Section 11B: Large Scale Ground-Mounted Photovoltaic (PV) Facility

The Commonwealth of Massachusetts
Special Town Meeting

FRANKLIN SS.
To either of the Constables of the Town of Ashfield in County of Franklin,
GREETINGS. In the name of The Commonwealth of Massachusetts, you are hereby directed to notify and warn the inhabitants of said Town, qualified to vote in elections and in Town affairs, to meet at the ASHFIELD TOWN HALL in said Ashfield on **THURSDAY,** the **TWENTY-NINTH OF SEPTEMBER**, **2011** at SEVEN O'CLOCK in the evening, then and there to act on the following articles:

ARTICLE 4. I move that the Town enact Chapter VI Section G of the Town of Ashfield Zoning Bylaws entitled Large Scale Ground-Mounted Photovoltaic (PV) Facility, for the purpose of providing standards for the placement, design, construction, operation, monitoring, modification and removal of PV Facilities, a copy of which amendment is on file with the Town Clerk.

Motion seconded.
Finance Committee: no recommendation, not applicable
Vote: 2/3rds needed. Article 4 passes with 2/3rds vote. (50-Y, 2-N, 2-A)

Approved by the AG'S office on November 06, 2012 and retroactive to the date it was passed by the STM - Sept 29, 2011

Section 11B: Large Scale Ground-Mounted Photovoltaic (PV) Facility

1.0 Purpose

The purpose of this Section is to allow for the creation of new, Large Scale Ground-Mounted Photovoltaic (PV) Facilities by providing standards for the placement, design, construction, operation, monitoring, modification and removal of such PV Facilities that comply with the purposes of the Ashfield Zoning Bylaws.

1.1 Applicability

1.1.1 The provisions set forth in this Section shall apply to the construction, operation, and/or repair of Large Scale Ground-Mounted PV Facilities greater than 50 kilowatts (kW) and up to 700 kW that occupy no more than one-and-one-half (1½) acres of land.

1.1.2 Any Large Scale Ground-Mounted PV Facility larger than 700 kW – or occupying more than one-and-one-half (1½) acres of land on one or more adjacent parcels in common ownership – including those separated by a roadway – shall require a Special Permit in accordance with the Ashfield Zoning Bylaws.

1.1.3 Special Permits for Large Scale Ground-Mounted PV Facilities not allowed under this Section shall comply with as many parts of this Section as possible, as well as Section VII of the Ashfield Zoning Bylaws.

1.1.4 This Section also pertains to physical modifications that materially alter the type, configuration, or size of these Large Scale Ground-Mounted PV Facilities, or related equipment.

1.1.5 Smaller scale (50 kW or less) ground-mounted photovoltaic installations that are an accessory structure to an existing residential or non-residential use do not need to comply with this Section, but shall require a building permit and must comply with all other applicable provisions of the Ashfield Zoning Bylaws, such as setback requirements.

2.0 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. Projects cannot be prohibited, but can be reasonably regulated by the Building Commissioner, the Board of Health, and/or the Town of Ashfield Fire Department.

Large-Scale Ground-Mounted Photovoltaic (PV) Facility: A solar electric system that is structurally mounted on the ground and is not roof mounted, and has a minimum nameplate capacity greater than 50 kW and up to 700 kW, and which does not occupy more that one-and-one-half (1½) acres of land.

Rated Nameplate Capacity: The maximum rated output of electric power production of the electric system, in Alternating Current (AC) or Direct Current (DC).

Solar Photovoltaic Array: An arrangement of solar photovoltaic panels.

2.0 General Requirements for all Large Scale Ground-Mounted Photovoltaic (PV) Facilities

3.1 Compliance with Laws, Ordinances and Regulations

2.1.1 The construction and operation of all Large Scale Ground-Mounted PV Facilities 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 PV Facility shall be constructed in accordance with the State Building Code.

2.1.2 Appurtenant Structures: All appurtenant structures to Large Scale Ground-Mounted PV Facilities shall be subject to all other Sections of the Bylaws of the Town of Ashfield.

2.2 Building Permit and Building Inspection

No Large Scale Ground-Mounted PV Facility shall be constructed, installed or modified – as provided in this Section – without first obtaining a building permit.

2.3 Required Documents

The Project Proponent shall propose the following documents.

(a) A Site Plan that shows the following:
   i. Property lines and physical features, including roads and topography, for the project site;
   ii. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures including their height;
   iii. Locations of wetlands, rivers and Priority Habitat Areas, as defined by the Natural Heritage & Endangered Species Program (NHESP);
   iv. Locations of floodplains, or inundation areas for moderate or high hazard dams;
   v. Locations of local or National Historic Districts;
   vi. A list of any hazardous materials proposed to be located on the site in excess of household quantities and a plan to prevent their release to the environment, as appropriate;
   vii. Blueprints or drawings of the Large Scale Ground-Mounted PV Facility, signed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts and showing the proposed layout of the system and any potential shading from nearby structures;
   viii. Electrical diagram detailing the Large Scale Ground-Mounted PV Facility, associated components, and electrical interconnection methods, with all utility-compliant and National Electrical Code-compliant disconnects and overcurrent devices;

ix. Documentation of the major system components to be used, including the electric generating components, transmission systems, mounting system, inverter, etc.;
x. A locus plan showing how far the proposed Large Scale Ground-Mounted PV Facility is from the Ashfield Plain Historic District (a nationally registered district), as well as how far it is from Town boundaries;
xi. Emergency services plan showing access for fire trucks and any other features required by the Fire Department;
xii. Name, address, and contact information for proposed system installer;
xiii. Name, address, phone number and signature of the Applicant, as well as all co-Applicants or property Owners, if any; and
xiv. The name, contact information and signature of any agents representing the Applicant.

(b) Proof of liability insurance.
(c) Description of financial surety that satisfies section 9.3 of this Section.
(d) Signed approval of the plans by the Fire Chief and the Conservation Commission.
(e) Any approvals by MassWildlife.

3.0 Site Control

The Applicant shall submit documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed Large Scale Ground-Mounted PV Facility.

4.0 Dimension and Density Requirements

(a) Setbacks: For Large Scale Ground-Mounted PV Facilities, front, side and rear setbacks shall be as follows.
i. Front yard: The front yard depth shall not be less than one hundred (100) feet;
ii. Side yard: Each side yard shall have a depth of at least one hundred (100) feet;
iii. Rear yard: The rear yard depth shall not be less than one hundred (100) feet;
iv. Historic areas: The Large Scale Ground-Mounted PV Facility shall be located at least three-quarters (¾) of a mile from the National Register Historic District or any National Registered Historic Sites;
v. Abutting towns: The Large Scale Ground-Mounted PV Facility shall be set back three hundred (300) feet from neighboring towns, unless approval is given by those towns;
vi. Other facilities: New Large Scale Ground-Mounted PV Facilities shall be at least three hundred (300) feet from existing facilities.
vii. Any applications that cannot meet the above requirements shall require a Special Permit; and
viii. The setback areas shall not be included in the one-and-one-half (1½) acre maximum calculation for As-of-Right Large Scale Ground-Mounted PV Facility installations.

(b) Slopes: Large Scale Ground Mounted PV Facility sites shall not average over a fifteen percent (15%) grade.

5.0 Design and Performance Standards

6.1 Lighting

Lighting of Large Scale Ground Mounted PV Facilities shall be consistent with local, state and federal laws. Lighting of other parts of the PV Facility, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be reasonably shielded from abutting properties. Lighting of the PV Facility shall be directed downward and shall incorporate full, cut-off fixtures to reduce light pollution.

6.2 Signage

6.2.1 A sign consistent with Section III.C of the Ashfield Zoning Bylaws shall be required to identify the Owner and provide a 24-hour emergency contact phone number.

6.2.2 Large Scale Ground Mounted PV Facilities shall not be used for displaying any advertising, except for reasonable identification of the manufacturer or Operator of the PV Facility.

6.3 Utility Connections

All utility connections from the Large Scale Ground-Mounted PV Facility to existing overhead utilities shall be underground, unless the utility determines that it is unsafe or impractical. Electrical transformers for utility interconnections may be above ground, if required by the utility provider.

6.4 Access

Driveways shall be constructed to conform to Town of Ashfield standards.

6.5 Height of PV Solar Array

The height of the PV solar array – as part of a Large Scale Ground-Mounted PV Facility – shall not exceed twelve (12) feet above finish grade.

6.0 Safety and Environmental Standards

7.1 Emergency Services

The Large Scale Ground Mounted PV Facility Owner or Operator shall provide a copy of the project summary, electrical diagram, site plan and any other blueprints or drawings to the local 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 PV Facility shall be clearly marked. The Owner or Operator shall identify a responsible person for public inquiries throughout the life of the PV Facility.

7.2 Control of Vegetation

Herbicides may not be used to control vegetation at the Large Scale Ground-Mounted PV Facility. Possible alternatives may be mowing, or the use of crushed rock or geo-textile materials installed underneath the solar array.

7.3 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 Department of Environmental Protection (DEP), pursuant to MassDEP 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 PV Facility electric equipment, impervious containment areas capable of controlling any release to the environment and preventing potential contamination of groundwater are required.

7.4 Screening

7.4.1 Large Scale Ground-Mounted PV Facilities within five hundred (500) feet of a public way shall be screened from view by a one hundred (100) foot width of existing forest, or by a minimum thirty (30) foot width staggered and grouped plantings of shrubs and trees at least seventy (70) feet from the PV Facility. The emphasis shall be on use of native plants common to the site and surrounding area.

7.4.2 Plants shall be placed in casual mixed groupings of varying length and width and shall screen a minimum of seventy percent (70%) of the linear frontage. Plantings shall be a mix of evergreen and deciduous species, shall include at least three (3) species each of evergreen and deciduous trees and deciduous shrubs, and be planted at varying spacing from a minimum of three (3) feet to a maximum of fifteen (15) feet.

7.4.3 Trees shall be at least four (4) feet in height and shrubs at least two (2) feet in height at time of planting and shall be a variety of evergreen and deciduous species that will exceed the height of the solar array at mature growth.

7.4.4 Suggested Plant Species List.
(a) Evergreen Trees: Fir, hemlock, larch, pine, spruce;
(b) Deciduous Trees: Aspen, basswood, birch, elm (improved), hornbeam (ironwood), locust, maple, oak, sycamore, willow;
(c) Shrubs: Alder, chokeberry, dogwood, elderberry, hawthorn, lilac, serviceberry, spicebush, sumac, viburnum, winterberry, witch-hazel.

7.0 Monitoring, Maintenance and Reporting

8.1 PV Facility Conditions

The Large Scale Ground-Mounted PV Facility Owner or Operator shall maintain the PV Facility in good condition. Maintenance shall include – but not be limited to – painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the local Fire Chief and Emergency Management Director. The Owner or Operator shall be responsible for the cost of maintaining the PV Facility and any access road(s).

8.2 License

The Building Commissioner or Board of Health may require yearly inspections and an annual license fee not to exceed five hundred dollars ($500) per year for the purpose of annual safety inspections. Any costs to the Town associated with administration of the bond, decommissioning, or enforcement of the provisions of this or any other Section of the Ashfield Zoning Bylaws shall be the responsibility of the Owner/Applicant.

8.3 Annual Reporting

The Owner or Operator of the Large Scale Ground-Mounted PV Facility shall submit an Annual Report that certifies compliance with the requirements of this Bylaw and their approved site plan including control of vegetation 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 PV Facility. The report shall be submitted to the Select Board, Planning Board, Fire Chief, Emergency Management Director, Building Commissioner, Board of Health and Conservation Commission (if a wetlands permit was issued) no later than forty-five (45) days after the end of the calendar year.

8.0 Abandonment or Decommissioning

9.1 Removal Requirements

Any Large Scale Ground-Mounted PV Facility that has reached the end of its useful life – or has been abandoned, as consistent with section 9.2 of this Section – shall be removed. The Owner or Operator shall physically remove the PV Facility no more than one hundred fifty (150) days after the date of discontinued operations. The Owner or Operator shall notify the Planning Board and Building Commissioner by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of the following.

(a) Physical removal of all PV Facilities, structures, equipment, security barriers and transmission lines from the site;
(b) Disposal of all solid and hazardous waste, in accordance with local, state, and federal waste disposal regulations; and
(c) Stabilization or re-vegetation of the site, as necessary, to minimize erosion. The Owner or Operator may leave landscaping, below-grade construction and driveways in order to minimize erosion and disruption to vegetation.

9.2 Abandonment

Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the Large Scale Ground-Mounted PV Facility shall be considered abandoned when it fails to operate for more than one (1) year without the written consent of the Building Commissioner. If the Owner or Operator of the PV Facility fails to remove the PV Facility in accordance with the requirements of this Section within one hundred fifty (150) days after abandonment, or after the proposed date of decommissioning, the Town may enter the property and physically remove the PV Facility.

9.3 Financial Surety

9.3.1 Applicants of Large Scale Ground-Mounted PV Facilities shall provide a form of surety – either through escrow account, bond or otherwise – to cover the cost of removal in the event the Town must remove the PV Facility and remediate the landscape.

9.3.2 The amount and form of surety shall be determined to be reasonable by the Planning Board, but in no event shall exceed more than one hundred twenty-five percent (125%) of the cost of removal and compliance, with the additional requirements set forth herein, as determined by the Applicant and the Town.

9.3.3 The Applicant shall submit a fully inclusive estimate of the costs associated with removal, as prepared by a qualified, Professional Engineer. The estimate shall include the cost of removal of underground construction. The amount shall be no less than ten percent (10%) of the expected construction costs – exclusive of PV panel purchase costs – and shall include a mechanism for calculating increased removal costs, due to inflation. This bond may also be used to recover license fees or any other debt to the Town that the Owner or Operator might owe at the time of decommissioning.