

SECTION 13
TOWN OF CHARLESTOWN, NEW HAMPSHIRE
SOLAR ORDINANCE

SECTION 13.1 PURPOSE AND AUTHORITY

This solar collection system ordinance is enacted in accordance with RSA 674:17(l)(j) and the purposes outlined in RSA 672:1-III-a as amended. The purpose of this ordinance is to accommodate solar energy collection systems and distributed generation resources in appropriate locations, while protecting the public’s health, safety and welfare. The Town intends to facilitate the State and National goals of developing clean, safe, renewable energy resources in accordance with the enumerated polices of NH RSA 374-G and 362-F that include national security and economic and environmental sustainability. Consideration of the Town’s scenic views, historic properties, property values, and rural character will be used to minimize potential impacts.

SECTION 13.2 APPLICABILITY

No person shall, within the Town of Charlestown, build, erect, or install a solar collection system, without a building permit and, if required as detailed in Section 13.4 of this Ordinance, a Conditional Use Permit approved by the Planning Board. All provisions of the Site Plan Review Regulations shall apply, except where plainly inconsistent with this Ordinance. The Planning Board’s decisions shall be within the time frame set forth in RSA 676:4, l(c), and shall be in writing with reasons as set forth in RSA 676:3.

SECTION 13.3 DEFINITIONS

13.3.1 Terms

For the purpose of these solar regulations, in addition to the terms defined in this section, the meaning of terms used herein shall conform to the definitions found in the Charlestown Zoning Ordinance, Section 2 – Definitions, in the Charlestown Site Plan Review Regulations, Section 5 – Definitions, and in the Charlestown Subdivision Regulations. Where conflicts in definitions exist, the definitions contained herein shall take precedence.

13.3.2 Rated Nameplate Capacity

Maximum rated alternating current (“AC”) output of solar collection system based on the design output of the solar system.

13.3.3 Solar Land Coverage

The Solar Land Coverage is the land area that encompasses all components of the solar collection system including but not limited to mounting equipment, panels and ancillary components of the system. This definition does not include access roads or fencing and is not

to be interpreted as a measurement of impervious surface as it may be defined in this ordinance, nor does it imply the entirety of the legal parcel upon which the system is situated.

13.3.4 Solar Collection System

Includes all equipment required to harvest solar energy to generate electricity. The Solar Collection System includes storage devices, power conditioning equipment, transfer equipment, and parts related to the functioning of those items. Solar Collection Systems include only equipment up to (but not including) the stage that connection is made to the utility grid or site service point.

13.3.5 Roof Mount

A solar collection system that is structurally mounted to the roof of a building or other permitted structure, including limited accessory equipment associated with system which may be ground mounted. For purposes of calculating array sizes or solar land coverage under the solar definitions in this section, roof mounted portions shall not be included if the system is made up of both roof and ground mounted systems.

13.3.6 Ground Mount

A solar collection system and associated mounting hardware that is affixed to or placed upon (such as ballasted systems) the ground including but not limited to fixed, passive or active tracking racking systems.

13.3.7 Accessory Residential Solar

Any ground mounted or roof mounted solar collection system primarily for on-site residential (one or two dwelling units) use, and consisting of one or more free-standing, ground or roof mounted, solar arrays or modules, or solar related equipment, intended to primarily reduce on-site consumption of utility power and with a rated nameplate capacity of 10 kW AC or less and that is less than 500 square feet solar land coverage.

13.3.8 Small Commercial Solar

A use of land for commercial purposes, including multi-family dwellings of 3 or more units, that consists of one or more free-standing, ground mounted solar collection systems with nameplate capacity that is up to 100 kW AC and that is less than 1 acre of solar land coverage.

13.3.9 Accessory Agriculture Solar

Any ground mounted or roof mounted solar collection system designed to primarily reduce on-site consumption of utility power and with a rated nameplate capacity up to 1 MW AC in size and that is less than 5 acres in solar land coverage, provided the existing agricultural use is preserved at the time of installation.

13.3.10 Commercial Solar

A use of land that consists of one or more free-standing, ground mounted solar collection systems with a rated nameplate capacity above 100 kW AC and up to 1 MW AC and that is less than 5 acres in solar land coverage.

13.3.11 Large Commercial Solar

A use of land that consists of one or more free-standing, ground mounted solar collection systems with a rated nameplate capacity over 1 MW AC. In no case shall a Large Commercial Solar system exceed 150 acres in solar land coverage.

SECTION 13.4 USES

Solar collection systems shall comply with the following:

System Type	Zones A, A-1, A-2, B, C, G-1	Zones E, F-1, F-2, G-2
Accessory Residential Solar	P	P
Small Commercial Solar	CUP	CUP
Accessory Agricultural Solar	CUP	CUP
Commercial Solar	CUP	CUP
Large Commercial Solar	X	CUP

P = Use permitted by right with building permit.

CUP = Use permitted by Conditional Use Permit.

X = Use prohibited.

SECTION 13.5 SOLAR SYSTEM REQUIREMENTS AND EXEMPTIONS

13.5.1 Ground-mounted Systems

A ground-mounted Accessory Residential Solar system over 15 feet in height at any point may not be located between the primary structure and the street. All other ground mounted systems located between the primary structure and the street shall be screened from abutting residential properties.

Ground-mounted solar collection systems shall not be considered as part of the required lot coverage limitations and shall not be considered impervious surface.

13.5.2 Roof-mounted Systems

Roof Mounted solar collection systems of any size are permitted in all zones without a conditional use permit.

Roof mounted solar collection systems shall be exempt from building height limitations.

13.5.3 Municipal Systems

Municipal Systems: All solar collection systems for municipal use are exempt from land use regulations pursuant to NH RSA 674:54

SECTION 13.6 SOLAR CONDITIONAL USE PERMITS

13.6.1 Requirements for granting a Conditional Use Permit (CUP):

13.6.1.1 CUP Criteria

Standards of Review: Following a fully noticed public hearing on the proposed use, as regulated under section 5.5 of this ordinance the Planning Board may issue a Conditional Use Permit, if it finds, based on the information and testimony submitted with respect to the application, that:

- a. The use is specifically authorized by Section 13.4 as a conditional use;**
- b. The development in its proposed location will comply with all applicable requirements of the Site Plan Regulations not otherwise covered in this section, as well as specific conditions established by the Planning Board.**
- c. The use will not materially endanger the public health or safety;**
- d. Required screening shall be maintained during the operative lifetime of the Solar Collection System Conditional Use Permit.**
- e. In granting a conditional use permit pursuant to this section, the Planning Board may impose any reasonable conditions or restrictions deemed necessary to carry out the intended purpose of this ordinance.**

13.6.1.2 Site Plan Review Regulations Applicable

The specific requirements for a Conditional Use Permit shall pre-empt any similar requirement in the Site Plan Review Regulations.

13.6.1.3 System Layout. The Applicant shall submit the following to the Planning Board:

- a. A detailed sketch or plan showing the installation area of the site.**
- b. A detailed sketch of any land clearing or grading required for the installation and operation of the system.**
- c. The location of all equipment to be installed on site including utility connection point(s) and equipment. To the maximum extent practical all wiring associated with the utility connection shall be underground.**
- d. All equipment locations, except for utility connections, shall comply with required setbacks.**

13.6.1.4 Equipment Specifications

- a. All proposed equipment or specifications must be included with the application.**
- b. Such information can be supplied via manufacturer's specifications or**

through detailed description.

13.6.1.5 Emergency Response

- a. Access to the site for emergency response shall be provided and detailed on the plan.**
- b. A narrative or manual for municipal Fire Department detailing response guidance and disconnection locations necessary for fire response.**
- c. Additional industry guidance documents that provide information about safety procedures for specific equipment on site shall be provided as needed to insure adequate public safety.**
- d. Contact information for the solar collection system owner/operator shall be posted on site at the access way and provided and updated to the municipality.**

13.6.1.6 Natural Resource Impacts and Buffers

- a. Solar collection systems shall be visually screened through the preservation of existing vegetation or through a landscaped buffer in accordance with the following.**
 - i. Plan: The buffering plan shall indicate the location, height and spacing of existing vegetation to be preserved and areas where new planting will be required.**
 - ii. All solar systems shall have a reasonable visual buffer as required in the site plan review regulations (section 5.7.3 of this ordinance) from public ways and neighboring commercial/residential uses based on the viewsheds, contours of the land and abutting land uses.**
 - iii. The use of evergreens for screening is recommended. The use of existing or created topography is encouraged to reduce visual impacts.**
- b. Fencing shall be installed, if required, by the electric code or the utility. Additional security or fencing may be required if the location of the system presents a safety concern for abutting land uses.**
- c. Accessory Agriculture Solar shall minimize impacts to farmland activities and Prime Farmland Soils (as defined and delineated by soil survey and definition of NH NRCS).**
- d. Land Clearing**
 - i. Land clearing shall be limited to what is necessary for the installation and operation of the system and to insure sufficient all-season access to the solar resource given the**

topography of the land.

- ii. Following construction, cleared land areas must be restored with native species that are consistent with the use of the site as a solar collection system (such as slow growth or low ground cover).
 - iii. Erosion control measures during construction shall be detailed as required.
- e. **Additional Requirements for Large Commercial Solar:**
- i. A detailed pre-construction and post-construction plan identifying existing vegetation and areas to be cleared with specific identification of locations of buffer areas adjacent to neighboring uses and public ways.
 - ii. LC systems that disturb more than 10 acres of previously undisturbed land shall provide a natural resource inventory that details site conditions and habitat and mitigation efforts to reduce impacts to important species and habitat.
 - iii. Efforts and practices that can provide for a dual use of the site should be explored if feasible and encouraged where appropriate.
 - iv. The applicant shall demonstrate effective stormwater infiltration along with erosion control measures and soil stabilization.

13.6.1.7 Electrical Requirements.

- a. All systems not connected to the grid shall be approved by the Building Inspector, as required.
- b. Grid-tied systems shall file a copy of a final approved interconnection with the municipality prior to operation of the system.

13.6.1.8 Glare

- a. Applicant shall submit a statement detailing potential significant glare onto abutting structures and roadways estimating the interaction of sun to panel angle, time of year and visibility locations.
- b. Based on the above information, the Planning Board may require mitigation. Mitigation may include angle of panels, details on the anti-reflective nature of the panel coating or any additional specific screening to minimize resulting impacts.
- c. Mitigation through anti-reflective coatings shall have an index of refraction equal to or less than 1.30.

13.6.1.9 Noise

- a. Applicant shall submit estimates of any equipment noise on the site based on equipment specification materials (such as inverters).**
- b. Noise levels at the property line shall be in accordance with the municipal noise regulations in section 5.7.4 B of this ordinance.**

13.6.1.10 Setbacks

- a. Solar collection systems shall be considered structures and shall comply with building setback requirements from lot lines for the entire system – including the panels. Tracking systems shall have the setback measured from the point and time where the array is closest to the lot line. No portion of a system may cross into the setback.**

13.6.1.11 Stormwater

- a. Ground mounted systems that are required to secure a New Hampshire Department of Environmental Services Alteration of Terrain (AoT) Permit in accordance with NH RSA 485:17 shall secure such permit accordingly.**
 - i. The final Permit issued by NH DES shall be incorporated by reference into the final Town approval and shall be enforceable by the Town in accordance with this zoning ordinance.**
 - ii. No further local review of stormwater and erosion control shall be required where a project is required to secure the NH DES AoT Permit**
- b. Ground mounted systems not requiring NH DES AoT Permit. Where a ground mounted system does not require an AoT permit the following shall apply:**
 - i. Ground mounted systems that require land clearing and grubbing of mature forested cover larger than 1 acre, the proposed system shall include a management plan for stormwater.**
 - ii. Ground mounted systems where the solar land coverage area is larger than 1 acre and located on slopes of greater than 5% shall include a management plan for stormwater.**
- c. The stormwater management plan shall include the following.**
 - i. A stormwater study that shall take into account the nature of the solar panel installation and how the spacing, slope and row separation can enhance infiltration of stormwater. Percolation tests or site specific soil information may be**

provided to demonstrate recharge can be achieved without engineered solutions.

- ii. Additional information, if required, shall calculate potential for concentrated flows of runoff due to the panels, slope, soil type and the impacts of other true impervious areas (such as equipment pads and roadways).
- iii. The Planning Board may require that such plan be prepared by a civil engineer licensed in the State of New Hampshire.

d. Required for all systems:

- i. All ground mounted systems shall be constructed in accordance with Best Management Practices for erosion and sedimentation control during the pre-construction, construction and post-construction restoration period.
- ii. Post construction: For purposes of enhancing natural stormwater management, site conditions and plantings post-construction shall insure that areas of soil compaction have been restored to more natural conditions. Plantings shall be native species and are recommended to provide beneficial habitat to song birds, pollinators and/or foraging species in order to maintain a healthy surface and subsurface habitat that can attenuate stormwater on the site.

13.6.1.12 Lighting

- a. On site lighting shall be minimal and limited to access and safety requirements only. All lighting shall be downcast and shielded from abutting properties.

13.6.1.13 Buffer Plan

- a. As deemed appropriate, all applications shall submit a detailed buffering plan demonstrating how the proposed ground mounted solar installation will be incorporated into the local landscape so that effective screening is provided along public ways and from abutting views

13.6.1.14 Abandonment and Decommissioning

- a. Solar Collection Systems shall be deemed to be abandoned if operations have discontinued for more than 6 months without written consent of the municipality (such as for reasons beyond the control of the owner/operator). An abandoned system shall be removed and the site restored within 12 months of abandonment.
- b. Security for Removal – the Planning Board shall set the form and amount of security that represents the cost for removal and disposal of abandoned solar collection facilities in the event that a facility is abandoned and the

facility owner is unwilling or unable to remove the facility and restore the site in accordance with this section. The amount of the security shall be based upon the actual removal cost plus 15%, based on information provided by the applicant and certified by a professional civil or structural engineer, licensed in New Hampshire, every five years from the date of the Planning Board's approval of the plan. If the cost has increased more than fifteen percent, the owner of the facility shall provide additional security in the amount of the increase. Small Commercial solar systems shall be exempt from this section (b) and, Accessory Agricultural and Commercial solar systems shall be exempt from the requirement to review the cost every five years.

Section 13.7 Certification:

I hereby certify that the foregoing is a true copy of the Solar Ordinance, as approved by Charlestown voters at the Annual Town Meeting held on Tuesday, March 9, 2021.

Signed _____
Planning Board Chair

Received this _____ day of March, 2021.

_____ Seal
Susan Poland, Deputy Town Clerk

Revisions:
March 2021 - Small Commercial Change – Conditional Use Permit