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Municipality:	City of Beacon
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Title:	City of Beacon, New York Code- Chapter 223: Solar Collectors and Installations
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Abstract

The City of Beacon, New York’s Code has an article dedicated to solar collectors and their installation. The height of freestanding and ground-mounted solar collectors (permitted as accessory structures in all zoning districts) and any mounts shall not exceed twenty feet when oriented at maximum tilt. For large-scale solar collectors or solar farms (which are prohibited in areas zoned for residential use), the maximum height for freestanding solar panels located on the ground or attached to a framework located on the ground shall not exceed 20 feet above the ground. Collectors and mechanical equipment, including any structure for batteries or storage cells, shall be enclosed by a minimum of six feet high fence with a self-locking gate provided with landscape screening. A sign not to exceed eight feet shall be placed on or near the main access point and shall list the facility name, owner, and phone number. Any solar installation project proposed or sponsored by the City may be exempt from these provisions at the discretion of the City Council.

There are no height limitations for roof-mounted solar collectors except for the restrictions provided in the Central Main Street District and the Linkage District. Collectors shall be installed in accordance with requirements of the New York State Uniform Fire Prevention & Building Code and erected only to such height as reasonably necessary to accomplish the purpose for which they are intended to serve, but the maximum height of a panel in a tilted position shall not exceed two feet above the surface of the roof, unless in a nonresidential district, and such structures shall not obstruct solar access to neighboring properties. In a nonresidential district, the maximum height of a panel in a tilted position shall not exceed five feet above the surface of the roof. In residential districts, panels facing the front yard must be mounted at the same angle as the roof’s surface with a maximum distance of 18" between the roof and highest edge of the system. Solar panels affixed to a flat roof shall be placed below the line of sight from a public right-of-way, except where the subject right-of-way is at a higher elevation than the first-floor elevation of the building.

Resource

Chapter 223: Zoning
Article X: Solar Collectors and Installations

§ 223-80. Purpose and intent.

- A. Solar energy is a renewable and nonpolluting energy resource that can prevent fossil fuel emissions and reduce a municipality's energy load. Energy generated from solar energy systems can be used to offset energy demand on the grid where excess solar power is generated.
- B. The use of solar energy equipment for the purpose of providing electricity and energy for heating and/or cooling is a priority and is a necessary component of the City of Beacon's current and long-term sustainability agenda.
- C. This article aims to promote the accommodation of solar energy systems and equipment and the provision for adequate sunlight and convenience of access necessary therefor and to balance the potential impact on neighbors when solar collectors may be installed near their property while preserving the rights of property owners to install solar energy systems without excess regulation.

§ 223-81. Definitions.

As used in this article, the following terms shall have the meanings indicated:

BUILDING-INTEGRATED PHOTOVOLTAIC (BIPV) COLLECTORS – A solar energy system that consists of integrating photovoltaic modules into the building envelope, such as the roof or the façade, which does not alter the roofline.

FLUSH-MOUNTED SOLAR PANEL – A photovoltaic panel or tile that is installed flush to the surface of a roof and which cannot be angled or raised.

FREESTANDING OR GROUND-MOUNTED SOLAR ENERGY COLLECTOR – A solar energy system that is directly installed in the ground and is not attached or affixed to an existing structure. Pole-mounted solar energy systems shall be considered freestanding or ground-mounted solar energy systems for purposes of this chapter.

LARGE-SCALE SOLAR COLLECTION SYSTEM OR SOLAR FARM – An area of land with solar facilities principally used to capture solar energy and convert it to electrical energy to transfer to the public electric grid in order to sell electricity to or receive a credit from a public utility entity, but also may be for on-site use. Solar facilities consist of one or more freestanding ground- or roof-mounted solar collector devices, solar-related equipment and other accessory structures and buildings, including light reflectors, concentrators, heat exchangers, substations, electrical infrastructure, transmission lines and other appurtenant structures and facilities.

PASSIVE SOLAR COLLECTOR – A solar energy system that relies upon original or retrofitted design features and building materials of a structure to enhance the use of natural forces to provide heating and cooling within a building.

PHOTOVOLTAIC (PV) COLLECTOR – A solar energy system that produces electricity by the use of semiconductor devices, called "photovoltaic cells," which generate electricity whenever light strikes them.

QUALIFIED SOLAR INSTALLER – A person who has skills and knowledge related to the construction and operation of solar electrical equipment and installations and has received safety training on the hazards involved. Persons who are on the list of eligible photovoltaic installers maintained by the New York State Energy Research and Development Authority (NYSERDA), or who are certified as a solar installer by the North American Board of Certified Energy Practitioners (NABCEP), shall be deemed to be qualified solar installers for the purposes of this definition. Persons who are not on NYSEDA’s list of eligible installers or NABCEP’s list of certified installers may be deemed to be qualified solar installers if the Building Inspector or such other City officer or employee as the City Council designates determines such persons have had adequate training to determine the degree and extent of the hazards and the personal protective equipment and job planning necessary to perform the installation safely. Such training shall include the proper use of special precautionary techniques and personal protective equipment, as well as the skills and techniques necessary to distinguish exposed energized parts from other parts of electrical equipment and to determine the nominal voltage of exposed live parts.

ROOFTOP OR BUILDING-MOUNTED SOLAR COLLECTOR – A solar system in which solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as a module fixed to frames which can be tilted toward the south at an optimal angle.

SOLAR ACCESS – Space open to the sun and clear of overhangs or shade, including the orientation of streets and lots to the sun so as to permit the use of active and/or passive solar energy systems on individual properties.

SOLAR COLLECTOR – A device or combination of devices which relies upon solar radiation as an energy source and that is employed for the purposes of heating or cooling a building, the heating of water or the generation of electricity. For the purposes of this chapter, a solar collector does not include any solar energy system of four square feet in size or less.

SOLAR ENERGY EQUIPMENT - Solar collectors, controls, energy storage devices, heat pumps, heat exchangers, batteries and other materials, hardware or equipment necessary to the process by which solar radiation is collected, converted into another form of energy, stored, protected from unnecessary dissipation and distributed.

§ 223-82. Permitting and placement requirements.

- A. Rooftop and building-mounted solar collectors are permitted in all zoning districts in the City, subject to the following requirements:
 - 1) Building permits shall be required for installation of all solar collectors.
 - 2) Any height limitation provided in the City Code shall not be applicable to solar collectors except for the restrictions provided for in the Central Main Street District § 223.41.18D(7) and (8) and the Linkage District § 223-41.21D(5). Solar collectors shall be erected only to such height as reasonably necessary to accomplish the purpose for which they are intended to serve, but in no case shall the maximum height of a panel in a tilted position exceed two feet above the surface of the roof, unless in a nonresidential district, and such structures shall not obstruct solar access to neighboring properties.

- 3) In a nonresidential district, the maximum height of a panel in a tilted position shall not exceed five feet above the surface of the roof.
 - 4) All rooftop and building-mounted solar collectors shall use black or neutral, nonreflective colors.
 - 5) All utility services and electrical wiring shall be underground or otherwise placed within conduit securely attached to the roof and walls.
 - 6) Rooftop units shall be installed in accordance with all applicable requirements of the New York State Uniform Fire Prevention and Building Code.
 - 7) In residential districts, panels facing the front yard must be mounted at the same angle as the roof's surface with a maximum distance of 18 inches between the roof and highest edge of the system.
 - 8) Solar panels affixed to a flat roof shall be placed below the line of sight from a public right-of-way, except where the subject right-of-way is at a higher elevation than the first-floor elevation of the building.
- B. Building-integrated photovoltaic (BIPV) systems. BIPV systems are permitted in all zoning districts and shall be shown on the plans submitted for the building permit application for the building containing the system.
- C. Freestanding and ground-mounted solar collectors are permitted as accessory structures in all zoning districts of the City, subject to the following requirements:
- 1) Building permits are required for the installation of all ground-mounted solar collectors.
 - 2) The location of the solar collector shall meet all applicable setback requirements for accessory structures in the zoning district in which it is located.
 - 3) The height of the solar collector and any mounts shall not exceed 20 feet when oriented at maximum tilt.
 - 4) The total surface area of all ground-mounted and freestanding solar collectors on the lot shall not exceed 1,000 square feet. The area beneath ground-mounted and freestanding solar collectors shall be included in calculating total surface area.
 - 5) The solar collector shall be located in a side or rear yard.
 - 6) Freestanding and ground-mounted solar collectors shall be screened when possible and practicable from adjoining lots and street rights-of-way through the use of architectural features, earth berms, landscaping, fencing or other screening which will harmonize with the character of the property and surrounding area. The proposed screening shall not interfere with normal operation of the solar collectors.
 - 7) Freestanding and ground-mounted solar collectors on corner lots shall be restricted to areas that are not highly visible from the street.
 - 8) The solar collectors shall not emit unreasonable glare and negatively impact adjacent properties.
 - 9) Solar energy equipment shall be located in a manner to reasonably minimize blockage for surrounding properties and shading of property to the north, while still providing adequate solar access for collectors.

- 10) Solar collectors and solar energy equipment shall not be placed in such a way as to obstruct proper sight distance or otherwise interfere with pedestrian or traffic flow or means of ingress or egress.
- D. If a solar collector ceases to perform its originally intended function for more than 12 consecutive months, the property owner shall remove the collector, mount and associated equipment and facilities by no later than 90 days after the end of the twelve-month period.

§ 223-83. Large-scale solar collection system or solar farm.

- A. Large-scale solar collectors or solar farms shall be subject to site development plan review by the Planning Board in accordance with the provisions of § 223-25 and shall meet the following supplementary regulations:
- 1) Large-scale solar collectors or solar farms shall not be permitted in areas zoned for residential use.
 - 2) Height and setback restrictions.
 - a) The maximum height for freestanding solar panels located on the ground or attached to a framework located on the ground shall not exceed 20 feet in height above the ground.
 - b) The minimum setback from property lines shall be 25 feet.
 - c) A landscaped buffer shall be provided around all equipment and solar collectors to provide screening from adjacent properties and roads.
 - 3) Design standards.
 - a) Removal of trees and other existing vegetation should be minimized or offset with planting elsewhere on the property.
 - b) All on-site utility and transmission lines shall, to the extent feasible, be placed underground.
 - c) Solar collectors and other facilities shall be designed and located in order to prevent reflective glare toward any inhabited buildings on adjacent properties and roads.
 - d) All solar collectors and mechanical equipment, including any structure for batteries or storage cells, shall be enclosed by a minimum six-foot-high fence with a self-locking gate provided with landscaping screening.
 - e) A large-scale solar collector or solar farm to be connected to the utility grid shall provide a "proof of concept" letter from the utility company acknowledging the solar farm will be connected to the utility grid in order to sell electricity to the public utility.
 - 4) Signs.
 - a) A sign not to exceed eight square feet shall be placed on or near the main access point and shall list the facility name, owner and phone number.
 - b) A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.
 - 5) Abandonment.
 - a) All applications for a large-scale solar collection system or solar farm shall be accompanied by a decommissioning plan to be implemented

- upon abandonment, or cessation of activity, or in conjunction with removal of the facility, prior to issuance of a building permit.
- b) If the applicant begins and does not complete construction of the project within 18 months after receiving final site plan approval, this may be deemed abandonment of the project and require implementation of the decommissioning plan to the extent applicable.
 - c) The decommissioning plan must ensure the site will be restored to a useful, nonhazardous condition without delay, including, but not limited to, the following:
 - 1. Removal or aboveground and below-ground equipment, structures, and foundations.
 - 2. Restoration of the surface grade and soil after removal of equipment.
 - 3. Revegetation of restored soil areas with native seed mixes, excluding any invasive species.
 - 4. The plan should include a time frame for the completion of site restoration work.
 - d) In the event that the facility is not completed and functioning within 18 months of the issuance of the final site plan approval, the City may notify the operator and/or the owner to complete construction and installation of the facility with 180 days. If the owner and/or operator fails to perform, the City may notify the owner and/or operator to implement the decommissioning plan.
 - e) Upon cessation of activity of a constructed facility for more than 12 consecutive months, the City may notify the owner and/or operator of the facility to implement the decommissioning plan at the owner's expense.

§ 223-84. Safety.

- A. All solar collector installations must be performed by a qualified solar installer, and prior to operation, the electrical connections must be inspected by the Building Inspector and by an appropriate electrical inspection person or agency, as determined by the City. In addition, any connection to the public utility grid must be inspected by the appropriate public utility.
- B. Solar energy systems shall be maintained in good working order.
- C. Rooftop and building-mounted solar collectors shall meet New York's Uniform Fire Prevention and Building Code standards.
- D. When solar storage batteries are included as part of the solar collector system, they must be placed in a secure container or enclosure meeting the requirements of the New York State Fire Prevention and Building Code when in use and when no longer used shall be disposed of in accordance with the laws and regulations of City and other applicable laws and regulations.
- E. Marking of equipment.
 - 1) Solar energy systems and equipment shall be marked in order to provide emergency responders with appropriate warning and guidance with respect

to isolating the solar electric system. Materials used for marking shall be weather-resistant. For residential applications, the marking may be placed within the main service disconnect. If the main service disconnect is operable with the service panel closed, then the marking should be placed on the outside cover.

- 2) For commercial application, the marking shall be placed adjacent to the main service disconnect in a location clearly visible from the location where the lever is operated.
- 3) In the event any of the standards in this Subsection E for markings are more stringent than applicable provisions of the New York State Uniform Fire Prevention and Building Code (the "state code"), they shall be deemed to be guidelines only, and the standards of the state code shall apply.

§ 223-85. Appeals.

- A. If a person is found to be in violation of the provisions of this article, appeals should be made in accordance with the established procedures and time limits of the City Zoning Code and New York State law.
- B. If a building permit for a solar energy device is denied based upon a failure to meet the requirements of this article, the applicant may seek relief from the Zoning Board of Appeals in accordance with the established procedures and time limits of the Zoning Code and New York State law.

§ 223-86. Exemptions.

- A. For any solar installation project(s) proposed or sponsored by the City of Beacon for which a contract has been awarded by the City of Beacon prior to the adoption of this article, such solar installation project(s) shall be exempt from the requirements of this Article X.
- B. Any solar installation project proposed or sponsored by the City of Beacon after the adoption of this article may be exempt from the provisions of this Article X at the sole discretion of the City Council.