Roxbury Solar Energy System Ordinance

Adopted: June 23rd, 2022

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Section 1. Effective Date and Applicability.

Notwithstanding the provisions of 1 M.R.S. § 302 or any other law to the contrary, the requirements of this Ordinance shall apply to all roof-mounted and ground-mounted solar energy systems modified or installed after the date of its enactment.

Section 2. Amendments.

This Ordinance may be amended by a majority vote of the governing body.

Section 3. Standards for Roof-Mounted and Small-Scale Ground Mounted Solar Energy Systems.

Small-scale ground mounted, roof mounted and building-mounted solar energy systems and equipment are permitted by right and shall be permitted unless they are determined by the Code Enforcement Officer, with input from the Fire Chief, to present one or more unreasonable safety risks, including, but not limited to, the following:

1. Weight load;
2. Wind resistance;
3. Ingress or egress in the event of fire or other emergency; or
4. Proximity of a ground-mounted system relative to buildings.

All solar energy system installations shall be installed in compliance with the photovoltaic systems standards of the latest edition of the National Fire Protection Association (NFPA1).

All wiring shall be installed in compliance with the photovoltaic systems standards of the latest edition of the National Electric Code (NFPA 70) [hereinafter "NEC"] as adopted by the State of Maine.

Prior to operation, electrical connections must be inspected and approved by the State Electrical Inspector.

Section 4. Additional Standards for Medium- and Large-Scale Ground-Mounted Solar Energy Systems.
In addition to the standards in Section 3, medium- and large-scale ground-mounted solar energy systems shall comply with the following:

1. **Utility Connections**: Overhead or pole-mounted electrical wires shall be avoided to the extent possible within the facility.
2. **Safety:** The solar energy system owner or project proponent shall provide a copy of the site plan review application to the Planning Board for approval and to the Code Enforcement Officer and the Fire Chief for review and comment. The Code Enforcement and the Fire Chief shall base any recommendations for approval or denial of the application by the Planning Board upon review of the fire safety of the proposed system.

3. **Certification of the EPA:** "Toxicity Characterization Leaching Procedure shall be provided along with proof that all electrical equipment used at the facility must be UL listed. No substitutions of other certifications for the UL listing or the TCLP (panels) shall be permitted.
4. **Visual Impact**: Reasonable efforts, as determined by the Planning Board and CEO, shall be made to minimize undue visual impacts by preserving native vegetation, screening abutting properties or other appropriate measures, including adherence to height standards and setback requirements and to reduce glare in the direction of abutting or neighboring properties or streets.

Section 5. Dimensional Standards.

(1) Height Requirements for Roof-Mounted Solar Energy Systems: Systems cannot be mounted higher than 2 feet than the roof pitch on any residential structure with a pitched roof and cannot exceed 4 feet than the roof pitch on any non-residential structure with a pitched roof. A system cannot be higher than 4 feet above the structure on a flat roof. Total height of building and panels shall not exceed any height restrictions from any other ordinance.

(2) Ground mounted solar energy systems: A ground-mounted solar energy system that is setback less than fifty (50) feet from any property line shall not exceed sixteen (16)feet in height when oriented at maximum tilt. A ground mounted system that is setback fifty (50) feet or more from any property line may be a maximum of twenty (20) feet in height when oriented at maximum tilt.

(3) Pole mounted solar energy system: A pole mounted solar energy system that is located less than 50 feet from any property line may be a maximum of sixteen (16) feet in height. A pole mounted solar energy system that is located fifty (50) feet or more from a property line may be a maximum of twenty (20) feet in height.

(4) 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 ground mounted solar energy systems or as otherwise prescribed by applicable laws, regulations, and bylaws/ordinances. Ground mounted facilities shall minimize mowing to the extent practicable. Removal of mature trees shall be avoided to the extent possible. Native, pollinator-friendly seed mixtures shall be used to the extent possible. Herbicide and pesticide use shall not be used unless preauthorization has been received by CEO & select board. No prime agricultural soil or significant volume of topsoil shall be removed from the site for installation of the system.

(5) Setbacks for Ground-Mounted Solar Energy Systems: Setback standards for ground-mounted solar energy systems shall be as follows:

a. **Minimum front yard setback:** The minimum front yard setback for a solar energy system shall be as follows:

i. **Small-scale solar energy systems:** The solar energy system shall not be located directly in front of the principal structure or in the front yard area which is the area between the principal structure and the adjacent street.

ii. **Medium-scale solar energy system**: The solar energy system shall be setback a minimum of fifty (50) feet from any adjacent street.

iii. **Large-scale solar energy system:** The solar energy system shall be setback a minimum of fifty (50) feet from any adjacent street.

b. **Minimum side yard setback**: The minimum side yard setback requirement for any solar energy system shall be as follows:
    i. **Small-scale and off-grid solar energy system**: The solar energy system shall be setback a minimum of fifteen (15) feet from any side lot line, provided the solar energy system, at full tilt, does not exceed a maximum height of sixteen (16) feet. Any solar energy system that is greater than sixteen (16) feet in height shall be setback a minimum of fifty (50) feet.
    ii. **Medium-scale solar energy system:** The solar energy system shall be setback a minimum of thirty (30) feet from any side lot line, provided the solar system, at full tilt, does not exceed a maximum height of sixteen (16) feet. Any solar energy system that is greater than sixteen (16) feet in height shall be setback a minimum of fifty (50) feet.
    iii. **Large-scale solar energy system**: The solar energy system shall be setback a minimum of fifty (50) feet from any side lot line.
c. **Minimum rear yard setback**: The minimum rear yard setback requirement for any solar energy system shall be as follows:
    i. **Small-scale solar energy system:** The solar energy system shall be setback a minimum of fifteen (15) feet from any rear lot line, unless the height of the solar energy system exceeds sixteen (16) feet, in which case the solar energy system shall be setback a minimum of fifty (50) feet.
    ii. **Medium-scale solar energy system**: The solar energy system shall be setback a minimum of thirty (30) feet from any rear lot line, unless the height of the solar energy system exceeds sixteen (16) feet, in which case the solar energy system shall be setback a minimum of fifty (50) feet.
    iii. **Large-scale solar energy system:** The solar energy system shall be setback a minimum of fifty (50) feet from any rear lot line.
d. **Minimum setback requirements for solar energy systems located in a Shoreland Zoning District**: A ground-mounted solar energy system that is a permitted use in a designated Shoreland Zoning District shall comply with the minimum structure setback requirement identified for the respective Shoreland Zoning District.

(6) Fencing: Fencing shall be installed as required by the NEC for ground-mounted solar energy systems in accordance with the size of the solar energy system. To allow for wildlife passage, fences should be elevated by a minimum of 5 inches

(7) Signage: The owner or operator shall install a sign that identifies the name of the owner, the name of the operator, and a 24 hour emergency contact phone number for the operator. The sign shall be no greater than 36 inches by 60 inches in size and shall be no more than 8 feet in height from the adjacent ground grade. As required by the NEC, disconnect and other emergency shutoff information shall be clearly displayed on a light reflective surface. The sign shall not display any advertising except for reasonable identification of the manufacturer or operator of the solar energy system. Unless otherwise required by Federal or other regulation entity.

(8) Roads: A Medium- or Large-scale ground-mounted solar energy system owner or operator shall maintain a road for access to the facility to accommodate emergency vehicles.

(9) Removal: Solar energy systems that have reached the end of their useful life or have been abandoned consistent with this ordinance shall be removed. The owner or operator shall physically remove the installation no more than 200 days after the date of discontinued operations. The owner or operator shall notify the Code Enforcement Officer and the Town Office by certified mail of the proposed date of discontinued operations.

(10) Abandonment: 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 operate for more than one year. If the owner or operator of the solar energy system fails to remove the installation within 200 days of abandonment or the proposed date of decommissioning, the Town retains the right to use all available means to cause an abandoned, hazardous or decommissioned medium-scale or large-scale ground-mounted solar energy system to be removed. Annual inspections will continue at the owners' cost until the site is removed and returned to its original state.

a. If the owner or operator of the solar energy system fails to remove the installation in accordance with the requirements of this Ordinance within 200 days of abandonment or the proposed date of decommissioning, the Town retains the right to use the performance guarantee and all other means available to the Town to cause an abandoned, hazardous or decommissioned medium or large-scale solar energy system to be removed.
b. If an owner or operator of the solar energy system successfully removes the solar energy system pursuant to the requirements of this Ordinance and the Code Enforcement Officer & The Roxbury Town Office finds that the removal complies, the owner or operator may apply to the Town for the release of the performance guarantee identified in Section 5(3)(b) below. The Town shall not unreasonably withhold the release of a performance guarantee after the Code Enforcement Officer certifies compliance with the removal requirements of this Ordinance.

Section 6. Additional Standards for Large-Scale Solar Energy Systems. Large-scale ground-mounted solar energy systems shall not be considered accessory uses.

1. **Operations and Maintenance Plan**: The project proponent shall submit a plan for the operation and maintenance of the large-scale ground mounted solar energy system, which shall include measures for maintaining safe access to the installation as well as other general procedures for operational maintenance of the installation.
2. **Emergency Services:** The large-scale ground-mounted solar energy system owner or operator shall provide a copy of the project summary, electrical schematic and site plan to the Code Enforcement Officer and Fire Chief. Upon request, the owner or operator shall cooperate with the Code Enforcement and/or Fire Department in developing an emergency response plan. All means of shutting down the system shall be clearly marked. The owner or operator shall provide to the Code Enforcement Officer, the Town Office, the Fire Department and Sheriff the name and contact information of a responsible person for public inquiries throughout the life of the installation.

Section 7. Site Plan Review.

1. **Roof-Mounted Solar Energy Systems and Small-Scale Ground-Mounted Solar Energy Systems**: Such systems are not subject to site plan review. A building permit from the Planning Board will be required.
2. **Medium-Scale and Large-Scale Ground-Mounted Solar Energy Systems**: These systems are subject to site plan review.

3. **State Decommissioning Plan:** Per Maine State law any ground-mounted solar projects with 3 or more acres in size starting construction or changing ownership on or after October 1st, 2021 must file a decommissioning plan with Maine DEP and be approved before construction starts, if applicable.
4. **Application for Site Plan Review**: For medium- and large-scale ground-mounted solar energy systems that are required to file for Site Plan Review: the site plan application shall include the following supplemental information:

a. A site plan showing:

i. Property lines and physical features, including roads and setbacks, for the project site;
ii. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation and/or structures and erosion control plan;
iii. Blueprints or drawings of the solar energy system showing the proposed layout of the system, any potential shading from nearby structures, the distance between the proposed solar collector and all property lines and existing on-site buildings and structures, and the tallest finished height of the solar collector;
iv. A preliminary equipment specification sheet that documents all proposed solar panels, significant components, mounting systems and inverters that are to be installed. A final equipment specification sheet shall be submitted prior to the issuance of building permit.
v. Name, address, and contact information of the proposed system installer, the project proponent, project proponent agent, and all co-proponents or property owners, if any; and
vi. A preliminary equipment specification sheet that documents all proposed solar panels, significant components, mounting systems and inverters that are to be installed, including a one- or three-line electrical diagram detailing the solar photovoltaic installation, associated components and electrical interconnection methods. A final equipment specification sheet shall be submitted prior to the issuance of building permit.
vii. Name, address, and contact information of proposed or potential system installer and the owner and/or operator of the solar energy system. Such information of the final system installer shall be submitted prior to the issuance of building permit.
viii. Name, address, phone number, and signature of the project applicant, as well as all the property owners, demonstrating their consent to the application and the use of the property for the solar energy system.
ix. Property Operation and Maintenance Plan. Such plan shall describe continuing photovoltaic maintenance and property upkeep, such as mowing, trimming vegetation and road maintenance.
x. Locations of important plant and animal habitats identified by the Maine Department of Inland Fisheries and Wildlife, if any.
xi. Locations of wetlands, streams and waterbodies, if any.
xii. Locations of shoreland zones, floodplains or well-head protection areas, if any.
xiii. Fees for the Solar Energy System Building Permit as established by the Select Board in the Fee Schedule.

b. **Decommissioning Plan showing**:

i. How physical removal of all solar energy systems, structures, equipment, security barriers and transmission lines from the site will be accomplished.

ii. How disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations will be performed.

iii. How stabilization or re-vegetation of the site as necessary to minimize erosion. Restoration of native, pollinator-friendly seed mixtures shall be used to the maximum extent possible in re-vegetation.

iv. Estimate of costs for the decommissioning of the solar energy system with detail of how the estimate of these costs were derived, including the data which was the basis for the estimate.

v. How decommissioning will be paid for. A performance bond level is set at 100% paid into an escrow method using a figure to be calculated by a Licensed Professional Engineer holding such licensure in Maine without consideration of salvage value. The Applicant should provide a performance guarantee paid to the Town and Maine DEP in full prior to the start of construction. The financial guarantee shall include a provision granting and guaranteeing the Town the authority to access the funds and property and perform decommissioning if the facility is abandoned and the owner or operator fails to meet their obligations to remove the solar energy system. The Applicant shall provide the Town the identified performance guarantee prior to the issuance of a building permit/site plan review permit. The owner or operator is also responsible for notifying the Town in writing if the performance guarantee is revoked, and in such cases, shall provide the Town with a replacement performance guarantee, within 90 days, that must be approved by legal counsel for the Town or the owner's or operator's permit to operate the system will be revoked.

vi. Adjustments to decommissioning funds. On an annual basis, the owner shall provide to the town and updated cost calculation as required in this section, for the decommissioning. If the cost is greater than the amount held in the financial guarantee, the amount shall be increased to the new amount. If the cost reduces than no change shall be made to the financial guarantee.

Section 8. License and Inspection.

1. **Initial Operation License:** Prior to operation, the owner or operator of a Medium-Scale and Large Scale Solar Energy System must obtain an Operation License from the Town and pay the fee for same as established in the Fee Schedule. The solar energy system will be inspected by the Code Enforcement Officer to ascertain compliance with the requirements of this Ordinance and the requirements of any permit issued before the Solar Energy System Operation License will be issued by the Town. The operator or owner must provide proof to the Code Enforcement Officer and Town Office of current required state or federal licenses or permits.
2. **Annual Renewal of Operation License**: The operator or owner of a Medium-Scale or Large-Scale Solar Energy System must reapply annually for renewal of its Operation License. An inspection by the Code Enforcement Officer and payment by the owner or operator of the annual fee as established by the Select Board in the Fee Schedule is required for the renewal of the Operations License. The operator or owner must provide to the Code Enforcement Officer and Town Office proof of any and all state or federal licenses or permits that are required annually. Inspections shall include, but are not limited to the following areas of review:

a. Spot checking of solar panels for cracking or evidence of water infiltration within the panels. Any panel identified as deficient or defective by the Code Enforcement Officer shall be removed and/or replaced by the solar energy system owner or operator within 24 hours.
b. Compliant perimeter fencing in good repair.
c. Proper grounding of equipment.
d. Proper signage.
e. Proper installation and maintenance of all safety systems.
f. Proper control of vegetation.
g. Proper maintenance of roads within solar energy system.

Emergency inspections will be done at no cost to the owner or operator in the event of an Act of God or other disaster has occurred in which could be reasonably believed to have damaged or cracked any solar panels.

Any solar energy system owner and/or operator shall incur a fine of $300 per day for failing to correct any deficiencies identified by the Code Enforcement Officer within the time frame established by the Code Enforcement Officer. All such notifications on deficiencies shall be in writing and provided to the solar energy system owner and/or operator at the address provided in the annual renewal license application submitted to the Town.

Section 9. Conflicts with Other Ordinances and Severability.

Whenever a provision of this Ordinance conflicts with or is inconsistent with another provision of this Ordinance or of any other ordinance, regulation or statute administered by the municipality, the more restrictive provision shall control.

The invalidity of any section or provision of this Ordinance shall not be help to invalidate any other section or provision of this Ordinance

Section 10. Definitions.

Capacity: The maximum rated output of electric power production of the photovoltaic system in watts of Direct Current (DC).

Electrical Equipment: Any device associated with a solar energy system, such as an outdoor electrical unit/control box, that transfers the energy from the solar energy system to the intended location.

Electricity Generation (production output): The amount of electric energy produced by transforming other forms of energy, commonly expressed in kilowatt-hours (kWh) or megawatt-hours (MWh).

Height of Building: The vertical measurement from grade to the highest point of the building, except that utility structures such as chimneys, TV antennae, HVAC systems, and roof-mounted solar energy systems shall not be included in this measurement, nor shall any construction whose sole function is to house or conceal such structures.

Mounting: The manner in which a solar PV system is affixed to the roof or ground (i.e., roof mount, or ground mount.

Pole-Mount System: A solar energy system that is directly installed on specialized solar racking systems, which are attached to pole, which is anchored and firmly affixed to a foundation in the ground, and wired underground to an attachment point at the building's meter. Pole-mounted systems can be designed to track the sun (with single-axis or dual-axis tracking motors) and to help maximize solar output throughout the year.

Power: The rate at which work is performed (the rate of producing, transferring, or using energy). Power is measured in Watts (W), kilowatts (kW), Megawatts (MW), etc. in Direct Current (DC).

Solar Access: The access of a solar energy system to direct sunlight. Solar Array. Multiple solar panels combined together to create one system.

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Solar Cell: The smallest basic solar electric device that generates electricity when exposed to light; also reference Solar Energy System.

Solar Collector: A solar PV cell, panel, or array, or solar thermal collector device, that relies upon solar radiation as an energy source for the generation of electricity or transfer of stored heat.

Solar Energy: Radiant energy (direct, diffuse and/or reflective) received from the sun.

Solar Energy System: A solar energy conversion system converts solar energy to electric or thermal energy. Solar energy conversion systems are further categorized into three types based on the size of the facility. Facility size is measured by calculating the square footage of the projection of solar panels at maximum tilt on the ground below.

- **Small-Scale Energy System**: A small-scale energy conversion system is a system with a facility size less than 43,560 square feet (1 acre).
- **Medium-Scale Energy System**: A medium-scale energy conversion system is a system with a facility size greater than or equal to 43,560 square feet (1 acre), but less than 217,800 square feet (5 acres).
- **Large-Scale Energy System**: A large-scale energy conversion system is a system with a facility size greater than or equal to 217,800 square feet (5 acres).

Solar Energy System, Ground- Mounted: An active solar energy system that is structurally mounted to the ground and is not roof-mounted; may be any size (small, medium, or large scale).

Solar Energy System, Roof-Mounted: An active 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 Glare: The potential for solar panels to reflect average sunlight, with an intensity sufficient to cause annoyance, discomfort, loss in visual performance or visibility, or a public safety hazard, such as but not limited to airport operations.

Solar Panel (or module): A device used for the direct or conversion of sunlight into useable solar energy, including electricity or heat.

Solar Photovoltaic (Solar PV) System: A solar energy system consisting of photovoltaic cells, made with semiconducting materials, that produces electricity (in the form of direct current (DC)) when they are exposed to sunlight. A typical PV system consists of PV panels (or modules) that combine to form an

array; other system components may include mounting racks and hardware, wiring for electrical connections, power conditioning equipment, such as an inverter and/or batteries. A PV system may be roof-mounted, ground-mounted, or pole-mounted.

Solar Related Equipment: Items including a solar photovoltaic cell, module, or array, or solar hot air or water collector device panels, lines, pumps, batteries, mounting brackets, framing and possibly foundations or other structures used or intended to be used for the collection of solar energy.

Tilt: The angle of the solar panels and/or solar collector relative to horizontal. Tilt is often between 5 and 40 degrees, Solar energy systems can be manually or automatically adjusted throughout the year. Alternatively, fixed-tilt systems remain at a static tilt year-round.

Given under our hands this 28th day of June, 2022.

TIMOTHY DEROUCHE

MATTHEW PATNEAUDE

RAY HODSDON

BOARD OF SELECTMEN
TOWN OF ROXBURY

A TRUE COPY

Attest: _____
BRITTANY GORDON, Town Clerk

Ordinance Adopted: June 23rd, 2022

Town of Roxbury, Maine 04275