



City of Auburn, Maine

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To: Auburn Planning Board
From: Megan Norwood, City Planner II
Re: Commercial Solar Development Discussion: Performance Standards, Industrial District
Date: October 8, 2019

I. **BACKGROUND** – The Economic and Community Development Department has been fielding inquiries from Developers exploring opportunities for commercial solar installation projects in the City. The way the ordinance is currently written, the only Zoning District that would allow these installations would be the Industrial District using the umbrella of “*Electric Generating Plants*” coupled with “*uses similar to those in this section and not elsewhere named in the following subsections, provided that the use will not be noxious.*” The Ordinance does not currently have any performance standards regulating the use.

Most commercial solar installations require a minimum of 20 acres to be successful and some Developers are looking into the possibility of using existing landfills. Most of the landfills in the City are located in the Ag-Zone, however, and the ordinance does not permit commercial solar installations in the Ag-Zone.

The Planning Board began brief discussions on commercial solar development at the September meeting and seemed to be in favor of coming up with Performance Standards for the Industrial District. The Board felt further thought was needed before regulating commercial solar developments in the Ag-Zone.

Planning Staff also began discussions at the September City Council meeting. The City Council brought up the following questions/discussion items and encouraged Staff to move the conversation forward at the Planning Board level:

- What does the tax base look like for the property and equipment?
- Consider “End of Life” Standards.
- What do the energy savings look like for the City of Auburn? Is there still an option to purchase power at a discounted rate for schools and public buildings?
 - Are there any revenue generating opportunities for the City?
- What happens to the power that is generated and sold, where is it consumed?
 - How can Residents “get in” on the power?
- Recommend looking into Ordinances/experiences in other States such as Massachusetts.

OUTCOME: Discuss Setbacks/Performance Standards for the Industrial District with the Planning Board at their next meeting.

II. **PURPOSE OF OCTOBER MEETING** – The purpose of the October Planning Board meeting is for the Board to start reviewing example Performance Standards for commercial solar developments and give Staff an idea of what standards the Board feels would be worth pursuing for commercial solar developments proposed in the Industrial District.

Sample Performance Standards for Commercial Solar Development Projects:

The *City of Portland* regulates commercial solar development projects based upon their type, rated electricity generation and physical size:

- Roof Mounted and Building Integrated (*Any Size*)
- Small Scale Ground Mounted ($\leq 20kW$, $\leq 1,000$ sq. ft.)

- “Dual Use” Systems (*Any Size*)
- Medium Scale Ground Mounted (*21kW to 250kW, 1,001 to 9,999 sq. ft.*)
- Large Scale Ground Mounted (*Over 250kW, 10,000 sq. ft. or greater*)

The standards also get into: Solar energy as a principal land use, visual considerations, abandonment provisions, impact of construction and connection to the grid, glare, solar access, buffering, etc. The City also requires an Operations and Maintenance Plan for the installations. Some discussion questions from Portland:

- *Solar Energy as Principal Land Use*: Allow medium or large solar energy systems covering most or all of a site. Encourage community solar farms, industrial zone limited to areas that are already paved or built upon or difficult to develop. Encourage solar energy systems to utilize more brownfield or undevelopable areas.
- *Visual considerations*: What performance standards/policies are appropriate – do we want to see small ground mounted solar energy systems? Are roof-mounted solar energy systems a concern? Should the electrical wiring/grid connections be underground? What screening of medium and large systems is needed? Portland uses the terminology... “wherever possible” or “to minimize impacts.” where these issues are referenced.
- *Abandonment*: Portland defines this as the date at which a solar energy system has been out of service for a continuous period of 12 months.
- *Impact of Construction and Connection to the Grid*: The applicant shall minimize impacts resulting from construction and maintenance of the solar energy system, including from lighting, security measures, traffic, and grid connections.
- *Glare*: Solar panels are designed to absorb (not reflect) sunlight and are generally less reflective than other varnished or glass exterior materials. However, solar panel placement should minimize or negate any solar glare impacting nearby properties or roadways, without unduly impacting the functionality or efficiency of the solar energy system. (from South Portland ordinance)
- *Solar Access*: All applicants are encouraged to ensure the maximum solar energy generation from their system by obtaining solar access easements. Solar access easements may be filed consistent with Maine State law. Any property owner may purchase an easement across nearby properties to protect access to sunlight. The easement would be purchased or granted by owners of nearby properties and can apply to buildings, trees, or other structures that would diminish solar access. (from City of Minneapolis).
- *Screening/Buffering*: Located away and screened from public ways and nearby residential /institutional uses to extent possible; Screen from abutters and minimize impact on significant scenic views to the extent possible

Portland also reviewed the concept of Dual Use systems, these are solar PV panels on posts over parking spaces on a large scale (*see photo*). Other versions are anticipated to evolve and the potential impacts are somewhat unknown. Should these installations be subject to Site Plan Review/Special Exception?

The Massachusetts Department of Energy Resources also created a Model Zoning for the Regulation of Solar Energy Systems. Some of the Performance Standards they considered:

- Dimensional Regulations
 - *Height*: Building Height Regulations/Mechanical equipment.
 - *Setbacks*: Depends on the Scale – 1/2 of the setback of the district or 20-feet.



- *Lot Coverage*: Exempt from standards if grass/another pervious surface is underneath them.
- Site Plan Standards
 - Land Clearing, Soil Erosion and Habitat Impacts
 - Signage
 - Lighting – directed downward and incorporate full cutoff fixtures to reduce light pollution
 - Abandonment or Decommissioning
- Municipal Stormwater Regulations: Panels could alter the volume, velocity and discharge pattern of stormwater runoff.

III. STAFF RECOMMENDATIONS – The purpose of the October Planning Board meeting is for the Board to begin considering Performance Standards to regulate commercial solar developments in the Industrial District. This memo provides a brief outline of some of the types of Performance Standards that apply to commercial solar developments. The Planning Board should use the October meeting to consider what types of standards the Board would like to see in the Industrial District (examples):

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| <ul style="list-style-type: none"> ● <i>Standards based on Size of Operation (How would the Planning Board like to define a “Commercial Solar Development? Dual Use?”)</i> ● <i>Solar Energy as Principal Land Use Standards</i> ● <i>Visual Considerations (underground electrical, etc.)</i> ● <i>Abandonment/Decommissioning Standards</i> ● <i>Construction Impact/Maintenance</i> | <ul style="list-style-type: none"> ● <i>Glare</i> ● <i>Solar Access</i> ● <i>Screening/Buffering</i> ● <i>Setbacks</i> ● <i>Lot Coverage</i> ● <i>Land Clearing, Erosion, Habitat Impacts</i> ● <i>Signage for Commercial Solar Installation</i> ● <i>Stormwater Regulations</i> |
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Staff will take the Planning Board recommendations and bring a draft Commercial Solar Development ordinance for the Industrial District to the Board for the November meeting.



The Madison Electric Works solar farm consists of about 26,000 panels and occupies nearly 22 acres in the Madison Business Gateway. The project, which cost \$10 million to install, is expected to produce about 5 megawatts of power. *Michael G. Seamans/Morning Sentinel*

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