

TOWN OF HIRAM
SOLAR ENERGY SYSTEMS ORDINANCE

Section 1. PURPOSE

The purpose of this Ordinance is to facilitate the effective and efficient use of Solar Energy Systems while protecting the public health, safety and welfare of Hiram citizens and preserving the historic and aesthetic value of the area.

Section 2. AUTHORITY

This ordinance is adopted and enacted pursuant to and in accordance with Title 30-A MRSA 3013 and Title 33 Chapter 28-A.

Section 3. EFFECTIVE DATE

This ordinance shall take effect upon its enactment by the Town of Hiram. This ordinance shall become effective immediately upon its adoption and enactment by vote of the legislative body of the town at a town meeting.

Section 4. APPLICABILITY

- A. The requirements of this ordinance shall apply to all Solar Energy Systems modified or installed after the Effective Date of this ordinance.
- B. All Solar Energy Systems shall be designed, erected, and installed in accordance with all applicable local, state and federal codes, regulations and standards.
- C. Any modification, upgrade, or structural change that materially alters the size, placement or output of an existing Solar Energy System shall comply with this ordinance.

Section 5. PERMITTING

- A. Solar Energy Systems shall be installed or operated in Hiram in compliance with this ordinance and any other applicable, local, state and federal regulations or codes.
- B. Solar thermal, building-integrated photovoltaic, building mounted photovoltaic, roof mounted, and small-scale ground mounted Solar Energy Systems shall obtain a building permit through the Code Enforcement Officer.
- C. Medium and large-scale ground-mounted Solar Energy Systems are prohibited in all districts except Rural Residential District and Commercial/Industrial Overlay District (that lies within the Rural Residential District.) Such Solar Energy Systems shall require approval of the Planning Board as a conditional use permit after a site plan review in accordance with Article 6, section 6.7.3 of the Hiram Zoning Ordinance and meet all Performance Guarantees set forth in Article 6, Section 6.7.3.4 of the Hiram Zoning Ordinance, and dimensional requirements prior to obtaining a building permit through the Code Enforcement Officer.

- D. All Solar Energy Systems proposed to be on or within 500 feet of Historic Buildings as defined and designated by State of Maine or Federal Government, requires Planning Board approval prior to receiving a building permit from Code Enforcement Officer.

Section 6. SUBMITTAL REQUIREMENTS FOR MEDIUM AND LARGE SCALE SYSTEMS

The following information shall be submitted with Conditional Use Permit application for a review of a solar energy system and associated facilities under this ordinance in addition to the submittal requirements set out in the Hiram Zoning Ordinance:

1. A narrative describing the proposed solar energy system, including an overview of the project; the project location; the generating capacity of the solar energy system; dimensions of all components and respective manufacturers; and a description of associated facilities and how the system and associated facilities comply with the standards of this ordinance (including a pan or other graphics that demonstrate compliance).
2. An accurate scaled site plan of the subject property showing the planned location of the proposed solar energy system and all associated facilities; property lines, adjoining streets and access; topographic contour lines; existing and proposed buildings; fencing; structures; potential shade from nearby trees and structures; vegetation; driveways, parking, and curb cuts on the subject property; and specifications for all proposed electrical cabling/transmission lines, accessory equipment, and landscaping.
3. A scaled elevation drawing showing the proposed solar energy system and all proposed structures, foundations, supports, fencing, vegetation and landscaping, indicating the size, color and materials of the system. Drawings of structures and foundations shall be stamped by a licensed Professional Engineer.
4. Information on any proposed connections to the grid including any proposed off-site modifications to provide grid connections, access the installation, or to maintain the proposed solar energy system and grid connections.
5. The applicant shall provide an Operations and Maintenance Plan, including site control and the projected operating life of the system, prepared and stamped by a licensed Professional Engineer or other licensed professional as appropriate.

Section 7. DIMENSIONAL REQUIREMENTS

A. Height

1. Building-integrated photovoltaic systems and roof-mounted Solar Energy Systems shall not exceed the maximum allowed building height or peak of the roof, whichever is greater, in the district they are proposed to be located. For non-residential uses, roof-mounted Solar Energy Systems shall be considered comparable to a building appurtenance and, for purposes of height measurement, shall be consistent with other building-mounted mechanical

- devices or similar building appurtenances as determined by the Code Enforcement Officer and Planning Board.
2. Ground-mounted Solar Energy Systems on residential property, as defined in 33 MRS § 1421, as amended, in all land use districts shall not exceed twelve (12) feet in height when oriented at minimum tilt to the vertical.
 3. Ground-mounted Solar Energy Systems in all other land use districts shall conform to the building/structure height requirements of the Land Use District(s) in which they are permitted.
 4. Pole Mounted Energy systems must comply with height restrictions of the district.

B. Setbacks

1. All ground-mounted Solar Energy Systems shall be placed in accordance with the dimensional setback regulations for structures in all districts as defined in the Hiram Zoning Ordinance., unless otherwise regulated by this ordinance.
2. Ground-mounted Solar Energy Systems shall not be located in front yards unless they are sited at least (50) feet from the front property line(s).

C. Initial Coverage/Calculating Small, Medium or Large Solar Energy Systems Surface Area

1. Regarding small, medium or large scale Solar Energy Systems, lot coverage and surface area square footage (or solar collector coverage/horizontal projected area) shall be calculated by measuring the total surface area of the solar collector at maximum tilt to the vertical that occupies a given space or mounting surface.

Section 8. STANDARDS FOR BUILDING-INTEGRATED, BUILDING MOUNTED, PHOTOVOLTAIC ROOF-MOUNTED AND SMALL SCALE GROUND MOUNTED SOLAR ENERGY SYSTEMS

- A. Roof mounted and building mounted solar energy systems and equipment are permitted by right, if they are determined by the code enforcement officer (CEO) to conform to the following requirements and present no unreasonable safety risks.
- B. Prior to operation, electrical connections must be inspected by a licensed electrician. A copy of the approved inspection signed by the licensed electrician shall be submitted to the Hiram CEO for the building file.
- C. Any connection to the public utility grid must be inspected by the appropriate public utility unless waived in writing by the public utility.
- D. Roof-mounted and building-mounted solar collectors shall meet all applicable fire safety and building code standards.
- E. All Solar Energy installations shall have properly rated lightning protected electric circuits.
- F. All wiring must comply with the National Electrical Code, most recent edition.

Section 9. STANDARDS FOR MEDIUM AND LARGE-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEMS

In addition to the standards set forth in Section 8 above, medium and large-scale ground-mounted Solar Energy Systems shall comply with the following:

- A. Utility Connections – Reasonable efforts, as determined by the Planning Board, 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.
- B. Safety – The Solar Energy System owner shall provide a copy of the site plan review application to the Hiram Fire Chiefs for their comments. All means of shutting down the Solar Energy System shall be clearly marked on the plan.
- C. Visual Impact – Reasonable efforts, as determined by the Planning Board, shall be made to minimize visual impacts by preserving natural vegetation, screening abutting properties, and protecting scenic resources.
- D. Glare – Solar panel placement shall be prioritized to minimize or negate any solar glare onto nearby properties, public gathering places, or roadways without unduly impacting the functionality or efficiency of the Solar Energy System.
- E. Natural Resources – Reasonable efforts, as determined by the Planning Board, shall be made to protect wetlands, watersheds, working agricultural lands, surface waters, slopes greater than twenty percent (20%), as well as undeveloped habitat blocks, high value plant and animal habitats and focus areas of ecological significance as mapped by the Maine Department of Inland Fisheries and Wildlife's Beginning with Habitat.
- F. No herbicide is to be used in controlling ground cover of the area.

Section 10. ADDITIONAL STANDARDS FOR MEDIUM AND LARGE SCALE GROUND MOUNTED SOLAR ENERGY SYSTEMS

- A. Operations & Maintenance Plan – as part of a Medium or Large Scale ground-mounted Solar Energy System site plan the project applicant shall include an operation and maintenance plan, which shall include measures for maintaining safe access to the installation as well as other general procedures for operational maintenance of the installation.
- B. Signage – Signs on Medium or Large-Scale ground-mounted Solar Energy Systems shall comply with all applicable standards in the Hiram Land Use Ordinance and shall be required, at minimum, to identify the owner and provide a 24-hour emergency contact phone number. A clearly visible warning sign shall be placed at the base of all pad-mounted transformers and substations and on fence surrounding system informing individuals of potential voltage hazards.
- C. Emergency Services – The owner or operator of a Medium or Large Scale ground-mounted Solar Energy System shall provide a copy of the project summary, electrical schematic, and site plan to the Hiram Fire Chiefs. Upon request the

owner or operator shall cooperate with the fire departments in developing an emergency response plan. All means of shutting down the system shall be clearly marked on the plan. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.

- D. Installation Conditions – the owner or operator of a Medium or Large Scale ground-mounted Solar Energy System shall maintain the 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 fire Chiefs. The owner or operator shall be responsible for the cost of maintaining the access road(s), unless the road(s) are accepted a public way.
- E. Removal – any Medium Scale or Medium or Large Scale ground-mounted Solar Energy System which has reached the end of its useful life or has been abandoned consistent with this ordinance shall be removed. The owner or operator shall physically remove the installation no more than one year after the date of discontinued operations. The owner or operator shall notify the Code Enforcement Officer by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:
 - 1. Physical removal of all Solar Energy Systems, structures, equipment, security barriers and transmission lines from the site.
 - 2. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
 - 3. Stabilization or re-vegetation of the site as necessary to minimize erosion. The Code Enforcement Officer may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to vegetation.
- F. Abandonment
 - 1. Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, a Medium Scale or Large Scale ground-mounted Solar Energy System shall be considered abandoned when it fails to generate electricity for more than one year without having first obtained the written consent of the Code Enforcement Officer. Determination or abandonment shall be made by the Code Enforcement Officer.
 - 2. If the owner or operator of the Medium Scale or Large Scale ground mounted Solar Energy System fails to remove the installation in accordance with the requirements of this section within one year of abandonment or the proposed date of decommissioning, the Town retains the right to use any and all legal or available means necessary to cause an abandoned, hazardous, or decommissioned medium and/or large-scale ground-mounted Solar Energy System to be removed. The performance guarantee (Bond) will be used by the town to rectify the situation.

Section 11. DEFINITIONS

SOLAR COLLECTOR: A device such as a PV cell or a solar thermal collector that absorbs solar radiation from the sun and transforms it into electricity or heat.

SOLAR ENERGY SYSTEM: A fixture, product, system, device or interacting group of devices which uses mechanical, physical, or chemical means to convert energy collected from sunlight into an alternative form of energy. Solar Energy Systems include, but are not limited to, photovoltaic cells and systems, solar hot water heaters and thermal systems, and similar devices or systems.

SOLAR ENERGY SYSTEM, BUILDING-INTEGRATED PHOTOVOLTAIC (BIPV): Any Solar Energy System that consists of photovoltaic cells and/or panels which are fully integrated into the exterior structure of a building.

SOLAR ENERGY SYSTEM, BUILDING MOUNTED PHOTOVOLTAIC: Any Solar Energy System that consists of photovoltaic cells and/or panels which are affixed to the exterior of a building such as the façade (see definition of Solar Energy System, Roof-Mounted).

SOLAR ENERGY SYSTEM, GROUND-MOUNTED: Any Solar Energy System that is structurally mounted to the ground and is not attached to a building: may be of any size (small-medium-or large-scale).

SOLAR ENERGY SYSTEM, LARGE SCALE: Any Solar Energy System which occupies more than 40,000 square feet of surface area; surface area shall be measured by the total surface area of the solar collector at maximum tilt to the vertical that occupies a given space or mounting surface, also referred to as the projected area of the array. (See figure VI-C-1 for an example of measuring surface area.

SOLAR ENERGY SYSTEM, MEDIUM SCALE: A Solar Energy System which occupies more than 1,750 square feet but less than 40,000 square feet of surface area; surface area shall be measured by the total surface area of the solar collector at maximum tilt to the vertical that occupies a given space or mounting surface, also referred to as the projected area of the array. See Figure VI-C-1 for an example of measuring surface area.

SOLAR ENERGY SYSTEM PHOTOVOLTAIC (PV): A Solar Energy System that produces electricity by the use of semiconductor devices, called photovoltaic cells which generate electricity when exposed to sunlight. A PV system may be roof mounted, ground-mounted, or pole-mounted.

SOLAR ENERGY SYSTEM, ROOF-MOUNTED: Any Solar Energy System that is mounted on the roof of a building or structure; may be of any size (small-medium- or large-scale).

SOLAR ENERGY SYSTEM, SMALL-SCALE: A Solar Energy System which occupies no more than 1,750 square feet or less of surface area; surface area shall be measured by the total surface area of the solar collector at maximum tilt to the vertical that occupies a given space or mounting surface, also referred to as the projected area of the array. See Figure VI-C-1 for an example of measuring surface area.

SOLAR THERMAL SYSTEM (Solar Hot Water or Solar Heating Systems): A Solar Energy System that directly heats water or other liquid, or air, using sunlight.

TILT: The angle of the solar panels and/or solar collector relative to the vertical. Adjustable – tilt Solar Energy Systems can be manually or automatically adjusted throughout the year. Alternatively, fixed-tilt systems remain at a static tilt year-round.

Section 12. VALIDITY AND SEVERABILITY

Should any section or provisions of this Ordinance be declared by the courts to be invalid, such decision shall not invalidate any other section or provision of this Ordinance.

Section 13. VIOLATIONS

Any violations will be administered as set forth in the Hiram Zoning Ordinance under Article 6 Administration, subsection 6.5 Legal Action and Violations and subsection 6.6 Fines.

Section 14. APPEALS

Any Appeals request will be administered as set forth in the Hiram Zoning Ordinance under Article 6 Administration, subsection 6.7.2.