



Stantec Consulting Services Inc.  
30 Park Drive, Topsham ME 04086-1737

October 26, 2023  
File: 195602046

**Attention: Chip Stephens, Code Enforcement Officer**

Town of Readfield  
8 Old Kents Hill Road  
Readfield, ME 04355

VIA: Fed Ex

**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

Dear Chip and Planning Board Members,

On behalf of Readfield Main Street Solar, LLC (Applicant), Stantec Consulting Services Inc. (Stantec) is filing a request for zoning designation to support the installation and operation of the Readfield Main Street Solar Project (Project). Readfield Main Street Solar, LLC, is managed by Norwich Technologies Inc. with offices in Brunswick, Maine.

The proposed Project is an approximately 975 kilowatt alternating current solar facility on the parcel found at Tax Map 143, Lot 14 located on the south side of Main Street (Route 17) in the Rural District. The Project includes a structure area (solar panels) greater than 5,000 square feet. Therefore, in accordance with Article 9 of the Land Use Ordinance for the Town of Readfield, the Applicant is requesting the Project parcel be designated as Commercial, Industrial and Infrastructure District.

The Applicant attended a pre-application meeting with the Code Enforcement Officer (CEO) on April 1, 2022, filed a Site Review Application for the Project on August 7, 2023, and attended the Planning Board meeting on September 26, 2023. Additionally, the Applicant had a follow-up meeting with the CEO and Planning Board Chair on October 16, 2023 to discuss the requirements of Article 9 of the Land Use Ordinance and the zoning designation process.

In accordance with the Article 9 of the Land Use Ordinance for the Town of Readfield, the enclosed application includes the following:

- Narrative – Standards, General Requirements, and Application Requirements
- Attachment A – Site Plans
- Attachment B – NRCS Soil Resource Report
- Attachment C – Wetland and Watercourse Delineation and Vernal Pool Survey Report
- Attachment D – Agency Correspondence
- Attachment E – Sound Assessment
- Attachment F – Agent Authorization

This submittal includes 11 copies of the complete application package.

**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

We look forward to discussing this request with the Planning Board during the meeting scheduled for November 14, 2023. Please let me know if you have any questions about the enclosed materials.

Regards,

**Stantec Consulting Services Inc.**



**Kara Moody**  
Senior Associate  
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Attachments: Zoning Designation Application Package and Site Plans

c. Martha Staskus, Readfield Main Street Solar, LLC



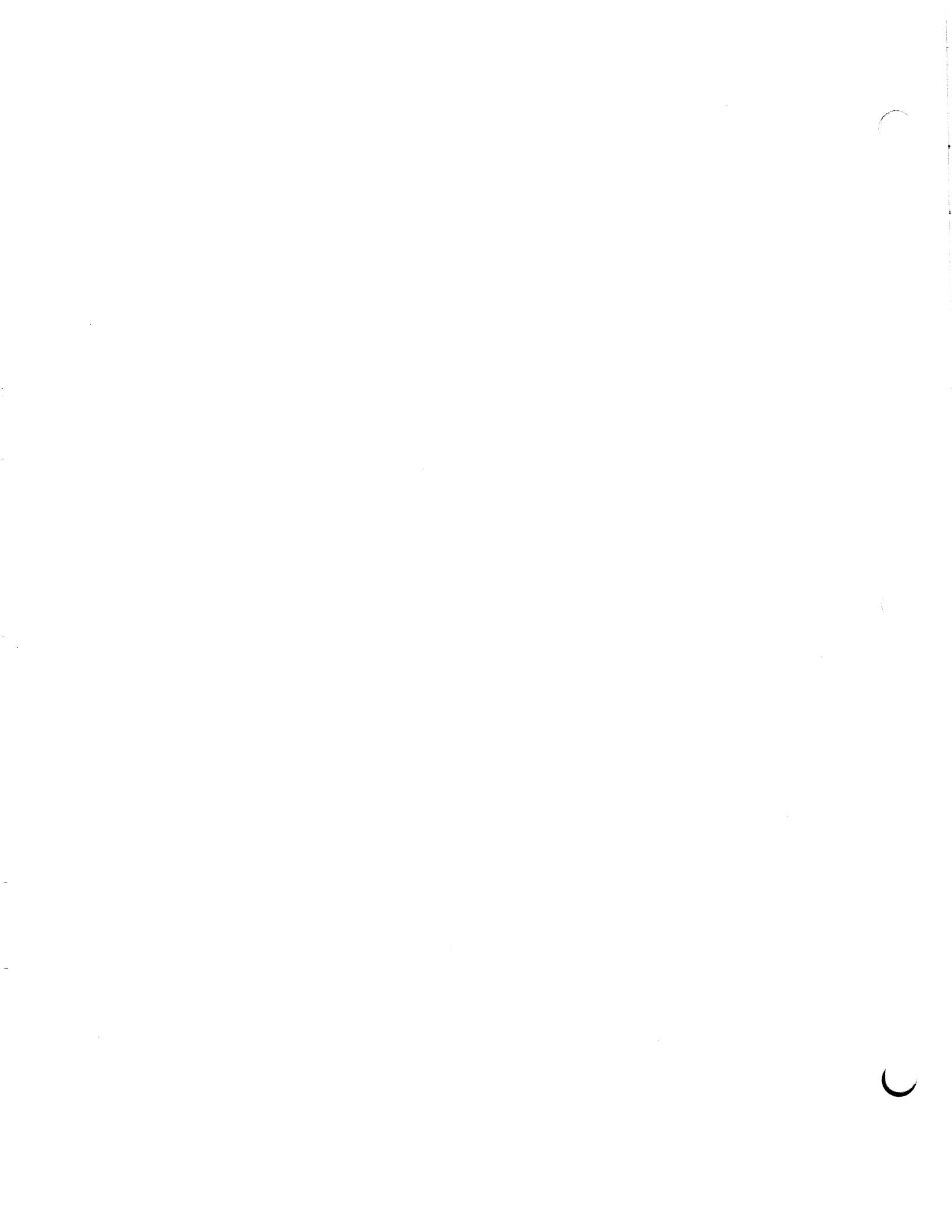


**Readfield Main Street Solar Project**

**Zoning Designation Application – Commercial, Industrial and  
Infrastructure District**

Readfield, ME 04355

Tax Map 143, Lot 14





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**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

**PROJECT OVERVIEW**

Readfield Main Street Solar, LLC (the Applicant), proposes to construct the Readfield Main Street Solar Project (Project), a distributed generation solar energy facility on the south side of Main Street (Route 17) in Readfield. Norwich Technologies Inc. (Norwich) manages the Applicant. The proposed Project is located on Tax Map 143, Lot 14 which includes approximately 71.93 acres, primarily comprised of open land within which the Project is sited.

The Project is a ground-mounted solar facility comprised of photovoltaic modules (solar panels) installed on a fixed-tilt racking system supported by driven posts or ground screws. The racking system is designed to support the bottom of the solar panels approximately 3 feet above grade to the top of the panels at a maximum of 10 feet above grade. The array will be arranged in multiple rows running generally east-west with sufficient distance between the rows to minimize shading. The solar array will have an installed capacity of up to 975 kilowatts alternating current (kWac).

Other Project features will include two equipment pads to support the Project equipment, a temporary staging area, a gravel driveway off Main Street, and a medium voltage electrical collector line that will connect the solar array to the electrical grid at a point of interconnection (POI) with the utility distribution circuit on Main Street. The electrical collector line will be installed underground within the array footprint and along the Project driveway to the POI. Perimeter fencing with an access gate will be installed around the array in compliance with the National Electrical Code (NEC). The gate will be secured with a Knox Box lock (or similar locking mechanism) to provide for public safety and allow emergency services access. Following Project construction, the area in and around the array will be maintained as a meadow.

The total fenced Project area will include approximately 9.59 acres; the total Project limits including the access road and vegetation clearing to prevent shading of the panels will include approximately 17.51 acres; and the total permanent impervious area associated with the Project will be approximately 0.25 acre. Based upon the Town of Readfield Solar Ordinance, the Project is considered a large-scale solar energy system.

The Project is located within the Rural District where solar is a permitted use. As described in the Land use Ordinance, the purpose of the Rural District is to ensure that proposed development and land uses are compatible with the preservation of Readfield’s open, rural character and are protective of sensitive natural resources and visual/scenic quality. The Rural District also accommodates certain commercial and light industry uses and strives to maintain a development patter of mixed, low density use while protecting critical natural and scenic resources. However, the Project includes a structure area (solar panels) greater than 5,000 square feet and therefore the Applicant is requesting the Project parcel be additionally designated as Commercial, Industrial and Infrastructure District.

**SECTION 2 – STANDARDS**

- A. *The proposed zoning change shall be consistent with the Town of Readfield Comprehensive Plan and shall be in keeping with the Town’s rural character.*

The proposed zoning change is consistent with the Town of Readfield Comprehensive Plan and will maintain the Town’s rural character. As described in the Comprehensive Plan, the Commercial, Industrial and Infrastructure District was established for the purpose of allowing the opportunity for large scale commercial or industrial uses to locate or expand in the community if such development can be accomplished with minimal negative impact. Further, the Land Use Ordinance seeks to ensure that proposed uses are compatible with existing uses and the rural character of the Town and are protective of natural resources and visual quality.





**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

The Project is compatible with the rural character of Readfield. The array will be set back more than 1,000 feet from Main Street with intervening forested vegetation and approximately 720 feet from the nearest existing structure. In addition, a buffer of existing forested vegetation will surround the array, as shown on Sheet C-1.0 of the Site Plans in Attachment A. Based on the setback distances, the low profile of the array, and the screening provided by existing forested vegetation, the Project is not expected to be visible from neighboring properties or roadways (unlike the 25-acre solar project approximately 1.1 miles to the west on Route 17). Additionally, the array will not impact scenic views. The solar array is predominantly sited within an open field portion of the parcel, thereby maintaining existing open space, and resulting in limited tree clearing. Furthermore, the Project will not impact natural resources, as detailed under Section 2.D below.

The General Recommendations section of the Comprehensive Plan states that the Local Economy goal is to "allow for new, commercial, service, and clean light industrial growth in designated growth areas to diversify the Town's tax base, promote local job opportunities, and make important services available for local citizens. The scale of new uses should be in keeping with existing community character." One of the strategies to meet this goal is to "direct industrial, commercial uses (excluding home occupations) including retail land uses to village areas or other districts appropriately zoned for those uses (including the Commercial Industrial District)." The Project is a "clean" use as it will generate up to 975 kWac of clean, renewable energy without emitting any air pollutants or greenhouse gases like those associated with conventional fossil fuel power facilities. The Project is sited in an appropriate zoning district as the array will be located within the Rural District. Per the Town's Solar Ordinance, large-scale solar energy systems (such as the Project) are a permitted use within the Rural District.

Another strategy to meet the Local Economy goal described above is to "maintain performance and design standards for commercial and industrial developments in the Land Use Ordinance. These standards should assure that all development subject to review is well planned, minimizes environmental impacts, makes effective use of the site, provides adequate and safe vehicular access, and protects adjacent residential neighborhoods and commercial establishments." The Project has been designed to minimize environmental impacts. As described below, the Project will not impact natural resources, significant wildlife habitat, rare plant habitat, or significant natural communities. The Project will provide for adequate and safe vehicular access at an existing entrance off Route 17 that will be improved. Once operational, access to the array will be infrequent and limited to seasonal ground maintenance and annual inspections. The Project has been sited to protect adjacent residential uses. Unlike the 25-acre solar project that is approximately 1.1 miles to the west on Route 17, the Readfield Main Street Solar Project is not expected to be visible from neighboring properties or roadways.

Furthermore, the Comprehensive Plan public participation process noted that the development of solar energy systems should be discouraged in areas known to have prime agricultural soils. The U.S. Department of Agriculture's Natural Resource Conservation Service web soils survey data was used to map the existing soil condition within the Project area (see Attachment B). There are no known prime farmland soils within the Project area. There is one soil type designated as farmland of statewide importance in a portion of the Project parcel; however, the array is not sited in this area. The only Project components in this portion of the parcel will be the access driveway and temporary staging area, which will be revegetated following Project construction.

*B. The proposed use shall be compatible with the surrounding area with respect to rural character, existing uses and anticipated development.*

The Project is compatible with the surrounding area with respect to rural character and existing uses. Existing land uses in the vicinity of the Project include undeveloped forested land, agricultural land, and residential uses, as well as an approximately 25-acre solar project located 1.1 miles west of the Project off Route 17.



**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

Unlike the solar project referenced above that is adjacent to and visible from Route 17, the Readfield Main Street Solar Project will be set back more than 1,000 feet from Main Street and approximately 720 feet from the nearest structure. In addition, a buffer of existing forested vegetation will surround the array, as shown on Sheet C-1.0 of the Site Plans in Attachment A. Based on the setback distances and the screening provided by existing forested vegetation, the Project is not expected to be visible from neighboring properties or roadways.

The Project area is predominantly comprised of a gently sloping open field. The slope of the Project area is suitable for development of a solar array and minimizes the need for grading. The Project will require minimal tree clearing, and the existing land cover will generally remain unchanged. Following Project construction, the area in and around the solar array will be maintained as a meadow, and the land within the Project area will resemble current conditions aside from the addition of the solar array infrastructure. Once operational, the Project will passively generate solar energy.

*C. The proposal shall serve the public good, safety or welfare of the Town of Readfield.*

The proposed Project will serve the public good, safety, and/or welfare of the Town of Readfield. As a renewable energy source powered by the sun, this Project will contribute to reducing greenhouse gas emissions. Project operations will not generate emissions or hazardous materials with the potential to adversely affect public health. Throughout its operation, the Project will generate no air pollution, except for minimal vehicle emissions associated with periodic site and equipment maintenance visits. Additionally, the type of solar panels used for the Project will be silicon-based panels, which do not pose a risk to public health and safety.<sup>1</sup>

The Project will provide Maine and the region with an opportunity for the creation of a new source of clean energy and the economic benefits associated with both the construction and ongoing maintenance and operation of such a project.

Project operations will generate up to 975 kWac of clean, renewable energy without emitting any air pollutants or greenhouse gases. The proposed Project will have long-term benefits related to the use and conservation of energy resources, and, as a result, will not contribute to climate change. The operating Project will not increase demand on Town services and will not require water, discharge wastewater, burn fossil fuels, or emit pollutants, such as mercury and lead, sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) (criteria pollutants and precursors to acid rain and ozone), or carbon dioxide (CO<sub>2</sub>).

The U.S. Environmental Protection Agency's Emissions and Generation Resource Integrated Database (eGRID) provides data on the environmental characteristics of electric power generated in the United States.<sup>2</sup> According to eGRID, the three largest sources of electricity generation in New England in 2021 were gas (54.3%), nuclear (26.3%), and hydro (5.7%). Total emission rates for Maine in 2021 were approximately equal to the following: CO<sub>2</sub> at 301.0 pounds per MW hour (lbs/MWh) and NO<sub>x</sub> at 0.2 lbs/MWh. Considering these values and assuming maximum annual electricity generation of 975 kWac (0.975 MW), it is estimated that the Project will annually displace approximately 325,170 pounds of CO<sub>2</sub> and 234 pounds of NO<sub>x</sub>.

*D. The proposal shall be protective of all natural resources including significant wildlife habitat.*

The Project will not impact natural resources, significant wildlife habitat identified or defined by the Maine Department of Inland Fisheries and Wildlife (MDIFW) or the Town of Readfield, or rare plant and animal

<sup>1</sup> NC Clean Energy Technology Center. 2017. Health and Safety Impacts of Solar Photovoltaics. Available at: <https://nccleantech.ncsu.edu/wp-content/uploads/2018/10/Health-and-Safety-Impacts-of-Solar-Photovoltaics-2017-white-paper.pdf>

<sup>2</sup> U.S. Environmental Protection Agency. 2021. eGRID Summary Tables 2021. Available at: [https://www.epa.gov/system/files/documents/2023-01/eGRID2021\\_summary\\_tables.pdf](https://www.epa.gov/system/files/documents/2023-01/eGRID2021_summary_tables.pdf)



**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

species, critical habitat, significant or irreplaceable natural areas as identified by the Maine Natural Areas Program (MNAP).

There are no known unique natural features within the Project area. A wetland and watercourse delineation was conducted for the Project to identify wetlands, watercourses, and vernal pools within the Project area. Five wetlands and one stream were identified on the Project parcel during the delineation, and no vernal pools were identified. The Wetland and Watercourse Delineation and Vernal Pool Survey Report is provided in Attachment C. The Project will not impact wetlands, the stream, or the area within 75 feet of the stream.

The Applicant consulted with the MDIFW regarding known locations of endangered, threatened, and special concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns in the vicinity of the Project. According to MDIFW, there are no mapped Essential or Significant Wildlife Habitats or inland fisheries habitats that will be affected by the Project. Based on historical evidence, MDIFW believes that endangered, threatened, and special concern species of bats may occur within the Project area during fall/spring migration, summer breeding season, and/or overwintering. Based on the lack of known hibernacula or maternity roost trees in the vicinity of the Project area, along with the absence of other bat overwintering habitat (e.g., talus slopes, exposed rock faces) and limited amount of tree clearing proposed, impacts to bats are not expected as a result of the Project. Necessary tree clearing will adhere to the protection guidelines for bats within the MDIFW Endangered Species Rules.<sup>3</sup> Correspondence received from MDIFW is included in Attachment D.

The Applicant consulted with the MNAP to request information on the presence of rare or unique botanical features documented in the vicinity of the proposed Project. Such rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. According to MNAP's Biological and Conservation Data System files, there are no rare botanical features documented within the Project area. Correspondence received from MNAP is provided in Attachment D.

### **SECTION 3 – GENERAL REQUIREMENTS**

*The Applicant shall comply with the following requirements and restrictions:*

- A. Only conditions and restrictions that relate to the physical development or operation of the property shall be included in the proposal.*

The zoning designation proposal described herein is limited to the physical development and operation of the proposed Project. The Applicant would like to maintain the option for multiple land uses on the parcel. For example, the Project may be able to collaborate with a local farmer to grow crops or to allow for grazing, if such opportunities are available and feasible.

- B. A Commercial, Industrial and Infrastructure District proposal shall not include any provision or conditions that limits or restricts the Town of Readfield zoning authority.*

The Project does not include any provisions or conditions that limit or restrict the Town of Readfield zoning authority.

- C. Areas currently within a Village Residential District shall not be eligible for a Commercial, Industrial and Infrastructure District redesignation.*

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<sup>3</sup> MDIFW Endangered Species Rule, Chapter 8.06. Available at: <http://www.maine.gov/sos/cec/rules/09/137/137c008.docx>.



**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

The Project is not located within a Village Residential District. The proposed solar array is located within the Rural District.

- D. Land uses within a Commercial, Industrial and Infrastructure District shall be limited to those allowed in the Table of Uses in Article 7 for the district as designated at the time of application for a Commercial, Industrial and Infrastructure redesignation.*

The proposed use, a large-scale solar energy system, is an allowed use within the Rural District.

- E. The terms, conditions and restrictions of the zoning agreement shall run with the land and bind all future owners of the land or any other person who claims an interest in the property.*

The Applicant understands that the terms, conditions, and restrictions of the zoning agreement will run with the land and will bind future owners or others who claim an interest in the property.

- F. All development and use of the proposed re-zoned property shall comply with all applicable standards and requirements in this Ordinance (Article 9: Commercial, Industrial and Infrastructure District Adoption Procedures).*

The Applicant understands that all development and use of the proposed re-zoned property shall comply with all applicable standards and requirements described in Article 9 of the Land Use Ordinance. The proposed Project complies with Article 9 standards as described in Section 2 above, as well as Article 9 requirements described in Sections 3 and 4 of this application.

- G. Any conditions or requirements placed upon the proposed rezoning may be more restrictive but shall not be less restrictive than the applicable requirements of this Ordinance.*

The Applicant understands that conditions or requirements placed on the proposed rezoning may be more restrictive than the applicable requirements of the Land Use Ordinance.

- H. An agreement containing all conditions and restrictions of a Commercial, Industrial and Infrastructure District proposal shall be recorded in the Kennebec County Registry of Deeds within 10 days of the date that it is approved at the Town Meeting. The rezoning shall not become effective until the agreement is recorded.*

The Applicant understands and agrees to the recording requirement associated with the Commercial, Industrial and Infrastructure District proposal.

- I. Any violation of the terms, conditions and the restrictions contained in the zoning agreement shall be violations of this Ordinance and subject to applicable enforcement standards. A statement to this effect shall be included in the zoning agreement.*

The Applicant understands that any violation of the terms, conditions, and restrictions in the zoning agreement will be a violation of the Land Use Ordinance of the Town of Readfield and will be subject to applicable enforcement standards.

- J. The proposed site has an existing or proposed access to a town, state-aid highway or state road.*

The Project parcel is located on the south side of Main Street (Route 17). The Project will be accessed via an existing entrance off Route 17 that will be improved.



**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

- K. *The proposal contains provisions for a buffer area along all property lines sufficient to screen adjacent land uses. A landscape buffer area shall be provided along the road frontage that allows for safe access to the site and also sufficiently screens any development from public view.*

Existing forested vegetation will provide screening from roads and adjacent properties (see the Site Plans in Attachment A). The array will be set back more than 1,000 feet from Main Street, 200 feet from the nearest property line, and approximately 720 feet from the nearest structure. The array will be surrounded by existing forested vegetation that will screen the Project. Specifically, an approximately 435-foot forested buffer will remain on the north side of the array to provide screening of the Project from Main Street, and an approximately 500-foot-wide forested buffer will remain between the array and the nearest structure to provide a visual screen. Approximately 50 feet and 25 feet of existing forested vegetation will remain along the western and eastern property lines, respectively.

- L. *The site plan shall show the future locations of all proposed structures or provide a written set of design standards for the placement of future structures. Structures shall be located on the site in a manner so as to protect the environment, minimize off-site impacts such as noise, light, and odors, provide the maximum visual screening from adjacent roads and property, and be in keeping with the Town's character.*

The locations of structures are depicted on the Site Plans provided in Attachment A. Project structures have been located in a manner so as to protect the environment, minimize off-site impacts such as noise, light, and odors, provide the maximum visual screening from adjacent roads and property, and be in keeping with the Town's character.

#### Environment

The solar array and associated Project features (e.g., collector lines, access driveway) have been sited to avoid impacts to natural resources.

#### Noise

The anticipated sound level of the Project is based on two components: inverters (100-125 kilowatts) and transformers (up to 1,000 kilovolt-amperes). It is important to note that these Project components only generate noise when the sun is up and that sound levels are proportional to electric load. Based on the equipment specifications, noise levels at inverter locations are expected to be 65 A-weighted decibels (dBA) at a distance of 3.3 feet, 29.3 dBA at a distance of 200 feet, and 19.8 dBA at a distance of 600 feet. Noise levels at the 1,000-kilovolt-amperes transformer are expected to be 64 dBA at 3.3 feet, 28.3 dBA at 200 feet, and 18.8 dBA at 600 feet. The sound assessment conducted for the Project is based on the distance of the nearest property line in relation to inverters and transformers and demonstrates the combined sound level impact is anticipated to be approximately 32.8 dBA (see Attachment E). For comparison, the sound level of a quiet rural area is approximately 30 dBA and a library is approximately 40 dBA. The Project is in compliance with the most restrictive sound level limits set by MDEP for abutting parcels containing a residence, which are 55 dBA during daytime hours (7:00 am to 7:00 pm) and 45 dBA during nighttime hours (7:00 pm to 7:00 am).

#### Light

The Project does not require and will therefore not include lighting.

#### Odors

The Project will not generate any odors during operations. Only limited, short-term odors may be generated during construction by exhaust from construction equipment.



**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

Visual Screening

Existing forested vegetation will provide screening from roads and adjacent properties. Additional details are provided in Section 3.K above.

Town Character

The Project will be compatible with the rural character of Readfield, as described in Sections 2.A and 2.B above.

- M. The proposal shall include a list of those uses planned to be developed in the Commercial, Industrial and Infrastructure District.*

The proposed use in the Commercial, Industrial and Infrastructure District is the development of a large-scale solar energy system consisting of the following: photovoltaic modules (solar panels) installed on a fixed-tilt racking system supported by driven posts or ground screws; two equipment pads to support the Project equipment; a gravel driveway off Main Street; a medium voltage underground electrical collector line that will connect the solar array to the electrical grid at a POI with the utility distribution line on Main Street; perimeter fencing; and a temporary staging area that will be revegetated following Project construction. The solar array will have an installed capacity of up to 975 kWac.

**SECTION 4 – APPLICATION REQUIREMENTS**

- A. The applicant for a Commercial, Industrial and Infrastructure District proposal shall submit an application to the Code Enforcement Officer.*

This narrative and the accompanying attachments constitute the application for Commercial, Industrial and Infrastructure District designation for Tax Map 143, Lot 17.

- B. The application shall include the following:*

- 1. A survey plan of the site showing all applicable details required in Article 6, Section 3.J.1.c.*

The Project Site Plans are provided in Attachment A.

- 2. A narrative describing the proposal and how it specifically meets all the standards and requirements contained in this Article.*

This application narrative and associated attachments provide a description of the proposed Project and how it meets the standards and requirements of Article 9 of the Land Use Ordinance.

- 3. A copy of the conditions and restrictions proposed for the property.*

There are no conditions or restrictions proposed for the property.

- 4. A timetable indicating the start and completion dates of the development or construction in the proposed rezoned area.*

Pending receipt of all local and state approvals and the Central Maine Power Company interconnection schedule, construction of the Project is projected to begin in the second quarter of 2024 with the goal of Project completion set for the fourth quarter of 2024. The sequence of Project construction will generally adhere to the timeline detailed in Table 1, although adjustments may be necessary to accommodate seasonality, weather conditions, and the interconnecting utility.



**Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District**

**Table 1. Estimated Construction Activity Timeline**

| <b>Project Phase</b>   | <b>Timeframe (2024)</b> |
|--|-------------------------|
| Preliminary layout and staking of improved and new driveway segment and solar array/staging area | June                    |
| Install erosion control; grubbing (as needed)  | June                    |
| Underground electrical work; racking posts and modules installation                              | July – August           |
| Substantial completion and commissioning   | September               |
| Begin commercial operations  | October                 |