Elk Creek Solar CPCN Application

Public Service Commission of Wisconsin Docket No. 9819-CE-100

October 2022

ELK CREEK
SOLAR

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1 Project Description and Overview

Elk Creek Solar PV I, LLC (Elk Creek Solar or Applicant) submits this Application for a Certificate of Public Convenience and Necessity (an "Application" for a "CPCN") in accordance with Wis. Stat. § 196.491(3) and Wis. Admin Code § PSC 111.53 to the Public Service Commission of Wisconsin (PSCW or Commission). Elk Creek Solar is seeking a CPCN and all other approvals and authorizations required to construct, install, operate, and maintain a 300-megawatt (MW) alternating current (AC) (at the point of interconnection (POI)) solar electric generating facility to be located in the Town of Spring Brook, Dunn County, Wisconsin. Elk Creek Solar compiled the information in this appendix pursuant to the PSCW Application Filing Requirements (AFR) for Solar Energy Projects (Version Updated 2021) and consultations with the PSCW and Wisconsin Department of Natural Resources (WDNR).1 Please note that Project design is still preliminary in nature. The information presented in this Application is based on information known to Elk Creek Solar at this time and is subject to change as Project development proceeds and the Project design is finalized.

The Project is anticipated to be placed in service as early as Q4 2025. The total Project Area provided for within this Application will support a panel design to produce 300 MW of AC power plus the required 25 percent (75 MW) of power required by the AFR by presentation of a preferred location for the Project (Primary Facility Area) and an alternate location for the additional 75 MWs (Alternate Facility Area). The Project includes development of an approximately 76.6 MW direct current (DC)-coupled battery energy storage system (BESS). The Project will also require construction of a Project substation, which will be located within the Project Area boundary.

1.1 General Project Location and Description of Project and Project Area

Provide the following information about the project:

1.1.1 Project Location - counties and town in the project area.

The proposed Project is located in the Town of Spring Brook in Dunn County, Wisconsin. **Error! Reference source not found.** identifies the location of the Primary Facility Area and Alternate Facility Area.

Table 1: Project Location

County	Primary Facility Area		Alternate Facility Area	
	Township Name	Sections	Township Name	Sections
Dunn	Spring Brook	8, 16, 17, 18, 20, 21, 22, 29	Spring Brook	29, 31, 32, 33

1.1.2 Size of project area (in acres), area to be disturbed by construction activities (in acres), and size of solar arrays (in acres).

The Project Area boundary is shown on Figure 1.1.2 of Appendix A and encompasses an area of approximately 2,523 acres. Areas disturbed by construction activities are described in Section 5.4, Land Cover Impacted by Proposed Project Facilities. The Solar Array Area for the Primary Facility Area encompasses approximately 2,024 acres of land including perimeter areas, and the Solar Array Area for

[1] The numbering in this Application is consistent with numbering in the 2021 version of the AFR.

the Alternate Facility Area encompasses approximately 499 acres including perimeter areas. The substation and operations and maintenance (O&M) building are considered part of the Primary Facility Area.

1.1.3 Size (rated capacity), in both DC and alternating current (AC) MWs, of the proposed project. When providing the DC MW size, a range can be provided. (If an actual panel model is not yet under contract, the applicant must provide information on at least two models that are being considered. Those panels must represent the maximum and minimum megawatt size under consideration for purchase for the project)

The full Project nameplate capacity of 300 MWAC can be achieved with the single-axis tracking system proposed for the Project. The conceptual design for the Solar Array Area associated with the Primary Facility Area will generate 307.82 MWAC (420.477 MWDC) and the Solar Array Area associated with the Alternate Facility Area will generate 75.00 MWAC (97.483 MWDC). Power production will be limited to 300 MWAC at the POI.

Elk Creek Solar used the JA Solar 550-watt (W) bifacial half-cell monocrystalline solar panel for the conceptual Project design. Solar panels are anticipated to be available in 570W, 575W, 580W and 585W panels at the time of procurement. Other Tier 1 panels that will be evaluated at the time of procurement include panels created by manufacturers such as Hanwa, Trina, First Solar and Jinko.

At the time of construction, several photovoltaic (PV) module offerings from different suppliers will be evaluated and a selection will be made based on the most cost-effective option. The technologies that may be considered are polycrystalline and monocrystalline PV modules, including bifacial modules, and the final supply of modules may contain a mix of several similar wattages. PV modules produced by a wide range of manufacturers are under consideration for the Project.

1.1.4 Number of panel sites proposed for the project and the number of alternative panel sites that have been identified (See the discussion on page 1 regarding alternatives). Identify any new or modified electric transmission lines or other electric transmission facilities that might be needed.

The Primary Facility Area is designed for approximately 764,504 individual PV panels with a total DC generating capacity of 420.78 MW_{DC}. For a designed 1.3 DC-to-AC ratio, this is enough capacity to meet a nameplate generating capacity of 300 MW_{AC} power at the POI.

The Alternate Facility Area is designed for approximately 177,242 individual PV panels with a total DC generating capacity 97.48 MW_{DC}. For a designed 1.3 DC-to-AC ratio, this is enough capacity to meet a nameplate generating capacity of 75 MW_{AC} power, which is approximately 25 percent of the Primary Facility Area generating capacity.

1.1.5 Provide a general map showing the location of the project area, nearest communities, townships, and major roads. Include an inset map showing where the project is located in the state. Scale should be appropriate for showing communities within at least 10 miles of the project area boundary.

Figure 1.1.2 is located in Appendix A.

Ownership

Elk Creek Solar is a wholly-owned entity of Tyr Energy Development Renewables, LLC (TED Renewables). TED Renewables is a US-based company involved in the development and commercialization of renewable power projects across the country. Under the ownership of Tyr Energy, Inc., an owner and manager of North American power generation assets over the past twenty-five years, TED Renewables is committed to responsible development of clean, low-carbon power assets.

TED Renewables anticipates owning and operating the Project, however, ownership of Elk Creek Solar may be transferred to a utility or Independent Power Producer in the future. The Commission will be informed of ownership decisions as they are finalized.

1.2 Project Need/Purpose

Independent Power Producers (IPP) (merchant plants) skip to Subsection 1.3.6.

Subsections 1.3.1 thru 1.3.5 apply to utilities only. These subsections focus on compliance with Wis. Stat. § 196.371, the Renewable Portfolio Standard (RPS).

1.2.1 The utility's renewable baseline percentage and baseline requirement for 2001-2003 and the amount of renewables needed in the future.

Sections 1.3.1 through 1.3.5 responses are omitted as they only apply to utility-sponsored projects.

1.2.2 Amount of renewable energy currently owned and operated by the utility as defined by the RPS requirements for additional renewable energy.

1.2.2.1 Total existing renewable generation capacity.

1.2.2.2 Total energy produced by renewable assets in previous calendar year separated by generation type (Hydro, biomass, methane, wind etc.).

1.2.2.3 Amount of renewable energy acquired through purchase power agreements (separated by type, hydro, biomass, wind, solar, etc.).

1.2.2.4 Amount of RPS credits purchased.

1.2.3 Expected annual energy output for the project.

1.2.4 Other need not covered in Section 1.3.1

1.2.4.1 Monthly demand and energy forecast for peak and off peak periods over the next 20-25 years.

1.2.4.2 Describe how the availability of purchase power was analyzed.

1.2.4.3 Identify plant retirements forecast over the next 20-25 years.

1.2.4.4 Describe how the existing and expected applications for generation from IPPs have been factored into your forecast.

1.2.4.5 Describe how the proposed project meets the requirements the Energy Priorities Law, Wis. Stats. §§ 1.12 and 196.025(1).

1.2.4.6 Briefly describe utility's compliance under Wis. Stat. § 196.374 for energy efficiency.

1.2.5 Utilities Only – Generation Capacity Expansion Modeling

The generation capacity expansion modeling should be performed in a software program like EGEAS or similar and include a 30-year extension period. The generation capacity expansion modeling should be filed on CDs, DVDs, or uploaded to the PSC's SFTP site, based on discussion with the docket coordinator as described in the PSC ERF Policy/Procedure Filing guide.

1.2.5.1 Describe the 25-year optimal generation expansion plan for all of the entities that are part of the generation plan.

1.2.5.2 The solar resource should be modeled as non-dispatchable, using an hourly solar profile if the project does not include a storage component. If the proposed solar project includes a storage component, the project can either be modeled as two units, one non-dispatchable (solar resource) and one dispatchable (storage component) or as a single unit as long as the single unit can accurately reflect the operational characteristics of the project.

1.2.6 IPPs Only – Energy Agreements

1.2.6.1 Identify all Wisconsin utilities under contract for delivery of energy from the proposed project.

There is currently no Wisconsin utility under contract for delivery of energy from the proposed Project.

1.2.6.2 For each utility under contract or with which an agreement in principle for delivery of energy is in place provide the following, by utility:

1.2.6.2.1 Rated capacity under contract.

There is currently no Wisconsin utility under contract for delivery of energy from the proposed Project.

1.2.6.2.2 Annual energy to be delivered under contract or expected to be delivered.

There is currently no Wisconsin utility under contract for delivery of energy from the proposed Project.

1.3 Alternatives

1.3.1 Utilities (CPCN) – Supply Alternatives.

Describe the supply alternatives to this proposal that were considered (including a "no-build" option) and present the justification for the choice of the proposed option(s).

This section is omitted as it only applies to utility-sponsored projects.

1.3.1.1 Describe any alternate renewable fuel options considered and why those options were not selected.

1.3.1.1.1 Wind

1.3.1.1.2 Biomass

1.3.1.1.3 Hydro

1.3.1.1.4 Landfill Gas

1.3.1.1.5 Fuel Cell

1.3.1.2 Describe Purchase Power Agreements (PPAs) considered or explain why a PPA was not considered for this project.

1.3.1.3 No-Build Option.

1.3.2 Utilities (CPCN or CA) and IPPs (CPCN) – Project Area Selection

1.3.2.1 Alternative Project Areas. Describe the project area screening and selection process used to select the proposed project area. Provide the following:

1.3.2.1.1 List individual factors or site characteristics used in project area selection.

The following individual factors and site characteristics were considered during the site selection process:

- Solar resource
- Location of existing substations and transmission lines suitable for interconnection
- Land availability and infrastructure
- Project engineering and design parameters
- Land use and zoning, including applicable setback requirements and consideration of ground cover
- Site topography and slopes
- Geology
- Soils
- Existing vegetative communities
- Threatened and endangered species
- Archeological and historical resources
- Surface water resources
- Wetlands
- Floodplains
- Modeled noise levels
- Aviation
- Recreation and publicly owned lands
- Community services
- Transportation infrastructure
- Efficiency of construction and ability to form contiguous power blocks
- Public outreach and feedback from project neighbors
- Established regulatory and tax process

1.3.2.1.2 Explain in detail how brownfields were considered in the selection of sites to develop.

The potential use of existing Brownfield sites within the region was evaluated. No 2,000-acre brownfield sites were in Dunn County, Wisconsin per the WDNR Bureau for Remediation and Redevelopment Tracking System that were deemed suitable for the planned project, given the siting criteria listed above. Therefore, the Applicant chose instead to utilize the present site.

1.3.2.1.3 Explain how individual factors and project area characteristics were weighted for your analysis and why specific weights were chosen.

From the individual factors noted in Section 1.3.2.1.1, solar resource, proximity to transmission infrastructure, topography, ground cover, and community acceptance are most critical to the successful development of a utility scale solar facility. The Applicant equally weighted each of those factors in selecting the final Project location.

1.3.2.1.4 Provide a list of all project areas reviewed with weighted scores for each siting factor or characteristic used in the analysis.

As noted in the previous section, the Applicant views the described siting factors equally. A more detailed description of our approach to the site selection process is described in Section 1.3.2.2 below.

1.3.2.2 Provide a narrative describing why the proposed project area was chosen.

Elk Creek Solar selected the proposed Primary Facility Area and Alternate Facility Area after consideration of the following:

Transmission and Injection Capacity: One of the key criteria for selecting the most suitable Project Site for solar PV development is existing transmission and injection capacity. Using internal expertise, the Applicant evaluated existing transmission resources within the vicinity of the Project and determined the POI to be suitable based on voltage and an existing injection capacity of >300 MW for the nameplate megawatt rating of the facility. The Applicant submitted a Midcontinent Independent System Operator (MISO) interconnection request to study the current POI for the Project in June 2020. Elk Creek Solar was a part of the 2020 Definitive Planning Phase (DPP) Study Cycle for the West region. The results of those studies established that the current POI for the Project is suitable from an injection capacity and cost perspective. The POI is immediately adjacent to the Project Site. The POI location was selected, in part, to minimize the length of a generation tie line.

Land availability and infrastructure: Large tracts of relatively flat undeveloped land are typically utilized for utility-scale solar facilities. The use of cleared land that is relatively flat minimizes impacts from shading and the need to remove trees and also significantly reduces the likelihood that significant flora or fauna inhabit the area.

Land within the Project Area boundary is mostly agricultural land that has been in production for decades. Overall, the topography is conducive for solar development. The Project Area is mostly flat and should not experience shading from external objects. Winter snowfall will allow for additional energy to be captured from the rear side of bi-facial modules (if utilized). Specific Global Horizontal Irradiance for the Project Area can be found in Table 5 in Chapter 2 of this Application.

Area infrastructure was reviewed for compatibility with large construction vehicles and delivery trucks and a summary of the finding is included in the Road Condition Report in Appendix S. The Project Area is

located in an area where nearby roads and highways, such as County Trunk Highway E and 810th Street, are suitable for equipment and material delivery during construction.

Geology and Soils: Third-party geotechnical studies were conducted during the due diligence phase and no fatal flaws were identified by Project consultants. It was determined that minimal grading is expected to be required for the installation of the site, which factors into the construction and installation costs.

Limited environmental constraints: Environmental factors including, but not limited to, wetlands, waterways, wildlife habitat, threatened and endangered species, and hydric soils were considered during the site selection and Project design. Independent third-party desktop and field study determined that the Project Area exhibits few of these environmental factors and impacts to those factors identified can be avoided or minimized by placement of the infrastructure.

Interested landowners: A key consideration for the land selected for the Project was willing and eager landowner participation, which the Applicant has experienced.

Limited cultural and historic resources constraints: Archeological, cultural, and historical resources were considered during the site selection and Project design. The areas selected will not impact known archeological, cultural, or historical resources.

Established regulatory and tax process: The Applicant considered current and precedent tax practices, including Wisconsin's shared utility revenue program, in the selection of the Project Site.

Unavailable or restricted land: Elk Creek Solar reviewed and considered whether land for the Project was managed or otherwise restricted by programs such as the Conservation Reserve Program (CRP), the Managed Forest Law (MFL), and/or Farmland Preservation Agreements (FPA). None of these public or managed lands are within the Project Area boundary.

Airport locations: Elk Creek Solar assessed airports, airstrips, and runways to verify that existing runways are located at sufficient distances from Project facilities. There are nine Federal Aviation Administration (FAA)-registered airports within ten miles of the Project as described in Section 5.16.

Existing Renewable Energy (Wind) Facilities: There are no existing utility-scale wind or solar renewable energy facilities located within Dunn County, Wisconsin.

1.4 Utilities (CPCN OR CA) and IPPs (CPCN) – Site Selection

1.4.1 List the individual factors or characteristics used to select the proposed and alternate panel sites (arrays).

Refer to Section 1.3.2.1.1 above for the individual factors or characteristics used to select the overall Project Area and development of the Project Area boundary. The following factors were used to select the proposed Primary Facility Area and Alternate Facility Area:

Community feedback: Elk Creek Solar has solicited and received feedback from the community, which has been considered in the preliminary Project design, including for proposed setbacks, potential panel locations, and access roads. As Project development progresses, Elk Creek Solar may make minor changes in the field to accommodate for unforeseen circumstances; however, any such changes shall take into account the basic siting criteria that were used in designing the current Project layout, including the preferred Primary Facility Area.

Setbacks and screening: Setbacks from public right of ways (ROWs), utilities and sensitive community resources were established and mapped. Sensitive community resources within one mile of the Project Area include nearby residences as well as the Muddy Creek Wildlife Area (Figure 4.1.2).

Sound: Noise-producing equipment was sited away from sensitive receptors to the extent practicable. Sound modeling determined that sound generated by the Project will remain below the traditionally used standard of 50 A-weighted decibels (dBA) during daytime and 45 dBA during nighttime outside adjacent receptors.

Constructability and collection: Elk Creek Solar factored construction considerations into the Project design, including restrictions due to stormwater runoff potential, construction efficiency, and equipment movement. Additionally, the ability to network the collection system between solar panel array sites was optimized to the extent possible.

Elk Creek Solar considered the factors described in Sections 1.3.2.2 and 1.4 as part of an iterative process to develop a Project design that minimizes impacts to the environment and surrounding landowners to the greatest extent reasonably feasible, while maximizing the efficiency of the Project within the Primary Facility Area. The Alternate Facility Area will be utilized if required pursuant to Project permitting or due to circumstances identified during final design engineering. Revisions to the panel layout design may require associated modifications to other Project components, including collection line routes, access roads, and shifts in other panel locations.

1.4.2 Provide information on how site characteristics and the type/s of panels chosen factored into the selection of the final panel sites.

Elk Creek Solar considered Project site characteristics, as described in Sections 1.3.2.1.1 and 1.4.1. The conceptual design for the Project includes 550-W bifacial modules, Power Electronics FS4200K inverters, and self-powered single-axis trackers provided by NEXTracker. However, Elk Creek Solar has not yet made a final decision regarding the specific make and model of the panels and other equipment that will be installed as part of the Project. For a 2025 in-service date, the Project is expected to use products with similar electrical and physical characteristics that are readily available in the market at the time of purchase.

1.4.3 Setback distances

Elk Creek Solar designed the facilities to maintain minimum and appropriate solar panel setbacks from residences, property lines, and other features. The Project is not expected to require easements from non-participating landowners to accommodate the setbacks utilized. These setback distances meet or exceed all county, township, and village ordinances or rules.

Table 2: Design Setbacks

Type	Setback/ Constraint	Setback	Clarification
Structures	Existing Residences (participating and non-participating landowners)	100 feet (from building footprint)	Residences only. Barns, warehouses, and places of work qualify as inhabitable structures. As measured to PV generation assets including panels, inverters and BESS components. Does NOT apply to access roads and fences.

Type	Setback/ Constraint	Setback	Clarification
Structures	Inhabitable Structures - Building Edge (non-participating)	100 feet (from building footprint)	As measured to PV generation asset. Does not apply to access roads and fences.
Structures	Inhabitable Structures - Building Edge Participating	100 feet	As measured to PV generation asset. Does not apply to access roads and fences.
Structures	Non-inhabitable Structures	20 feet (from building footprint)	As measured to PV generation asset. Does not apply to access roads and fences.
Structures	Inhabitable Structures – Building Edge with Waiver	Per Waiver	
Property Lines	Property Line Setback	100 feet off property lines	As measured to PV generation asset. Does not apply to access roads and fences.
Infrastructure	Roads	150 feet from road centerlines	As measured to PV generation asset. Does not apply to access roads and fences.
Infrastructure	Above-ground storage tanks	50 feet	As measured to PV generation asset. Does not apply to access roads and fences.
Environmental	Waterways	75 feet from Ordinary High Water Mark (OHWM) to access roads.	Does not include PV generation assets or fences.
Environmental	Wetlands	50 feet from delineated wetland boundary to access roads.	Does not include PV generation assets or fences.

1.4.3.1 Provide the minimum setbacks for both boundary fences and solar panels from:

- **residences**
- **property lines**
- **other buildings (e.g., animal barns, storage sheds)**
- **roads**
- **wetlands and waterways**
- **any other features.**

See Table 2 above.

1.4.3.2 Identify any sites where non-participating “good neighbor” agreements have been executed.

No “good neighbor” agreements have been executed for the Project.

1.4.3.3 Status of easement agreements:

1.4.3.3.1 Identify all project sites with easement agreements that have been signed.

Easement agreements are identified in Table 3.

1.4.3.3.2 Identify all sites where easement agreements have not been signed and provide a short description of the status of negotiations.

Table 3 provided identifies all Project site land agreements that have been signed and those that are still in the process of negotiation.

Table 3: Status of Land Agreements

Primary Owner Name	Parcel ID	Type	Status	Acreage (rounded)
Doane Limited	1703422711172100001	Lease Option	Signed	40
Doane Limited	1703422711171200003	Lease Option	Signed	39
Doane Limited	1703422711170010012	Lease Option	Signed	6
Doane Limited	1703422711170020003	Lease Option	Signed	33
Doane Limited	1703422711172400001	Lease Option	Signed	40
Doane Limited	1703422711171300001	Lease Option	Signed	40
Doane Limited	1703422711172300001	Lease Option	Signed	39
Doane Limited	1703422711181400001	Lease Option	Signed	40
Doane Limited	1703422711181300001	Lease Option	Signed	40
Doane Limited	1703422711173100001	Lease Option	Signed	40
Doane Limited	1703422711173200001	Lease Option	Signed	40
Doane Limited	1703422711173300001	Lease Option	Signed	40
Doane Limited	1703422711173400001	Lease Option	Signed	40
Doane Limited	1703422711202200001	Lease Option	Signed	38
Doane Limited	1703422711202100001	Lease Option	Signed	40
Doane Limited	1703422711201200001	Lease Option	Signed	40
Doane Limited	1703422711201100001	Lease Option	Signed	40
Doane Limited	1703422711201400001	Lease Option	Signed	40
Doane Limited	1703422711201300001	Lease Option	Signed	40
Doane Limited	1703422711202400001	Lease Option	Signed	40
Doane Limited	1703422711202300001	Lease Option	Signed	38
Doane Limited	1703422711203200001	Lease Option	Signed	40
Doane Limited	1703422711203100001	Lease Option	Signed	40
Doane Limited	1703422711211300001	Lease Option	Signed	40
Doane Limited	1703422711212400001	Lease Option	Signed	40
Doane Limited	1703422711212100001	Lease Option	Signed	40
Doane Limited	1703422711211200001	Lease Option	Signed	40
Doane Limited	1703422711222200001	Lease Option	Signed	40
Doane Limited	1703422711211100001	Lease Option	Signed	40
Doane Limited	1703422711164400002	Lease Option	Signed	40
Doane Limited	1703422711164300001	Lease Option	Signed	40
Doane Limited	1703422711222200002	Lease Option	Signed	1

Primary Owner Name	Parcel ID	Type	Status	Acreage (rounded)
Doane Limited	1703422711222100001	Lease Option	Signed	40
Doane Limited	1703422711221200001	Lease Option	Signed	40
Doane Limited	1703422711221100003	Lease Option	Signed	40
Doane Limited	1703422711221400001	Lease Option	Signed	39
Doane Limited	1703422711221300001	Lease Option	Signed	40
Doane Limited	1703422711222400001	Lease Option	Signed	40
Doane Limited	1703422711223100001	Lease Option	Signed	40
Doane Limited	1703422711223200001	Lease Option	Signed	40
Doane Limited	1703422711223300001	Lease Option	Signed	38
Doane Limited	1703422711223400005	Lease Option	Signed	38
Doane Limited	1703422711224300005	Lease Option	Signed	36
Doane Limited	1703422711224400001	Lease Option	Signed	37
Doane Limited	1703422711224100001	Lease Option	Signed	35
Doane Limited	1703422711224200001	Lease Option	Signed	40
Doane Limited	1703422711222300004	Lease Option	Signed	1
Doane Limited	1703422711221400002	Lease Option	Signed	1
Doane Limited	1703422711292100001	Lease Option	Signed	39
Doane Limited	1703422711292200003	Lease Option	Signed	38
Doane Limited	1703422711292300001	Lease Option	Signed	40
Doane Limited	1703422711292400001	Lease Option	Signed	40
Doane Limited	1703422711293100001	Lease Option	Signed	40
Doane Limited	1703422711293200002	Lease Option	Signed	38
Doane Limited	1703422711293300001	Lease Option	Signed	40
Doane Limited	1703422711293400001	Lease Option	Signed	40
Doane Limited	1703422711331200001	Lease Option	Signed	40
Doane Limited	1703422711331300001	Lease Option	Signed	40
Doane Limited	1703422711331400001	Lease Option	Signed	40
Doane Limited	1703422711331100001	Lease Option	Signed	40
Doane Limited	1703422711324100001	Lease Option	Signed	40
Doane Limited	1703422711324200001	Lease Option	Signed	40
Doane Limited	1703422711323100001	Lease Option	Signed	40
Doane Limited	1703422711323200001	Lease Option	Signed	40
Doane Limited	1703422711311400001	Lease Option	Signed	40
Doane Limited	1703422711312100001	Lease Option	Signed	40
Doane Limited	1703422711312400001	Lease Option	Signed	40
Clara L Sletner	1703422711083200005	Purchase Option	Signed	70

1.4.4 Identify whether setbacks are consistent with local zoning (county or municipality) or if there are variations from local zoning setbacks, describe why.

Setbacks meet or exceed all applicable local zoning requirements.

1.5 Utilities Only – Cost

This section is omitted as it only applies to utility-sponsored projects.

1.5.1 Provide capital cost of the completed facility organized by Plant Account Codes (PAC) found in the PSC's Uniform System of Accounts for Private Electric Utilities – 1/1/90. Provide a breakdown within each PAC and a subtotal. Include, at least, the following PACs:

1.5.1.1 PAC 340 –Land and Land Rights.

1.5.1.2 PAC 341 – Structures and improvements (operation and maintenance (O&M) buildings, access roads).

1.5.1.3 PAC 344 – Generators (foundations, engineering, procurement, construction management, erection).

1.5.1.4 PAC 345 – Accessory Electrical Equipment (substation, meteorological towers, collector circuit system, SCADA.

1.5.2 Provide the complete terms and conditions of all lease arrangements.

1.5.2.1 Site lease

1.5.2.2 Neighbor or non-participant agreements

1.5.2.3 Provide a statement demonstrating how conditions of Wis. Stat. § 196.52(9)(a)3(b) have been met (this pertains to leased generation contracts).

1.5.2.4 Affiliated interest approvals required. Include those applied for or received.

1.5.3 Discuss and provide the comparative costs of the alternatives identified and evaluated in Section 1.4.

1.5.4 Describe the effect of the proposed project on wholesale market competition. Include a description of how, at the time of this filing, the proposed facility would be treated as an intermittent resource in the Midcontinent Independent System Operator, Inc. (MISO) market.

1.5.5 Provide an estimate of the expected life span for the power plant.

1.5.6 Describe how the facility would be decommissioned at the end of its life span. Describe expected decommissioning actions and timelines.

1.5.6.1 Provide an estimate of the cost of and source of funding for decommissioning. State whether financial security would be provided to

cover decommissioning costs, including the amount and time it would be provided.

1.5.6.2 State how the start of decommissioning would be decided, including a description of what constitutes site abandonment.

1.6 IPPs Only - MISO and Project Life Span

1.6.1 MISO Market. Describe how, at the time of this filing, the proposed facility will be treated as an intermittent resource in the MISO market.

Within the MISO, intermittent resources may provide both energy and capacity, given that they are registered with MISO and deliverable to load via Network Resource Interconnection Service (NRIS) or Firm Transmission Service. The capacity value of solar PV projects within MISO is based on the three-year historical average output of the resource for peak hours during the summer months. Solar PV resources that are new, upgraded, or returning from extended outages submit all operating data for the prior summer with a minimum of 30 consecutive days, in order to have their capacity registered with MISO. A solar PV project in MISO receives the class average of 50 percent for its Initial Planning Year until it can demonstrate three years of operational history.

Elk Creek Solar filed an Interconnection Request with MISO in June of 2020 and is currently in the MISO West 2020 Definitive Planning Phase Cycle. The Project was assigned queue positions J1730 (solar PV) and J1528 (BESS). Elk Creek Solar applied for NRIS for the full 300 MW of installed capacity of the Project. The Project is currently in Phase 2 and is being evaluated through the Facility Study process. The Phase 2 study report is expected in November 2022. The Applicant expects the Large Generator Interconnection Agreement (LGIA) from MISO to be executed by the end of April 2023.

1.6.2 Provide an estimate of the expected life span for the power plant.

The design life for the Project is approximately 35 years. Elk Creek Solar understands that the value of a solar project lies in its operation and anticipates a premium level of operation and maintenance service throughout its life. Based upon the needs of the marketplace, the community, the landowners, and Elk Creek Solar, it is anticipated there will be an opportunity to extend the Project's life beyond 35 years.

1.6.3 Describe how the facility will be decommissioned at the end of its life span. Describe expected decommissioning actions and timelines.

The Project will operate for at least 35 years based on current forecasts for modern equipment. At the end of the Project's useful life, Elk Creek Solar will assess whether to cease operations and decommission the Project or to replace equipment and attempt to extend the life of the Project. In general, the majority of decommissioned equipment and materials will be recycled. Materials that cannot be recycled with be disposed of at approved facilities.

Decommissioning activities will require approximately 12 months to complete. In general, decommissioning activities would include:

1. Dismantling and removal of all above ground equipment (solar panels, racking, transformers, Project Substation, etc.);
2. Removal of all above ground cabling;
3. Removal of underground cabling within three feet of surface;
4. Removal of foundations (piles, piers, and posts); and

5. Scarification of compacted areas within and contiguous to the solar facility (including but not limited to internal and external access roadways).

Please refer to Appendix T Decommissioning Plan for greater details.

1.6.3.1 Provide an estimate of the cost of and source of funding for decommissioning. State whether financial security would be provided to cover decommissioning costs, including the amount and time it would be provided.

Elk Creek Solar anticipates addressing financial security in the joint development agreement (JDA) to be executed with local communities. This typically takes the form of a milestone commitment, with full financial security provided during the Project's useful life.

1.6.3.2 State how the start of decommissioning would be decided, including a description of what constitutes site abandonment.

As stated in Section 1.6.3 above, the Project is anticipated to operate for at least 35 years, however may continue operations beyond that timeframe at the discretion of the Project owner. After the Project permanently ceases operating, all above-ground components will be removed and restoration within the Project boundary will occur within 12 months. The substation facilities, proposed on the land that would be owned by the Project, may remain in place if required or requested by the transmission owner.

1.6.3.3 State whether a participating landowner could be responsible for decommissioning costs in any situations.

There is no reasonably anticipated situation in which a participating landowner could be responsible for decommissioning costs. Elk Creek Solar has filed a decommissioning plan as part of the Application (see Appendix T), has decommissioning obligations in its participating landowners' leases, and anticipates including decommissioning obligations in JDAs to be executed with local governmental units. These binding commitments, individually and collectively, leave no reasonable decommissioning cost risk to participating landowners.

1.7 Utilities and IPPs - Required Permits and Approvals

1.7.1 Approvals and Permits. For each of the regulatory agencies listed below provide the following information:

- **regulatory agency**
- **the approvals/permits required,**
- **application filing date,**
- **the status of each application,**
- **agency contact name and telephone number.**

1.7.1.1 Federal

1.7.1.1.1 Federal Aviation Administration (FAA)

1.7.1.1.2 U.S. Army Corps of Engineers

1.7.1.1.3 U.S. Fish and Wildlife Service (USFWS)

1.7.1.1.4 Other federal agencies not listed above

1.7.1.2 State

1.7.1.2.1 WisDOT

1.7.1.2.2 DNR

1.7.1.2.3 DATCP

1.7.1.2.4 Other state agencies not listed above

1.7.1.3 Local Permits – including county, town, city, and village

The expected local, state, and federal permits required for construction and operation of the proposed Project are listed in Table 4. Elk Creek Solar is in contact with Dunn County and the Town of Spring Brook regarding permitting for the Project and will update the list if additional requirements are identified that are not otherwise preempted by the anticipated grant of the CPCN. The required permits and approvals will be obtained before commencing construction activities.

Table 4: List of Potential Permits and Approvals

Agency	Permit or Approval	Contact	Application/Notice Date	Status
Federal				
U.S. Fish and Wildlife Service (USFWS)	**None**	--	--	--
United States Army Corps of Engineering (USACE)	**None**	--	--	--
FAA	Notification of Construction or Alternation	Vee Stewart (816) 329-2508	1/7/2020	Complete
State				
PSCW	CPCN for construction of large energy generation facility	Adam Ingwell (608) 267-9197	Q4 2022	Submitted
WDNR	Wisconsin Pollutant Discharge Elimination System (WPDES)/ Stormwater Runoff Permit (NR216)	Samantha Whitens (608) 273-5947		Anticipated Q3 2023
WDNR	Wisconsin Endangered Species Law (s. 29.604, Wis. Stats.)	Stacy Rowe (608) 28-9796	10/12/21	Coordination Completed
Wisconsin Department of Transportation (WisDOT)	Heavy and oversized load permits	Jill Proud (715) 836-3905		Anticipated Q3 2023
Local (if not otherwise preempted by the anticipated grant of the CPCN)				
Dunn County	Shoreland Zoning	Janet Riedel (Zoning Specialist) (715) 231-6521		Anticipated Q2 2023
Dunn County	Single Trip Permit	Public Works Division (715) 232-2181		Anticipated Q2 2023
Dunn County	Driveway Access Permit			Anticipated Q2 2023
Town of Spring Brook	Driveway Permit	Mary Strand (Town Clerk) (715) 664-8545		Anticipated Q2 2023
Town of Spring Brook	Building Permit			Anticipated Q2 2023

1.7.2 Correspondence with Permitting Agencies. Provide copies of correspondence to and from state and federal agencies that relate to permit approval, compliance approval, or project planning and siting. Provide copies of any correspondence to or from local governments. This should continue after submittal of the application.

Copies of correspondence with applicable permitting agencies are provided in Appendix C. Elk Creek Solar will continue to correspond with permitting agencies throughout development, construction, and operational phases of the Project. Wetland delineations were sent to the WDNR for concurrence on December 16, 2021.

2 Technical Description – Project Area, Arrays, Panels, and Ancillary Facilities

2.1 Estimated Solar Resource and Projected Energy Production

Provide a complete solar resource and energy production assessment for the Project. This report should include, at a minimum:

2.1.1 Solar resource data used in analysis.

Solar energy resource of the Project was estimated using the Clean Power Research SolarAnywhere dataset. SolarAnywhere irradiance estimates are derived from real-time and historical satellite images, through a series of algorithms developed at the State University of New York at Albany. Solar resource, temperature, and humidity data are derived from surface-based weather stations and NWP model trial fields. Additional details about the algorithms, including numerous validation studies, can be found on the SUNY website.[2]

Data was procured from the 10x10km SolarAnywhere grid cell containing the centroid of the Project (44.75N, 91.75W). SolarAnywhere data are provided by Clean Power Research both as an hourly time series dating back to 1998 and as an hourly typical meteorological year (TMY) file, which is used to simulate conditions during an average year. The TMY file was then used to simulate a typical full year of production with the photovoltaic systems software (PVSyst) analysis program.

The PVSyst report is included as Appendix W as a confidential document because it contains sensitive business information. A public redacted version is submitted as well.

2.1.2 Gross and net capacity factor (explain the method used to calculate the capacity factors and provide the data used).

Per the preliminary design, the system consists of an installed nameplate power capacity of 300 MW_{AC}. This value will be confirmed once the final layout and generation equipment are determined. The gross and net capacity factors for the Project are calculated to be 28.66 percent and 24.30 percent, respectively, when comparing the nameplate rating to the energy forecasted from the PVSyst model. Table 5 provides a summary of the Project's estimated available solar energy throughout the year.

[2] http://www.asrc.cestm.albany.edu/perez/directory/ResourceAssessment.html

Table 5: Global Horizontal Irradiance

Global Horizontal Irradiance (GHI) on PV Plane (kWh/m^2)												
Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
52.9	76.6	112.1	139.5	162.9	179.6	184.9	162.1	113.0	80.4	46.7	40.0	1350.5

2.1.3 Estimated Energy Production of Project

While the maximum output of the Project will be 300 MW_{AC} at the POI, its output may be less at any given time depending on the energy available from the sun. Elk Creek Solar used the PVSyst software program to simulate the energy conversion process using model files from the PV module and inverter manufacturer, historical weather data as discussed in section 2.1.1, and the parameters that apply to the Project.

2.1.3.1 Estimated Production Losses

Energy losses within the system include electrical losses in the AC and DC electrical collection system, energy conversion losses within the PV inverters, step-up transformers and various other equipment, and losses due to soiling of the PV modules themselves due to dust, debris and snow cover. Taking those factors into account, a reasonable estimate of energy losses range from 15 to 20 percent of the maximum output, which is consistent with industry-wide estimates.

2.1.3.2 Estimated Net Energy Production

The Project's estimated net annual energy production is 639,213 megawatt-hours (MWh). Annual energy production output will depend on final design, site specific features, and annual variability in the solar resource.

2.2 Solar Panel Type and Panel Characteristics

2.2.1 Identify the manufacturer and model of solar panel to be used. (If no Panel Purchase Agreement has been signed, applicants should identify the panel or panels being considered. It is acceptable to identify a range by providing information on the largest and smallest panel being considered, however, consult with Commission staff prior to preparing the application.)

Solar panel technology is continually making advancements in both manufacturing and efficiency and is subject to commodity pricing based on the current market demand and available stock. Therefore, the final PV module selection cannot be made until detailed engineering is completed and ordering of the PV modules is possible.

The preliminary layouts for the Project that Elk Creek Solar prepared for the Application used the JA Solar JAM72D30 550W bifacial monocrystalline panels as the basis of design and ensuing calculations and assumptions. Datasheets for these PV modules are provided in Appendix B.

At the time of construction several PV module offerings from different suppliers will be evaluated, and a selection will be made based on the most cost-effective option. The technologies that may be considered are thin-film, polycrystalline silicon, and monocrystalline silicon (including bifacial PV modules), and the final supply of modules may contain a mix of several similar wattages.

2.2.2 Panel Delivery Date - Indicate whether or not this date is firm.

At this time, panel deliveries are expected to occur during the second quarter of 2024, although this timeframe is subject to change.

2.2.3 Total Number of Panels Required for Project

The Primary Facility Area is designed for approximately 764,504 panels, based on the current module selection mentioned in Section 2.2.1, with a generating capacity of 420.48 MW of DC power. Elk Creek Solar expects that the full Project nameplate capacity of 300 MW_{AC} can be achieved with the single axis tracking systems for the site.

The Alternate Facility Area is designed for approximately 177,242 panels with a generating capacity of 75 MW of AC power.

2.2.4 Technical Characteristics of Panels

The PV modules initially selected for the Project have 144 half-cells and will be a plate-glass module with an aluminum frame, with approximate dimensions of one meter by two meters. The PV modules will be connected in series for up to 1500-volt operation and will be mounted on a tracker system in-line, in portrait orientation on racking, which tracks east to west to follow the angle of the sun throughout the day.

The datasheets for the currently proposed PV modules are provided in Appendix B. If other PV modules from another manufacturer are selected, Elk Creek Solar anticipates that the physical characteristics will be similar and follow the industry standards.

2.2.4.1 Panel physical dimensions.

The physical dimensions of the JA Solar 550W panels on which the Project's preliminary site design are based are approximately 1.1 meters x 2.3 meters.

2.2.4.2 Panel material/type.

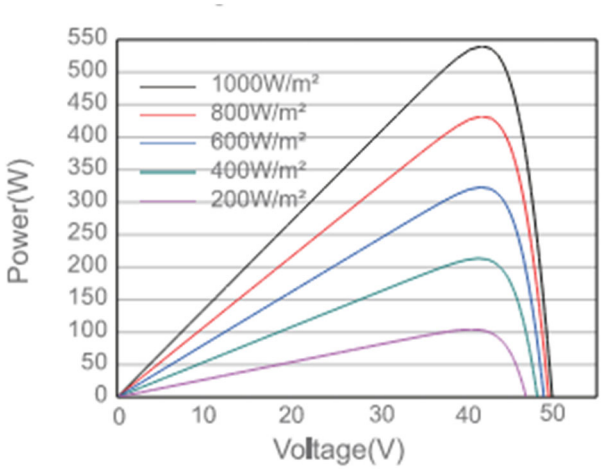
The panel material/type for the JA Solar 550W panels are bifacial monocrystalline panels with tempered glass and an anti-reflective coating.

2.2.4.3 Any surface treatment of panels.

The panels will be covered in tempered glass and an anti-reflective coating.

2.2.4.4 Panel power curve (provide actual data – solar resource and rated output needed to create the curve).

The current-voltage and power-voltage curve for the JA Solar 550W panels is provided in Figure 2.1 below.



2.2.4.5 Panel tolerances for extreme weather events.

The JA Solar 550W panels are certified to withstand humidity, heat, rain, marine environments, wind, hailstorms, and packed snow.

2.2.5 Technical Characteristics of Inverters

As noted in Section 2.2.1, the final selection of the inverters will be made at a future date based on the current market offering. A manufacturer specification sheet of the inverter used in the preliminary Project design is provided in Appendix B.

2.2.6 Technical characteristics of any tracking systems, panel supports, and racking.

2.2.6.1 Type of material used for supports and racking.

The supports and racking will be constructed of galvanized steel and aluminum. The piles will be made of galvanized steel and the racking system will be primarily made of aluminum.

2.2.6.2 Tracking system used.

Based on the preliminary design, the Nextracker NX single-axis tracking system is proposed for this Project. If more suitable or technologically advanced tracker systems are developed after the Commission issues an order, Elk Creek Solar may select a different unit.

2.2.6.3 Dimensions and number of sections required.

Based on the preliminary design, two different tracker table dimensions are proposed for this Project. The three-string tracking tables are 307.9 feet by 7.5 feet. The two-string tracking tables are 207.0 feet by 7.5 feet. There are 9,492 three-string tracking tables and 464 two-string tracking tables proposed for the Primary Facility Area. There are 2,205 three-string tracking tables and 101 two-string tracking tables proposed in the Alternate Facility Area.

2.2.6.4 Typical distances between rows, access roads, and fences.

Elk Creek Solar anticipates that the spacing between solar panel rows, as measured from the panel posts, is typically 19.73 feet, and the spacing between solar panel rows, as measured from the edge of the panels, is typically 13.56 feet. Access roads will be up to twenty feet wide with a minimum of 10 feet of clearance to the array or other equipment. Fences are set back a minimum of 20 feet to arrays or other equipment.

2.2.6.5 Highest and lowest points of panels during daily rotation.

Based on preliminary design, the highest point of panels during rotation will be a maximum of 16 feet, with a low point of 1.5 feet.

2.2.6.6 Operational actions in case of extreme weather events. Include descriptions of actions in response to high wind events, as well as snow or ice removal.

In the event of extreme weather, the panels shall return to the stow position or the optimal position as recommended by the manufacturer of the racking system used for the Project.

2.2.6.7 Panel tolerance for placement on slopes.

Based on the preliminary design, the north-south slope tolerance is up to 15 percent.

2.2.7 Scale drawings of a typical panel row including inverter pad and transformer box.

Please refer to drawing included in Appendix B for typical panel row.

2.2.8 Provide information on any perimeter fencing that would be used around the solar PV arrays. Describe any requirements on the fencing around the PV sites.

Array fencing will consist of seven to eight-foot-high deer exclusion fence with wood fenceposts. Fenceposts will be driven into the ground. No concrete foundations will be used for the fenceposts.

2.3 Other Project Facilities

2.3.1 Site Construction Area. Describe the site construction area. Include the number of, location, and dimensions for:

2.3.1.1 Solar arrays.

The 300-MW_{AC} Primary Facility Area is comprised of seven fenced areas and the 75-MW_{AC} Alternate Facility Area is comprised of five fenced areas. Figures provided in Appendix A show the locations of both the primary and alternate arrays.

2.3.1.2 Lay-down/staging areas.

Eleven laydown yards are proposed for the Primary Facility Area and four laydown yards are proposed for the Alternate Facility Area as shown on the conceptual layout in Appendix B:

- 5 laydown areas near the intersection of 370th Avenue and 890th Street
- 2 laydown areas on 810th Street north of 370th Avenue
- 2 laydown areas on 810th Street south of County Road C
- 2 on 370th Avenue east of 810th Street
- 2 on 810th Street north of 260th Avenue (Alternate)
- 1 on 290th Avenue west of 890th Street (Alternate)
- 1 on 790th Street south of 290th Avenue (Alternate)

These areas consist of agricultural lands. During construction, temporary laydown areas will be established within the Primary Facility Area. These laydown areas may move as construction progresses. In the event laydown areas need to be sited outside of the Primary Facility Area, they will be established within the Alternate Facility Area with landowner permission. The specific location of the temporary laydown areas within the Project Area will be established during the final engineering design and

construction planning for the Project.

2.3.1.3 Parking area.

Temporary parking for construction activities will be provided at the Project laydown areas and near the O&M buildings. Permanent parking is planned near the O&M buildings. Figure 4.1.2 in Appendix A shows the location of permanent parking the O&M buildings.

2.3.1.4 Provide a scale drawing showing the general construction setup for the solar array sites.

The Project's general construction setup is shown on Figure 4.1.2, Appendix A.

2.3.2 Collector Circuits.

2.3.2.1 Total number of miles of collector circuits required – separated by circuit type (above-ground vs. underground).

Based on the preliminary Project design, the Project will contain approximately 35.13 miles of collector circuit runs within the Primary Facility Area and approximately 20.87 miles of collector circuit runs in the Alternate Facility Area. All collector circuit runs are currently proposed to be below ground. However, if it is determined during final engineering that the use of overhead collector circuits is advantageous, Elk Creek Solar will share this information with the PSC.

2.3.2.2 Specify the collector circuit voltage to be used.

The collector circuit voltage is 34.5 kV.

2.3.2.3 Transformer type, location, and physical size of transformer pad at each site.

The two 34.5/345kV Main Power Transformers (MPT) are located at the Project substation, which is shown on Figure 4.1.2 in Appendix A. Each transformer pad will be approximately 30 feet by 50 feet.

2.3.2.4 Underground collector circuits.

2.3.2.4.1 Conductor to be used.

The collector conductors will be Aluminum 1250kcmil.

2.3.2.4.2 Describe installation type and how lines would be laid (open-cut trench, vibratory plow, directional bore, etc.). Provide scale drawing of underground circuit.

There will be up to 11 collector circuits run in open-cut trenches within upland areas. Directional boring will be used at road and existing transmission line crossings. No wetland or waterway collector circuit crossings are proposed for the Project. Figure 4.1.2, Appendix A shows the collector circuit routes and drawings provided in Appendix B show the typical collector circuit design for the Project.

2.3.2.4.3 Depth and width of trench, and minimum depth of soil cover over circuits (if applicable).

The typical burial depth for collector circuits is 42 inches. The width of the trench is dependent upon the number of circuits. Typical trench widths are as follows:

- Single feeder trench width: twelve to eighteen inches

- Two to three feeder trench: five (5)-foot spacing and ten-foot to fifteen-foot trench width
- Five to Eleven Feeder trench: ten-foot spacing and 40-foot to 100-foot trench width

2.3.2.5 Overhead collector circuits.

2.3.2.5.1 Size of pole to be used.

No overhead collector circuit runs are currently proposed for the Project. Overhead collector circuits may be considered upon engagement with local Department of Transportation entities and neighboring landowners to maximize facility and cost efficiencies, and minimize impact to existing underground infrastructure or agricultural land in production.

2.3.2.5.2 Engineering drawing of structure to be used.

No overhead collector circuit runs are currently proposed for the Project.

2.3.3 Site Foundations. Describe the type of foundation or foundations to be used for each part of the project. If more than one type of foundation may be needed describe each and identify under what circumstances each foundation type would be used. Include the following:

2.3.3.1 Describe how the panel and inverter foundations would be installed (e.g. direct imbed, excavation for pouring of concrete footings, etc.).

The Project will use driven pier foundations and concrete foundations. The inverter/transformer skids will likely be installed on driven pier foundations but could be placed on concrete foundations if required by soil and geotechnical conditions. The MPT will be installed on a concrete foundation within the Project substation.

2.3.3.2 Dimensions, surface area and depth required for each foundation.

Foundation dimensions will be determined in the detailed engineering phase; generally, the largest foundation will be the MPT foundation which will be approximately 50 feet x 30 feet. The typical pier foundation will be from five feet to ten feet deep.

2.3.3.3 Amount of soil excavated for each foundation type.

For driven pier foundations, no excavation is required. For the concrete foundations, soil excavation quantities will be determined in the detailed engineering phase.

2.3.3.4 Describe how excavated soils would be handled including disposal of excess soil.

Spoil material / excavated soils are not anticipated to be exported from the Project site. Spoil material management on-site will primarily be associated with the trenching activities for the collector circuit runs.

With upland area trenching, topsoil will be appropriately segregated from underlying subsoil and staged separately. Spoil materials will be side-cast along the excavated trench and, following installation of the collector circuit(s), will be placed back in the trench to match pre-existing contours.

Any excess spoils generated from the construction of the MPT, access roads, or collector circuit trench installation will be windrowed within the Project Area and properly revegetated to be used during Project decommissioning.

2.3.3.5 Materials to be used for the foundation. Include:

2.3.3.5.1 Approximate quantity and type of concrete required for typical foundation.

Subject to detailed engineering, foundations will be standard reinforced concrete with compressive strength less than 5,000 pounds per square inch.

2.3.3.5.2 Materials required for reinforcement.

The concrete will be reinforced with steel rebar.

2.3.3.5.3 Description of the panel mounting system.

The panels will be mounted to a ground-mounted single-axis tracking system. Pile foundations for the racking system will be made of galvanized steel.

2.3.3.6 Provide technical drawings of each foundation type to be used showing foundation dimensions.

See Appendix B for a technical drawing of a typical MPT foundation and the typical pile foundation for the solar array / inverter.

2.3.3.7 Describe how foundation or support installation would address the risk of frost heave on facilities.

Foundations or supports will be installed to a minimum depth of four (4) feet below ground surface to minimize impacts from freezing and thawing conditions. Exact embedment depth for the driven piles on which the solar panels are mounted will be determined with final engineering.

2.3.4 Access Roads

2.3.4.1 Provide the total number and total miles required for access roads. Provide the amounts for both temporary access (used during construction only) and permanent access (for long-term facility operation and maintenance) roads. State if any temporary access roads would be converted into permanent access roads.

Existing public roadways will be used to access the Project. No external temporary roads or temporary widening of existing permanent roads during construction are planned at this time.

Permanent internal access roads within the Primary Facility Area are expected to be approximately 12.44 miles in total length, while the permanent internal roads within the Alternate Facility Area are expected to be approximately 2.10 miles in total length. The internal access roads will primarily be located within the secured fenced areas and will not be available for use by landowners. They will be designed to provide access to power conversion equipment within the panel arrays and to solar equipment, and to accommodate ongoing maintenance of the Project components.

Elk Creek Solar does not anticipate constructing temporary access roads within the Project arrays at this time. If temporary access roads are required during construction, they will be built according to the specifications summarized in Section 2.3.4.2 below.

2.3.4.2 Describe materials to be used and methods for construction of temporary and permanent access roads, including roadbed depth.

As mentioned, Elk Creek Solar does not anticipate constructing temporary access roads. If temporary access roads are required, they will be built utilizing construction matting or aggregate. These roads will be used to a limited extent in areas with soil strength and stability limitations for construction vehicles. If necessary to compensate for low-strength soils, aggregate may be supplemented with a geosynthetic.

Permanent access roads will consist of either an improved aggregate base or the existing compacted, vegetated soil surface. Permanent aggregate base access roads will be constructed by first removing the topsoil and organic material, compacting the subgrade, and constructing the road according to civil design requirements. A layer of geotextile fabric may be utilized and road base will then be added and compacted. Road aggregate or fill will be a local pit run aggregate material that meets WisDOT specifications. Upon completion of detailed engineering, the aggregate specifications will be available for construction quality assurance. Permanent access roads will be maintained for the life of the Project.

2.3.4.3 Specify the required width of temporary and permanent access roads. Fully describe any differences between final road size and that required during construction.

Permanent access roads will be up to twenty feet wide. No temporary access roads are planned at this time.

2.3.4.4 Describe any site access control (e.g. fences or gates).

The Project Area will have a perimeter fence with secured gates for site access. Only Elk Creek Solar and local emergency personnel will have access to the Project beyond the secured gated areas.

2.3.4.5 Describe any setbacks from sensitive resources or storm water management considerations in road locations.

No sensitive resources exist on site so no road setbacks from sensitive resources are necessary.

2.3.5 General Construction Areas

2.3.5.1 Identify size, number, and location of laydown/staging areas outside of those found at the array sites and any other areas used for material storage.

Elk Creek Solar does not anticipate any alternate laydown areas outside of those planned and discussed in Section 2.3.1.2. The main laydown yard anticipated for the Project will total approximately 1.67 acres and is located southwest of the substation on the west side of 810th Street. The other nine laydown yards in the Primary Facility area range from one-quarter acre to one-half acre in size. The four laydown yards in the Alternate Facility Area range from one-quarter acre to one-half acre in size.

Elk Creek Solar will strip the topsoil from the main laydown areas prior to compacting or installing aggregate materials. The topsoil will be stockpiled and stored near the laydown/staging location and will have temporary erosion control measures, per the Project site-specific Erosion Control and Stormwater Management Plan (ECSWMP). Following construction, the laydown/staging areas will be restored to pre-construction conditions.

2.3.5.2 Identify size and location of construction parking areas.

The construction laydown yards will also serve as a construction parking areas. The exact dimensions of the parking areas within the laydown yard will be determined during detailed design.

2.3.5.3 Describe the expected use of these areas after project completion.

After Project construction is complete, the laydown area will be reclaimed and restored to pre-existing conditions. Aggregate surfaces will be removed to a depth where clean aggregate without soil mixing can be retrieved. This aggregate may be applied throughout the site on access roads as a final top layer.

Once the aggregate is removed, deep disking construction equipment will be used to de-compact the subgrade. Once the subgrade has been appropriately de-compacted, the topsoil will be evenly spread over the yard. If the subsequent use will be agricultural in nature, standard agriculture equipment will be used to prepare the soil for a seed bed, and necessary steps taken to return crop yields to preconstruction levels.

2.3.5.4 Provide a list of all hazardous chemicals to be used on site during construction and operation (including liquid fuel).

Hazardous chemicals, including fuel for vehicles, paints, and lubricants, will be stored on site during the construction period. Gasoline and diesel fuel may be stored on site, using tanks equipped with integral secondary containment. Refueling will be contracted with a local fuel delivery service. Other hazardous chemicals on site will be stored in trailers located at the main laydown area. The expected hazardous chemicals include diesel fuel, gasoline fuel, oil, grease, spray paint, and galvanization paint.

2.3.5.5 Discuss spill containment and cleanup measures including the Spill Prevention, Control, and Countermeasures ("SPCC") and risk-management planning for the chemicals proposed.

Elk Creek Solar will require that the contractor awarded the construction contract for the Project prepare an SPCC Plan as required. The SPCC Plan will be written by the contractor prior to start of construction and will be kept on-site during construction.

2.3.6 Construction Site Lighting.

2.3.6.1 Describe the site lighting plan during project construction.

Lighting equipment used during construction will consist of temporary light plants. The light plants are connected to a trailer and have generators to allow them to be transported around the construction site. The laydown area and parking area may have lights mounted to poles to support construction during non-daylight hours.

2.3.6.2 Provide copies of any local ordinances relating to lighting that could apply.

Land use plans, zoning ordinances, and relevant planning documents are provided in Appendix E.

2.4 Substation

If the project includes the construction of a substation or modifications to an existing substation, provide the following information:

2.4.1 A complete electrical description of required substation facilities including a list of transformers, busses, and any interconnection facilities required.

This section discusses the substation that will be developed for the Project. A preliminary Project substation layout schematic can be found in Appendix B. The Project substation design will be completed during detailed engineering for the Project and is expected to include:

- GSU Transformer 345 kV Y/199.5 -34.5kV Y/19.9-13.8 kV Delta 108/143/179 MVA;
- 34.5kV, 1200A, 63kA IC vacuum-insulated circuit breakers for the feeders to solar plant;
- 34.5kV, 3000A, 63kA IC main circuit breaker on the 34.5kV side of the main breaker;
- 34.5kV, 22 kV MCOV surge arrestor;
- 34.5kV, 3000A air insulated bus and supporting structures (includes air insulated switch for the transformer and the individual feeder circuit breakers);
- 34.5kV revenue metering and instrument transformers;
- 34.5kV, 1200A hook-stick operated single-pole switch;
- 34.5kV, 3000A hook-stick operated single-pole switch;
- 34.5kV, 3000A manually-operated disconnect switch with auxiliary switch;
- Minimum 100KVA station service transformer installation, which includes AC panel, station service transformer with fuses, equipment of a secondary source for AC power, conductors and support structure for all equipment);
- Emergency generator for AC panel (as required);
- Power factor control equipment as required (i.e. 34.5 kV capacitor bank) with associated isolation equipment such as reactive power switching equipment and disconnect switches;
- 34.5kV, 1200:5 MR CT with feeder protection relay;
- 34.5kV, 1200:5 MR CT with capacitor bank feeder protection relay;
- 34.5kV, 3000:5 MR CT with transformer protection relay;
- 345kV, 1200A, 40kA IC circuit breaker;
- 345kV, 220 kV MCOV surge arrestor;
- 345kV bus and supporting structures;
- 345kV revenue check metering and instrument transformers;
- 345kV, 1200:5 MR CT with transformer protection relay;
- 345kV, 1200:5 MR CT with bus protection relay;
- 345kV dead-end structure for outgoing transmission line (generation tie line to the POI);
- Protection and control building, which include DC power equipment (Battery, Battery Charger, Racks, Inter-cell connectors), DC panel, AC panel and relay/control/ communication equipment, lighting, HVAC, smoke /fire protection equipment, etc.;
- Security card readers;
- Surveillance system;
- Safety and warning signage;
- Internal access roads;
- Cable trench with cover;
- Security fence (minimum of 7 feet height) with vehicle gate, main gate. Fence to be grounded to the substation ground grid per National Electric Safety Code (NESC) requirements;
- Bare copper grounding grid (to be installed below grade) with high resistance gravel/rock installed above grade for protection against electrical shock;
- Power cables and control cables installed in a below grade concrete trench, polyvinyl conduit and manhole as required;
- Lightning protection masts; and
- Yard lighting and receptacle to be used during maintenance and or during emergency, the lighting to meet the illumination levels per NESC.

2.4.2 Indicate the size (in acres) of the land purchase required for the new substation or substation expansion.

A schematic showing the approximate orientation of the Project substation on the property is provided in Appendix B. The Project substation will require approximately 1.5 acres of land which is included on a 70-acre parcel of land that is currently under a purchase option. Elk Creek Solar will execute the purchase option when the CPCN is granted.

2.4.3 Indicate the actual size of the substation or substation addition in square feet, the dimensions of the proposed substation facilities, and the orientation of the substation within the purchase parcel. This should include the size of any new driveways associated with the substation.

Pending final design work, the proposed Project substation is expected to have a fenced footprint of approximately 3.7 acres (380 feet by 430 feet.) A preliminary physical layout showing the approximate orientation of the substation with major equipment on the property is provided in Appendix B. The Project substation is located adjacent to the O&M buildings and will require the construction of 100 feet of additional driveway beyond the driveway constructed for the O&M buildings.

2.4.4 Identify current land ownership and whether applicant has control of property or whether or not an option to buy has been signed.

Elk Creek Solar currently holds and intends to exercise a purchase option for the land designated for the Project substation.

2.4.5 Describe substation construction procedures (in sequence as they would occur) including erosion control practices (see Section 3.1).

A typical construction sequence for the Project substation involves in order: site grading work; below-grade installation of foundations for the equipment and bus structures/supports, conduit, trenching, manholes and ground grid installation; above-grade physical construction of bus-work, support structures, gravel/rocking, and installation of major electrical equipment; wiring and completion of all terminations; followed by testing, commissioning, and energization.

A site-specific construction specification and schedule will be developed during the final engineering process. All substation construction contractors will be required to follow the ECSWMP, as well as adhere to any site-specific environmental requirements including erosion and dust control.

2.4.6 Describe associated permanent stormwater management facilities that will be constructed, or expansion/modification of existing stormwater treatment facilities to comply with applicable post-construction performance standards in Wis. Admin. Code. §§ NR 151.121 through 151.128. Identify the locations of the point(s) of collection and discharge.

Permanent stormwater management facilities will be constructed to manage and treat stormwater associated with the new Project substation. A detention pond will be located roughly ten feet to the west of the substation fence and nearby grades will be constructed to ensure water is properly routed to the pond via overland sheet flow and/or vegetated swales. The detention pond will have an emergency overflow weir designed to safely route excess flow from a 100-year-or-above storm event.

2.4.7 Describe any security requirements for the substation site and provide information on how these would be met.

The Project substation will be fenced according to the National Electrical Code (NEC) and NESC. The fence will be properly grounded to avoid any hazards. The Project substation will also have safety lighting and may have security cameras mounted at fence gates.

2.5 Transmission and Distribution Interconnection

If the project includes the construction of a generator tie line, that is not the subject of a separate application before the Commission, provide the following information:

2.5.1 Describe any transmission or distribution grid interconnection requirement.

The Project 345/34.5kV Collector Substation will connect to an Xcel Energy switching station via a 345kV generator tie line.

2.5.2 Identify the length of the generator tie line.

The Project will have an approximately 300-foot generator tie line.

2.5.3 Provide details on the types of structures (underground/overhead, single-pole/H-frame, direct embed/concrete caisson, typical span length, etc.) and lines that would be constructed as part of any necessary generator tie line, including the height of the structures. If the installation will be underground, identify the installation method(s), such as directional bore, open-cut trench, plow, etc.

The generator tie line will be an approximately 300-foot overhead single-circuit line. Between zero to two generator tie line structures are anticipated to be required to connect the Project substation deadend structure to the switching station deadend structure. New intermediate structures would be 60 to 100-foot steel monopoles with direct-embed foundations.

2.5.4 Describe the transmission configuration (single-circuit, double-circuit, etc.).

Please reference Sections 2.5.2.

2.5.5 Describe the right-of-way (ROW) area needed for the generator tie line and the status of any easements or other land agreements with property owners.

No additional ROW for the generator tie line between the Project substation and switching station is required because all land will be purchased by Elk Creek Solar.

2.5.6 Describe all communications and agreements, official or otherwise, with the transmission or distribution owner. These can include definitive phase planning (DPP) studies and any signed generator interconnection agreements, or more informal meeting notes or letters.

In June 2020, Elk Creek Solar executed the Attachment X: Appendix 1 to the MISO Generation Interconnection Procedure (GIP) Interconnection Request and Attachment B, C, D and E, which together make up the documents required to request interconnection to the bulk transmission system.

After the MISO Kick Off meeting in December 2020 for DPP-2020 Cycle 1, Elk Creek Solar confirmed its commitment to continue with the application in January 2021 and provided all the necessary data and payment.

After completion of the DPP-2020 Cycle 1 Phase I (DPP1) in October 2021, Elk Creek Solar confirmed its commitment to continue with the application in December 2021 and provided all the necessary data and payment.

2.5.7 For transmission interconnections, indicate where the project is in the MISO Queue and provide copies of the latest draft or final MISO report for the project interconnect. During the PSC review process applicant must continue to supply the latest reports from MISO.

Elk Creek Solar holds queue position J1730 in the MISO West (Xcel Energy) DPP 2020 study cycle. MISO issued the DPP Phase 1 Report on October 27, 2021. The Project is in DPP Phase 2 which is currently expected to be completed in October, 2022. A final System Impact Study and Interconnection Facilities Study for Network Upgrades will be completed as part of the DPP 3 study work.

The Elk Creek Solar BESS holds queue position J1528 in the MISO West (Xcel Energy) DPP 2020 study cycle.

The Project is currently tracking to have an executed interconnection agreement by April, 2023.

Final, public versions of any DPP studies that MISO has completed for the Project are available on MISO's website and are included in Appendix D. Elk Creek Solar will provide confidential versions of these studies, as well as any other non-public, non-final DPP studies for the Project, to Commission staff upon request.

2.5.8 Indicate how equipment access will occur, and if off-ROW access roads will be utilized. If off-ROW access roads will be utilized, provide the following:

At this time, Elk Creek Solar does not anticipate that off-ROW access roads will be needed.

2.5.8.1 Provide the number of off-ROW access roads proposed, and an identifying name or number for each off-ROW access road.

Please reference Section 2.5.8.

2.5.8.2 For each proposed route, provide the dimensions (length, width, area) and construction method, including any modifications that would be needed to utilize the off-ROW access roads, such as road widening, road fill placement, tree clearing, etc.

Please reference Section 2.5.8.

2.5.8.3 Discuss the reasons for the necessity for off-ROW access roads (e.g. topography, rivers/wetlands, etc.). If protection of a natural resource is a reason, discuss how the resource would be protected during construction and operation of the proposed project.

Please reference Section 2.5.8.

2.5.8.4 Provide quantitative land cover information for off-ROW access roads similar to the information provided in PSC Impact Tables.

Please reference Section 2.5.8.

2.5.8.5 If the off-ROW access roads would be modified post-construction, provide details.

Please reference Section 2.5.8.

2.5.9 Describe the type of construction machinery that would be used.

Please reference Section 3.3.1.

2.5.10 Describe the construction disturbance zone, if different from the ROW.

Please reference Section 3.1.5.1

2.5.11 Describe how spoil materials would be managed on and off-site.

Please reference Section 2.3.3.4.

2.5.12 Describe the dewatering method(s) that may be utilized during excavation activities, such as pit/trench dewatering or high capacity wells. Identify treatment methods that would be utilized to treat the discharge, and the discharge location.

If dewatering is required, all water will be pumped away from any existing wetlands or waterways and will be kept onsite. Water will be pumped to a well-vegetated upland area where it can be discharged without causing erosion. Discharge locations will be constructed with energy dissipators to prevent erosion or suspension of surficial soils. In rare events, discharge basins will be constructed with a combination of straw bales, filter fabric, and rock. Dewatering will comply with applicable WDNR Technical Standards.

2.5.13 Describe if the construction of a new substation or switchyard, or modifications to existing facilities would be needed for the transmission interconnection. If so, describe which company would own and operate the facilities, and which company would conduct any ground disturbing construction for the facilities.

Xcel Energy will construct, own and operate the switchyard which will be constructed between the Project substation and the existing Xcel 345kV transmission line that runs between Eau Claire, WI and the A.S. King coal-fired power plant in Bayport, MN. Xcel Energy will also be responsible for the construction of the line tap between the switching station and the existing 345kV transmission line at the POI. Xcel Energy will conduct any ground disturbing construction for the switching station and the line tap.

2.6 Operations and Maintenance Building

Elk Creek Solar will construct a two on or two story 45-foot x 110-foot O&M buildings, which will include offices, meeting space, common areas, a maintenance bay, a storage area, and Supervisory Control and Data Acquisition (SCADA) and mechanical rooms.

2.6.1 Describe the purpose and use of the proposed O&M building.

The purpose of the O&M building is to maintain an on-site facility for employee use, meeting space, maintenance and storage for spare parts and equipment.

2.6.2 Number of full-time employees that would be working at the facility.

Elk Creek Solar anticipates there will be up to four full-time staff employed at the facility.

2.6.3 Provide the size (in acres) of the land purchase required for the facility.

An area of approximately 0.75 acre has been allocated within the Project Area for the proposed O&M buildings and associated parking.

2.6.4 Building and Building Footprint

2.6.4.1 Provide a drawing or diagram of the O&M building with dimensions including square feet.

The O&M facility drawings are included in Appendix B.

2.6.4.2 Indicate the actual size of the building in square feet, and the size of any permanent driveways for the building to be constructed.

The proposed size of the O&M buildings will be roughly 4,950 to 7,425 square feet. A permanent driveway approximately 700 feet long will be constructed to provide access to the O&M buildings.

2.6.4.3 Describe the type of building to be constructed (metal, frame, etc.)

The buildings will be a metal commercial-style building that houses year-round offices and equipment storage.

2.6.5 Lighting and Security Plan for O&M Property

2.6.5.1 Describe how the building property will be lit and how the lighting plan minimizes disturbance to nearby residences.

Fixtures used to light the Project Area will limit lighting of the night sky and will be directed away from adjacent properties and public ROWs to prevent light from casting or illuminating onto those properties. Any lighting used on site will comply with all applicable state rules and regulations.

2.6.5.2 Describe any security plans for the property (fences etc.).

The O&M buildings will be enclosed within the Project fence and access will be through a secured gate. Doors to the O&M buildings will be secured using computerized card readers.

2.6.6 Describe any other facilities needed, including:

2.6.6.1 Parking lots.

A parking lot with space for approximately 10 vehicles will be constructed next to the O&M buildings.

2.6.6.2 Sheds or storage buildings.

No sheds or additional storage building are planned for this Project. The O&M buildings will have sufficient space for storage of equipment and materials. Other storage may be utilized on a temporary basis during construction or decommissioning.

2.6.6.3 Supplies of water.

A potable water supply well will be constructed to service the O&M buildings.

2.6.6.4 Sewer requirements.

A septic system will be constructed to provide sanitary service to the O&M buildings.

2.6.7 Describe construction procedures (in the sequence as they would occur), including erosion control practices (see Section 3.1).

The O&M buildings will be constructed after the Project substation are constructed. Temporary stormwater BMPs will be installed during the construction of the O&M buildings in accordance with the ECSWMP. Once the O&M buildings are complete, the temporary BMPs will be removed, and the site will be stabilized with supplemental permanent seeding as required.

2.6.8 Describe associated permanent stormwater management facilities that will be constructed, or expansion/modification to existing stormwater treatment facilities, to comply with applicable post-construction performance standards in Wis. Admin. Code §§ N.R. 151-121 through 128. Identify the locations of the point(s) of collection and discharge.

A stormwater management pond is proposed to be located immediately to the north and west of the proposed O&M buildings. The stormwater pond will be designed to reduce the peak run-off rates to less than original (pre-development) levels and designed to meet regulatory requirements. This will prevent soil erosion and adverse impacts to neighboring properties. Collection points will be located on the north and west side of the O&M buildings. Discharge, when necessary, will be to the open field west of the stormwater pond.

2.7 Battery Storage

If the proposed project would include a large-scale Battery Energy Storage System (BESS) or plans to include one in the future, provide the following information. State clearly if the project is seeking authorization to construct a BESS in the current solar electric generation facility docket. Provide all of the environmental impact information for the BESS if one is being proposed, identical to the environmental impact information provided with all other project facilities.

Elk Creek Solar is seeking approvals to construct an approximately 76.6 MW (304 MWh) DC coupled BESS with battery modules located adjacent to each solar inverter rather than aggregated by the substation. Approval is sought because the BESS is associated with and is an integral part of the Project. The conceptual layout for the BESS and anticipated storage capacity is based on a 25 percent nameplate capacity storage system capable of a 4-hour discharge at 304 MWh.

2.7.1 Describe the location of the proposed BESS, including a map that shows its placement within the other project facilities.

The BESS for the Project will be DC-coupled and located adjacent to each solar inverter in the design, rather than in aggregation at the Project substation. The Conceptual Layout of the Project in Appendix B shows the location of solar inverters for the Project. Each inverter will have approximately eight battery racks housed in the same industrial cabinet that houses the inverter. A fraction of the energy generated from the solar panels in each inverter block will flow directly into the battery modules coupled with that inverter block. Energy stored in the battery modules will be released into the inverters as needed to fill production dips caused by clouds or fulfill evening demand.

2.7.2 Explain what criteria was used to decide whether to use a BESS, and provide information on how its inclusion would affect the electrical design of the project and MISO interconnection process.

Cost modeling of various use-case scenarios were conducted to determine the optimum BESS size. The BESS will be interconnected into the same Project substation that the solar facility is interconnected to

in a non-additive basis. The non-additive storage application was entered into MISO West DPP 2020 cycle with queue position J1528. The storage interconnection process will follow the MISO DPP 2020 cycle process.

2.7.3 Identify the manufacturer and model of battery systems to be used. (It is acceptable to identify several potential units). Include technical specifications.

The FlexGen FlexPack containing 340kWh Air Golden Sigma Batteries and Power Electronics FD1200 DC/DC Converter was incorporated into the Project BESS design. Datasheets have been included in Appendix B. Alternative manufacturers offering a functionally equivalent system may be considered in the future.

2.7.4 Provide information on how the BESS would be installed, any changes to project impacts through its inclusion, and ongoing operations and maintenance actions it would require.

The BESS will be installed in conjunction with the solar facility's construction timeline. Including the BESS will require additional interconnection into the common Project substation and integration into the Project SCADA control scheme. The BESS will be operated remotely under most circumstances and will only require periodic maintenance including groundskeeping and semi-annual maintenance activities.

On-going maintenance of a BESS typically involves servicing of the moving equipment (HVAC systems, fans and filters) as well as monitoring battery performance and degradation. It is anticipated that the BESS shall be augmented over the duration of the Project life cycle (typically, every 4-6 years) where additional batteries are added to replace degraded energy capacity. Proper site shut-down procedures shall be followed during these battery augmentation periods.

2.7.5 Discuss any safety requirements specific to the BESS both on site and for local first responders.

Battery energy storage systems require similar safety awareness to other substation and solar PV equipment especially related to electrical safety associated with high voltage AC and DC hazards. Strict adherence to NFPA-70E shall be followed as related to electrical safety. BESS can also exhibit hazards associated with thermal events, off-gassing, and fires under adverse circumstances. All batteries shall be certified by the manufacturer to comply with UL9540A at the cell, module, and unit (rack) level such that a thermal event occurring in a cell shall not migrate outside the rack to adjacent racks and equipment. In addition, hazards associated with battery off-gassing shall be detected and exhausted safety from the enclosure to prevent exposition hazards. Adherence to NFPA-855 shall be followed including facilitation of a Hazard Mitigation Analysis workshop by all stakeholders including the battery manufacturer, the battery integrator, the installer, and the local fire department to determine how thermal and off-gassing events are detected, communicated to first responders, and mitigated.

2.7.6 Describe construction procedures (in the sequence as they would occur), including erosion control practices (see Section 3.1)

The battery racks for the DC-coupled BESS at the Project will be distributed across the site and constructed with eight battery units per inverter. The battery units and inverter will be installed in the same cabinets and placed on a BESS/inverter pad that is approximately 40 feet by 20 feet. No unique construction or erosion control procedures will be necessary because the DC-coupled BESS is installed along with the inverters as part of the normal course of construction.

2.7.7 Describe associated permanent stormwater management facilities that will be constructed, or expansion/modification to existing stormwater treatment facilities, to comply with applicable post-construction performance standards in Wis. Admin. Code §§ N.R. 151-121 through 128. Identify the locations of the point(s) of collection and discharge.

No additional permanent stormwater management facilities will need to be constructed in support of this DC-coupled BESS.

3 Construction Sequence and Workforce

3.1 Construction Sequence and Schedule

3.1.1 Provide the construction schedule for the proposed project, identifying any potential seasonal or regulatory constraints. Include a timeline showing construction activities from beginning of construction to in-service. Identify all critical path items.

The estimated construction schedule is provided in Table 6 below. The current estimate is that site work could begin as early as Q4 of 2023, but the start date will be contingent on receipt of regulatory approvals. A more refined schedule will be prepared as the permitting and engineering processes proceed.

Table 6: Estimated Project Construction Schedule

Activity	Start	End
Start of Construction	Q4 2023	
Site Preparation (Erosion Control and Tracking Pads installation and ongoing maintenance)	Q4 2023	Q1 2024
Vegetation Removal and Temporary Seeding	Q4 2023	Q4 2023
Staging and Lay-down Areas	Q4 2023	Q2 2024
Construct Project Substation	Q4 2023	Q3 2024
Access Roads	Q4 2023	Q2 2024
Drive Posts	Q1 2024	Q2 2024
Install Racks	Q1 2024	Q2 2024
Install Inverter Pads	Q1 2024	Q3 2024
Install Solar Modules	Q2 2024	Q4 2024
Backfeed	Q4 2024	Q4 2024
Commissioning	Q4 2024	Q4 2024
In-Service Date		Q1 2025

3.1.2 Provide a description of the staging and construction sequence required for building of a typical solar array. Include the delivery of materials.

The following provides a description of the staging and construction sequence for the Project:

- Tracking pads at construction entry and exit points, and stormwater best management practices (BMPs) will be installed as outlined in the ECSWMP that will be prepared for the Project.
- Vegetation removal (crop removal) will start in areas where initial staging and lay-down areas will be located. Vegetation removal will continue across the site, sequenced to proceed in an organized and cost-efficient manner. Limited tree and brush clearing will commence in a similar fashion. Bare ground will be re-seeded if necessary, in accordance with the ECSWMP and WDNR requirements.
- Staging and lay-down areas will be developed to receive and store construction materials and equipment. The laydown areas will also house trailers and parking for personnel and construction-related vehicles.
- Installation of access roads to facilitate continued clearing operations and construction of the facility (limited grading is anticipated as roads will be constructed at grade when possible).
- Delivery of equipment, including piles, aluminum supports/mounting structures, tracking systems, and inverters. The Project will be constructed in blocks and multiple blocks will be constructed simultaneously over time. Deliveries will continue over time in advance of construction of the blocks.
- Solar block construction in sequence, starting with driving pile foundations, then installing aluminum supports/mounting structures onto the piles.
- Delivery of collection system equipment and installation via trenching and directional drilling.
- Delivery and installation of solar PV modules.
- Stabilization and revegetation of disturbed areas will occur in stages as construction of the solar blocks and collection trenches are completed. Bare ground will be re-seeded if necessary, in accordance with the ECSWMP and WDNR requirements.
- Delivery of materials and equipment for the construction of the Project substation including the transformer.
- Connection between Project substation and Xcel Energy Interconnection substation and transmission infrastructure.
- Conduct interconnection inspections and testing and Project commissioning.
- Vacate and restore staging and laydown areas prior to installation of piles and construction of the final solar blocks.
- Reseed and revegetate staging, laydown, and other disturbed areas consistent with the Project Vegetation Management Plan (VMP) (Appendix J).

3.1.3 Provide an estimate of time required to complete construction at a typical solar array.

The duration of construction for the Project is estimated in Section 3.1.1 to be up to 18 months. This timeline is in part dependent on winter weather conditions and the ability to work through the winter months.

The construction timeline will be finalized after an Engineering, Procurement, and Construction (EPC) contractor is hired.

3.1.4 Provide a description of the staging and construction sequence for any other facilities to be constructed.

The sequence for staging and construction for all Project facilities is described above in 3.1.2.

3.1.5 If grading, land leveling or any other activity that would result in a change in topography or vegetative or non-vegetative soil cover will occur provide following information as fully as possible. If technical details are not available,

discuss the goals and practices generally:

3.1.5.1 Indicate the maximum area (sq. ft. or acres) of disturbance that would occur at a given time.

The Project Area is currently in agricultural production. Prior to the start of construction (assumed to be Q4 2023 as stated in Table 6), Elk Creek Solar will coordinate with participating landowners to determine the types of crops that may be present within the Project Area and the timeframe of harvest. Once crops are removed, bare soil with crop remnants is expected throughout the Project Area.

Micro-grading or site leveling will likely be necessary prior to array installation. It is estimated that micro-grading or site leveling will occur on roughly 40-60 acres at one time, with the use of construction blocks, as described in Section 3.1.2, minimizing the acreage of exposed soils at any given time, to the extent practicable. Appropriate BMPs will be installed prior to these grading activities. Bare ground will be re-seeded if necessary, in accordance with the ECSWMP and WDNR requirements. During the initial stages of the Project, 500 acres or more of the Project could be disturbed at a given time as temporary and permanent seed is installed and established.

3.1.5.2 Describe erosion and sediment control practices (e.g. sedimentation basins) that by design will be employed to result in a discharge of no more than 5 tons per acre per year of the sediment load carried in runoff from initial construction to final grading.

Preliminary review of Project Area site characteristics, including existing topography and soils, show that the existing gentle slopes are not likely to be subject to severe soil erosion. The majority of the Project Area includes gentle slopes of less than 3 percent, and much of the Project contains well drained, sandy loam and loamy sand soils. The Project Area will be surrounded by silt fence which will filter low-velocity sheet flow coming from the work area. In locations where larger areas drain to the Project boundaries, the silt fence will be augmented by filter socks to allow settlement of sheet flow run-off. Erosion control blankets will be used in combination with silt fence to protect sensitive areas by establishing a vegetative buffer to allow additional settlement. In locations where large drainage areas occur with steeper ground slopes (>5% pitch), sedimentation basins will be established to allow settlement of run-off with a higher silt content.

3.1.5.3 Describe any structural practices that will be used to divert flow away from exposed soils, store runoff or otherwise limit runoff and the discharge of sediment.

Elk Creek Solar will prepare an ECSWMP prior to construction that will provide specific prescription of stormwater BMPs to minimize scour and / or provide temporary conveyances to maintain drainage. BMPs will be used that meet WDNR Technical Standards. These may include ditch checks, culvert protection and temporary sediment basins. The Elk Creek Solar Project is characterized by well-drained sandy loamy and loamy sand soils which will further limit runoff and prevent discharge.

3.1.5.4 Describe to what extent final grade will affect predevelopment drainage patterns.

Final grade will minimally affect pre-development drainage patterns. On-site infiltration post-construction is anticipated to be comparable to pre-construction on-site infiltration.

3.1.5.5 Describe how these preventative measures will be incorporated into the project:

- **Maintenance of existing vegetation, especially adjacent to surface waters whenever possible.**

The overwhelming majority of existing vegetation on the site is row crop which will be replaced with one of two project-specific seeds mixes described in the VMP (Appendix J). There are no surface waters within the Project Area boundary.

- **Minimization of soil compaction and preservation of top-soil.**

Topsoil will be segregated during the ground-leveling and micro-grading phase of construction. It will be reapplied across the disturbed portions of the Project. Soil compaction will be minimized through the use of temporary laydown yards through the construction process. The temporary laydown yards will be de-compacted prior to the re-application of topsoil and permanent seed installation.

- **Minimization of land-disturbing construction activity on slopes of 20 percent or more.**

There are no slopes in excess of 20 percent within the Project Area.

3.2 Workforce

3.2.1 Provide information on the workforce size and skills required for project construction and operation.

During construction, the work force will be primarily comprised of delivery drivers, laborers, equipment operators, and management personnel. The equipment operators will operate civil equipment, pile drivers, cranes, and material-handling equipment. Most of the personnel required to construct the Project will be laborers that install racking systems and place modules. Approximately 300 workers, at peak construction, are anticipated to be needed to construct the Project. Once construction is complete, the facility will be staffed for ongoing O&M. The facility operator(s) will have specific training and expertise to run a solar facility, including the high-voltage substation.

3.2.2 Estimate how much of the expected workforce would come from local sources.

The amount of labor that will be sourced locally is unknown at this time and will be dependent upon the contractor selected, as well as the labor market and availability at the time of construction.

3.3 Construction Equipment and Delivery Vehicles

Provide a description of the types of construction equipment needed to build the project and the types of delivery vehicles that would be used. For large equipment and vehicles include:

3.3.1 Types of construction equipment and delivery vehicles.

The Project will require different equipment types depending on the phase of construction. Elk Creek Solar estimates that there will be between 25 and 35 trucks used daily for equipment delivery during construction. Light duty trucks will also be used on a daily basis for transportation of construction workers to and from the site. Most panels and other site equipment and materials will be delivered by standard, legal load weight semitrucks. Typical construction equipment such as scrapers, bulldozers, dump trucks, watering trucks, motor graders, vibratory compactors, and backhoes will be used during construction. Specialty construction equipment that may be used during construction will include:

- Skid steer loader;
- Vibratory pile driver;
- Medium duty crane;
- All-terrain forklift;
- Concrete truck and boom truck;
- High reach bucket truck; and

- Truck-mounted auger or drill rig

The first phase consisting of civil work and road building will require dozers, motor graders, and rollers. The pile-driving phase will utilize pile drivers. After pile driving, installation of racking and panels will be supported mainly by skid steers and telehandlers. For the Project substation, a multi-axle, low-boy trailer will be used for the transformer delivery and a large truck crane will be needed to set the transformer and other heavy equipment. For other Project substation components, small cranes, bucket trucks, and forklifts will be used to place equipment. Other support equipment such as skid steers, ATVs, and forklifts will also be used.

3.3.2 Gross vehicle weight (loaded and unloaded) for all vehicles using local roads.

Vehicles used for transporting Project components will consist of legal load (80,000 pounds or less) over-the-road trucks. The only expected oversize load delivery vehicles will be for the MPTs at the Project substation. The shipping weight of the MPTs will be approximately 200,000 pounds and may be transported via rail to the nearest railyard or via barge to the nearest port and then use special multi-axle trucking as necessary to the site.

If there becomes a need for a larger vehicle, Elk Creek Solar's construction contractor will work with state and local authorities to obtain the applicable oversize-overweight permits.

3.3.3 For vehicles used for delivery (diagrams or drawings of vehicles are acceptable). Include:

3.3.3.1 Overall vehicle length.

Except for the multi-axle, low-boy semitrailer for delivery of the MPT and crane, vehicles used for delivery will be standard over-the-road semi-trucks.

3.3.3.2 Minimum ground clearance.

The standard over-the-road semis/delivery vehicles that will be used for this Project will have standard ground clearances. Low-boy trailers may be utilized for the delivery of some construction equipment, and a multi-axle low-boy trailer will be utilized for the delivery of the transformer. These vehicles have low ground clearance (similar to that of automobiles). The contractor will coordinate the use of reduced ground clearance vehicles as necessary to prevent damage to public roadways or other infrastructure. Vehicles used inside the arrays will be suitable for the engineered internal access roads and will have sufficient ground clearance.

3.3.3.3 Maximum slope tolerance.

The routes to the Project are relatively flat. Slope tolerance is therefore not expected to be an issue. Prior to delivery, the contractor will finalize Project routes for all deliveries, including the MPT load, adjusting delivery plans accordingly.

3.3.4 Roads and Infrastructure. Estimate the potential impacts of construction and delivery vehicles on the local roads. Provide the following:

A Road Condition Report was completed for the Project in October 2022. Current desktop road-condition data, jurisdictional agency reviews, and in person field review and visual inspections were performed as part of that road study. Traffic count information was acquired from the WisDOT Roadrunner Geographic Information System (GIS) website for the nearby State Trunk Highways and County Trunk Highways. For local township roads, the Wisconsin Information System for Local Roads database was consulted for estimated existing traffic counts. The results of the analysis conducted and

provided in the Road Condition Report indicate that the local roadways which access the Project Area and within the Project Area have varying levels of integrity and construction access viability. Viable construction routes are included/proposed in the report which are beneficial for minimizing interface between construction traffic and the general public as well as avoiding excessive damage to roadways based on weight limits. The Road Condition Report is included in Appendix S.

3.3.4.1 Describe methods to be used to handle heavy or large loads on local roads.

The MPT is the only equipment that will require use of transportation vehicles other than standard over-the-road flatbed trailers and box trucks. The MPT will be hauled to the Project substation using a multi-axle, low-boy trailer designed to haul loads of over 200,000 pounds. Prior to delivery, the EPC contractor and heavy-haul contractor will map out and determine the necessary route from the railyard drop location to the Project substation, based on road gradients, daily traffic patterns, bridge and electrical distribution wire/communication cable clearances, road weight limits, turning radius and permit requirements. The step-up transformer is to be located near the substation yard in the northwestern portion of the Project Area near the intersection of CTH E and 810th Street and will require a crane for installation.

3.3.4.2 Probable routes for delivery of heavy and oversized equipment and materials.

The recommended haul route to the Project Area is based on the most direct routes using sturdy road, designed and built for the standard construction traffic. It is possible, given Project design or access changes, that different routes may be considered by the contractor. If so, Project representatives will review the updated routes with County and Township representatives.

- Haul Route from the east and south: Shipments will use I-94 for long distance access and will exit and continue to the site via STH 85 and CTH H, entering the Project Area at the southeast corner. Alternatively, shipments may exit I-94 at STH EE, continuing to CTH H, entering the Project Area at the northeast corner.
- Haul Route from the west and north: Shipments will use I-94 for long distance access and will exit at CTH B which is a 4 lane divided highway, and continue to the site via STH 29 (also known as US Highway 12) and to CTH E, entering the Project Area at the northwest corner.

3.3.4.3 Potential for road damage and any compensation for such damage.

Road damage during the construction phase of the Project is unlikely. Solar projects generally use legal-limit loads. If required, Elk Creek Solar will record all roads in the Project Area using a high-frame rate, high-definition digital camera prior to and following construction for comparison purposes. Per the conclusions of the Road Condition Report, no culvert or pavement damage is expected during the equipment delivery and construction phase of the Project. Elk Creek Solar will have an obligation to repair any road damage caused by Project construction.

3.3.4.4 Probable locations where local roads would need to be modified, expanded, or reinforced in order to accommodate delivery of equipment.

Discussions with the County and Township road personnel did not identify any roadways in the Project Area to be structurally deficient or otherwise problematic except for Town and County roads during the spring thaw. For safety reasons, Town roads, other than specific Project access points, should be avoided to minimize damage to lighter pavement sections. Road width or turning radius modifications are not expected to be required for Project deliveries. If internal array road access points are

constructed sufficiently wide (25-30 feet+) at driveway locations, other modifications should not be necessary.

It is likely that gravel and unimproved Town roads (especially 790th Street, 810th Street, 850th Street, 290th Avenue, and 370th Avenue) will need to be regularly maintained during the construction process. Alternatively, these roads could be improved prior to construction by the addition of an additional layer of gravel.

3.3.4.5 Include an estimate of whether or not trees near or in road right-of-way (ROW) might need to be removed.

No clearing of trees near any Project roadways is anticipated.

3.3.4.6 Provide an estimate of likely locations where local electric distribution lines would need to be disconnected in order to allow passage of equipment and materials.

No disconnection of local electric distribution lines will be necessary to allow for delivery of equipment and materials.

3.3.4.6.1 Describe how residents would be notified before local power would be cut.

Not applicable.

3.3.4.6.2 Estimate the typical duration of a power outage resulting from equipment or materials delivery.

Not applicable.

3.3.5 Construction Traffic. Describe any anticipated traffic congestion and how congestion would be managed, minimized or mitigated. Include:

Deliveries of equipment and materials from the South and East will likely be via I-94 continuing to the site via STH 85 and CTH H, entering the Project Area at the southeast corner. Alternatively, shipments may exit I-94 at STH EE, continuing to CTH H, entering the Project Area at the northeast corner. Deliveries of equipment and materials arriving from West and North of the Project site will be via I-94 exiting at CTH B which is a 4 lane divided highway, and continuing to the site via STH 29 (also known as US Highway 12) and then to CTH E, entering the Project Area at the northwest corner.

During construction, approximately 300 construction workers are expected to travel to and from the Project. Local traffic congestion may occur from Monday to Friday, twice a day, coinciding with workers arriving or leaving the site.

Elk Creek Solar estimates that there will be between 25 and 35 trucks used daily for equipment delivery during construction. Light duty trucks will also be used on a daily basis for transportation of construction workers to and from the site. Most panels and other site equipment and materials will be delivered by standard, legal load weight semitrucks. These various delivery trucks are expected to be legal-load flatbed and box trucks. The MPT will likely require a special delivery vehicle, and due to its weight (estimated at 200,000 pounds) will require state road permits for its delivery. The delivery of the MPT utilizing a specialized multi-wheel trailer may require police traffic control along local roadways. This traffic control will only be required during the delivery of the MPT.

Local routes to the Project will have construction signage notifying deliveries and workers to reduce

traffic. Signage will be posted to inform the general public of the additional construction traffic.

3.3.5.1 List of roads most likely to be affected by construction and materials delivery.

Table 7: Affected Roads

Affected Roads
I-94
STH 85
STH EE
STH 29
County Trunk Highway H
County Trunk Highway E
County Trunk Highway B
290th Avenue
370th Avenue
790th Street
810th Street
850th Street
890th Street

3.3.5.2 Duration of typical traffic disturbance and the time of day disturbances are most likely to occur.

A small traffic increase will likely occur twice a day during the work week (Monday through Friday) when construction workers are traveling to and from the Project. This increase will consist of the personal vehicles owned by the workers. Deliveries of equipment will also be traveling to the Project during the work week. Material deliveries will generally be scheduled throughout the day versus during hours when residents are also commuting. The delivery and construction timing may be adjusted as needed to maintain the Project's construction schedule.

4 Project Maps, Aerial Photography, Photo Simulations, and GIS Shapefiles

Required maps listed below are included in Appendix A, unless otherwise noted.

4.1 Project Area Maps

4.1.1 General Project Area Map. (The extent of this map should show the entire project area and reach at least 1 mile beyond the project area boundary. Approximate scale 1:4800).

4.1.2 Detailed Project Area Map. (The scale for this map should be larger than that of the general project map so that the added detail is clearly visible. This usually necessitates a series of maps). (If new residences, day-care centers, hospitals, or commercial or industrial facilities have been built since the date of the aerial image base map, note those features accurately on the detailed project area map.)

4.1.3 Topographic Maps

4.1.4 Substation

4.1.4.1 Provide a map showing the features listed in the AFR:

The substation is location depicted on Figure 4.1.2.

4.1.4.2 Provide an engineering diagram/s of the substation and substation equipment including any turning structures and interconnection facilities.

The substation diagram is found in Appendix B.

4.1.5 O&M Building

4.1.5.1 Provide a map showing the O&M building, parking area, roads, other impervious ground surfaces (e.g. gravel, aggregate, asphalt, concrete, etc.), permanent storm water management areas, and any other facilities. Include, as a background, a recent aerial image of the property.

The O&M structures are depicted on Figure 4.1.2.

4.1.5.2 Provide an engineered drawing of the O&M Building.

The O&M structure diagram is found in Appendix B.

4.1.6 Battery Storage

4.1.6.1 Provide an engineered drawing of the battery storage area, fencing, impervious ground surfaces, access roads, and permanent storm water management areas.

There is no single BESS location proposed on the Elk Creek Solar Project because batteries are distributed across the site and battery modules are housed in each inverter cabinet.

4.1.7 Natural Resources and Land Use/Ownership Maps

Natural resource and land use/ownership maps are found in Appendix A.

4.1.7.1 Wetland and waterway maps. See section 8.3 for the map sets to provide.

4.1.7.2 Land Ownership Maps, minimum scale 1:10,000 (map extent to 1.0 mile from the project boundary).

4.1.7.3 Public Lands.

4.1.7.4 Land Cover.

4.1.7.5 Flood Insurance Rate Maps (FIRM) (within the project boundary). Provide flood insurance maps if the site is within 0.5 miles of a floodplain.

4.1.7.6 Soil Survey Maps (within the project boundary).

4.1.7.7 Bedrock Maps (within the project boundary). Map showing depth to bedrock for the entire project area.

4.1.8 Community Maps

Community maps are found in Appendix A.

4.1.8.1 Zoning Maps. Provide a map or maps of the project area showing existing zoning (e.g. agriculture, recreation, forest, residential, commercial etc.). Map should show existing zoning within and up to 0.5 miles of the project area boundary.

4.1.8.2 Sensitive Sites. Additional map (if necessary) showing proximity to schools, day care centers, hospitals, and nursing homes within and up to 0.5 miles of the project area boundary.

4.1.8.3 Airports.

4.1.9 Communication Infrastructure

4.1.9.1 Identify radio, television, microwave towers, and any NEXRAD or Doppler weather radar installations on a map and show the results of the line of site analysis. Include communications and NEXRAD/Doppler installations within a 50-mile radius of the project area.

4.2 GIS data

Provide GIS data with attributes as listed and described in section 4.2 of the Application Filing Requirements. GIS attribute table information should be clearly labeled to identify fields and feature names.

Appendix F (submitted via the Commission's SFTP server) contains the following GIS-related items as part of the application:

- GIS shapefiles containing all the data used to produce all maps in the application.
- A spreadsheet listing all GIS data files, a file description, the source of the data, and the date when the data was collected or published.
- Map files in Esri ArcGIS *.mxd format for all GIS maps in the application.

4.3 Photo Simulations

Photo simulations are required. Simulations should seek to provide an accurate representation of what the project area would most likely look like after the project is completed. In order to be certain that any photo simulations provided in an application will be useful, please consult with PSC staff before preparing and submitting photos.

Existing aesthetic conditions of the Project Study Area and its vicinity were documented with photographs taken in October 2021 and August 2022. A subset of photographs collected during a site visit served as the baseline images for the creation of visual simulations. The simulations show rendered views that include the proposed solar arrays and collector substation as proposed in engineering and plan documents.

Prior to commencing the photo simulation tasks for the Project, Elk Creek Solar consulted with Commission staff to determine the suitability of potential Key Observation Points (KOPs). Five KOPs were selected and used to create visual simulations of what the Project may look like once constructed:

- KOP 1 – View west from STH 22
- KOP 2 – View west/southwest from County Road H
- KOP 3 – View southwest from County Road E and County Road H
- KOP 4 – View northeast from 890th Street

- KOP 5 – View southwest from 890th Street and 290th Avenue

A summary depicting the existing and simulated conditions is provided in Appendix G. The Visual Resources Technical Report contains baseline photographs and visual simulations for the listed KOPs.

5 Natural and Community Resources, Description and Potential Impacts

5.1 Site Geology

5.1.1 Describe the geology of the project area.

Dunn County lies within the Driftless Area and Dissected Till Plain sections of the Central Lowland Physiographic Province of the United States. Characteristic features of the Central Lowland province are flat lands with geomorphic remnants of glaciation. The Project Area is located in the Western Coulees and Ridges Ecological Landscape of Wisconsin, where the geology dates from the Cambrian and Ordovician periods and includes sandstone and dolomite with shale.

Published information indicates the Project Area is primarily underlain by the Mount Simon Formation, with a small section on the eastern end of the site being underlain by the Eau Claire Formation. Depth to bedrock in most of the Project Area is greater than 200 feet below the surface. U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) mapping indicates that depth to a restrictive layer for most of the Project Area is greater than six feet.

The Mount Simon Formation is composed of sandstone, pebble conglomerate, and coarse to fine grained shale that is gray to light brown to white, poorly sorted, and thin to thickly bedded. It contains 10- to 20- centimeter-thick red and green shale beds in the lower part. The upper beds are commonly bioturbated and fossiliferous. The total thickness reaches approximately 70 meters in the far west.

The Eau Claire Formation is composed of fine-grained light brown to buff sandstone that is locally glauconitic, poorly sorted, subangular, locally abundant trilobite and phosphatic brachiopod fossils. It is commonly flaggy-bedded with green shale partings but can contain thicker (2-3 meter) beds.

5.1.2 Geotechnical report on soil conditions

Elk Creek Solar performed a preliminary geotechnical review of the site to assesses subsurface conditions and provide preliminary geotechnical recommendations for design and construction of the Project. A summary of the geotechnical investigation is presented within this section. The full preliminary geotechnical report with boring logs can be found in Appendix H.

5.1.2.1 Provide a summary of conclusions from any geotechnical report or evaluation of soils in the project area including (subjects in bullets below):

Elk Creek Solar commissioned Wood Corporation to perform a preliminary subsurface exploration and geotechnical engineering evaluation for the Project. The purpose of the investigation and report was to explore subsurface conditions, conduct field and laboratory testing to characterize the subsurface soils and bedrock properties and to provide preliminary geotechnical engineering parameters for the design and installation of the tracking systems for the solar panels.

The following subsections discuss the existing soil classifications and potential limitations, which include soil bearing capacity and soil settlement potential, potential for frost heave, compaction prone soils,

hydric soils, drainage classification, potential for corrosion to steel, depth to water table, and depth to bedrock.

- **Results of soil borings including a review of soil bearing capacity and soil settlement potential.**

Nineteen soil test borings were performed for the Project at select locations within and adjacent to the Project Area. Borings were conducted to a depth of 15.5 feet. Soil boring and test pit locations are shown as Figure 1 in the Geotechnical Report in Appendix H of this application.

A majority of the Project Area has a topsoil thickness of about 1.5 feet across the site, generally underlain by cohesive soils comprised of poorly graded sand, extending to the boring termination depths.

All the borings were extended to a depth of 15.5 feet without encountering refusal.

Water was not encountered in the borings at the time of drilling. Groundwater levels may vary depending on site conditions, season of the year and weather.

Elk Creek Solar expects that the soils at the Project Area will be suitable for standard driven pile foundations required to support the module racking and inverters. A conventional shallow foundation system should be suitable for auxiliary structures and equipment pads.

A final geotechnical study will be completed prior to construction, which will confirm the pile requirements and appropriate foundation designs. Foundation design depths and steel pile cross sections are based on the snow, wind, and loading of the module and racking weights. Foundation cross section and depths will be designed by a Wisconsin licensed structural engineer. Frost depths will be taken into consideration when determining the design. Typical foundation designs are based on a minimum 30-year useful life which includes both corrosion and foundation displacement (frost heave) potential.

- **Results of soil borings and test pits for Site Evaluation for Storm Water Infiltration (Wisconsin Technical Standard 1002).**

The geotechnical investigation performed for the Project did not include an analysis for soil infiltration or permeability testing. However, based on the soil type encountered within the geotechnical borings and during the wetland delineation, the soils consist of topsoil underlain by poorly graded sand. These soil types are highly permeable and will provide excellent stormwater infiltration. The final site stormwater plan will review available soil infiltration data and account for these properties in the development of stormwater detention and treatment.

- **Depths to seasonal high groundwater.**

Groundwater was not encountered in the borings at the time of drilling. Groundwater levels may vary depending on site conditions, season of the year and weather.

- **Results of any infiltration rate measurements, such as for permanent storm water infiltration basins or other practices.**

The geotechnical investigation performed for the Project did not include an analysis for soil infiltration or permeability testing. However, based on the soil type encountered within the geotechnical borings and during the wetland delineation, the soils consist of topsoil underlain by poorly graded sand. These soil types are highly permeable and will provide excellent stormwater infiltration. The final site stormwater plan will review available soil infiltration data and account for these properties in the development of stormwater detention and treatment.

- **Identify any soil conditions related to site geology that might create circumstances requiring special methods or management during construction.**

Natural soils suitable for support of the proposed solar racks, service buildings, and transformers are generally present within most of the boring and test pit locations at relatively shallow depths. Groundwater is not anticipated to be encountered during typical excavations at this site. Evaluation and recommendations regarding general site grading, service roads, solar array, equipment slabs, and seismic classification are provided in detail in the Geotechnical Report in Appendix H.

5.1.2.2 Depth to bedrock

- **Identify any sites where panel supports or foundation construction must be modified because of the presence of bedrock**

Bedrock was not encountered during soil borings to a depth of 15.5 feet and is not expected to be a constraint.

- **Describe construction methods and foundation issues associated with situations where bedrock formations are near the surface.**

Elk Creek Solar expects that conditions within the Project site will be suitable for standard driven pile foundations required to support the module racking and inverters and for concrete foundations within the Project substation. A final geotechnical study will be completed prior to construction, which will confirm the pile requirements and appropriate foundation designs. If geotechnical investigations determine that shallow bedrock is present at depths that may impact construction, subgrade design and construction methods will be modified as appropriate.

- **Likelihood or potential that construction on bedrock formations may negatively impact private wells within two miles of panel sites.**

There is a low likelihood that construction on bedrock formations may negatively impact private wells within two miles of the Project area. If bedrock formations are encountered during the final subsurface exploration and geotechnical engineering evaluation, measures will be implemented to guard against the introduction of contaminants into groundwater due to accidental release of construction related chemicals, fuels, or hydraulic fluid during construction. Spill-related impacts from construction are primarily associated with equipment refueling and equipment maintenance. To avoid spill-related impacts, the construction contractor will be required to prepare a SPCC Plan and/or a stormwater pollution prevention plan (SWPPP), as required, that outlines measures that will be implemented to prevent accidental releases of fuels and other hazardous substances and describes response, containment, and cleanup procedures. By implementing the protective measures set forth in these plans, long-term contamination due to construction and operation activities is not anticipated.

5.2 Topography

5.2.1 Describe the general topography of the project area.

Raster files of topographic features within the Project Area boundary and surrounding landscape, including the area within a 10-mile radius, can be found in the electronic files being provided to the PSCW, as described in section 4.2.

The landscape within the Project Area is gently rolling in the northern portions and relatively flat in the southern portions. Elevations range from approximately 890 feet mean sea level (msl) in the highest areas in the northeastern parcels to topographic lows of approximately 840 feet msl along Muddy Creek. Muddy Creek within the far southwestern parcel lies at approximately 800 feet msl below a steep slope.

The groups of parcels within Project Area are bordered by local roads, agricultural land and scattered rural residences. Muddy Creek is generally oriented north-south to the west of the Project Area and flows south to the Chippewa River.

5.2.2 Describe expected changes to site topography due to grading activities.

The prevailing topography of the Project Area will not be substantially changed by construction activities including installation of the foundations for the tracking systems and trenching for the collection system. Other than grading requirements for the substation/step-up transformer and other localized areas, no significant grading is anticipated. It is anticipated that panel arrays will be designed and constructed to conform to the existing topography to avoid the need for significant grading. However, some localized grading will be necessary to meet racking tolerances. Access roads will be constructed as close to existing grade as possible; maintaining preconstruction hydrologic flow patterns.

Upon completion of construction activities, the areas temporarily impacted due to construction activities will be returned to their pre-construction topography.

5.3 General Project Area Land Cover

The Project is located in a predominately agricultural rural landscape in the Town of Spring Brook, Dunn County. The agricultural crops consist of corn, beans, potatoes and horseradish. Figure 4.1.6.4 in Appendix A provides an overview of the land cover existing within the Project Area.

Elk Creek Solar is including a separate land cover table that provides a summary of land cover (including wetlands and waterways), archaeological/historic sites, endangered resources, and participating and non-participating landowners within and adjacent to the fenced solar production areas (Array IDs). This table is included in Appendix V.

5.3.1 Identify and describe the landscape within the general project area, including a list of dominant plants in the land cover categories listed in this section. Land cover may be based on GIS data, recent aerial imagery, and/or on-site evaluation not greater than two years old.

The vegetative communities within the Project were evaluated by a combination of aerial photographic review and field visits during 2021. A summary of the vegetative communities follows.

5.3.1.1 Agricultural

The dominant vegetation is comprised of actively cropped agricultural land. No pastured lands exist in the Project Area. Crops within the agricultural areas consisted of corn, beans, horseradish and potatoes.

- **Row/traditional**
- **Specialty crops/other**
- **Prime farmland**

5.3.1.2 Non-Agricultural Upland

- **Prairie/grasslands/pasture/fallow field**

The grassland/shrubland communities are comprised of smooth brome (*Bromis intermis*), Kentucky bluegrass (*Poa pratensis*), Canada goldenrod, smooth sumac (*Rhus glabra*) and common milkweed (*Asclepias syriaca*), among others.

- **Upland forests**

The woodland communities are generally dominated by white pine (*Pinus strobus*), basswood (*Tilia americana*), red oak (*Quercus rubra*), white oak (*Quercus alba*) and burr oak (*Quercus macrocarpa*). The understory vegetation is commonly composed of prickly ash (*Xanthoxylum americana*,) and raspberry (*Rubus* sp.) shrubs over Canada mayflower (*Maianthemum canadense*), white snakeroot (*Ageratina altissima*) and Virginia creeper (*Parthenocissus quinquefolia*).

5.3.1.3 Wetlands (Eggers and Reed classification type)

Two wetlands were identified within the wetland delineation study area, which was larger than the Project Area boundary. The Project Area boundary was subsequently modified after the wetland delineation and only one wetland (W1) is now contained within the Project Area boundary. The wetlands delineated within the wetland delineation study area are further summarized in the Wetland Delineation Report in Appendix I. A summary of the wetland communities is also included in WDNR Tables 1 and 2 in Appendix U**.**

The field-delineated wetland located with the Project Area consist of a farmed wetland. Dominant plant species identified at the sample point completed within the wetland consist of spotted lady's thumb (*Persicaria maculosa*) and fall panic grass (*Panicum dichotomiflorum*).

5.3.1.4 Developed land

- **Residential**
- **Commercial/Industrial**

Table 8: Total Land Cover

Land Cover Classification		Acres
Agriculture	Cropland	2453.1
	Specialty Crops	0.0
Developed Land	Residential	4.0
	Developed/Urban	25.2
Non-Agricultural Upland	Grassland	31.7
	Upland Wooded	9.0
	Fallow Field	0.0
Wetlands/Waterbodies	Forested Wetland	0.0
	Non-Forested Wetland	0.1
	Open Water	0.0
Project Area Total		2,523.2

5.4 Land Cover Impacted by Proposed Project Facilities

Complete the PSC Solar Impact Table (comprised of 2 tabs) provided with these AFRs. Provide the tables in Microsoft Excel format and PDF. The PSC Solar Impact Table (comprised of 2 tabs) has instructions on completion and the type of information needed located in footnotes. Generally, the applicant should provide information on impacts by facility type on Tab 1 and by proposed and alternative fenced array areas with unique identifiers (e.g. number) for each fenced array area in Tab 2. Provide the estimated power capacity (MW) for each fenced array area. Provide land cover impacts for each solar panel fenced array area.

Land cover impacts are summarized in the PSC Impact Table provided in Appendix V. Elk Creek Solar calculated these impacts using GIS software to intersect the digitized land cover dataset with polygons representing the footprints of Project facilities. Land within the solar array fence line is considered impacted; however, that area (exclusive of access roads) will be revegetated as described in Section 5.5. No wetlands are located within the Project Area and therefore, Elk Creek Solar does not anticipate the Project having any permanent or temporary impacts to wetlands.

Collector circuits will be installed utilizing a combination of trenching (within upland areas) and directional-boring methods. The directional-boring method will be utilized where collection crosses roads. No permanent or temporary impacts to wetlands or waterways are anticipated. Bore pits will be placed in previously disturbed upland areas, to be determined prior to construction.

5.5 Invasive Species

5.5.1 Describe locations where invasive species, forest pests, or diseases have been observed in the project area (e.g., invasive plants, oak wilt, etc.). State if invasive species surveys have occurred or would be conducted. If invasive species surveys have been conducted, provide documentation showing where surveys occurred and locations of invasive species found, indicating which species.

The Project Area was evaluated for the presence of invasive species during field investigations in August 2021. The most prevalent invasive plants found during the 2021 field investigations were located in areas adjacent to agricultural production and included reed canary grass (*Phalaris arundinacea*), garlic mustard (*Alliaria petiolata*), invasive honeysuckle shrubs (*Lonicera* sp.), common buckthorn (*Rhamnus cathartica*), and tansy (*Tanacetum vulgare*).

5.5.2 Describe mitigation actions during construction that would be used to prevent the introduction or spread of invasive species, forest pests, or diseases.

Applicable BMPs within the Wisconsin Council on Forestry document entitled “Invasive Species Best Management Practices for Transportation and Utility Rights-of-Way” will be used during construction and transportation of materials to prevent the introduction or spread of invasive species.

Construction equipment that may come in contact with field-verified invasive species areas will be cleaned before arriving and prior to leaving the Project. Cleaning of construction equipment may consist of brushing, power washing, and steam cleaning.

5.5.3 Describe planned ongoing invasive species monitoring and management for the project during operations.

Invasive and weed species management will be conducted as needed to reduce the spread of invasive species from existing populations, improve establishment and success of the permanent seed mixes, and reduce vegetation impacts to the PV panels and solar facility infrastructure. Flowering non-native species that are not considered invasive and do not have heights that would interfere with the Project operations will not be actively managed.

Vegetation cutting shall be appropriately timed to assist with controlling invasive species (e.g., mow annual and biennial species during flowering but prior to seed production) and to remove vegetation to assist with site seedbed preparation.

Herbicide treatments are recommended for management of perennial invasive and noxious species, as mowing alone is not typically sufficient for adequate control. Herbicides are also used to remove

undesirable vegetation to prepare for permanent seed installation. Additional information regarding invasive species management is provided in the VMP included in Appendix J.

5.6 Vegetation Management and Site Restoration

5.6.1 Provide a vegetation removal plan that discusses the types and locations where vegetation would be removed (e.g. herbaceous, agricultural crop clearing, shrub/forest clearing, etc.), the timing of vegetation removal, and the equipment to be used.

The Project's VMP is included in Appendix J. Additional details about vegetation removal, timing, and equipment can be found in the VMP.

5.6.2 Provide a detailed revegetation and site restoration plan that discusses the following items. If site specific details are not finalized at the time of application, describe the concepts to be used and a methodology for discussing impacts with PSC and DNR staff:

5.6.2.1 Types of revegetation proposed for impacted areas.

Proposed permanent seed mixes are provided in Appendix A of the VMP included in Appendix J. A description of the mixes and installation location is provided below. Proposed seeding locations are dependent on the final design (e.g., distance between panels, fence placement, etc.). Two permanent seed mixes are proposed for the Project:

1. Native graminoid seed mix for PV panel areas
2. Upland pollinator friendly seed mix for select buffer areas

5.6.2.2 Provide seed mixes, or example seed mixes if not known at time of application, and if seed mixes would be pollinator friendly.

Proposed permanent seed mixes are provided in Appendix A of the VMP included in Appendix J. The proposed permanent seed mixes have been designed to be pollinator friendly.

5.6.2.3 Vegetation monitoring and management protocols for subsequent years after construction. Include expected timing of actions such as mowing.

All areas will require some form of ongoing maintenance to establish and maintain desirable vegetation that is compatible with PV panels and Project operations. Maintenance is expected to be most intensive in the establishment phase, or approximately two to three years following seeding as desirable species germinate, grow, and mature. In general, native species take longer to mature than non-native species. Monitoring will occur to confirm compatibility of vegetation with facility goals concurrently with routine vegetation maintenance activities.

Frequent cutting is typically required during the establishment phase (years one and two post-seeding) to reduce fast-growing (annual and bi-annual) weeds, minimize vegetation height under the PV panels, and assist with growth of planted species. Specific recommendations for mowing height vary by seed mix. During the establishment phase, areas planted to the native graminoid seed mix should be mowed when vegetation reaches a height of 8-12 inches and be cut back to a height of four to six inches. Installed species within this mix will likely stay below 18 inches in height (typically eight to 12 inches) at maturity. Mowing this mix to the height of four to six inches will help invigorate the grasses while discouraging weeds and trees. Areas planted with the upland pollinator friendly seed mix should be

mowed when vegetation reaches a height of eight to 12 inches. Vegetation in pollinator plantings should be cut to a height of six to eight inches during the first growing season. Anticipated establishment mowing will occur four weeks following seeding and every four to six weeks thereafter from mid-spring to mid-fall. Actual mowing frequency is dependent upon soil moisture; dry periods will reduce mowing frequency.

Years three to five represent a transition phase where desirable vegetation becomes increasingly established but remains susceptible to weed growth. The frequency of cutting may be reduced (to approximately once per year) or there may be a transition to selective mowing to target specific areas of weed growth and minimize vegetation height under the PV panels. Mowing height should be raised to 10 to 12 inches in areas planted with the upland pollinator friendly seed mix.

Over the long-term (years six through 30), mowing should occur on an annual or biennial basis. Annual or biennial mows should preferably occur during the dormant season late fall or early spring, or, if necessary, in mid-summer. Long-term mowing benefits low growing grasses by reducing thatch that hinders sunlight. Mowing at this time may be done to reduce thatch and litter build-up and minimize the establishment of woody vegetation.

5.6.2.4 Invasive species management.

The areas of revegetation and restoration following construction will be monitored for the presence of invasive species during planned maintenance and management. If invasives species are found, they will be documented and mapped. Management mowing and spot-herbicide treatment, as needed, will be utilized to control the spread of invasive species.

5.7 Wildlife

Wildlife habitat found within the Project Area was identified based on desktop habitat review, field investigations and observations, and state and federal information on threatened and endangered species.

5.7.1 Describe existing wildlife resources and estimate expected impacts to plant and animal habitats and populations.

The Project Area consists of mostly active agricultural land that can provide suitable habitat for a variety of common Wisconsin wildlife and plant species. Typical mammals found in these habitats in Wisconsin include white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), common raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), (*Marmota monax*), opossum (*Didelphis marsupialis*), eastern cottontail rabbit (*Sylvilagus floridanus*), and mice (*Peromyscus maniculatus*), among others. Wildlife may utilize agricultural land and adjacent forested habitats to forage, shelter, and to move through the surrounding landscape.

Numerous bird species may also be found in the Project Area and their presence varies depending on time of year. Typical breeding bird species likely to occur within the Project Area include red-tailed hawk (*Buteo jamaicensis*), horned lark (*Eremophila alpestris*), tree swallow (*Tachycineta bicolor*), American robin (*Turdus migratorius*), gray catbird (*Dumetella carolinensis*), common yellowthroat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), and red-winged blackbird (*Agelaius phoeniceus*).

The WDNR Muddy Creek Wildlife Area is located adjacent to the northern boundary of the Project Area, with the WDNR Dunnville Wildlife Area approximately 3.6 miles to the southwest along the Chippewa River. Additionally, the Lower Chippewa River State Natural Area is located south of the Project Area adjacent to the Chippewa River, approximately 0.75 mile away at its closest point (Figure 4.1.7.3 in Appendix A).

Important Bird Areas (IBAs), which are discrete sites identified by the National Audubon Society, provide essential habitat for one or more bird species and include habitat for breeding, wintering, and/or migrating birds. No IBAs are located within the Project Area; however, the Lower Chippewa River IBA is the nearest IBA and is located south of the Project along the lower portion the Chippewa River and the Red Cedar River where it joins with the Chippewa River. The Lower Chippewa River IBA includes Lower Chippewa River State Natural Area.

Elk Creek Solar does not anticipate that the Project will have significant adverse impacts on wildlife species and their preferred habitats, since the majority of the Project Area consists of actively cultivated agricultural lands. No significant wildlife habitat is expected to be lost as a result of Project construction. After construction is complete, Elk Creek Solar will revegetate the Project Area with a mix of native perennial grasses and sedges. A pollinator-friendly seed mix will be incorporated in select open spaces between the solar array areas and the perimeter fence. It is anticipated that revegetation of the Project with a permanent cover of vegetation will maintain suitable habitat for a variety of wildlife species including pollinating insects, nesting birds, and small mammals.

The fence that will be used to surround and provide security to the Project will consist of a seven- to eight-foot-high deer exclusion fence. The Project substation will require a minimum seven-foot high chain link fence which will include three strands of barb wire at the top. A schematic of the proposed Project deer exclusion fencing is found in Appendix B.

Based on the lack of existing available habitat and species likely to occur within the Project Area, Elk Creek Solar does not anticipate there will be adverse impacts to plant and animal populations.

5.7.2 Wildlife pre-construction surveys. (See Habitat Surveys and Biological Assessments in the Introduction.)

As part of the wetland delineation for the Project (August 5-6, 2021), a habitat assessment survey was completed to identify any areas of potential suitable wildlife habitat. The Project area is comprised mostly of agricultural land used for row crop production; however, there are two areas of uncultivated land bordering Muddy Creek that were identified and discussed as part of the Certified Endangered Resources (ER) Review. See Section 5.13 for additional information regarding agency consultations regarding wildlife.

5.7.2.1 Provide a summary of pre-application consultation meetings held with DNR or USFWS for the purposes of determining whether or not any pre-construction wildlife studies would be required for the project.

A Certified ER Review was conducted for the Project to identify whether any state or federally-listed rare species, natural communities, or other natural features with element occurrence records may occur within the one- and two-mile buffers of the Project Area. Two birds, four natural communities, four fish, one lizard, one insect, seven mussels, and one plant were identified. Potential Project impacts to the noted species were reviewed and submitted to WDNR for review; the ER Review was approved by the WDNR on September 26, 2022 (ER Log #21-718) and is provided as confidential in Appendix L. Results of the ER Review are discussed in Section 5.13.

Elk Creek Solar also obtained a Resource List on August 3, 2021 via the USFWS Information for Planning and Consultation (IPaC) for the Project Area. The Resource List included one mammal, three mussels, and one insect. The results of the IPaC review is provided as confidential in Appendix L.

In addition to the federal species included in the USFWS Resource List, the USFWS rusty patched bumble bee (*Bombus affinis*) mapping was reviewed as part of the ER Review to determine if the Project is

within a mapped High Potential Zone (HPZ) where the rusty patched bumble bee is likely present. The Project Area is not within a HPZ for the rusty patch bumblebee.

5.7.2.2 If, after consultation with DNR or USFWS, wildlife pre-construction studies are required, provide the following:

- **A copy of the approved survey methodologies for any studies including the species of interest, dates of surveys, and a schedule for releasing data and reports to the PSC and DNR.**
- **Copies of all data collected for all pre-construction studies (data should be provided using a format acceptable to DNR and PSC staff).**
- **Final report/s or analyses prepared using the data collected.**

If it is determined that additional surveys will be required, the above listed items will be provided to the PSCW and WDNR staff.

5.7.2.3 Provide any monitoring and response protocol for wildlife accessing the solar arrays.

Elk Creek Solar is proposing to install a seven- to eight-foot-high deer exclusion fence around all arrays and ancillary facilities to prevent Project access by large wildlife species such as deer. The wide mesh in the deer exclusion fencing will allow wildlife such as reptiles, amphibians and small mammals to cross the Project fence line unimpeded. Maintenance crews will monitor the array area for wildlife as they are completing their routine O&M tasks. If a large wild animal does become trapped within the array areas, Elk Creek Solar will coordinate with local and state authorities, if necessary, to assist with the safe removal of wildlife.

5.8 Endangered Resources

Endangered resources include any state or federally listed species (e.g. threatened, endangered), special concern species, and/or natural communities. Location specific information for endangered resources is considered sensitive and should be filed confidentially on ERF with a public redacted version also provided. As the location is defined by the project area, all species names should be redacted or generalized to taxa group wherever referenced throughout all application materials. In addition, any required/recommended actions or no impact justification should also be redacted wherever referenced throughout all application materials.

5.8.1 Provide a copy of the completed DNR endangered resources screening (i.e. ER Review or ER Verification Form) and all supporting materials (see DNR Application Needs in the Introduction).

An ER Review was conducted for the Project to identify whether any state or federally listed rare species, natural communities, or other natural features with element-occurrence records may occur within one mile of the Project Area boundary. A Draft ER Review was submitted to the WDNR on September 23, 2022. A Certified ER Review (ER log# 21-718) was approved by the WDNR on September 26, 2022. A redacted public version of the certified ER Review is provided as Appendix L. A confidential version has also been provided to PSCW staff. The ER review summarizes all state-listed and federally listed rare species, natural communities, and natural features with element occurrence records within one-mile of the Project Area for terrestrial and wetland occurrences and within two-miles for aquatic occurrences. Appropriate follow-up actions will be coordinated with WDNR, as necessary.

5.8.2 Discuss how any DNR-required actions to comply with endangered species law

would be incorporated into the project construction or operation. Include discussion of how any USFWS permits or required actions would be incorporated into the project.

The ER Review identified that suitable habitat for four state threatened mussel species, one federally endangered mussel species, and three state threatened fish species may be present within the Project Area and provided required actions to avoid impacts to these species, which includes implementing erosion and runoff prevention measures.

5.8.3 Discuss how any DNR-recommended actions to comply with endangered species law would be incorporated into the project construction or operation. Include discussion of how any USFWS recommended actions would be incorporated into the project.

The ER Review identified that suitable habitat for a state special concern fish, a state listed special concern insect, a state listed special concern mussel, and one natural community may be present within the Project Area and provided recommended actions to avoid impacts to these species including the following:

State special concern fish, insect, and mussel
Suitable wetland and aquatic habitat may be present within the Project Area. As a result, it is recommended that erosion and runoff prevention measures be implemented during the course of the Project to avoid impacting suitable habitat for this species.

Natural Community
A natural community is present adjacent to the Project Area. Natural communities may contain rare or declining species. As a result, it is recommended that the Project minimize impacts to the community by implementing invasive species BMPs, restoring with a native seed mix, and/or conducting work under frozen/dry ground conditions when working adjacent to this natural community.

5.9 Public Lands and Recreation.

List all public properties within the project area and in a separate list all public properties within two miles of the project area boundary.

To assess the Project for the presence of public lands, recreational sites, and other special use areas, Elk Creek Solar reviewed U.S.. Geological Survey (USGS) Protected Areas Database of the U.S. (PADUS), USGS topographic maps, aerial photographs, agency databases, and the internet (i.e., Google Earth, Google Maps).

A GIS file of public lands within two miles of the Project Area boundary is included with Appendix F to the Application. A map showing federal, state, county, and local properties within two miles of the Project Area is included as Figure 4.1.6.3 in Appendix A.

5.9.1 State properties, including but not limited to:

No state properties are located within the Project Area boundary; however, there are three State Natural Areas (SNA) within two miles of the Project Area boundary. They are identified as Caryville Savanna, Muddy Creek Sedge Meadow, and Lower Chippewa River (see Figure 4.1.7.3 in Appendix A).

Seven (7) WDNR Managed Properties are located within two miles of the Project Area and are identified as the Chippewa River State Trail, Elk Creek Fishery Area, Lower Chippewa River State Natural Area, Muddy Creek Wildlife Area, Natural Area – Dedication, Statewide Wildlife Habitat, and Streambank

Easement Program.

One (1) privately owned parcel enrolled in Managed Forest Law is located within the Project Area but forested areas on that parcel will not be affected by the Project. 72 Managed Forest Law properties are located within two miles of the Project.

5.9.1.1 Fisheries Areas

5.9.1.2 State Parks and Forests

5.9.2 Federal properties, including but not limited to:

No federal properties, (including Wildlife Refuges, Parks, and Scenic Riverways) are located within the Project Area; however, several National Public Lands are within two miles of the Project along the Chippewa River. The Project will likely not be visible from these properties due to distance, topography, and tree cover.

5.9.2.1 Wildlife Refuges

5.9.2.2 Parks

5.9.2.3 Scenic Riverways

5.9.3 County Parks

No county parks are located within the Project Area or within two miles of the Project.

5.9.4 Recreation Trails

Several club-maintained snowmobile trails are located within the Project Area and within the two-mile buffer area. These trails may traverse Primary Arrays along the eastern portion of the Project Area and are adjacent to Alternate Arrays A5, A12, A19, and A28 along 290th Avenue, but may be located outside the fence. The approximate location of the trails are shown on Figure 4.1.7.3.

Snowmobile trails within the fenced PV areas would need to be rerouted outside of the fenced area. If construction occurs during the winter, snowmobile trail users may need to be re-routed where the trail intersects or occurs near construction work or construction routes. Where snowmobile trails follow local roads, impacts during construction may include slower traffic zones and/or minor reroutes.

5.9.5 Identify the owner/manager of each recreation resource.

The owner/manager of the State properties is the WDNR. The owner/manager of the National Public Lands is the Bureau of Land Management. The Caryville Savanna SNA is owned/managed by Dunn County.

5.9.6 Provide any communications with these owners/managers.

No state, federal, county owned, or other special use areas are located within the Project Area boundary. Therefore, no communications with the landowner/managers has occurred.

5.9.7 Discuss how short and long-term impacts to these resources would be avoided and/or minimized.

No state, federal, county-owned, or other special use areas are located within the Project Area boundary. Therefore, there will be no short or long-term impacts to these resources.

Snowmobile trails within the fenced PV areas would need to be rerouted outside of the fenced area. If construction occurs during the winter, snowmobile trail users may need to be re-routed where the trail intersects or occurs near construction work or construction routes. Where snowmobile trails follow local roads, impacts during construction may include slower traffic zones and/or minor reroutes.

5.9.8 Describe any measures that would be taken to mitigate or minimize impacts to aesthetics and tourism in the areas surrounding the project.

The surrounding landscape is either forested and/or used for agricultural, creating a landscape buffer between the Project Area and the potential tourism features such as the Chippewa River. The solar development itself may be a tourist stop given the size of the development and relative novelty of solar facilities in this region of Wisconsin. Elk Creek Solar will be incorporating native flowering plants to benefit pollinators while also being aesthetically pleasing. The solar facilities and enclosures will also be regularly maintained.

5.10 Contaminated Sites

List all contaminated sites and solid waste sites within the project area, and in a separate list, all contaminated sites and solid waste sites within two miles of the Project Area boundary.

5.10.1 Using the Wisconsin Remediation and Redevelopment Database (WRRD), http://dnr.wi.gov/topic/Brownfields/WRRD.html, identify any contaminated sites (open and closed) within the project area and within 2 miles of the project area.

No contaminated sites (open and closed) within the Project Area were identified on the WRRD. No open and one (1) closed contaminated site within two miles of the Project Area were identified on the WRRD.

5.10.2 Using the Historic Registry of Waste Disposal Sites, http://dnr.wi.gov/topic/Landfills/registry.html, identify any Environmental Repair and Solid Waste disposal sites within the project area and within 2 miles of the project area.

No disposal sites within the Project Area were identified. Three disposal sites within two miles of the Project Area were identified on the Historic Registry of Waste Disposal Sites.

5.10.3 If contaminated materials are known to exist on-site, list and describe:

- **The type of contaminant(s) known to exist on-site.**
- **The location of the contaminant(s).**
- **The media in which the contaminant is located within (i.e., soil, water, etc.).**
- **The estimated concentration of the contaminant(s).**
- **The estimated volumes of the contaminant(s).**

No contaminated sites (open and closed) within the Project Area were identified on the WRRD. No open and one (1) closed contaminated site within two miles of the Project Area were identified on the WRRD.

5.10.4 If contaminated materials are newly discovered on-site, specify:

- The procedure for screening materials.
- The location where materials be tested.
- The protocols that would be followed.
- Whether construction work would be impacted.

The Project Area land use is predominantly agricultural. Elk Creek Solar conducted a review for potential contamination within the Project Area. Contaminated materials are not expected to be encountered onsite.

Contractors will be trained to identify potential contaminated materials. Elk Creek Solar will notify a firm experienced in the analysis and treatment of such materials if contaminated soils or materials are encountered during construction. The suspected materials will be tested, treated and disposed of according to the proper protocol for the situation encountered and the corresponding statutory requirements. The WDNR will be contacted as required under state statutes.

5.11 Floodplain

5.11.1 Identify any work occurring in floodplains or flood-prone areas.

The Project Area is not located within a regulatory floodplain or flood-prone area. The nearest floodplain is associated with the Chippewa River and is located within Town of Spring Brook approximately 760 feet south of Alternate Array A13.

5.11.2 Discuss if impacts to the floodplain have been evaluated, and how impacts to the floodplain will be avoided or minimized.

No impacts are anticipated within floodplain or flood-prone areas.

5.11.3 Provide information on any discussions that have occurred with the application floodplain zoning authority, and how the project will comply with local floodplain ordinance(s).

No impacts are anticipated within floodplain or flood-prone areas; therefore, no discussion with the floodplain zoning authorities as occurred.

5.12 Local Zoning and Safety

Utilities (CPCN)

Responses to subsections 5.12.1 through 5.12.5 of the AFR are not included as they apply only to utilities.

5.12.1 Provide copies of any zoning ordinances affecting the project area and within two miles of the project boundary. Provide only the page(s) directly citing ordinance language.

5.12.2 Describe any zoning changes needed for the project.

5.12.3 Describe zoning changes that the applicant has requested of local government for the proposed project. Include:

5.12.3.1 The name of the entity responsible for zoning changes.

5.12.3.2 Description of the process required to make the zoning change.

5.12.3.3 The outcome or expected outcome for requested zoning changes.

5.12.4 Township road safety and use plans.

5.12.4.1 Provide details on any plan or permit requirement pertaining to local road safety, use, or repair.

5.12.5 Other conditional use permits

5.12.5.1 Provide details on any other conditional use permit required by local government.

Utilities and IPPs (CPCN)

5.12.6 Provide a list of potential local issues normally associated with zoning, road use and safety, or other condition uses.

The Project Area is located within the Town of Spring Brook. The Town of Spring Brook is un-zoned and has not adopted the Dunn County Zoning Ordinance.

5.12.6.1 Provide copies of all correspondence to and from local government pertaining to issues of zoning, safety, or local road use safety plans.

Communications with the Town of Spring Brook and Dunn County regarding the development agreements are ongoing. Details about outreach to local municipalities is outlined in Section 7.2.

5.12.6.2 Provide a discussion of how local concerns would be accommodated.

Elk Creek Solar has met and coordinated with the Town of Spring Brook and Dunn County representatives as well as with the larger community to discuss local issues. Elk Creek Solar will continue to work proactively with Town, County, and community to identify and address issues and concerns should they arise. Elk Creek Solar will address local concerns in the development agreements.

5.12.7 Describe any impacts the proposed project would have on existing infrastructure including electric distribution lines and gas pipelines.

No impacts are anticipated to existing electric distribution lines and gas pipelines. The Project will tie into an existing Xcel Energy-owned 345kV electric transmission line with the consent and cooperation of Xcel Energy.

5.13 Land Use Plans

Provide information from all land-use plans adopted by local governments that pertain to the project area, extending out two miles from the project boundary. Only submit those pages relevant to the project siting or operation. Do not submit multi-page ordinances, land use plans, etc. unless the entire document would be helpful for context. Include a list of website addresses to source documents. Include not only general land-use plans, but also other relevant planning documents such as:

5.13.1 County Recreation Plans

5.13.2 Farmland Preservation Plans

5.13.3 Highway Development Plans

5.13.4 Sewer Service Area Plans

Project facilities will be located in the Town of Spring Brook within Dunn County. Land use plans, zoning

ordinances, and relevant planning documents are listed in Table 9 and provided in Appendix E.

Table 9: Land Use Plans and Ordinances

Government	Plan or Ordinance
Town of Spring Brook	Town of Spring Brook Comprehensive Plan
Dunn County	Dunn County Comprehensive Plan

5.14 Archaeological and Historical Resources

Elk Creek Solar conducted an initial cultural resources database review, created an archaeological site probability model, and conducted field investigations to identify any cultural resources present within the Project Area boundary. The results of the cultural resources database review indicated that one (1) archaeological survey had been conducted within the 0.25-mile buffer of the Project Area boundary. One (1) archaeological site is located within the 0.25-mile buffer of the Project Area boundary. One cemetery/burial site, Falls City Cemetery, was recorded within the Project Area boundary and one cemetery/burial site, Myers and Maves Mounds, is located within the 0.25-mile buffer of the Project Area. Finally, no cataloged historic structures are located within the Project Area or within the 0.25-mile buffer of the Project Area boundary.

Archaeological site-location modeling was used to identify areas of high potential for archaeological sites. Elk Creek Solar identified the area of high archaeological site potential through review of the Wisconsin Historic Preservation Database online archaeological site files and historical maps mainly postdating the Civil War. This review indicated a high potential for prehistoric Native American within 91.4 meters (300 feet) of rivers, streams, lakes, natural ponds, and marshes—in this instance the Chippewa River, Muddy Creek, Old Elk Lake, and the Chippewa River and its tributaries. Further, site locations were restricted to areas with less than 15% slope and on soil types that were not subject to frequent flooding.

Archaeologists conducted a pedestrian survey of 137.8 acres of the Project Area boundary that had a high potential for prehistoric Native American and historic period Euro-American archaeological sites. The pedestrian survey resulted in the identification of three Historic period Euro-American sites. The Euro-American sites had artifacts dating from the late nineteenth to early/mid-twentieth centuries.

In conclusion, based on these investigations, it is unlikely that the Project will have adverse effects on cultural resources listed in or eligible for either the National Registry of Historic Places (NRHP) or the Wisconsin State Register of Historic Places. No significant cultural resources will be impacted by the Project. The Cultural Resource Due Diligence Letter Report is included in Appendix K.

No field investigations were performed on the parcel containing the substation, switching station and O&M facilities because that parcel was not enrolled in the Project when the 2021 field surveys occurred. These will occur after the 2022 crop is harvested.

5.14.1 Provide maps or GIS files and a description of all archaeological sites, historic buildings and districts, and human burial sites within or near the proposed Project Area.

Mapping of archaeological, historic buildings and districts, and human burial sites are included in the Cultural Resources Due Diligence Letter Report included in Appendix K.

5.14.2 For archaeological sites and historic buildings or districts, determine the

boundaries, historic significance, and integrity of each resource. Additional field surveys may be required to make these determinations.

Based on probability modeling completed in July 2021, field surveys were conducted in areas that had a high probability of containing archaeological sites during the week of November 1, 2021. The three Historic period sites identified during the pedestrian survey yielded assemblages with both few artifacts and artifacts that predominantly date to the late nineteenth to early/mid-twentieth centuries. The artifacts from both sites are common types, and disturbance of the site areas by plowing suggests little potential for the presence of intact artifact deposits.

The Cultural Resource Due Diligence Letter Report is included in Appendix K.

5.14.3 Identify the potential project effects on each resource.

The three historic period sites identified during the pedestrian survey appear to lack subsurface integrity and robust data sets that would allow researchers to address questions important to the understanding of local history. Additional archaeological investigations at Historic period sites are not necessary or recommended.

The Cultural Resource Due Diligence Letter Report is included in Appendix K.

5.14.4 Describe modifications to the project that would reduce, eliminate, avoid, or otherwise mitigate effects on the resources. Examples of modifications include changes to construction locations, modified construction practices (e.g. use of low-pressure tires, matting, etc.), placement of protective barriers and warning signage, and construction monitoring.

No known cultural or historical sites will be impacted by the Project.

5.14.5 For human burial sites, obtain a Burial Site Disturbance Authorization/Permit from WHS for all human burial sites that would be affected by the project.

According to the Elk Creek Solar Cultural Resource Due Diligence Letter Report (Appendix K), two known cemeteries/burial sites are present within/adjacent to the Project Area. Falls City Cemetery dates to the historic Euro-American period and a mapped burial site dating to the Woodland period located within 0.25-miles of the Project Area boundary will not be affected by the Project as the current Project design avoids any impacts to these sites. Cemeteries and burial sites are protected under Wis. Stat. § 157.70. Elk Creek Solar will not be required to obtain a Burial Site Disturbance Authorization from the WHS.

5.14.6 Provide an unanticipated archaeological discoveries plan. The plan should outline procedures to be followed in the event of an unanticipated discovery of archaeological resources or human remains during construction activities for the project.

An unanticipated archaeological discoveries plan is included in Appendix K.

5.14.7 Notify Wisconsin Tribal Historic Preservation Officers of any Native American human burial sites and significant prehistoric archaeological sites that could be impacted by the project. Provide copies of all correspondence.

No known cultural or historical sites will be impacted by the Project.

5.15 Agricultural Impacts

5.15.1 Identify current agricultural practices in the project area.

The primary land use in the area is agricultural crop production (navy beans, corn, potatoes and soybeans, and horseradish).

5.15.2 Identify the location of agricultural drainage systems (tiles, ditches, laterals) irrigation systems, erosion control and water management practices and facilities in the project area that could be impacted by construction activities or the location of the proposed facilities.

No drain tiles are located within the Project Area. There are center-pivot irrigation systems throughout the majority of the Project Area, which will be removed by the landowner prior to construction.

5.15.3 Identify any farming operations such as herd management, specialty crop production, field and building access, organic farming, etc. that could be impacted by the construction of the project.

No impacts to dairy farm facilities, herd management, specialty crop production, field and building access, or organic farming are anticipated for this Project.

No organic farms are located within the Project Area. Three certified organic farms exist within one-mile of the Project Area. No specialty crop lands are within fenced PV area or within the footprint of any components of the solar facility (i.e. access roads, collection lines, substation). Therefore, specialty crops will not be impacted by the Project.

5.15.4 Identify the amount (in acres) of designated prime farmland that would be removed from agricultural use during the operational life of the solar project.

Approximately 875 acres of designated prime farmland would be removed from agricultural use during the operational life of the Project.

5.15.5 Describe how damage to agricultural facilities and interference with farming operations would be minimized during construction.

No damage to agricultural facilities or interference with farming operations are anticipated during construction of the solar facilities. Minimal interference between Project construction equipment and farm equipment travelling on town, village and state roadways may occur. The project is being constructed on lands that are primarily comprised of agricultural land that were planted for the purpose of crop production. Approved and signed landowner agreements are in place for all solar facilities within the perimeter fence, therefore, farming activities will be halted during construction. The lands that are converted to solar production areas will be suitable for a return to agricultural farming activities at the end of the Project lifespan (assumed to be 35 years).

5.15.6 Describe how damage to agricultural facilities would be identified and repaired.

No damage to agricultural facilities is anticipated for this Project.

5.15.7 Identify any farmland affected by the project that is part of an Agricultural Enterprise Area.

The Project will not affect any farmland that is part of an Agricultural Enterprise Area. No Agricultural Enterprise Areas are within 1 mile of Project Area boundary.

5.15.8 Identify any farmland in the project area that is part of a Drainage District, and identify the Drainage District if applicable. The following items apply when any part of a project is located within a Drainage District.

The Project is not within a Drainage District.

5.15.8.1 Describe any permits needed from a Drainage District Board for construction and operation of the proposed project, and the status of any permits.

5.15.8.2 Identify if and where any culverts would be installed in areas of the Drainage District.

5.15.8.3 Provide any correspondence with State Drainage Engineer regarding the project.

5.15.9 Identify any lands within the Project boundary that are enrolled in agricultural conservation or agricultural tax incentive programs. Describe the process for returning land to agricultural use after decommissioning, including any subsequent years of monitoring.

None of the Project parcels are enrolled in the Conservation Reserve Program (CRP).

5.15.10 Discuss induced voltage issues as they relate to the project arrays, collector circuits, and generator tie line. Provide the following information:

5.15.10.1 Identify the location of confined animal dairy operations within one-half mile of any proposed transmission or distribution centerline or other project facilities.

GIS information regarding confined animal facilities was gathered from state and county databases as well as field collected data. A Wisconsin animal feeding operation with 1,000 animal units or more is defined by the State as a large Concentrated Animal Feeding Operation (CAFO). No WDNR designated large CAFOs are located within the Project Area or within 0.5-mile of the Project Area.

Field surveys were conducted to identify confined animal operations with an estimated commercial value greater than $1,000 within one-half mile of the Project. Nine of these small operations were identified in the field. GIS database information on confined animal operations is included in Appendix F.

5.15.10.2 Identify the location of agricultural buildings located within 300 feet of any proposed transmission or distribution centerline or other project facilities.

Agricultural buildings are depicted within 0.5-mile of the Project Area on Figure 4.1.2.

5.15.10.3 Discuss induced voltage issues related to the project and its transmission or distribution line routes.

Elk Creek Solar does not anticipate issues regarding induced (stray) voltage as a result of the Project. Induced voltage issues are generally caused by improperly grounded and/or isolated electrical circuits found in older buildings, factories, or barns. Grounding for Elk Creek Solar's PV arrays will be designed and certified by a licensed electrical engineer according to current applicable electric code

requirements.

5.15.10.4 Discuss any plans to conduct stray voltage testing pre and post construction.

Given the substantially low risk of the Project causing induced voltage, Elk Creek Solar may conduct pre- and post-construction induced voltage testing at appropriate agricultural facilities located within 0.5 mile of the Project in coordination with the local distribution utility.

5.16 Airports and Landing Strips

5.16.1 Airport, Landing Strips, and Helipads

5.16.1.1 Identify all public and private airports, landing strips, and helipads within 10 miles of the project facilities (both for solar arrays and the nearest generator tie line structure).

The FAA website[3] was searched for registered airport listings of public airports near the Project Area. Airports within a 10-mile radius of the Project Area boundary are displayed on Figure 4.1.7.3 of Appendix A. Additionally, the WisDOT[4] and several private sources of airport/airstrip information, such as Esri[5] and AirNAV[6], were searched.

According to these sources, there are nine (9) airports within 10 miles of the project:

- Buck Knob Airport is located about 9.6 miles south of the Project Area on CTH 85, Durand, WI.
- Hayes Road Airstrip is located about 8.5 miles south of the Project Area on Hayes Road, Durand, WI.
- Heyoka Field is located about 6.6 miles southeast of the Project Area on CTH B, Mt. Hope Corners, WI.
- Mayo Clinic Health System-Eau Claire Helipad is located about 8.75 miles east of the Project Area on 5th Avenue, Eau Claire, WI.
- Mayo Clinic Health System-Red Cedar Helipad is located about 8.2 miles northwest of the Project Area on Stout Road, Menomonie, WI.
- Menomonie Municipal Airport / Score Field is located about 7.1 miles northwest of the Project Area on Domain Drive, Menomonie, WI.
- Pritchard Field is located about 6.5 miles east of the Project on West Cameron Street, Eau Claire, WI.
- Sacred Heart Hospital Helipad is located about 9 miles east of the Project Area on West Claremont Avenue, Eau Claire, WI.
- Stocktrade Airstrip is located about 0.25-mile east of the Project Area on CTH E.

5.16.1.2 Describe each of the airports, landing strips, and helipads with a description of the runways/landing zone and type of use.

- Buck Knob Airport is a private airport with one turf runway. Runway 10/28 is approximately 3,250 feet long.
- Hayes Road Airstrip is a private airport with one turf runway. Runway 18/36 is approximately 1,000 feet long.

[3] FAA - http://www.faa.gov/airports/airport_safety/airportdata_5010/
[4] WisDOT - http://www.dot.wisconsin.gov/travel/air/airportdirectory.htm
[5] Esri - http://www.esri.com/data/free-data/index.html
[6] AirNav, LLC. http://www.airnav.com/airports/

- Heyoka Field is a private airport with one turf runway. Runway 18/36 is approximately 2,200 feet long.
- Mayo Clinic Health System-Eau Claire Helipad is a private helipad for medical purposes only. It has one concrete 50-foot by 50-foot landing pad.
- Mayo Clinic Health System-Red Cedar Helipad is a private helipad for medical purposes only. It has one concrete 30-foot by 30-foot landing pad.
- Menomonie Municipal Airport / Score Field is a public airport with two asphalt runways. Runway 9/27 is approximately 5,074 feet long. Runway 18/36 is approximately 3,470 feet long.
- Pritchard Field is a private airport with one turf runway. Runway 12/30 is approximately 1,600 feet long.
- Sacred Heart Hospital Helipad is a private helipad for medical purposes only. It has one concrete 30-foot by 30-foot landing pad.
- Stocktrade Airstrip is a private airport with one turf runway. Runway 3/21 is approximately 1,050 feet long.

5.16.1.3 Describe any potential for impacts to aircraft safety and potential facility intrusion into navigable airspace.

Elk Creek Solar reviewed whether notification and consultation to the FAA would be required, using the FAA "Notice Criteria Tool." As a result of the query, the Project was found to not be within notice criteria proximity to FAA licensed facilities and received a "Determination of No Hazard" (DNH). The DNH is included in Appendix Y.

5.16.1.4 Describe any mitigation measures pertaining to public airport impacts.

Based on the result of the query to the FAA, no impacts to public airports are anticipated and therefore no mitigation measures are necessary.

5.16.2 Commercial Aviation

5.16.2.1 Identify all commercial air services operating within the project boundaries (i.e. aerial applications for agricultural purposes, state programs for control of forest diseases and pests (i.e. Gypsy moth control).

The Wisconsin Department of Agriculture, Trade and Consumer Protection7 (DATCP) and WDNR websites8 were searched for aerial application information. Gypsy moth control flights were planned for 2022 in Dunn County over five miles to the west of the Project Area.

5.16.2.2 Describe any potential impact to commercial aviation operations.

No commercial air services are known to operate with the Project Area boundary. Additionally, because the maximum height of the solar panels will be 10 to 16 feet aboveground and the glare analysis for the Project predicts no appreciable impacts to airports, no impacts to commercial aviation operations are anticipated to occur.

5.16.2.3 Describe any mitigation measures pertaining to commercial aviation.

No impacts to commercial air services are anticipated to occur due to the Project. For this reason, mitigation measures pertaining to commercial aviation are not planned at this time.

[7] DATCP - https://datcpgis.wi.gov/maps/?viewer=gm
[8] WDNR - https://gypsymoth.wi.gov/

5.16.3 Agency Consultation

5.16.3.1 Identify any potential construction limitations and permit issues.

Due to the proximity of the airports identified in Section 5.16.1.1 to the Project Area, no limitations on construction equipment or construction activity are expected. Based on the results of the FAA Notice Criteria Tool query, no coordination with the FAA is expected.

5.16.3.2 Provide a summary of the status of any FAA determinations with details on mitigation actions or how any unresolved problems with aircraft safety are being addressed (including generator tie line structures).

Elk Creek Solar reviewed whether notification and consultation to the FAA would be required, using the FAA "Notice Criteria Tool." As a result of the query, the Project was found to not be within notice criteria proximity to FAA licensed facilities and received a DNH. The DNH is included in Appendix Y.

5.16.3.3 Provide a list of any structures requiring WisDOT high structure permits, and the status of any such permits.

No structures will be constructed over 500 feet in height or within one mile of a public airport or spaceport for the Project. Therefore, no WisDOT high structure permits are required for the Project.

5.17 Communications Towers

For the following sections, include in the assessment all facilities that make up the solar arrays as well as any structures that are part of a necessary generator tie line for the project.

5.17.1 Provide an analysis or supportive data to predict whether or not any aspect of the proposed project would interfere with:

Solar facilities are not likely to cause disruptions to line-of-sight and broadcast communications. The height of the Project facilities should not obstruct microwave beam paths, degrade broadcast communications, or interfere with cell phone communications or radio broadcasts. Although unlikely, if any resident or business were able to show impacts to line-of-sight or broadcast communications due to the Project, such impacts will be mitigated to the extent practicable.

The Project includes a generator tie line that is approximately 300 feet long. It is not anticipated that the tie line will cause any concerns since it will be constructed extending from the Project substation to the existing Xcel Energy-owned A.S. King to Eau Claire 345kV Transmission Line via a new switching station.

5.17.1.1 Cell phone communications

The Federal Communications Commission (FCC) website was queried for registered antenna structures (towers) within three miles of the Project area. No towers are located within the Project Area or within one mile of the Project Area. Cellular services should not be impacted.

5.17.1.2 Radio broadcasts

The exclusion distance for AM broadcast stations varies as a function of the antenna type and broadcast frequency. For directional antennas, the exclusion distance is calculated by taking the lesser of 10 wavelengths or 3 km (1.9 miles). For non-directional antennas, the exclusion distance is simply equal to 1 wavelength. Potential problems with AM broadcast coverage are only anticipated when AM broadcast stations are located within their respective exclusion distance limit from an object that may potentially cause interference. Most facilities do not typically cause interference with FM broadcast stations.

The FCC website was reviewed for AM and FM radio stations within three (3) miles of the Project Area boundary. No stations were identified by this search. As there were no AM or FM stations found within three (3) miles of the Project, the Project should not impact the coverage of local AM or FM stations.

5.17.1.3 Internet (WiFi)

Elk Creek Solar does not anticipate that the Project will impact WiFi or internet services for nearby residences and is not aware of evidence suggesting utility-scale solar interferes with internet service.

5.17.1.4 Television

Multipath interference to a television receiver occurs when television signals are scattered by reflecting off an object such as rotating wind turbine blades. Modern digital television (TV) receivers have undergone significant improvements to mitigate the effects of signal scattering. When used in combination with a directional antenna, it becomes even less likely that such signal scattering will cause interference to digital TV reception.

The FCC website was reviewed for any TV stations within 3 miles of the Project; no stations were identified by this search.

5.17.1.5 Doppler radar network

A Doppler radar is a specialized radar that uses the Doppler effect to produce velocity data about objects at a distance. It does this by bouncing a microwave signal off a desired target and analyzing how the object's motion has altered the frequency of the returned signal. This variation gives direct and highly accurate measurements of the radial component of a target's velocity relative to the radar. Doppler radars are used in applications such as aviation, sounding satellites, and weather. Tall structures such as trees or buildings within the sight line of the sending position may result in radar interference. Because radar towers are elevated to avoid interference from topography (minimum height of Next Generation Weather Radar, or NEXRAD, towers is 32.8 feet in height, for example), it is not anticipated that there would be any impact to radar services due to the development of the Project.

5.17.2 Describe mitigation measures should interference occur during project operation for any of the communications infrastructure listed above.

The facilities developed for the Project are consistent with the height of existing development in the Project Area and are not anticipated to impact any communications infrastructure. If, after the Project is placed in-service, Elk Creek Solar determines that the Project is causing interference with any of the foregoing communications infrastructure, it will implement mitigation measures to provide the same level of coverage prior to the installation of the Project.

5.18 Electric and Magnetic Fields (EMF)

Provide an estimate of the magnetic profile created by any necessary collector circuits and electric transmission facilities (generator tie line). Estimates should be made using the following criteria:

- **Show the predominant electric line configurations proposed for the project (H-frame, single-pole delta, double-circuit, etc.).**
- **Show any existing lines that would be affected by the proposed collector circuits or generator tie-line and a post-construction diagram that incorporates the new existing lines.**
- **Assume all panels are working and project is producing at maximum capacity.**
- **Show EMF profile at 0 ft., 25 ft., 50 ft., and 100 ft. from the centerline of each circuit type modeled.**

The EMF Study for the Project underground collector system was performed using CYMCAP 8.1 software and is provided as Appendix O of this Application. The proposed underground collector system for the Project is designed to be rated at 34.5 kV and have a maximum of eleven (11) - 1250 kcmil circuits routed in parallel trenches, each 5 or 10 feet apart depending on the scenario.

A typical trench cross section of the underground collector system is shown in Appendix B.2 of the EMF Study provided as Appendix O of this Application. Appendix A and Appendix B of this Application show the Project's collector circuit routing and schematics respectively. The entire collector system was assumed to have a 48-inch burial depth. The conductor diameter of the 1250 kcmil cables was assumed to be 1.117 inches. The underground collector system will be buried in parallel trenches located approximately five (5) feet apart from each other when up to three (3) circuits are parallel and ten (10) feet apart when there are more than three (3) parallel circuits. Refer to Appendix B.2 which shows the trench cross section details and the ROW of the underground collector system. The edge of ROW is 2.5 feet from the outermost cable, when up to three (3) circuits are in parallel and the edge of ROW is five (5) feet from the outermost cable, when more than three (3) circuits are in parallel. The 76.6 MW BESS is distributed throughout the Project and is connected to the inverters. The Project consists of 72 inverters rated at 4.2 MW each. The magnetic field impact has been calculated one (1) meter (~3.28 feet) above ground.

Based on the Appendix B.1 Project Layout of the EMF Study, and the details mentioned above, nine (9) different scenarios were considered based on the number of 1250 kcmil circuits, as detailed in Section 3.1-Underground Collector System Scenarios of the EMF Study. For the nine (9) different scenarios, see Appendices A.1 to A.9 of the EMF Study.

The maximum magnetic field strength estimated near or at the centerline of the trench was calculated and is summarized in Section 4.1-Collector System of the EMF Study. The magnetic field strength estimated at the edge of the ROW, as defined in Section 3.0-Underground Collector System of the EMF Study. Electric field intensity was not calculated for the underground cable scenarios in the analysis because it is canceled out due to the shielding by the metallic screen on the underground cables.

5.19 Noise

Pre- and post-construction noise studies are required for all electric generation projects. Noise measurement studies must be approved by PSC staff.

5.19.1 Provide existing (ambient) noise measurements and projected noise impacts from the project using the PSC's Noise Measurement Protocol. The PSC Noise Measurement Protocol can be found on the PSC website at: https://psc.wi.gov/SiteAssets/ConventionalNoiseProtocol.pdf.

Elk Creek Solar completed a pre-construction ambient sound survey and operational predictive assessment for the Project. The study is provided in Appendix P.

Elk Creek Solar completed a pre-construction ambient sound survey (ambient sound survey) and predictive sound modeling analysis in compliance with the PSCW requirements and guidance (PSC Noise Measurement Protocol). The ambient sound survey included measurements at five monitoring stations located throughout the Project Area to determine the existing acoustical environment.

Predictive operation sound modeling was also completed at proposed locations, as per the PSC Noise Measurement Protocol, for the solar inverter stations, BESS, and substation transformer. The maximum sound impact from the operating Project at a non-participating residence or noise sensitive area (NSA) during the daytime with equipment in full operation was modeled to be 40.5 dBA. The results of the

sound measurements demonstrate that the Project meets all regulatory requirements and will be operated in a manner that sound, due to its operation, does not exceed 50 dBA (daytime) or 45 dBA (nighttime) at a non-participating residence or occupied community building. The maximum sound impact at a residence is predicted to be approximately 44.9 dBA with all equipment in operation during daytime hours. Due to the potential for the substation, BESS units and inverters to operate during both nighttime hours, this analysis assumes the same maximum sound for daytime and nighttime. Maximum nighttime sound levels from operation of the facility are therefore, also predicted to be 44.9 dBA at the nearest receptor.

5.19.2 Provide copies of any local noise ordinance.

State and local sound regulations were reviewed. The Town of Spring Brook and Dunn County do not have sound ordinances. In the absence of existing pertinent regulations, the PSCW's Noise Protocols were used as a guideline for the Project.

5.19.3 Provide equipment manufacturer's description of noise attenuating methods and materials used in the construction of proposed facilities.

The specification sheets for the proposed facilities are provided in Appendix B. The final selection of facility components will be made once the PSCW order is received and will be based on the current market offering.

As stated in Section 5.19.1, the projected sound values due to operation of the facility, including the skid inverters and the substation, are at or very near the existing background ambient sound levels at receptors.

5.19.4 Describe how noise complaints would be handled.

Elk Creek Solar will work to maintain equipment and conduct repairs in a timely manner to avoid excessive sound. If Elk Creek Solar receives a reasonable sound complaint from a local resident, the complaint and implement mitigation measures, if appropriate.

5.19.5 Discuss any mitigation measures that would be used to address noise complaints during the operation of the project.

As determined by the sound analysis conducted for the Project, sound resulting from the operation of the solar facility is anticipated to have minimal impact on nearby residences. No additional mitigation measures are required beyond compliance with the equipment specifications used for the analysis.

5.20 Solar Panel Glint or Glare

5.20.1 Provide an analysis showing the potential for glint or glare from a typical project solar panel, as well as from the project as a whole. Include the following:

- **The analysis should list the basic assumptions used and the methodology/software used for creating the glint or glare analysis.**
- **The analysis should evaluate impacts to aircraft and air traffic controllers from any impacted airports.**
- **The analysis should also examine the risk of glint or glare to local residents and road users in the project area.**
- **The analysis software may indicate that proposed array areas are large enough to impact the accuracy of glare results. If this warning is encountered in the modeling,**

the applicant should break the affected array areas into smaller sub-arrays and perform the glare analysis using these smaller sub-arrays.

- **The analysis software may model different amounts of glare at observation points with different elevations. For any stationary observation points that could have human occupancy at higher elevations (e.g. a second story of a residence), the applicant should model multiple elevations for those stationary observation points.**
- **The analysis software may model different amounts of glare depending on the assumed heights of the solar panels. The applicant should model panel elevations for at least two different solar panel heights to establish a range of potential glare results.**
- **The analysis software may model different amounts of glare depending on the assume rest angle of the solar panels. The applicant should model at least two resting angle configurations, including one configuration with a resting angle set at between zero and five degrees.**

Based on the solar array parameters provided and the current site design, glare is not predicted for the Project for pilots landing at five of six airports and two of the three helipads located within a 10-mile radius of the Project, including Stockade Airstrip, Pritchard Field, Heyoka Field, Hays Road Airstrip, Menomonie Municipal Airport, Buck Knob Airstrip, the Mayo Health System – Red Cedar helipad, the Mayo Health System – Eau Claire helipad, and the Sacred Heart Hospital helipad. Approximately 8 minutes per day is predicted for a helicopter hovering 500 feet over the Mayo Health System helipad – Red Cedar, between 8:45-10 am in October and February-March.

Glare with low potential for temporary after-image is predicted for pilots approaching the Stockade Airstrip in a southbound direction. Glare with low potential for temporary after-image to the stockade airstrip is predicted to be up to 140 minutes per day in the morning through mid-afternoon September through April in the worst case; however, it should be noted that pilots will only spend a few minutes in the approach path and will not actually see 140 minutes of glare. It should be noted that the Federal Aviation Administration does not consider glare with low potential for temporary after-image to be an issue for pilots.

The results of the ForgeSolar analysis determined that glare from the Project is not predicted to occur for drivers of vehicles on five of 11 roadways adjacent to the Project. The analysis for roadways was completed at two viewing heights, 5 feet for cars and small trucks and 9 feet for semi-trucks. Glare with low potential for temporary after-image predicted for vehicles on six of the roads expected to see glare ranges from two to 106 minutes per day, though in most cases the glare is less than 20 minutes per day. Up to 10 minutes of glare with potential for temporary after-image is predicted for County Trunk Highway C in the morning from September through April.

Glare is not predicted for 234 of approximately 244 structures, primarily residences, that were analyzed within proximity to the Project area. Glare with low potential for temporary after-image to five of the 10 structures predicted to see glare is mostly less than 10 minutes per day, and five of the structures are predicted to see Glare with low potential for temporary after-image for 13 to 55 minutes per day at varying times and dates through the year.

All routes and structures were analyzed using 9-foot, 12-foot, and 16-foot panel heights.

No glare with potential for permanent eye damage was predicted for any airports, roadways or residences.

5.20.2 In the event of an inquiry or complaint by a resident in or near the project area, describe what modeling or other analysis would be used to evaluate the possibility of unreasonable panel glint or glare at the residence.

In the event of a complaint about glare by a resident within or outside of the Project Area boundary, ForgeSolar modeling will likely be used to assess the extent and time of day of glare at the point of concern.

5.20.3 Describe mitigation options available to reduce unreasonable panel glint or glare.

As the PV panels will be mounted to single-axis tracking systems, the surface of the panels will be in line with the position of the sun, thereby reducing the potential for steep, glancing angles (i.e., chance for glare) compared to fixed-axis systems. Additional options for minimizing the impacts include antireflective coating on panel surfaces, fencing, and vegetation.

6 Local Government Impacts

6.1 Joint Development and Other Agreements

6.1.1 Provide a summary of major agreement items agreed upon in any Joint Development Agreements ("JDA") or other type of agreement including:

6.1.1.1 All services to be provided by the city, town, and/or county during construction and when the plant is in operation (e.g. water, fire, EMS, police, security measures, and traffic control).

Elk Creek Solar has begun coordination with both the Town of Spring Brook and Dunn County to prepare one or more JDAs regarding the Project's formal commitments to the local community. Although the Project is under the PSC's jurisdiction, Elk Creek Solar has agreed to pursue developer agreements with both; the agreements, if executed, will ensure the Project's commitment to addressing town and county concerns. The JDAs will be provided to the PSCW once they have been finalized and approved by the town and county.

Elk Creek Solar does not anticipate significant impacts to local public services or local traffic. Since the Project Area is sparsely populated, construction-related traffic disruptions should be minimal. Post-construction traffic disruptions should be rare.

During construction activities, Elk Creek Solar anticipates minimal net disruptions to the free flow of traffic on the roads that will be employed for Project access. The majority of focused construction traffic will be temporary in duration. The entire construction cycle should not exceed eighteen months (weather permitting).

Training and coordination with local emergency responders will be included in Elk Creek Solar's emergency response plan. Safety protocols, and contact information for Elk Creek Solar's facility operations team, will be provided to all local first responders.

Solar energy systems and their components do not present unusual safety hazards. Periodic meetings will be held with first responders to ensure their familiarity with site facilities.

Specifically, address community and facility readiness for incidents such as fires.

Training and coordination with local emergency responders will be included in Elk Creek Solar's

emergency response plan, which will be finalized as part of pre-construction preparation for the Project. Safety protocols and contact information for the Project's facility operations team will be provided to all local first responders.

It is expected that fire services would be provided by the Menomonie Fire Department, police services by the Dunn County Sheriff's Office, and EMS services by the Menomonie ambulance service or the City and County of Eau Claire, or the Dunn County Medical Emergency First Responders. However, solar energy systems and their components do not present unusual safety hazards or require unique fire, police, or rescue services. Project facilities will not be located at an elevation or in areas that present difficulties for first responders. When requested, periodic meetings will be held with first responders to ensure their familiarity with site facilities.

6.1.2 Provide a copy of all agreements with local communities (e.g., JDA).

JDA development and negotiation is currently in progress. Executed JDAs will be submitted under separate cover once complete.

6.2 Infrastructure and Service Improvements

No additional infrastructure or upgrades to existing facilities are expected to be required for the construction and operation of the Project. Cumulative benefits to the budgets of local governments will be significant due to yearly Shared Revenue Utility Payments and ancillary impacts, such as increases in local jobs, landowner payments, and increased spending locally during construction and operation.

6.2.1 Identify any local government infrastructure and facility improvements required (e.g. sewer, water lines, railroad, police, and fire).

Elk Creek Solar is not aware of any infrastructure or upgrades to existing facilities that will be needed for the construction or operation of the Project. If improvements are necessary, such as the repair/improvement (e.g., regular grading and additional gravel replacement) to specific roads used in hauling materials during construction, they will be done at Elk Creek Solar's expense.

Elk Creek Solar anticipates that no changes to existing roads along haul routes will be required. If such changes are needed for accommodating turning radii, Elk Creek Solar will adhere to all local construction standards.

A Road Condition Report was completed for the Elk Creek Solar Project and is included in Appendix S. The Road Condition Report reviewed existing desktop road condition data prior to completing visual field inspections. This report will assist Elk Creek Solar, Dunn County and the Town of Spring Brook in assessing any potential damage to county and town roads as a result of Project construction activities. Any such damage will be repaired by Elk Creek Solar to pre-construction conditions or better.

6.2.2 Describe the effects of the proposed Project on city, village, town and/or county budgets for these items.

Local government budgets will be positively impacted by hosting the Project. Wisconsin's Shared Revenue Utility Aid Program provides for payments to be distributed annually to the communities hosting an electric generator. Elk Creek Solar's proposed 300 MW Project would be eligible for two components of the Shared Revenue Utility Aid Program: the MW-based payment and the Incentive payment.

6.2.3 For each site provide an estimate of any revenue to the local community (i.e. city, village, town, county) resulting from the Project in terms of taxes, shared

revenue, or payments in lieu of taxes.

In aggregate, the Elk Creek Solar Project will generate approximately $1,200,000 in annual payments through the above-referenced Shared Revenue Utility Aid Program during its commercial operation. Modern PV solar facilities are expected to have useful lives in excess of 30 years. A conservative estimate of 25 years of shared revenue would result in $30 million to the county and township hosting the Project.

The estimated Utility Payment breakdown for Town and County is summarized below in Table 10.

Table 10: Estimate of Annual Revenue for 300-MW Project

Payment Type	Town of Spring Brook	Dunn County
MW-based Payment	$200,000	$400,000
Incentive Payment	$300,000	$300,000
Total	$500,000	$700,000

6.2.4 Describe any other benefits to the community (e.g. employment, reduced production costs, goodwill gestures).

Benefits to the community and surrounding area include the possible hiring of local Project construction, commissioning, operations and maintenance staff, as discussed in Section 3.2. Approximately 300 local jobs will be created during construction. In addition to construction labor, the Project will require skilled electricians, operations staff, and maintenance workers. When possible, these jobs will be sourced from surrounding communities.

Additional benefits include significant revenues and financial stability to area landowners who are participating in the Project (as both land sellers or grantors of leases or easements), and a potential increase in local employment opportunities to support the Project. Other economic benefits include ancillary jobs and local support positions in areas such as food service, lodging, fuel, sanitation, gravel, asphalt, and other service providers that commonly experience an uptick in their businesses. The draft JDAs also contemplate voluntary payments to the local school districts.

6.2.5 Provide information on the direct, indirect, and induced state and local economic impacts during and after construction.

Approximately 300 local jobs will be created during construction. Whenever possible, these jobs will be sourced from the surrounding communities. In addition to construction, skilled electricians, operations staff, and maintenance workers will regularly be in demand. This will result in direct, indirect, and induced state and local economic impacts during construction. Direct impacts during the construction period refer to the changes that occur in the onsite construction industries in which the direct final demand (i.e., spending on construction labor and services) change is made. Onsite construction-related services include installation labor, engineering, design, and other professional services. Direct impacts during operating years refer to the final demand changes that occur in the onsite spending for the solar operations and maintenance workers.

The initial spending on the construction and operation of the solar PV installation will create a second layer of impacts, referred to as “supply chain impacts” or “indirect impacts.” Indirect impacts during the construction period consist of changes in inter-industry purchases resulting from the direct final demand changes and include construction spending on materials and PV equipment, as well as other purchases of goods and offsite services. Utility-scale solar PV indirect impacts include PV modules, invertors, tracking systems, cabling, and foundations. Induced impacts during construction refer to the changes

that occur in household spending as household income increases or decreases as a result of the direct and indirect effects of final demand changes. This includes local spending by employees working directly or indirectly on the Project that receive their paychecks and then spend money in the community and the additional local jobs and economic activity that are supported by the purchases of these goods and services.

Elk Creek Solar conducted an economic analysis of the project using the National Renewable Energy Laboratory Jobs and Economic Development Impacts (JEDI) PV Model (PV12.23.16). The JEDI PV Model is an input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output.

The results from the JEDI model show significant earnings impacts from Elk Creek Solar Project, which are categorized by construction impacts and operations impacts. The estimated Total Earnings Impact and Total Output Impact from the Project are summarized below in Tables 12 and 13. The full Economic Impact and Land Use Analysis is found in Appendix X.

Table 12: Total Earnings Impact from Elk Creek Solar Project

	Dunn County	State of Wisconsin
Construction		
Project Development and Onsite Earnings Impacts	$14,815,331	$26,794,916
Module and Supply Chain Impacts	$4,770,691	$12,954,839
Induced Impacts	$966,434	$7,690,250
New Local Earnings during Construction	$20,552,456	$47,440,004
Operation (Annual)		
Onsite Labor Impacts	$190,505	$380,174
Local Revenue and Supply Chain Impacts	$381,872	$580,444
Induced Impacts	$113,535	$468,719
New Local Long-Term Earnings	$685,913	$1,429,336

Table 13: Total Output Impact from Elk Creek Solar Project

	Dunn County	State of Wisconsin
Construction		
Project Development and Onsite Jobs Impacts on Output	$19,693,926	$35,113,303
Module and Supply Chain Impacts	$13,280,463	$35,092,254
Induced Impacts	$3,566,663	$23,641,369
New Local Output during Construction	$36,541,053	$93,846,926
Operation (Annual)		
Onsite Labor Impacts	$190,505	$380,174
Local Revenue and Supply Chain Impacts	$1,915,919	$2,242,027
Induced Impacts	$413,209	$1,435,265
New Local Long-Term Output	$2,519,633	$4,057,465

7 Landowners Affected and Public Outreach

7.1 Contact Lists

Provide a separate alphabetized list (names and addresses) in Microsoft Excel for each of the groups described below:

7.1.1 Property owners and residents within the Project Boundary and a separate list of property owners and residents from the Project Boundary out to a distance of 1.0 mile. It is strongly recommended that applicants consult with PSC staff in order to ensure that the format and coverage are appropriate considering the project type, surrounding land use, etc.

A list of property owners within the Project Area boundary and a list of property owners within a one-mile buffer of the Project Area boundary is submitted electronically in Appendix Q. Parcel ID numbers each property owner's land have been appended to the end of each list to aid the PSCW's review of the Application. Some property owners appear on these lists more than once because they own multiple parcels within or within a one-mile buffer of the Project Area boundary. Accordingly, to aid the PSCW's review of the Application, Elk Creek Solar is also providing a separate, "dissolved" mailing list that lists each such property owner only once.

7.1.2 Public property, such as schools or other government land.

There are no schools or government-owned buildings within the Project Area or within one mile of the Project Area boundary.

7.1.3 Clerks of cities, villages, townships, and counties directly affected by the proposed project; and the contact info for the Regional Planning Commission relevant to the project area. Also include on this list the main public library in each county the proposed facilities would occupy.

The communities listed in Table 11 have lands within the Project Area boundary or have certain rights of extraterritorial jurisdiction within the Project Area boundary. Mailing addresses for these town and county clerks and public libraries are included in Appendix Q.

Table 11: Clerks of Municipalities Directly Affected

Municipality	Clerk Name	Phone Number
Town of Spring Brook	Mary Strand	715-664-8545
Dunn County	Andrew Mercil	715-232-1677
West Central Wisconsin Regional Planning Commission	Lynn Nelson	715-836-2918
Elk Mound Community Library	Joleen Stark	715-232-2164

7.1.4 Local media for the project area, at least one print and one broadcast.

Print Media: Eau Claire Leader-Telegram
701 S. Farwell Street
Eau Claire, WI 54701

Broadcast Media: WQOW
5545 Hwy 93
Eau Claire, WI 54701

Contact information for these media outlets is also included in Appendix Q.

7.1.5 Tribal government representatives for Native American Tribes that hold off-reservation treaty rights in Ceded Territory. This only applies to projects within the following counties: Douglas, Bayfield, Ashland, Iron, Vilas, Forest, Florence, Marinette, Oconto, Menominee, Shawano, Langlade, Oneida, Price, Sawyer, Washburn, Burnett, Polk, Barron, Rusk, Taylor, Lincoln, Marathon, Portage, Wood, Clark, Chippewa, Eau Claire, Dunn, and St. Croix County. The following Tribes hold off-reservation treaty rights in Ceded Territory:

- **Bad River Band of Lake Superior Chippewa Indians**
- **Lac Courte Oreilles Band of Lake Superior Chippewa Indians**
- **Lac du Flambeau Band of Lake Superior Chippewa Indians**
- **Red Cliff Band of Lake Superior Chippewa Indians**
- **St. Croix Chippewa Indians of Wisconsin**
- **Sokaogon Chippewa Community (Mole Lake Band of Lake Superior Chippewa Indians)**

Table 13: Contact information for Tribes that hold off-reservation treaty rights in Ceded Territory

Tribe	Contact Information
Bad River Band of Lake Superior Chippewa Indians	72686 Maple Street Ashland, WI 54806 (715) 682-7111
Lac Courte Oreilles Band of Lake Superior Chippewa Indians	(715) 634-8934
Lac du Flambeau Band of Lake Superior Chippewa Indians	P.O. Box 67 Lac du Flambeau, WI 54538 (715) 588-3303
Red Cliff Band of Lake Superior Chippewa Indians	88455 Pike Road

Tribe	Contact Information
	Red Cliff, WI 54814 (715) 779-3700
St. Croix Chippewa Indians of Wisconsin	24663 Angeline Ave Webster, WI 54893 (715) 349-2195
Sokaogon Chippewa Community (Mole Lake Band of Lake Superior Chippewa Indians)	3051 Sand Lake Road Crandon, WI 54520 (715) 478-7500

Contact information for these media outlets is also included in Appendix Q.

7.2 Public Outreach and Communication

7.2.1 List and describe all attempts made to communicate with and provide information to the public. Describe efforts to date and any planned public information activities.

Elk Creek Solar has been committed to establishing relationships with residents, elected officials, and key community stakeholders, while providing transparency and an open line of communication regarding available Project related information. Outreach efforts have been conducted through in-person and virtual meetings, launching digital platforms such as a Project Website and Project Facebook page, mailings to residents within a one-mile radius of the Project, keeping an open line for Project inquiries through a Project email and local phone number, and hosting weekly office hours at a Local Office in downtown Menomonie, Wisconsin. Detailed information on those efforts is provided below.

Local Residents – Elk Creek Solar is committed to engaging with both participating and non-participating landowners in the Project community to address their questions and concerns about a utility-scale solar and battery energy storage system development in the Town of Spring Brook. On September 12th, 2022, Project representatives attended a Town of Spring Brook Board Meeting to introduce the Project to the board and answer questions. Prior to attending the Spring Brook Board Meeting, Elk Creek Solar sent a letter to residents that live within a one-mile radius of the proposed Project site, as well as key community stakeholders. On September 21st, 2022, Project representatives participated in a similar meeting with the Dunn County Board of Supervisors to introduce the board and attending community members to the Project and answer questions. The mailing, Project handouts, and presentations are included in Appendix R.

Elk Creek Solar has been regularly communicating with key community stakeholders and residents of Dunn County via available platforms – Project phone number, email, website, Facebook page, and the local office. In addition, the Project has created an internship with a student at the University of Wisconsin – Stout to educate and inform students, faculty, and community members about the Project. The efforts provided by the Project Intern have allowed the Project to engage with additional community stakeholders and residents of Dunn County. Within the next couple of months, the Project will host a Public Open House where community members and elected officials can attend to learn more about the proposed Project.

State Elected Representatives and Regulatory Agencies – Elk Creek Solar has had regular communication with the PSCW and WDNR to discuss permitting and related topics in anticipation of filing this application.

Local Units of Government – Elk Creek Solar has made contact with and/or met with the following town and county elected officials, staff, and representatives to inform and update them on Project activities, negotiate a JDA and to answer questions and respond to concerns related to the Project:

- Town of Spring Brook: Clerk and board members
- Dunn County: Clerk, County Manager, Corporation Counsel, and board members
- City of Menomonie: Clerk and Mayor

Community Outreach:

- **August 2022:** Elk Creek Solar contacted the Spring Brook Township Clerk to request a time to present at the next Spring Brook Township Board meeting to introduce the Project to the community and the board.
- **August 2022:** Elk Creek Solar contacted the Dunn County Clerk to request a time to present at the next Dunn County Board of Supervisors meeting to introduce the Project to the community and the board.
- **August 2022:** Elk Creek Solar representatives held a virtual meeting with the CEO of the Menomonie Area Chamber of Commerce to introduce the Project.
- **August 2022:** Elk Creek Solar representative met in-person with the CEO of the Menomonie Area Chamber of Commerce as a follow up to further discuss the Project.
- **August 2022:** Elk Creek Solar representative met with Erik Gruenard, Vice Chancellor, and Kadi Wright, Sustainability Manager with the University of Wisconsin – Stout to introduce them to the Project and provide them with the Project Fact Sheet and FAQ one-pager.
- **August 2022:** Elk Creek Solar representative met with Robert Bossany, Dunn County Economic Development Director to introduce him to the Project and provide him with the Project Fact Sheet and FAQ one-pager.
- **September 2022:** Elk Creek Solar launched its online and social media campaign by going live with the Project Website (www.elkcreeksolarproject.com) and Facebook page (www.facebook.com/ElkCreekSolarProject) to provide community access to Project information, Project resources and FAQ's, Project contact information, and solar industry related information.
- **September 2022:** Elk Creek Solar delivered a letter to Dunn County Key Community Stakeholders (County Officials, Township Officials, UW-Stout representatives, Chamber, Local Fire Departments, and Elk Mound School District) to introduce them to the Project. Project Fact Sheet and FAQ one-pager were included in this mailing. The mailing is included in Appendix R.
- **September 2022:** Elk Creek Solar delivered a letter to residents who live within a one-mile radius of the proposed Project. The introductory letter included the Project Fact Sheet and FAQ one-pager. Mailing is included in Appendix R.
- **September 2022:** Elk Creek Solar virtually met with Dunn County Manager, Kristin Korpela, to introduce her to the Project and open the floor for questions and answers.
- **September 2022:** Elk Creek Solar met with Eric Wright, the Elk Mound Superintendent, to introduce him to the Project and provide him with the Project Fact and FAQ one-pager.
- **September 2022:** Elk Creek Solar attended the Spring Brook Township regular board meeting to provide a presentation on the Project and open the floor for questions and answers. Approximately 15 people attended this board meeting. The presentation is included in Appendix R.
- **September 2022:** Elk Creek Solar representatives met Robert Bossany, the Dunn County Economic Development Director to provide him with an update and introduce him to other Project representatives.

- **September 2022:** Elk Creek Solar attended the Dunn County Board of Supervisors regular board meeting to provide a presentation on the Project and open the floor for questions and answers. Approximately 40 people attended this board meeting. Presentation is included in Appendix R.
- **September 2022:** Elk Creek Solar representative had contacted the Elk Mound Fire Department Fire Chief to discuss fire training and/or resources for the local Fire Department to be educated on utility-scale solar.
- **September 2022:** Elk Creek Solar hired a local representative who will host regular office hours at a local office in downtown Menomonie, WI. Local representative also manages the Project phone number and email for any Project inquiries.
- **September 2022:** Elk Creek Solar met with Mayor Randy Knaack from the City of Menomonie to introduce him to the Project and provide him with the Project Fact Sheet and FAQ one-pager.
- **October 2022:** Elk Creek Solar hired a Project Intern from UW-Stout who has set up regular sessions on campus to provide Project information to students, faculty members, and community members.
- **October 2022:** Elk Creek Solar advertised local office hours and location in the Eau Claire Leader-Telegram. Office Hour Ads are included in Appendix R.
- **October 2022:** The Project anticipates attending the Elk Mound School District Board meeting later this year to provide a presentation to the board and answer any questions they may have.
- **October 2022:** The Project anticipates meeting with the Elk Mound Fire Department later this year to discuss the location of the Project and general safety guidelines and emergency response plans.
- **October 2022:** The Project anticipates holding an Open House shortly after the CPCN application is filed, to allow the community to ask Project representatives about the filing.

7.2.2 Provide copies of public outreach mailings or website addresses for project pages.

Public Outreach mailings and project handouts are included in Appendix R.

The Project website is www.elkcreeksolarproject.com/

The Project Facebook page is www.facebook.com/ElkCreekSolarProject

7.2.3 Describe plans and schedules for maintaining communication with the public (e.g. public advisory board, open houses, suggestion boxes, and newsletters).

Elk Creek Solar will continue to offer an open line of communication to engage with the public in the following manner:

- Elk Creek Solar will provide regular updates to the host community, local school district, responding Fire Departments, community stakeholders, and governing entities via letter and/or postcard mailings.
- Elk Creek Solar will attend meetings of local units of government as requested and/or as needed.
- Elk Creek Solar will host an Open House to provide Project updates and opportunities for Project representatives to interact with community members.
- Elk Creek Solar will maintain a local office in Menomonie with local office hours and the opportunity to make appointments. Office hours will be posted on the Project website, Project Facebook page, and in the local newspaper.
- Elk Creek Solar will manage the Project email (info@elkcreeksolarproject.com) and Project

phone number (715-309-5921) to receive inquiries from the community.

7.2.4 Identify all local media that have been informed about the project.

- September 13, 2022: Elk Creek Solar representative had a virtual interview with Katrina Lim of WQOW Chippewa Valley News Station.
- Katrina Lim, with WQOW Chippewa Valley News Station, reported on the Project on September 13, 2022.
- LeAnn R. Ralph, with the Colfax Messenger, wrote an article on the Project that was published in the Colfax Messenger and The Tribune Press Reporter on September 22 and 28, 2022.
- Elk Creek Solar advertised the Local Office Hours and Location in the Eau Claire Leader-Telegram on October 12, 14, 17, 19, 24, and 26, 2022.
- Elk Creek Solar will advertise the Public Open House in the Eau Claire Leader-Telegram throughout November 2022.

7.2.5 Describe the ongoing ways that the public would be able to communicate with plant operators or the company. Describe any internal process for addressing queries or complaints.

Elk Creek Solar will continue to keep open lines of communication with the public throughout the remainder of development and into construction and operations of the facility. The Project will continue to host regular office hours at the local office in Menomonie, WI, which will be posted on the platforms listed in section 7.2.2. A representative will be available through the office or other means of communications (Project email and local phone number) to answer questions and document complaints. All complaints will receive a proper follow-up with a Project representative to ensure the issue has been resolved.

During construction, a Site Manager will be assigned to oversee the Project construction. The Site Manager will be the main point of contact for the Town of Spring Brook, Elk Mound Fire Department, Menomonie Fire Department, the Village of Elk Mound, Elk Mound School District, Dunn County, and other businesses and/or entities in the host community.

When operations of the facility commence, members of the community will be provided contact information of the O&M Manager, who will be the primary contact throughout the operations of the Project. Local elected officials and Emergency Response Officials will also be provided regular, updated contact information. In addition, the contact information will be posted at the entrance points to the facilities. Any complaints or questions regarding the maintenance and operations of the facility can be directed to the O&M staff of the Project.

8 Waterway/Wetland Permitting Activities

Elk Creek Solar retained Stantec to identify wetlands and waterways within the Project Area boundary. The wetland delineation was completed within a Study Area which is larger than the Project Area boundary. The wetland delineations were completed during August 2021 and 2022 in accordance with the criteria and methods outlined in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual, Technical Report Y-87-1 (1987) and subsequent guidance documents, and applicable Regional Supplements to the Army Corps of Engineers Wetland Delineation Manual. The extent of the wetland delineation Study Area, detailed information on wetland and waterways, and the methodology used is provided in the Wetland Delineation Report, included in Appendix I.

8.1 Waterway Permitting Activities

The Project was designed to avoid waterways to the extent practicable. No waterway impacts are anticipated from Project construction. The WDNR Wetland/Waterway Impact Location Table and Environmental Inventory Table (WDNR Tables 1 and 2, respectively) are provided in Appendix U.

8.1.1 Identify the number of waterways present, including all DNR mapped waterways and field identified waterways, assuming all waterways are navigable until a navigability determination is conducted (if requested). Provide an overall project total, as well as broken down by the proposed site and the alternate site and their associated facilities.

One waterway was field identified within the Project Area boundary and mapped as S1. The waterway correlates with the WDNR 24k perennial waterway Muddy Creek. The waterway intersects the far southwestern corner of the Project Area and eventually enters the Chippewa River beyond the Project Area limits. Another portion of Muddy Creek (S2) was identified as part of the wetland delineation Study Area but is located outside the Project Area boundary.

The WDNR 24K hydrography layer shows one intermittent flowline (WBIC 5012702) that is also mapped within the Project Area and extends north and south of CTH C within agricultural fields. Connection to any other WDNR 24K mapped feature is not depicted.

8.1.2 Identify any waterways in the project area that are classified as Outstanding or Exceptional Resource Waters, Trout Streams, Wild Rice Waters, and Wild or Scenic Rivers.

Muddy Creek is not defined as an Outstanding or Exceptional waterway under NR102 and is considered a Trout stream.

8.1.3 State if you are requesting DNR staff perform a navigability determination on any of the DNR mapped waterways and/or field identified waterways that would be impacted and/or crossed by project activities. If a navigability determination is requested, provide the following information in a separate appendix with the application:

- **A table with columns for:**
  - **The crossing unique ID,**
  - **Waterbody Identification Code (WBIC) for each waterway (found in the Surface Water Data Viewer or in the GIS data for the DNR mapped waterways),**
  - **Latitude and longitude for each crossing,**
  - **Waterway name,**
  - **Waterway characteristics from field investigation, and;**
  - **Any other pertinent information or comments.**
- **Site photographs, clearly labeled with the photo number, direction, date photo was taken, and crossing unique ID. A short description of what the photo is showing, and any field observation must also be included in the caption.**
- **Project map showing the following:**
  - **Aerial imagery (leaf-off, color imagery is preferred),**

- **DNR mapped waterways (labeled with their unique ID),**
- **Field identified waterways (labeled with their unique ID),**
- **the location of each site photograph taken (labeled with the photo number),**
- **the project area, and;**
- **Call out box/symbol for each DNR mapped waterway crossing where the navigability determination is requested (labeled with their unique ID).**

The mapped intermittent flowline (WBIC 5012702) was field-investigated by Stantec to document field conditions of this mapped feature. No evidence of a navigable waterway was found. Stantec submitted a navigability determination request to the WDNR on December 16, 2021, requesting concurrence that that mapped feature is not a navigable waterway. A response from WDNR is still pending. The navigability determination request is found in Appendix Z.

8.1.4 For both the proposed and alternate sites and their associated facilities, provide the following:

8.1.4.1 The number of waterways that would be crossed by collection lines and specify the installation method (e.g. X waterways would be bored, Y waterways would be trenched, etc.).

8.1.4.2 The number of waterways that would be traversed with equipment for temporary access roads, and how that crossing would be accomplished (e.g. temporary clear span bridges (TCSB), use of existing bridge or culvert, etc.).

8.1.4.3 The number of waterways that would be impacted for permanent access roads, and how that crossing would be accomplished (e.g. placement of culvert, ford, permanent bridge, etc.).

8.1.4.4 The number of waterways that would be impacted and/or crossed by fence installation and footings.

8.1.4.5 The number of waterways that would be impacted and/or crossed by other construction activities or facilities (e.g. placement of a stormwater pond within 500 feet of a waterway, stream relocation, staging areas, etc.).

8.1.5 Provide the methods to be used for avoiding, minimizing, and mitigation construction impacts in and near waterways. This discussion should include, but not be limited to, avoiding waterways, installation methods (i.e. directional bore versus open-cut trenching or plowing), equipment crossing methods (i.e. for temporary access, the use of TCSB versus temporary culvert; for permanent access, the use of permanent bridge versus permanent culvert), sediment and erosion controls, invasive species protocols for equipment, etc.

Elk Creek Solar does not anticipate impacts to waterways. When working near waterways, proper sediment, erosion control, and invasive species control BMPs will be installed/utilized prior to and during construction activities.

8.1.6 Describe fence crossings of waterways, including the location of support pilings (i.e. in waterway channel, at the top of the waterway banks) and the amount of clearance between the bottom of the fence and the ordinary high-water mark. Also describe any existing public use of the waterway and how this public use may be impacted by the fence crossing.

8.1.7 For waterways that would be open-cut trenched, provide the following:

8.1.7.1 State if any waterways are wider than 35 feet (measured from OHWM to OHWM).

8.1.7.2 The machinery to be used, and where it would operate from (i.e. from the banks, in the waterway channel) and if a TCSB is needed to access both banks.

8.1.7.3 The size of the trench (length, width, and depth) for each waterway crossing.

8.1.7.4 The details on the proposed in-water work zone isolation/stream flow bypass system (i.e. dam and pump, dam and flume, etc.).

8.1.7.5 The details on the proposed dewatering associated with the in-water work zone isolation/stream flow bypass system, including where the dewatering structure would be located.

8.1.7.6 The duration and timing of the in-stream work, including the installation and removal of the isolation/bypass system and the trenching activity.

8.1.7.7 How impacts to the waterway would be minimized during in-water work (e.g. energy dissipation, sediment controls, gradually releasing dams, screened and floating pumps, etc.).

8.1.7.8 How the waterway bed and banks would be restored to pre-existing conditions.

8.1.8 For waterways that would be directionally bored, provide the following:

8.1.8.1 Where the equipment would operate from (e.g. from upland banks, from wetland banks, etc.) and if a TCSB is needed to access both banks.

8.1.8.2 The location and size of any temporary staging and equipment storage.

8.1.8.3 The location and size of bore pits.

8.1.9 For waterways that would have a TCSB installed across them, provide the following:

8.1.9.1 A description of the TCSB proposed, including dimensions, materials, and approaches

8.1.9.2 State if any waterways are wider than 35 feet, and/or if any in-stream supports would be used.

8.1.9.3 State how the TCSB placement and removal would occur (e.g. carried in and

placed with equipment, assembled on site, etc.) and if any disturbance would occur to the bed or banks for the installation and removal, including bank grading or cutting.

8.1.9.4 The duration of the TCSB and when installation and removal would occur.

8.1.9.5 Describe sediment controls that would be installed during the installation, use, and removal of the TCSBs.

8.1.9.6 Describe how the TCSBs would be inspected during use, and how they would be anchored to prevent them from being transported downstream.

8.1.9.7 State if the required five-foot clearance would be maintained, or if the standards in Wis. Admin. Code NR 320.04(3) would be complied with.

8.1.9.8 How the waterway banks would be restored when the TCSB is removed.

8.1.10 Describe the proposed area of land disturbance and vegetation removal at waterway crossings. Include a description of the type of vegetation to be removed, and if this vegetation removal would be temporary (allowed to regrow) or permanent (maintained as cleared).

8.1.11 If any of the following activities are proposed, provide the information as detailed on the applicable permit checklist:

- **New culvert placement: https://dnr.wi.gov/topic/waterways/documents/PermitDocs/GPs/GP-CulvertWPEDesign.pdf (General Permit) or https://dnr.wi.gov/topic/Waterways/documents/PermitDocs/IPs/IP-culvert.pdf (Individual Permit).**
- **New permanent bridge placement: https://dnr.wi.gov/topic/waterways/documents/PermitDocs/GPs/GP-ClearSpanBridge.pdf (General Permit, no in-stream supports) or https://dnr.wi.gov/topic/Waterways/documents/PermitDocs/IPs/IP-bridgeTempCross.pdf (Individual Permit, in-stream supports).**
- **New stormwater pond placed within 500 feet of a waterway: https://dnr.wi.gov/topic/waterways/documents/PermitDocs/GPs/GP-StormwaterPond.pdf.**

One new stormwater pond located immediately west of the O&M buildings is proposed within 500 feet of a waterway (Muddy Creek). The pond will be separated from Muddy Creek by 810th Street. Elk Creek Solar will obtain a General Permit for this stormwater pond from WDNR prior to construction.

8.2 Wetland Permitting Activities

The Project was designed to avoid wetlands to the extent practicable. The WDNR Wetland/Waterway Impact Location Table and Environmental Inventory Table (Tables 1 and 2, respectively) are provided in Appendix U.

8.2.1 Describe the method used to identify wetland presence and boundaries within the project area (i.e. wetland delineation, wetland determination, review of

desktop resources only, etc.). If a combination of methods were used, describe which project areas utilized which method. The associated delineation report and/or desktop review documentation should be uploaded to the PSC's website as part of the application filing. State if wetlands mapped via desktop resources would be field confirmed, and when (if known).

The wetland delineation was based on the criteria and methods outlined in the USACE Wetlands Delineation Manual, Technical Report Y-87-1 (USACE 1987) and subsequent guidance documents, and applicable Regional Supplements to the Army Corps of Engineers Wetland Delineation Manual. Additionally, Stantec performed a desktop review, which included the use of available resources such as USGS topographic maps, USDA NRCS soil survey, WDNR Wisconsin Wetland Inventory (WWI) mapping, and aerial photography. Additionally, antecedent precipitation in the three months leading up to the field investigation was reviewed. The current year's precipitation data were compared to long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using the Climate Analysis for Wetlands Tables (also known as a WETS analysis) as developed by the NRCS. Finally, a review of five years (1996, 1999, 2001, 2015, 2017) of USDA NAIP aerial imagery was conducted for the Project Area boundary. The aerial imagery review assists in the wetland determination due to the presence of farmed areas with mapped "poorly drained" or "somewhat poorly drained" soils within the Project Area boundary. The aerial imagery was reviewed for the appearance of wetland signatures.

8.2.2 Identify the number of wetlands present and by wetland type, using the Eggers and Reed classification. Provide as an overall project total, as well as broken down by the proposed site and the alternate site and their associated facilities.

One wetland (W1) is located Project Area. Wetland W1 is comprised of a farmed wetland community located within the Primary Facility Area.

One wet meadow (W2) was identified alongside Muddy Creek within the wetland delineation Study Area but that location was subsequently removed from Project Area.

The wetlands are further described in the Wetland Delineation Report in Appendix I. A summary of the wetland communities is listed below and included in WDNR Tables 1 and 2 in Appendix U.

<u>Farmed Wetland (W1)</u>
Typical farmed wetland vegetation includes varying degrees of herbaceous agricultural weed coverage and stunted crops depending on degree of ponded conditions. Common herbaceous species includes yard knotweed (*Polygonum aviculare*), dotted smartweed (*Persicaria punctata*), rough-fruited amaranth (*Amaranthus tuberculatus*), hairy panic grass (*Dichanthelium acuminatum*), reed canary grass (*Phalaris arundinacea*), woolgrass (*Scirpus cyperinus*), purple-leaved willowherb (*Epilobium coloratum*), barnyard grass (*Echinochloa crus-galli*), Japanese bristlegrass (*Setaria faberi*), and soft rush (*Juncus effusus*). Farmed wetlands are considered degraded due to historic agricultural practices

8.2.3 Wetland functional values:

8.2.3.1 Discuss the existing functional values of the wetland present. Functional values include but are not limited to floristic diversity, fish and wildlife habitat, flood storage, water quality, groundwater discharge and recharge, public use, etc.

W1 is a farmed wetland and therefore has limited functional use. There is little to no floristic diversity,

fish and wildlife habitat, flood storage, shoreline stabilization, public use or water quality enhancement. It does serve to recharge groundwater and may be used for wildlife for foraging.

8.2.3.2 Discuss how the project may impact existing functional values of wetlands.

The construction of the Project will likely have little to no impact on the functional value of W1 due to the low functional value of farmed wetlands.

8.2.3.3 Provide Wisconsin Rapid Assessment Methodology (WRAM) forms, or other assessment methodology documentation, if completed.

8.2.4 Identify any wetlands in the project area that are considered sensitive and/or high-quality wetlands, including, but not limited to:

No sensitive or high-quality wetlands exist within the Project Area.

8.2.4.1 Any wetlands in or adjacent to an area of special natural resource interest (Wis. Admin. Code NR 103.04).

8.2.4.2 Any of the following types: deep marsh, northern or southern sedge meadow not dominated by reed canary grass, wet or wet-mesic prairie not dominated by reed canary grass, fresh wet meadows not dominated by reed canary grass, coastal marsh, interdunal or ridge and swale complex, wild rice-dominated emergent aquatic, open bog, bog relict, muskeg, floodplain forest, and ephemeral ponds in wooded settings.

8.2.4.3 Any wetlands with high functional values based on factors such as abundance of native species and/or rare species, wildlife habitat, hydrology functions, etc.

The wetland located within the Project Area (W1) is a disturbed, low-quality, farmed wetland that is dominated by weedy or nonnative species and lacks habitat connectivity. Wetland impacts have been avoided.

8.2.5 For both the proposed and alternate sites and their associated facilities, provide the following:

No wetlands will be impacted by the Project.

8.2.5.1 How many wetlands would be crossed by collection lines and specify the installation method (i.e. X wetlands would be bored, Y wetlands would be trenched).

8.2.5.2 How many wetlands would have construction matting placed within them to facilitate vehicle access and operation and material storage. Also provide the total amount of wetland matting, in square feet.

8.2.5.3 How many wetlands would be impacted for permanent access roads and indicate if culverts would be installed under the roads to maintain wetland hydrology.

8.2.5.4 How many wetlands would be impacted and/or crossed by fence installation and footings.

8.2.6 Describe if wetlands would be disturbed for site preparation activities (e.g. grading, leveling, etc.) in the array areas, and for the installation of the arrays and associated supports.

No wetlands will be disturbed for site preparation activities.

8.2.7 Describe if wetlands will be disturbed for site preparation activities:

No wetlands will be disturbed for site preparation activities.

8.2.7.1 Grading, leveling, etc. in the array areas, and for the installation of the arrays and associated supports.

8.2.7.2 If vegetation removal will be conducted in wetlands, describe how woody debris (i.e. brush piles, wood chips, etc.) would be handled and disposed of when clearing shrub and forested wetlands.

8.2.8 Describe the sequencing of matting placement in wetlands and the anticipated duration of matting placement in wetlands. For matting placed in any wetland for longer than 60 consecutive days during the growing season, prepare and submit a wetland matting restoration plan with the application filing.

No matting will be placed in wetlands during construction.

8.2.9 For wetlands that would be open-cut trenched, provide the following:

No wetlands will be open-cut trenched.

8.2.9.1 Provide details on the total disturbance area in wetland, including how total wetland disturbance was calculated. Include the size of the trench (length, width, and depth), where stockpiled soils would be placed (i.e. in upland, in wetlands on construction mats, etc.), and where equipment would operate.

8.2.9.2 Details on the proposed trench dewatering, including how discharge would be treated and where the dewatering structure would be located.

8.2.9.3 Duration and timing of the work in wetland.

8.2.9.4 How the wetland would be restored to pre-existing conditions.

8.2.10 For wetlands that would be directionally bored, provide the following:

No wetlands will be directionally bored.

8.2.10.1 How bored wetlands and associated bore pits would be accessed.

8.2.10.2 The location and size of any temporary staging and equipment storage.

8.2.10.3 The location and size of bore pits.

8.2.10.4 Provide a contingency plan for bore refusal and a plan for the containment and clean-up of any inadvertent releases of drilling fluid (e.g. a frac-out).

8.2.11 Describe how fence installation would occur in wetlands, including the footing

types (e.g. direct imbed, concrete, etc.), any associated wetland impact such as vegetation clearing, operation of equipment, etc.

No fences will be installed in wetlands.

8.2.12 For wetland vegetation that would be cleared or cut, provide the following:

No wetland vegetation will be cleared or cut.

8.2.12.1 The justification for why wetland trees and shrubs are proposed to be cleared, and what construction activity the clearing is associated with.

8.2.12.2 The timing and duration of vegetation removal.

8.2.12.3 Describe the type of equipment that would be used, and if the vegetation removal would result in soil disturbance, including rutting and soil mixing.

8.2.12.4 The type of wetland and type of vegetation to be cleared.

8.2.12.5 If tree and shrubs removed would be allowed to regrow or be replanted, or if cleared areas would be kept free of trees and shrubs long-term.

8.2.12.6 Indicate the plan for removal and disposal of brush and wood chips.

8.2.13 Indicate if any permanent wetland fill is proposed, such as for substation placement, permanent roads, fence or array footings, pole locations, etc. and provide the amount of permanent wetland fill.

Provide the methods to be used for avoiding, minimizing, and mitigation construction impacts in and near wetlands. This discussion should include, but not limited to, avoiding wetlands, installation methods (i.e. directional bore versus open-cut trenching, soil segregation during trenching, etc.), equipment crossing methods (i.e. use of construction matting, frozen ground conditions, etc.), sediment and erosion controls, invasive species protocols for equipment, etc. Additional guidance to prepare this discussion can be found here: https://dnr.wi.gov/topic/Sectors/documents/PAAsupp3Utility.pdf.

No permanent wetland fill is proposed.

8.2.14 Indicate if an environmental monitor would be employed during project construction and restoration activities. If so, describe the monitors roles and responsibilities, frequency of visits, etc.

Elk Creek Solar will utilize an Environmental Management Plan (EMP) that details compliance required for applicable environmental permits, plans, and regulations. A construction team employee or manager trained in environmental monitoring will conduct ongoing on-site inspections during construction to ensure all employees are environmentally aware and ensuring compliance throughout construction.

The environmental monitor will be responsible for implementing the EMP, which will consist of environmental training, regularly scheduled inspections, and tools such as permit matrices and inspection summary logs to ensure all environmental laws and conditions are met. Under the EMP, the environmental monitor will provide environmental training to all construction managers, foreman, and operators prior to construction.

Elk Creek Solar and the environmental monitor will train Project employees in accordance with the EMP and applicable environmental permitting. During construction, the environmental monitor will attend weekly meetings at the site and provide feedback to construction crews on issued previously identified.

8.2.15 Describe how all wetlands within the project area would be restored. This includes wetlands that would be encompassed within the arrays even if not directly impacted by project construction. This discussion should include details on the seeding plan, maintenance and monitoring, restoring elevations and soil profiles, restoring wetland hydrology, etc.

All field-verified wetlands will be avoided on this Project. Wetlands will be marked in the field and have silt fence installed around their perimeter to prevent disturbance.

After site grading is complete, a temporary cover crop will be planted to prevent soil erosion during construction. Upon completion of construction all disturbed areas will be seeded with a perennial seed mix that complies with Wis. Admin. Code ch. ATCP 20 regarding noxious weed seed content and labeling. Permanent seeding will comply with WDNR Conservation Practice Standard 1059 Seeding for Construction Site Erosion Control. If applied, mulch will comply with the WDNR Conservation Practice Standard 1058 Mulching for Construction Sites.

Revegetation of the site, including wetland specific seed mixes, is described further in Section 5.5 and included in the Vegetation Management Plan in Appendix J.

8.3 Mapping Wetland and Waterway Locations, Impacts, and Crossings

Provide the following map sets, as detailed below, for each proposed facility. Each map set should include an overview or index page that includes page extents for the corresponding smaller-scale map pages within the remainder of the map set. The smaller-scale map pages, to show the project and resources in greater detail, should include page numbers to reference to the overview page and have consistent scales throughout the smaller-scale pages.

Project maps depicting the information requested in Section 8.3.1 through 8.3.3 are provided as Figures 4.1.7.1 and 4.1.7.6 in Appendix A. These figures display recent aerial photography with Project facilities, delineated wetlands and waterways, WWI data, and soil survey data. Additionally, the wetland delineation report and associated figures are located in Appendix I. No waterway or wetland impacts are proposed as part of the Project.

Topographic map set: See figures located in Appendix A.

Aerial image map set: See figures located in Appendix A.

8.3.1 Topographic map set showing the following:

- **Solar arrays and all associated components, including but not limited to:**
  - **permanent and temporary access roads;**
  - **fences;**
  - **collector circuits (labeled with the installation method, i.e. directional bore, plow, open-cut trench, etc.);**
  - **Staging areas (labeled with identifying name/number) and all temporary work spaces;**
  - **O&M Building and associated driveways, stormwater management features, etc.;**

- **New and existing substations;**
- **Distribution or transmission interconnection, including pole locations and all access roads (including off-ROW access roads), include identifying labels for each facility; and**
- **Generator tie line, including pole locations and all access roads, including off-ROW access.**

- **Delineated wetlands, labeled with the feature unique ID**
- **Wisconsin Wetland Inventory and hydric soils, if a delineation was not conducted.**
- **DNR mapped waterways, labeled with the feature unique ID.**
- **Field identified waterways, labeled with the feature unique ID.**
- **Locations of proposed stormwater features (i.e. ponds, swales, etc.).**
- **Vehicle crossing method of waterways for both permanent and temporary access, labeled by the crossing method (i.e. TCSB, installation of culvert, installation of bridge, installation of ford, use of existing culvert, use of existing bridge, use of existing ford, driving on the bed).**
- **Placement of construction matting in wetlands.**
- **Excavation areas in wetlands (i.e. bore pits, open-cut trench, etc.).**

See Figure 4.1.3 in Appendix A.

8.3.2 Aerial image map set showing the following:

- **Solar arrays and all associated components, including but not limited to:**
  - **Permanent and temporary access roads;**
  - **Fence;**
  - **Collector circuits (labeled with the installation method, i.e. directional bore, plow, open-cut trench, etc.);**
  - **Staging areas (labeled with identifying name/number) and all temporary work spaces;**
  - **O&M Building and associated driveways, stormwater management features, etc.**
  - **New and existing substations;**
  - **Distribution or transmission interconnection, including pole locations and all access roads (including off-ROW access roads), include identifying labels for each facility; and**
  - **Generator tie line, including pole locations and all access roads, including off-ROW access.**
- **Delineated wetlands, labeled with the feature unique ID**
- **Wisconsin Wetland Inventory and hydric soils, if a delineation was not conducted.**
  - **DNR mapped waterways, labeled with the feature unique ID.**
  - **Field identified waterways, labeled with the feature unique ID.**
  - **Locations of proposed stormwater features (e.g. ponds, swales, etc.).**
  - **Vehicle crossing method of waterways for both permanent and temporary access (i.e. TCSB, installation of culvert, installation of bridge, installation of ford, use of existing culvert, use of existing bridge, use of existing ford, driving on the bed).**

- **Placement of construction matting in wetlands.**
- **Excavation areas in wetlands (i.e. bore pits, open-cut trench, etc.).**

See Figure 4.1.7.1 in Appendix A.

8.3.3 A map showing which method(s) were used to identify wetland presence and boundaries within the project area (i.e. wetland delineation, wetland determination, review of desktop resources only).

Two wetlands were identified in the field wetland delineation Study Area. The Study Area is larger than the Project Area. Only one of the field-delineated wetlands (W1) is located within the Project Area.

9 DNR Guidance Information regarding Erosion Control and Storm Water Management Plans (not PSC requirements)

Prior to construction, a Project-specific ECSWMP will be developed for the Project utilizing the Project Hydrologic & Hydraulic Analysis Report (Appendix M). The plan will include procedures for materials management and dewatering protocols that will be adhered to during Project construction. The ECSWMP will be prepared after the CPCN is granted by the PSCW and once Elk Creek Solar provides to the WDNR Office of Energy the 90% civil/site work engineering/design and contractor bidding documentation. Once finalized, the ECSWMP and Notice of Intent (NOI) will be submitted to the WDNR.

9.1 Erosion Control and Stormwater Management Plans

Once the Project is authorized, Elk Creek Solar will submit a Water Resource Application for Project Permits to the WDNR in accordance with Wis. Admin. Code Ch. NR 216. The application will include a site-specific ECSWMP. The plan will include technical drawings and descriptions of the Erosion Control BMPs that will be followed in compliance with WDNR technical standards. The ECSWMP will address soil and slope stabilization; seeding, mulching and establishment of vegetation; matting, tracking pads, silt fences, and stockpile protection; channel protection and other associated strategies to minimize site erosion.

Construction materials for the Project will be handled in accordance with the methodology outlined within the Materials Management Plan and the ECSWMP. The Materials Management Plan will address construction materials in terms of haul routes, stockpile areas, equipment staging areas, contaminant testing, quantities of materials, and disposal of materials not required for construction and not reserved for decommissioning.

Dewatering activities are not expected on this Project but may be necessary during the excavation of directional drill bore pits and trenching. Water pumped during these activities will be discharged into upland vegetated areas. The contractor awarded the construction contract will comply with the standards and methodologies as presented in the WDNR Technical Standard 1061. The Dewatering Plan will be prepared upon Project approval and will address the need for dewatering, minimization of downstream impacts, analysis of possible system overload scenarios, water discharge locations, back-up system details, high flow plan, and procedures for containment and handling of contaminated water or other materials if encountered.