

MEMORANDUM

TO: Freeport Planning Board

THROUGH: Caroline Pelletier, Assistant Planner

CC: Ben Smith, AICP, North Star Planning

From: Sarah DelGizzo, North Star Planning

RE: Solar Farm Zoning Changes

Date: September 25, 2019

Attached are changes to the Freeport Zoning Ordinance that would allow medium (Community scale) and large (Utility scale) Solar Farms in certain zoning districts in Freeport.

There has been community interest in siting Solar Farms on Freeport properties that would offset the electrical usage for groups of electrical utility customers. Recent changes to state statute that would dramatically increase the size and generation capacity of Solar Farms from what has been in place for many years. The table below shows how the Comprehensive Solar Bill (LD 1711) signed by the Governor on June 26, 2019, has changed the regulatory framework for these systems. With these changes, Solar Farms in Maine are likely to shift from small systems built for cooperatives of friends and neighbors looking to offset their own energy usage to larger systems built by solar companies and utilities as for-profit enterprises.

| Before LD 1711 | After LD 1711 |
|----------------------------------|---|
| 9-member limit per Solar Farm | 200-member limit for net metering Solar Farms and no limit on members for "subscription" |
| Size constrained by member limit | 5 MW cap (roughly 25-30 acres) |
| No rules about land use | Preference for "previously developed or impacted land" (impervious surfaces, capped landfills, or brownfield sites) |

The photos that follow are meant to provide the Planning Board with a range of examples showing system sizes and rated generation capacity.



Little River Veterinary Hospital – Northport, ME
27.56 Kilowatts – multiple views



Cumberland Animal Clinic – Cumberland, ME
49 Kilowatts (160 solar panels)



Chamberlain Machine - Walpole, NH
132 Kilowatts (400 solar panels)



REI Store, Framingham, MA
210 Kilowatts (parking lot & roof)



Geiger - Lewiston, ME
233.16 Kilowatts (696 solar panels)



City of Portland, ME
660 Kilowatts



City of South Portland, ME
1 Megawatt (1,000 Kilowatts)

As you review the attached definitions, standards, and proposed review and approval authority and criteria, please keep the following questions in mind regarding:

Solar Farm Location

- Zoning Districts. Are there certain zoning districts that are more appropriate for this type of development than others, or districts where medium or large scale projects are not appropriate?
- Design Review District. How will medium or large sized systems integrate with the character of the built environment within the Design Review District? Should this question be addressed now or in the future?
- 3-phase power. Should the existing network of 3-phase power lines dictate the location of where these facilities should be allowed in the short or medium term?
- Are Solar Farm uses appropriate in the common land of an Open Space Subdivision? Should changes to the subdivision ordinance be considered at this time?

Solar Farm Size

- Differentiation between Community and Utility Solar Farm sizes. Should there be any different treatment between these systems of different sizes in regard to certain standards like setbacks, buffers or decommissioning?
- Maximum system size. Is there a system that would be too large to locate anywhere in Freeport, or will Freeport default to the state rules for system size? Community versus Utility?
- What size system should be considered a Utility Solar Farm rather than a Community Solar Farm?

Ground Mounted and Roof Mounted

- Should all ground mounted systems go through at minimum Staff Review even if the system is an Accessory Use?
- Roof Mounted systems generating for off-site consumption would be considered Community or Utility Solar Farms (dependant on size). Would this level of review be acceptable for large roof-mounted systems?

Section 104 Definitions

Solar Energy System: A device or structural design feature whose primary purpose is to harvest energy by transforming solar energy into another form of energy or transferring heat from a collector to another medium using mechanical, electrical, or chemical means.

Solar Farm, Community: a Solar Energy System, roof or ground-mounted, that generates electricity for off-site accounts and has an array area (including panel area and inter-panel space) smaller than 87,120 square feet (2 acres)

[Note: this size system generates up to about 350 kilowatts]

Solar Farm, Utility: a Solar Energy System, roof or ground-mounted, that generates electricity for off-site accounts, and has an array area (including panel area and inter-panel space) between 2 acres and 30 acres.

[Note: By statute, Solar Farms can generate up to 5MW, which would have a size of about 25-30 acres]

Section 400s Zoning Districts

Solar Farm, Community & Solar Farm, Utility by zoning district, as Permitted (P) or Not Permitted (X).

| | | | | | | |
|-----|------|---------|-----|-----|-------|-------|
| C1 | C3 | C4 | I1 | I2 | LB | MDA |
| P | P | P | P | P | P | P |
| MDB | MDR1 | MDR2 | RP1 | PR2 | RR1 | RR1A |
| P | X | P | X | P | P | P |
| RR2 | VC1 | VC2 | VC3 | VC4 | VMU-1 | VMU-2 |
| P | X | X | X | X | X | X |
| V1 | V2 | Bustins | ID | MW | SP | SA |
| X | X | X | X | P | X | P |

Section 500s Solar Energy Systems

A. General Standards

- a) Solar Energy Systems generating power for on-site consumption or to offset electrical use of on-site accounts shall be considered Accessory to the Principal Use. These Solar Energy Systems shall be permitted wherever Accessory Uses are permitted and shall conform to the standards for Accessory Structures of the applicable district.

- a. Building or roof mounted Solar Energy Systems shall be considered part of the structure and reviewed by the Code Enforcement Officer, subject to the Building Code
 - i. These Solar Energy Systems are exempt from the Application Requirements and Performance Standards of this Section.
- b. Ground mounted Solar Energy Systems shall be reviewed by the Staff Review Board.
- b) Solar Energy Systems generating power for off-site consumption or to offset electrical use of off-site accounts shall not be considered an Accessory Use and shall conform to the standards listed below.
 - a. Solar Farm, Community and Solar Farm, Utility uses shall be reviewed by the Project Review Board.

B. Application Requirements for Solar Farm, Community and Solar Farm, Utility

- a) A fully executed and signed copy of the application for Site Plan Review. The application will be provided by the planning department.
- b) Name of the owner and operator of the Solar Energy System, and the names of the owner of the property.
- c) Cover letter describing the project, with details on the proposed system and the subject property.
- d) Plans (including location of proposed system, identifying the location of the Solar Energy System on the property and physical dimensions of the system and the property. Location of any public road or right-of-way that is contiguous with the property. Location of overhead utility lines) See section 602.D.4
- e) A decommissioning plan for the removal of the Solar Energy System for the removal of the facility and stabilization of the site.

C. Performance Standards for Solar Farm, Community and Solar Farm, Utility

- a) Space Standards
 - i. Maximum height shall conform to requirements of zoning district. Height shall be measured from the ground to the highest point of the facility.
 - ii. Minimum setback shall conform to requirements of the zoning district or 20 feet from lot line, whichever is greater.
- b) Design & Aesthetics
 - i. Buffers shall, at minimum conform to requirements of the zoning district. Staff Review Board has the authority to require additional buffers dependant on solar energy system location (Section 506).

- ii. All electrical and control equipment for a ground-mounted solar energy system shall be labeled and secured to prevent unauthorized access.
- iii. Stormwater management shall conform to requirements in Section 529.
- iv. Lighting shall conform to requirements in Section 521.A.
- v. Decommissioning and removal of the Solar Energy System is required after twelve (12) consecutive months of no power generation.

Section 104 Definitions

Solar Energy System: A device or structural design feature whose primary purpose is to harvest energy by transforming solar energy into another form of energy or transferring heat from a collector to another medium using mechanical, electrical, or chemical means.

Solar Farm, Community: a Solar Energy System, roof or ground-mounted, that generates electricity for off-site accounts and has an array area (including panel area and inter-panel space) smaller than 87,120 square feet (2 acres)

[Note: this size system generates up to about 350 kilowatts]

Solar Farm, Utility: a Solar Energy System, roof or ground-mounted, that generates electricity for off-site accounts, and has an array area (including panel area and inter-panel space) between 2 acres and 30 acres.

[Note: By statute, Solar Farms can generate up to 5MW, which would have a size of about 25-30 acres]

Section 400s Zoning Districts

Solar Farm, Community & Solar Farm, Utility by zoning district, as Permitted (P) or Not Permitted (X).

| | | | | | | |
|-----|------|---------|-----|-----|-------|-------|
| C1 | C3 | C4 | I1 | I2 | LB | MDA |
| P | P | P | P | P | P | P |
| MDB | MDR1 | MDR2 | RP1 | PR2 | RR1 | RR1A |
| P | X | P | X | P | P | P |
| RR2 | VC1 | VC2 | VC3 | VC4 | VMU-1 | VMU-2 |
| P | X | X | X | X | X | X |
| V1 | V2 | Bustins | ID | MW | SP | SA |
| X | X | X | X | P | X | P |

Section 500s Solar Energy Systems

A. General Standards

- a) Solar Energy Systems generating power for on-site consumption or to offset electrical use of on-site accounts shall be considered Accessory to the Principal Use. These Solar Energy Systems shall be permitted wherever Accessory Uses are permitted and shall conform to the standards for Accessory Structures of the applicable district.

- a. Building or roof mounted Solar Energy Systems shall be considered part of the structure and reviewed by the Code Enforcement Officer, subject to the Building Code
 - i. These Solar Energy Systems are exempt from the Application Requirements and Performance Standards of this Section.
- b. Ground mounted Solar Energy Systems shall be reviewed by the Staff Review Board.
- b) Solar Energy Systems generating power for off-site consumption or to offset electrical use of off-site accounts shall not be considered an Accessory Use and shall conform to the standards listed below.
 - a. Solar Farm, Community and Solar Farm, Utility uses shall be reviewed by the Project Review Board.

B. Application Requirements for Solar Farm, Community and Solar Farm, Utility

- a) A fully executed and signed copy of the application for Site Plan Review. The application will be provided by the planning department.
- b) Name of the owner and operator of the Solar Energy System, and the names of the owner of the property.
- c) Cover letter describing the project, with details on the proposed system and the subject property.
- d) Plans (including location of proposed system, identifying the location of the Solar Energy System on the property and physical dimensions of the system and the property. Location of any public road or right-of-way that is contiguous with the property. Location of overhead utility lines) See section 602.D.4
- e) A decommissioning plan for the removal of the Solar Energy System for the removal of the facility and stabilization of the site.

C. Performance Standards for Solar Farm, Community and Solar Farm, Utility

- a) Space Standards
 - i. Maximum height shall conform to requirements of zoning district. Height shall be measured from the ground to the highest point of the facility.
 - ii. Minimum setback shall conform to requirements of the zoning district or 20 feet from lot line, whichever is greater.
- b) Design & Aesthetics
 - i. Buffers shall, at minimum conform to requirements of the zoning district. Staff Review Board has the authority to require additional buffers dependant on solar energy system location (Section 506).

- ii. All electrical and control equipment for a ground-mounted solar energy system shall be labeled and secured to prevent unauthorized access.
- iii. Stormwater management shall conform to requirements in Section 529.
- iv. Lighting shall conform to requirements in Section 521.A.
- v. Decommissioning and removal of the Solar Energy System is required after twelve (12) consecutive months of no power generation.