City of Auburn, Maine
Economic & Community Development
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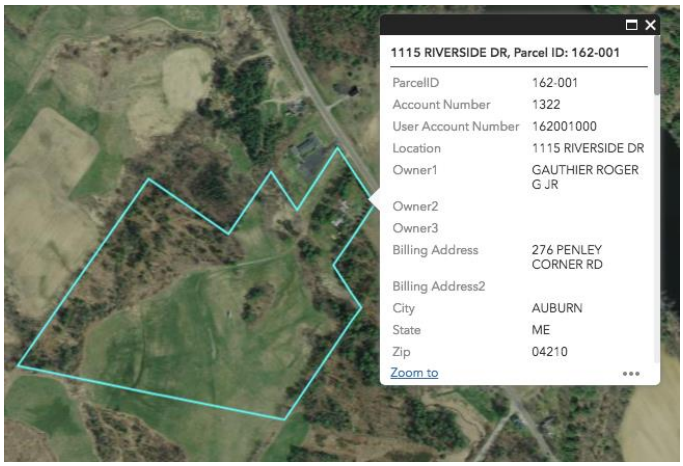
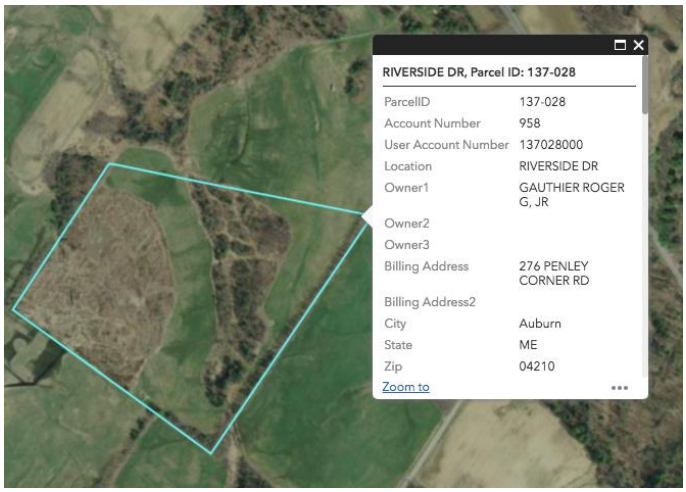
DRAFT

To: Auburn Planning Board
From: Megan Norwood, City Planner II
Re: Auburn Renewables is proposing a 35-acre, 5MW solar array on two parcels totaling approximately 82.1 acres at 1115 Riverside Drive (PIDs: 162-001 and 137-028) in the Agriculture and Resource Protection Zoning District.
Date: June 9, 2020





I. PROPOSAL: TRC, on behalf of NexAmp (Auburn Renewables) is seeking a Site Plan/Special Exception pursuant to Sec. 60-45 of the Auburn Code of Ordinances to construct a 5MW solar array on approximately 82.1 acres split between two parcels on Riverside Drive. The array itself is proposed to use 35 of the 82.1 acres.

At the May 12, 2020 meeting, the Planning Board made a favorable recommendation to the City Council allowing Solar Energy Generating Systems in the Agriculture and Resource Protection District with applicable conditions. The City Council completed their second reading and approved the ordinance on June 1, 2020. Auburn Renewables submitted their application for the June 9, 2020 Planning Board meeting in anticipation of getting a review completed in time to meet the Public Utilities Commission July 2020 deadline for projects. Below ar the standards the Planning Board created for Solar Energy Generating Systems in the Agriculture and Resource Protection District and the information the Applicant provided on each.

Chapter 60, Article XVIII. – Solar Energy Generating Systems. Section 60-1430 (Approval):

I. *Yard Requirements*. The requirements in this section are not applicable to solar arrays in the Ag-Zone, they have their own set of requirements for setbacks (see below).

II. *Lot Coverage*. The standards apply to the paved, mounting block, or otherwise impervious areas of the site. Photovoltaic cells, panels, arrays, and inverters are not considered impervious areas provided the soil underneath the collector is not compacted and remains vegetated in accordance with the permanent stabilization standards in Chapter 500 (see below) for the 30% lot coverage requirement specific to solar arrays in the Ag-Zone.

III. *Height Regulations*. The total height of solar arrays including accessory structures cannot exceed 30 feet. **The proposed solar panels will be 9 feet 10 inches.** What about structures?

IV. *Technical and Safety*. A copy of the as-built site plan for the solar array is required to be provided to the Fire Prevention Officer with all means of shutting down the solar array clearly marked. **This will happen after the solar array has been constructed.**

V. *Maintenance*. The facility is required to be maintained in good condition throughout the life of the project, this includes both infrastructure and access ways. **This is something the City will monitor after the solar array has been constructed, if there are issues, the City will cite this provision and request the issues be resolved.**

VI. *Glare*. This section requires solar arrays to minimize or negate solar glare that could impact nearby properties or roadways, it also has specific requirements for solar arrays in the Airport Overlay. **This parcel is not located within a 2 nautical mile radius of the Auburn Lewiston Municipal Airport so a glare study is not required**. What about glare mitigation to nearby properties/roadways ?

VII. *Visual Impact*. This section requires the applicant to make a reasonable effort (determined by the Planning Board) to minimize any visual impacts associated with the solar project. In making this determination, the board shall consider the size, location and topography of the site, characteristics of the surrounding property and the amount of type of development on the properties in determining how much screening and buffering is appropriate. **Starting on Pg. 6-1 and attachment 6A is a buffer analysis. The buffering has considered the size, location and topography of the site, characteristics of the surrounding property and the amount/type of development on the properties. A viewshed map is included in the submission materials as well as photos of the existing buffer and surrounding properties. Views of the project site are expected to be minimal.**

VIII. *Lighting*. This section requires that lighting be limited to that required for safety and operation and that it be shielded from abutting properties and directed downward. **No lighting is proposed.** What about for safety?

IX. *Clearing*. When possible, in unbuilt areas, requires that Solar Energy Generating Systems maintain the permeability of the ground and that clearing of natural vegetation be limited to what is necessary for the construction, operation and maintenance of the Solar Energy Generating System. **16.63 acres of clearing and isolated tree removal is required for construction and operation of the project. 1.1 acres of this clearing is within 75 feet of a stream (DEP approval process is underway). The Applicant has stated that they have minimized the amount of clearing to the extent practicable by siting the project in existing, maintained open field habitat. There are 27.30 acres of open field habitat located within the project site. A majority of the open field habitat will be restored to pre-construction (grassed) conditions following construction.** Staff has asked the Applicant for an explanation on how the clearing was limited to what is necessary for the construction, operation and maintenance of the solar array.

X. *Operation and Maintenance Plan*. Requires the submission of an Operation and Maintenance Plan for the Solar Energy Generating System. **An Operations and Maintenance Plan has been provided (Attachment 9C). The plan has proper measures to ensure the facility will be maintained and kept in safe working order (see below for O&M Plan requirements specific to the Ag-Zone).**

XI. *Fire & Electrical Codes*. Requires all Solar Energy Generating Systems to be installed in compliance with the photovoltaic systems standards of the National Fire Protection Association and National Electrical Code. All set?

Sec. 60-1431. Abandonment or Decommissioning standards, including the requirement of a financial surety to cover the cost of facility removal in the future.

The Applicant has provided a decommissioning plan for the project that appropriately describes how the project will be removed and the site will be restored at the end of the project. It is expected to take approximately 6-8 weeks depending on the season. The Applicant has also provided a plan to revert portions of the project mapped as prime farmland back into prime farmland at the end of the projects life. The plan also includes converting stream buffer areas back into forested areas as discussed with the landowner. See Attachment 17A.

The information provided for the decommissioning plan did not include a cost estimate/financial surety. Staff recommends this be provided for the Planning Board to review.

Chapter 60, Article IV, Division 2, Agriculture and Resource Protection District, Sec. 60-145. – Use Regulations.

(B) Special Exception Uses. Ground-Mounted and Dual-Use Solar Energy Generating Systems greater than one acre in total land area as defined in Sec. 60-1425, subject to the following conditions:

a) Must comply with all of the standards in the Solar Energy Generating Systems ordinance (**see above**).

b) *Setback Requirements*. Solar arrays are required to comply with the same setback requirements for buildings in the Agriculture/Resource Protection District, which are Rear/Front: 25 Feet and Side 15 Feet. **The project meets the setback requirements, 400 feet is provided in the front, 150 feet is provided in the rear and 50 feet is provided for the side setback.**

c) *Lot Coverage* cannot exceed 30% as defined above (the standards apply to the paved, mounting block, or otherwise impervious areas of the site. Photovoltaic cells, panels, arrays, and inverters are not considered impervious areas provided the soil underneath the collector is not compacted and remains vegetated in accordance with the permanent stabilization standards in Chapter 500). **The area of the site considered impervious coverage is 50,094 square feet or 1.15 acres. The total lot area of the two parcels is 82.1 acres. 5,663 square feet (0.13 acres) of impervious coverage exists on one of the parcels currently. 1.28 acres of the total 82.1 acres is 1.56% of the total lot area and is well under the 30% threshold for lot coverage.**

d) *Total Land Area.* This standard requires the Planning Board look at the total amount of land area in the Ag-Zone that is proposed and currently used for solar and make a recommendation that a new solar array will not materially alter the stability of the overall land use pattern of the Ag-Zone. In making this determination, the Planning Board will also consult with the Ag-Committee and Conservation Commission. This provision will become applicable once 1% of the Ag-Zone is consumed by solar which would be about 200 acres. It does not apply to this project.

e) *Existing Grid Infrastructure*. This provision considers the location of existing grid infrastructure and limits the need to extend additional infrastructure in the Ag-Zone. **The project is proposed to connect to an existing CMP distribution line along riverside drive.**

f) *Clearing*. These standards allow clearing for solar arrays under certain conditions:

    1. The presence of the Solar Energy Generating System will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject property or abutting properties. **A topsoil maintenance summary has been provided that should address any concerns around soil erosion/loss (see below).**

2. At the time of decommissioning of any Solar Energy Generating System approved by the Planning Board, the current sitting Planning Board shall review the site and proposed decommissioning plan for the conversion of the parcel into prime farmland or forestland, as applicable under the current ordinance standards. **The Applicant has proposed to convert the property back into prime farmland and/or forestland at the end of its life depending on the current landowner situation (see below).**
3. A survey of critical wildlife habitat is provided at the time of application, if a project is located in an area determined to be essential habitat, as defined by the Maine Department of Inland Fisheries and Wildlife, an IF&W recommendation shall be secured before a Planning Board ruling. **Section 7-1 of the application provides information on critical wildlife habitats. The Applicant consulted with IF&W about critical wildlife habitats and none are proposed within the project area. The site itself does contain critical habitat for Atlantic Salmon, but that habitat will not be impacted by the project.**
4. A Vegetative Cover Plan is provided that demonstrates, where feasible, the replanting of forested areas disturbed during construction and preservation of prime soils throughout the life of the project. **A Vegetative Cover Plan was not specifically provided, however, buffers, vegetation removal and replanting are discussed throughout the application. Vegetative cover is also discussed under the topsoil maintenance plan (see below).**

g) *Prime Soils*. These standards are considerations for prime soils and a soil analysis requirement. It stipulates that the least productive ag-soils be considered first for development unless there is non-prime farmland available on the site. **Prime soils are shown in application on Page 9-2 as AdB and EmB. The site contains about 5 acres of prime soils. The solar panels themselves are not proposed to be located on prime soils, however, disturbance associated with project construction will include some prime soil areas.** How much?

h) Additional requirements that ensure the following:
1. Siting of the overall facility and individual panels shall keep with the existing contours of the land, and
2. Only pile driven, or ballast block footing shall be used so as to minimize the disturbance of soils during installation, and
3. To the extent possible, infrastructure shall not be located on steep slopes, and

The fixed tilt solar panels are proposed to be mounted on metal rails supported by fixed vertical screw driven piles. In some areas, screws, rock pins, ballasts, or other anchoring technologies may be used in lieu of posts, depending on the site conditions. In general, the posts will consist of screw driven posts.

4. A plan for topsoil maintenance shall be provided at the time of application to the Planning Board.

Topsoil is proposed to be stockpiled with silt fence and vegetative cover. Low pressure tracked equipment may be used during construction to minimize compaction. Once grading is complete, stockpiled topsoil will be spread onto the disturbed area and seeded and mulched within 6 days of final grading. Ground cover is proposed to be maintained in a meadow condition during operation (See Section 9E)

i) Operations and Maintenance Plan. There are also two additional requirements to be included in the Operations and Maintenance Plan including:
1. A plan prioritizing the ability to co-mingle agricultural and energy generation land uses including but not limited to: apiaries, grazing or handpicked crops. **The Applicants are proposing to use grazing animals (sheep) under the panels and**

will not be mowing more than 2 times per year. The farmers will monitor the health and safety of the sheep.

2. A plan that provides habitat for native plants and animals and native pollinators. **The Applicants are maintaining the existing vegetative buffers and adequate space for movement of wildlife between habitats and the project area. Sheep will be grazing underneath the panels as well.**

II. DEPARTMENT REVIEW:

a. *Police* – No comments received.
b. *Auburn Water and Sewer* – No comments received.
c. *Fire Department* –

NFPA 1, Edition 2018, *adopted by the city on 01/01/2018*

1. A vegetation Management Plan or noncombustible base needs to be added. Has a vegetation management plan been submitted? If not what will the surface be finished with? This is to prevent forest fires from damaging the system, or the system causing a forest fire. Damage from weeds and plants can also cause damage to the photovoltaic system, which in turn could create a fire.

   11.12.3.2* Vegetation Management Plan. A vegetation management plan or noncombustible base acceptable to the AHJ shall be approved and maintained under and around the installation where required by the AHJ (Authority having Jurisdiction).

2. Clearance around the installation shall be 10 ft.

   11.12.3.1* Clearances. A clear area of 10 ft (3048 mm) around ground-mounted photovoltaic installations shall be provided.

3. Road access is to narrow (15 ft), requires 20 ft. If there was a forest fire we would not be able to gain access to the site. Also the road would need to support or vehicles.

   18.2.3.5.1.1* Fire department access roads shall have an unobstructed width of not less than 20 ft (6.1 m).

4. A turnaround or hammerhead would be required that meets the following:

   18.2.3.5.4 Dead Ends. Dead-end fire department access roads in excess of 150 ft (46 m) in length shall be provided with approved provisions for the fire apparatus to turn around.

d. *Code Enforcement (Electrical)* –

1. Large-Scale (PV) Power Production Facilities is covered under the National Electrical Code Article 691 and requires a engineered designed. Will the project have plans submitted by an electrical PE?
2. Who is the PE/ firm providing the electrical drawings?
3. All applicable sections of the NEC shall be followed including listing/marking of all solar equipment Nationally Recognized Testing Laboratory (NRTL).
4. Who is the installing electrical contractor?

e. *Engineering* – Waiting on the redesign of the width of the access road and addition of turnarounds to accommodate Fire Department comments as it may change the stormwater calculations.
f. *Addressing* – No comments received.

II. PLANNING BOARD ACTION – Sec. 60-1277. – Objective. In considering a site plan, the Planning Board shall make findings that the development has made provisions for:

(1) Protection of adjacent areas against detrimental or offensive uses on the site by provision of adequate surface water drainage, buffers against artificial and reflected light, sight, sound, dust and vibration; and preservation of light and air;
(2) Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent areas;
(3) Adequacy of the methods of disposal for wastes; and
(4) Protection of environment features on the site and in adjacent areas.

Sec. 60-1336. – As conditions prerequisite to the granting of any special exceptions, the board shall require evidence of the following:

(1) That the special exception sought fulfills the specific requirements, if any, set forth in the zoning ordinance relative to such exception.
(2) That the special exception sought will neither create nor aggravate a traffic hazard, a fire hazard or any other safety hazard.
(3) That the special exception sought will not block or hamper the master development plan pattern of highway circulation or of planned major public or semipublic land acquisition.
(4) That the exception sought will not alter the essential characteristics of the neighborhood and will not tend to depreciate the value of property adjoining and neighboring the property under application.
(5) That reasonable provisions have been made for adequate land space, lot width, lot area, stormwater management in accordance with section 60-1301(14), green space, driveway layout, road access, off-street parking, landscaping, building separation, sewage disposal, water supply, fire safety, and where applicable, a plan or contract for perpetual maintenance of all the common green space and clustered off-street parking areas to ensure all such areas will be maintained in a satisfactory manner.
(6) That the standards imposed are, in all cases, at least as stringent as those elsewhere imposed by the city building code and by the provisions of this chapter.
(7) That essential city services which will be required for the project are presently available or can be made available without disrupting the city's master development plan.

III. STAFF RECOMMENDATIONS – The Staff Report discusses the standards required by both the Solar Energy Generating Systems ordinance and the Special Exception requirements for solar installations in the Ag-Zone. Where this is the first application for a solar project in the Ag-Zone using the new ordinance, Staff feels it has been well thought-out and addresses the items in the Solar Ordinance.

To this end, Planning Staff recommends the Planning Board find that the application meets the requirements of Article VI, District Regulations and that the application meets the requirements of Sec. 60-1277 (Site Plan Objectives) and Sec. 60-1336 (Special Exception Conditions).

Suggested Motion*: I make a motion to approve the Site Plan/Special Exception by Auburn Renewables to construct a 35-acre, 5MW solar array on two parcels totaling approximately 82.1 acres at 1115 Riverside Drive (PIDs: 162-001 and 137-028) in the Agriculture and Resource Protection Zoning District.*

Megan Norwood

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City Planner II