawings of the solar photovoltaic installation signed by a Professional Engineer licensed to practice in Massachusetts, showing the proposed layout of the system and any potential shading from nearby structures;
- iv. One or three line electrical diagrams detailing the solar photovoltaic installation, associated components, and electrical interconnection methods, with all National Electrical Code compliant disconnects and overcurrent devices;
- v. Documentation of the major system components to be used, including the PV panels, mounting system, and inverter;
- vi. Name, address, and contact information for proposed system installer;
- vii. Name, address, and contact information and signature of the project proponent, as well as all co-proponents and property owners, if any;
- viii. Name and contact information and signature of any agents representing the project proponent.

2. Other Documents:

- i. Documentation of actual or prospective access and control of the project site (see also Section **4.3**);
- ii. Landscape plan that satisfies Section **4.5** below;
- iii. An operation and maintenance plan (see also Section **4.4**);
- iv. Zoning district designation for the parcel(s) of land comprising the project site.
- v. Proof of liability insurance;
- vi. A public outreach plan, including a project development timeline, which indicates how the project proponent will meet the required site plan review notification procedures and otherwise inform abutters and the community.

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

4.3 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.

4.4 Operation and Maintenance 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, including maintenance and/or replacement of screening vegetation required in Section **4.5** below.

4.5 Landscape Plan The project proponent shall submit a Landscape Plan detailing all proposed changes to the existing site including: vegetation removal, temporary and permanent access roads, grading, storm drainage, exterior lighting and screening of structures. Any existing vegetation within

the setbacks required in Section 4.6.1 shall remain undisturbed to the extent possible, exclusive for site access and/or solar visibility. The Landscape Plan shall show the type and location of vegetation proposed to screen the installation, including appurtenant structures, from all public ways and adjacent properties, whether developed or not. The depth of the vegetation shall be a minimum of 30 feet and shall be comprised of native trees and shrubs staggered for height and density, that shall be properly maintained in the Operation and Maintenance of the installation.

4.6 Utility Notification No large-scale ground-mounted solar photovoltaic installation shall be constructed until evidence has been given to the Site Plan Review Authority that the utility company that operates 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. Off-grid systems shall be exempt from this requirement.

4.6 Dimension and Density Requirements

1. Setbacks: Front, side and rear yard setbacks shall be the same as for residential structures, i.e.: Front – 50 feet from street sideline; Side and Rear – 40 feet from adjacent property lines.

2. Appurtenant Structures: All appurtenant structures to large-scale ground-mounted 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 screened from view by vegetation and/or joined or clustered to avoid adverse visual impacts.

4.7 Design Standards

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. In addition, fixtures shall be "dark sky" compliant and meet International Dark Sky FSA certification requirements. Lighting shall not be kept on after 9 p.m. unless there is an emergency, or is required for safety purposes as determined by the Leyden Emergency Management Director.

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

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.

4. Visual Impacts: The large-scale ground-mounted solar photovoltaic installation shall be designed to minimize visual impacts including preserving natural vegetation to the maximum extent possible, blending in equipment with the surroundings, and adding vegetative buffers to provide an effective visual barrier from adjacent roads and to screen abutting residential properties, whether developed or not. Siting and screening shall be such that the view of the solar photovoltaic installation from other areas of Town shall be as minimal as possible, in the sole judgement of the Site Plan Review Authority.

4.8 Safety and Environmental Standards

1. Emergency Services: The large-scale ground-mounted solar photovoltaic owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to both the Leyden Fire Chief and Leyden Police 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. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.

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

4.9 Monitoring and Maintenance

1. 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, painting, structural repairs, screening vegetation, and integrity of security measures. Site access shall be maintained to a level acceptable to the Leyden Fire and Police Chiefs and the 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.

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

5.0 Abandonment or Decommissioning

1. Removal Requirements: Any large-scale ground-mounted solar photovoltaic installation which has reached the end of its useful life or has been abandoned consistent with Section 5.2 below shall be removed. 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 Site Plan Review Authority by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

- i. Physical removal of all large-scale ground-mounted solar photovoltaic installations, structures, equipment, security barriers and transmission lines from the site;
- ii. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
- iii. Stabilization or revegetation 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.

2. Abandonment: 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 than one year without the written consent of the Planning Board. 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 within 150 days of abandonment or the proposed date of decommissioning, the Town of Leyden retains the right, after the receipt of an appropriate court order, to enter and remove an abandoned, hazardous or decommissioned solar photovoltaic installation. As a condition of a Site Plan or a Special Permit approval, the applicant and landowner shall agree to allow entry to remove an abandoned or decommissioned installation. The Town's cost for the removal will be charged to the property owner in accordance with the provisions of M.G.L. 139, Section 3A as a tax lien on the property.

