

ELK CREEK SOLAR, LLC

MINNESOTA PUBLIC UTILITIES COMMISSION

COMMISSION DOCKET NOS. IP-7009/GS-19-495 and IP-7009/CN-19-351

DIRECT TESTIMONY OF MELISSA SCHMIT

JULY 17, 2020

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name, employer and business address.

A. My name is Melissa Schmit. I am the Director of Permitting at Geronimo Energy, LLC (Geronimo), located at 8400 Normandale Lake Boulevard, Suite 1200, Bloomington, Minnesota.

Q. Please briefly describe your educational background and experience.

A. I hold a Bachelor of Arts in Environmental Studies and Geography from Gustavus Adolphus College and a Juris Doctor from Hamline University School of Law. I have 13 years of experience permitting various infrastructure at the local, state, and federal level. In my tenure at Geronimo, I have permitted nearly a gigawatt of wind and solar energy. A copy of my curriculum vitae is provided as Exhibit A.

Q. What is your role with respect to the up to 80 megawatt (MW) alternating current (AC) Elk Creek Solar Project (Project)?

A. I oversee all aspects of local, state, and federal permitting for the Project, including retaining and managing environmental firms to conduct desktop and field analyses and prepare permit applications for the Project. I also coordinate with local, state, and federal agencies and entities, and provide input on ways that the Project's design can avoid or minimize potential impacts to environmental features.

II. OVERVIEW

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to address the following topics:

- Project design, components and power purchase agreement;
- Environmental Assessment comments; and
- Sample Site Permit conditions.

Q. What schedules are attached to your Direct Testimony?

A. The following exhibits are attached to my Direct Testimony:

- Exhibit A: Curriculum Vitae
- Exhibit B: Public Hearing PowerPoint Presentation
- Exhibit C: U.S. Army Corps of Engineers Wetland Boundary Concurrence

Q. Are you also sponsoring the Site Permit Application (Application)?

A. Yes, I am sponsoring the entire Application.

Q. Are you also sponsoring any portion of the Elk Creek public hearing presentation (attached to this Testimony as Exhibit B)?

A. Yes, I am sponsoring slide numbers 1 – 10 of that presentation.

III. PROJECT OVERVIEW

Q. Why did Elk Creek Solar, LLC (Elk Creek) elect to build the Project as an up to 80 MW AC facility?

A. Elk Creek has entered into a power purchase agreement (PPA) with Northern States Power Company, doing business as Xcel Energy (Xcel Energy). Xcel Energy plans to use the power generated by the Project to satisfy growing demand for Xcel Energy's customers under its Renewable*Connect Program. Xcel Energy received permission from the Minnesota Public Utilities Commission (Commission) in 2019 to expand its Renewable*Connect Program to serve additional Xcel Energy customers that wish to purchase renewable energy to satisfy their electrical needs. As part of the Commission approval, Xcel Energy was authorized to procure 80 MW of new solar generation. Xcel Energy is currently petitioning the Commission for approval of the PPA with Elk Creek.

Q. Are there any provisions in the PPA with Xcel Energy that you would like to highlight?

A. Yes. One unique provision of the PPA with Xcel Energy relates to specific requirements that Elk Creek utilize prevailing wage construction labor for the Project. Under the PPA, Elk Creek is required to obtain union labor for all employees engaged in on-site construction and commencement of operations. If Elk Creek is unable to secure union labor for specific tasks, then it can hire non-union laborers as long as it pays the non-union laborers at the Minnesota prevailing-wage rates. Prevailing-wage rates are rates set by the Minnesota Department of Labor as the minimum hourly wage employers must pay certain workers on construction projects where state dollars are used to fund the construction.¹ State funds are not being used for this Project. However, Elk Creek and Xcel Energy have agreed that using union labor and paying prevailing-wage rates for non-union labor will ensure that qualified personnel are employed during the construction of the Project and are adequately compensated for their efforts.

Q. Please describe the various Project components.

A. The Project will consist of:

- Fencing;
- Solar panels;
- A tracking rack system;
- Inverter and transformer skids;
- Collection and communication lines;
- A Project substation;
- Access roads;
- Operations and maintenance (O&M) building and parking lot; and
- Up to two weather stations.

Q. Please describe the design of the solar panels.

¹ See Prevailing-Wage Information. Minnesota Department of Labor and Industry. <https://www.dli.mn.gov/business/employment-practices/prevailing-wage-information> (Accessed July 15, 2020).

91 A. The Project will use solar photovoltaic (PV) panels with tempered glass
92 approximately 4 to 6.5 feet long by 2 to 3.5 feet wide and 1 to 2 inches thick. To
93 limit reflection, solar PV panels are constructed of dark, light-absorbing materials.
94 Today's panels reflect as little as two percent of the incoming sunlight depending
95 on the angle of the sun. The panels will include heat strengthened front glass
96 and laminate material encapsulation for weather protection.

97
98 **Q. What is the purpose and design of the tracking rack system?**

99 The solar PV panels will be mounted on a tracking rack system, which allows the
100 PV panels to track the solar resource throughout the day. The panels and
101 tracking rack system are generally aligned in rows north and south with the PV
102 panels facing east toward the rising sun in the morning, parallel to the ground
103 during mid-day, and then west toward the setting sun in the afternoon. The
104 panels are rotated by a small motor connected to the tracking rack system to
105 slowly track with the sun throughout the day. The tracking rack system allows
106 the Project to optimize the angle of the panels in relation to the sun throughout
107 the day, thereby maximizing production of electricity and the capacity value of the
108 Project.

109
110 The tracking rack system is mounted on top of steel piers that are typically driven
111 into the ground, without the need for excavation or concrete. Piers are typically
112 installed at 8 to 15 feet below the surface. Geotechnical borings will be
113 conducted prior to construction to determine site-specific conditions, which will
114 factor into the final design. Examples of panels installed on the tracking rack
115 system are shown in Section 3.1.1 of the Application. The panels and tracking
116 rack system are constructed in blocks, known as arrays.

117
118 **Q. Please describe the electrical collection system.**

119 A. The electrical collection system consists of two main parts: cables that deliver
120 direct current (DC) power to the inverter/transformer skids, and cables that
121 deliver AC power from the inverter/transformer skids to the Project substation.

The DC portion of the electrical collection system may be installed below-ground or may consist of a hybrid of above-ground/below-ground cables, depending on the geotechnical analysis, constructability, costs, and availability of materials. If installed below-ground, the cabling from the panels to the inverters would be located in a trench approximately 4 feet deep and 1-2 feet wide. If installed using the hybrid method, the electrical collection system would be strung under each row of panels on steel arms and a steel cable attached to the piles. At the end of each row, hanging brackets would connect several racks/rows of cables to a common collection point near their assigned inverter/transformer skid where the cables will be routed below-ground at a minimum depth of at least 4 feet below grade to the inverter/transformer skid. In either scenario, the AC portion of the collection system would be installed below-ground. In the above-ground collection system, the cables will be mounted below the panels in a fashion similar to the hybrid system, but instead of routing the cables below-ground from the inverter/transformer skid to the point of interconnection, the AC portion of the collection system would be installed above-ground on wooden poles up to 30 feet tall.

Q. Please describe the purpose and design of the inverter and transformer skids.

A. The inverters convert the power from DC to AC and the transformers step the AC power up to 34.5 kilovolt (kV). The inverters, transformers, and Supervisory Control and Data Acquisition (SCADA) system are co-located on skids, which are placed on top of a concrete slab or pier foundation and typically measure 10 feet wide by 25 feet long with a structure height of approximately 12 feet. The final number of inverter/transformer skids for the Project will depend on the specifications of the inverter selected, but 34 inverter/transformer skids are proposed in the Project's preliminary design. From the transformer, the AC power is transmitted to the Project substation via collection lines, as discussed above.

Q. Please describe the other Project components.

A. The Project will also include a Project substation, an approximately 300-foot-long 115 kV transmission line extending from the Project substation to the existing Magnolia Substation, an O&M building with adjacent parking lot, up to two weather stations up to approximately 20 feet in height, access roads, and perimeter fencing. Temporary laydown areas will also be used during Project construction.

Q. What lighting will be used at the Project?

A. The Project will have pole-mounted, down-lit security lighting at the entrances, which will be both switch-controlled and motion activated. Additionally, there will be down-lit lights at each inverter, which will be switch controlled to allow repairs after dark.

IV. ENVIRONMENTAL ASSESSMENT

Q. The Minnesota Department of Commerce Energy Environmental Review and Analysis (EERA) staff prepared an Environmental Assessment (EA) for the Project dated June 19, 2020. Have you reviewed the EA?

A. Yes.

Q. Do you have any information you would like to provide to clarify or further elaborate on topics covered by the EA?

A. Yes. Section 4.4.5 of the EA states that the Site Permit should require field surveys of sensitive biological areas. Section 4.5.6 of the EA also states that plant surveys should be completed. Field surveys of plants and vegetative communities within the Project area were completed for the Project in 2019 as part of the wetland delineation survey completed on the Project area (See Appendix E to the Site Permit Application and the U.S. Army Corps of Engineers concurrence with the wetland delineation boundaries attached as Exhibit C). As noted in Section 4.4.5 of the EA, the Land Control Area is dominated by

agriculture (96.1 percent) with small amounts of developed lands (3.4 percent) and forested areas (0.3 percent) and no prairie is located within the Land Control Area. The wetland delineation completed for the Project reviewed grass-covered areas within the Land Control Area and determined they were not native prairie, but were instead dominated by the invasive reed canary grass. Based on the predominance of agricultural vegetation and the absence of sensitive biological resources, impacts to rare and unique natural resources are not anticipated. Accordingly, no further surveys of sensitive biological areas or other plant surveys are necessary.

V. SAMPLE SITE PERMIT

Q. The EA included, as Appendix B, a Sample Site Permit for the Project. Have you reviewed the Sample Site Permit?

A. Yes.

Q. Do you have any comments you would like to provide on the Sample Site Permit?

A. Yes. Section 4.3.8 of the Sample Site Permit provides that Elk Creek should provide native perennial vegetation and foraging habitat beneficial to gamebirds, songbirds and pollinators. While Elk Creek is not opposed to providing native vegetation of wildlife habitat, we are also interested in preserving the option to plant perennial vegetation that can be harvested as a hay crop to meet local agricultural needs as indicated in the Vegetation Management Plan for the Project (See Appendix C to the Site Permit Application). Elk Creek has received interest both from local farmers and from the Minnesota Department of Agriculture to pursue opportunities for farming to co-exist within the Preliminary Development Area of the Project. Planting vegetation that is suitable for haying is one of the few opportunities that may be available for co-location of solar and agricultural uses. Accordingly, Elk Creek requests that the Site Permit issued for the Project allow Elk Creek to retain flexibility to develop and implement a seed

215 mix that is suitable for haying and forage purposes if Elk Creek is able to develop
216 a way to safely allow haying within the Preliminary Development Area.

217
218 **VI. CONCLUSION**

219
220 **Q. Does this conclude your Direct Testimony?**

221 **A. Yes.**

222
223 70343273 v6



a national **grid** company

EDUCATION

Juris Doctor

Hamline University School

of Law

St. Paul, MN

2013

Bachelor of Arts

Gustavus Adolphus College

St. Peter, MN

2007

Environmental Studies and

Geography

PROFESSIONAL ORGANIZATION MEMBERSHIPS

American Wind Energy

Association

Women of Renewable

Industries and Sustainable

Energy

Melissa Schmit, *Permitting Director*

PROFESSIONAL EXPERIENCE

2020-Present	Permitting Director, Geronimo Energy, Minneapolis, MN
2018-2019	Permitting Manager, Geronimo Energy, Minneapolis, MN
2016-2018	Senior Permitting Specialist, Geronimo Energy, Minneapolis, MN
2014-2015	Consultant and Project Manager, E3 Environmental, Saint Paul, MN
2007-2014	Environmental Scientist, HDR Engineering, Minneapolis, MN

SPECIALTY AREAS/ EXPERTISE

Director, Permitting – Ms. Schmit manages the permitting department and supports all aspects of regulatory compliance including environmental permitting and due diligence review for Geronimo's wind and solar portfolio. She manages project risks by developing study and permitting strategies through consultation with all stakeholders including local, state, and federal agencies. Her experience includes National Environmental Policy Act reviews, state utility reviews, local land use reviews, various resource impact permitting, and conducting biological and archaeological field studies for various infrastructure across the Midwest.

AWARDS, PUBLICATIONS AND RECOGNITIONS

2017 North Dakota Planning Association Conference. Presenter.
Renewable Energy in Your Community.

First Place, Mid-West Regional Mediation Competition, 2013,
American Bar Association.

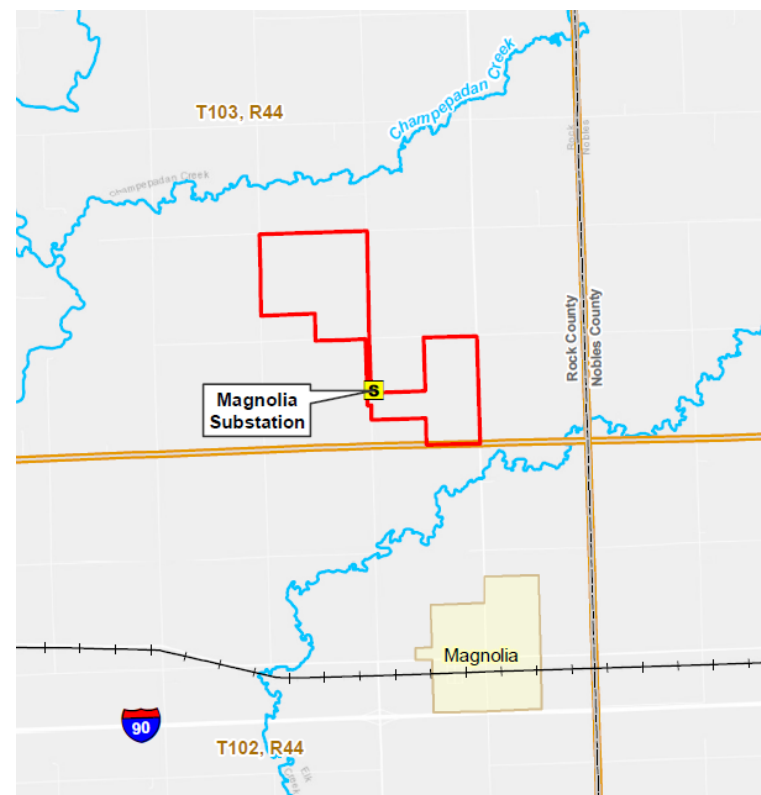
Elk Creek Solar

Project Developer

- Elk Creek Solar, LLC, a wholly-owned subsidiary of Geronimo Energy, LLC, a National Grid Company
- We develop, construct, own, and operate renewable energy projects
- 2,400 MW of wind and solar in operation or under construction
- ~100 utility-scale and community solar projects completed

80 MW Solar Energy Facility

- Located in Vienna Township within Rock County north of Magnolia, MN
- Project Area ~ 1,000 acres
- Interconnect to the Magnolia Substation
- Targeted 2021 COD with construction as early as Q4 2020



Power Purchase Agreement – Sale of Power

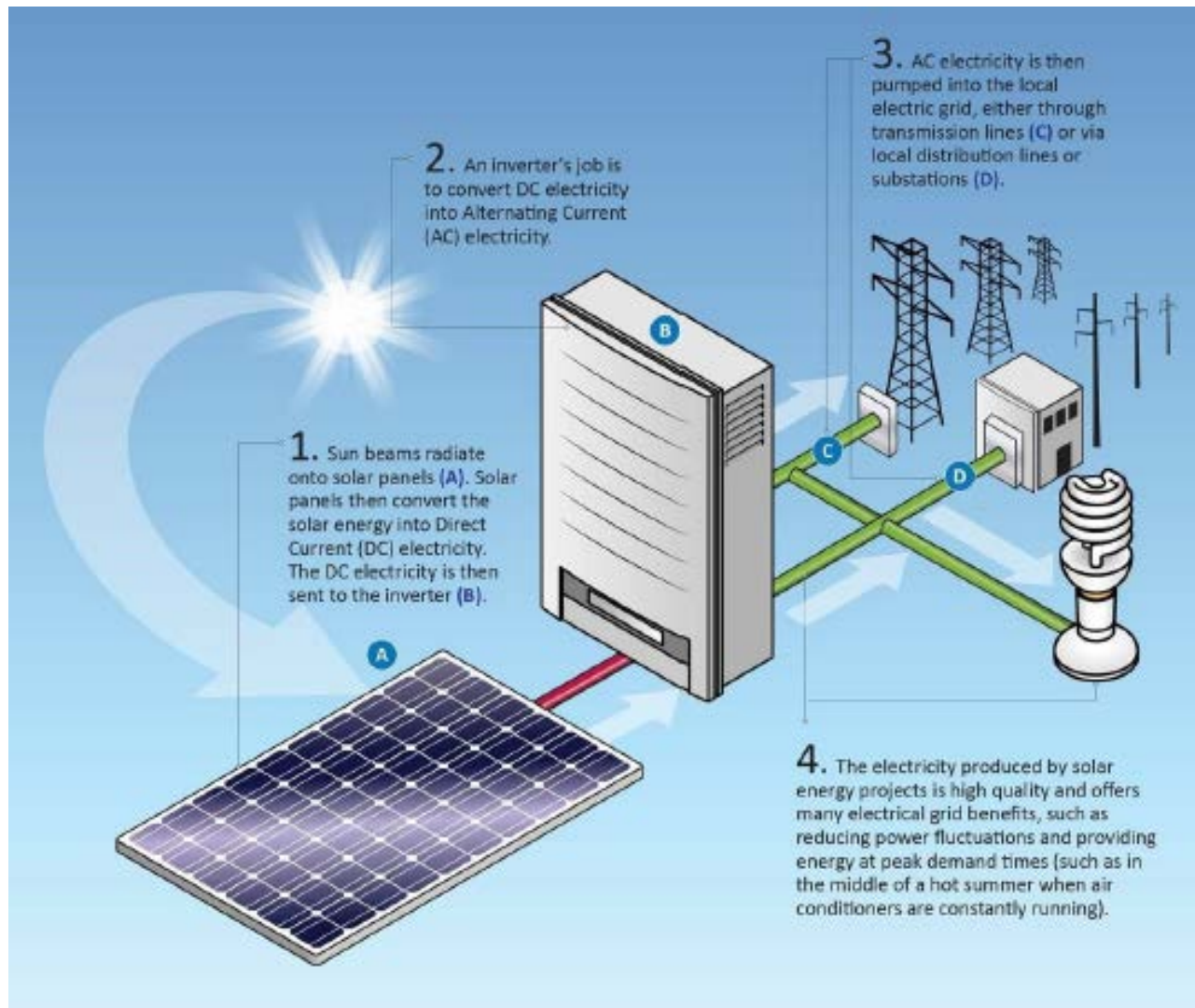


- ✓ Power will be sold to Xcel Energy for Xcel's Minnesota Renewable*Connect Customers

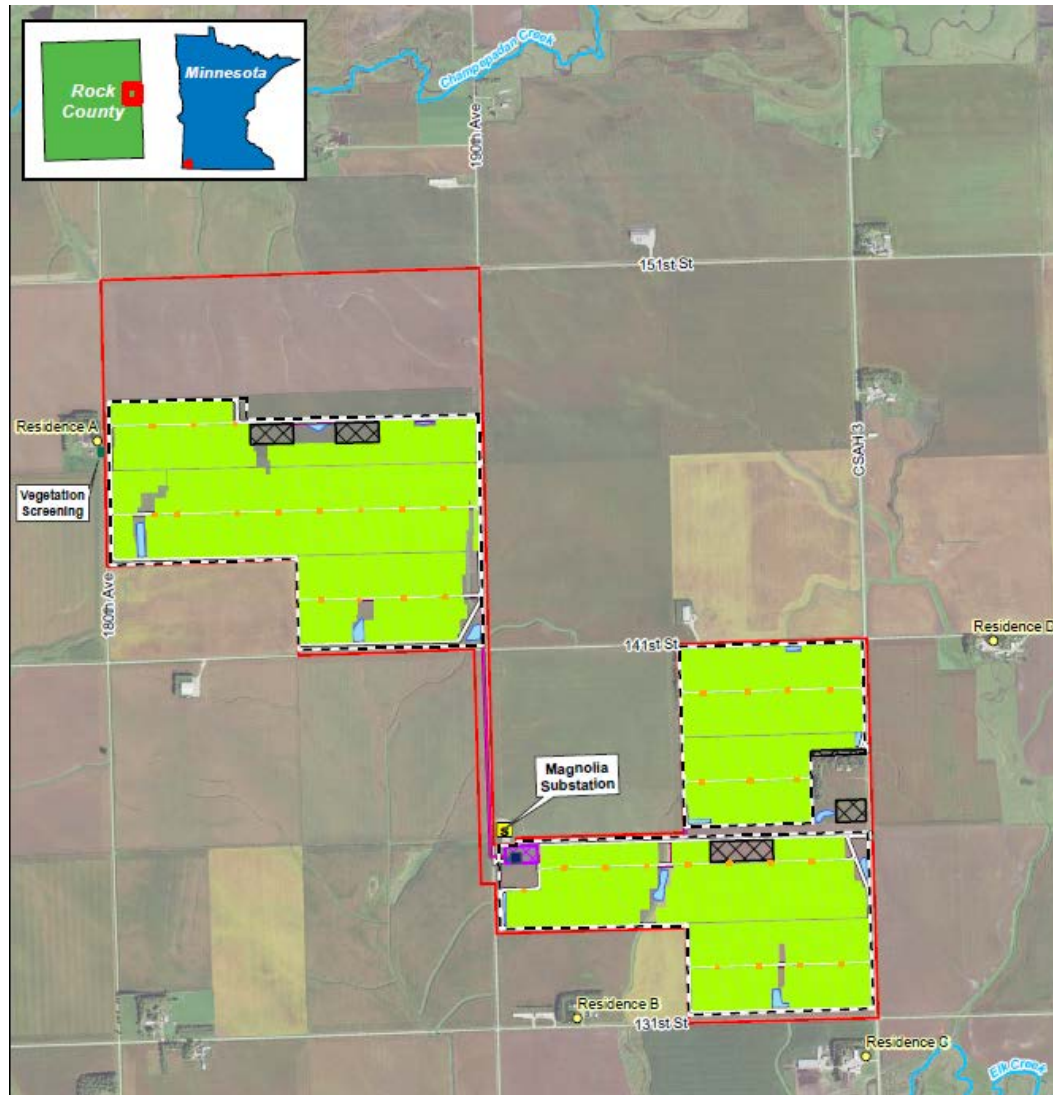


- ✓ Elk Creek will use either union labor or will pay prevailing-wage rates for all construction personnel

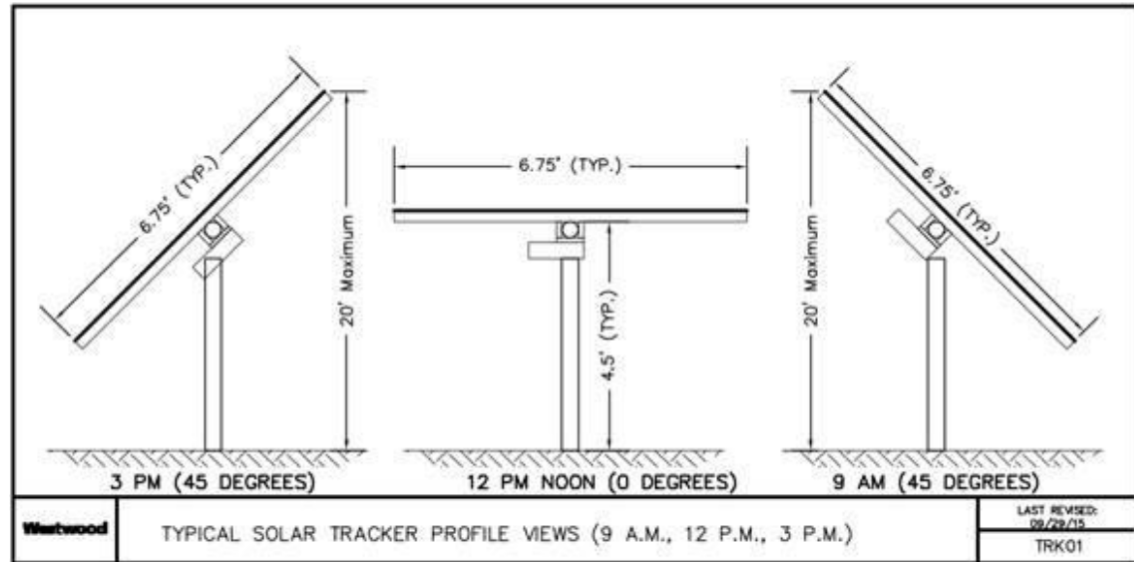
Harvesting Solar Energy



Solar Project Footprint



Solar Array



Electrical Collection

Electrical collection system will be installed below-ground, above-ground, or a combination of both

Below-ground

- Panels deliver DC power to the inverters through cabling in a trench. AC collection from inverter skids to substation trenched or ploughed

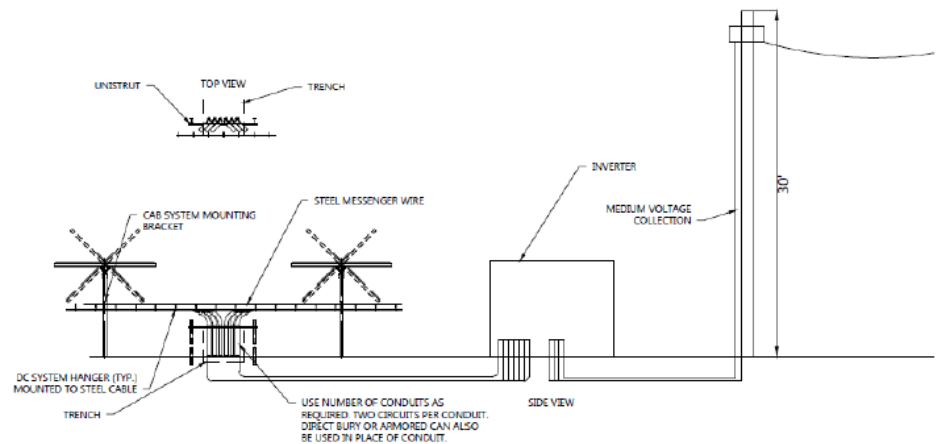


Above-ground

- DC collection strung under panels on steel arms/cable attached to piles and routed to assigned inverter/transformer skid
- AC collection from inverter skids to substation on distribution-type pole

Hybrid

- DC strung under panels and routed to assigned inverter/transformer skid
- AC collection from inverter skids to substation trenched or ploughed



Visual Rendering – Below Ground Collection



Visual Rendering – Above Ground Collection



Key Parts of a Solar Facility – Restoration/Revegetation

Ex. EC-15



Surrounding Landowners

- Elk Creek has contacted all landowners in the vicinity of the Project
 - Contacts were made either in-person, by telephone, mail or e-mail
 - When residences weren't already screened by existing vegetation, Elk Creek developed a landscaping plan to screen the facility from an adjacent residence

Vienna Township and Rock County

- Development Agreement with Rock County
- Vienna Township has delegated its authority to Rock County for the Project

Installed Capacity of 80 MW AC

- Anticipated to be available 98%
- Net Capacity Factor ~22.2 – 24.0%
- Average Annual Output ~156,000 – 168,000 MW hours
 - E.g., enough power for ~19,000 homes annually
 - Avoid 119,000 metric tons of carbon per year

Degradation Rate

- Degradation Rate represents a reduction in the peak output of a solar panel over time
- Current standard is 0.5% per year for 25-30 years
 - E.g., panel rated at 450 watts at installation would generate no less than 389.1 watts after 30 years

Panels are Durable

- Designed to withstand hail up to 1 inch in diameter
- Likelihood of panels being damaged by hail is extremely low (0.05%)
- Damaged panels will be removed, properly disposed of and replaced

Panels have a Low Potential for Contamination

- Panels encapsulated in glass and aluminum
- Manufacturers under consideration conduct EPA-approved leaching tests
 - All existing panels under consideration have passed leaching tests
 - No hazardous materials leached from tested products above EPA thresholds

Panels can be Recycled

- Glass, aluminum, copper, silver and semiconductor materials can be recycled
- Solar Energy Industries Association and its partners are developing recycling partners across U.S.
 - As of January 2020, SEIA's recycling partners have processed > 4 million pounds of panels and other solar equipment

Contact Information

Melissa Schmit

Director, Permitting

melissa@geronimoenergy.com

612-259-3095

Jordan Burmeister

Senior Developer

jordan@geronimoenergy.com

952-641-4044





REPLY TO ATTENTION OF
REGULATORY BRANCH

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

January 27, 2020

Regulatory File No. MVP-2019-01045-EJW

Elk Creek Solar LLC
c/o Melissa Schmidt
7650 Edinborough Way, Suite 725
Edina, Minnesota 55435

Dear Ms. Schmidt:

This letter is in response to correspondence, submitted by HDR on your behalf, requesting Corps of Engineers (Corps) concurrence with the delineation of aquatic resources completed on the 970 acre Elk Creek Solar site in the City of Magnolia. The project site is in Sections 26, 27, and 35, Township 103 North, Range 44 West, Rock County, Minnesota.

We have reviewed the wetland delineation report dated May 28, 2019, and determined that the limits of the aquatic resources have been accurately identified in accordance with current agency guidance including the *Corps of Engineers Wetland Delineation Manual* (1987 Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. This concurrence is only valid for the review area shown on the enclosed figures labeled MVP-2019-01045-EJW Page 1 of 2 through Page 2 of 2. The boundaries shown on the enclosed figures accurately reflect the limits of the aquatic resources in the review area.

This concurrence may generally be relied upon for five years from the date of this letter. However, we reserve the right to review and revise our concurrence in response to changing site conditions, information that was not considered during our initial review, or off-site activities that could indirectly alter the extent of wetlands and other resources on-site. Our concurrence may be renewed at the end of this period provided you submit a written request and our staff are able to verify that the determination is still valid.

No jurisdictional determination was prepared for this project. While not required, you may request a jurisdictional determination from the Corps contact indicated below.

Please note that the discharge of dredged or fill material into waters of the United States without a Department of the Army permit could subject you to an enforcement action. Receipt of a permit from a state or local agency does not obviate the requirement for obtaining a Department of the Army permit.

If you have any questions, please contact me in our St. Paul office at (651) 290-5357 or Eric.j.white@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory file number shown above.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eric J. White', with a stylized flourish at the end.

Eric White
Project Manager

cc:

Douglas Bos (LGU)
John Hansel (BWSR)
Mike Walgrave (SWCD)
Ryan Doornbos (DNR)
Michael Swenson (Agent)

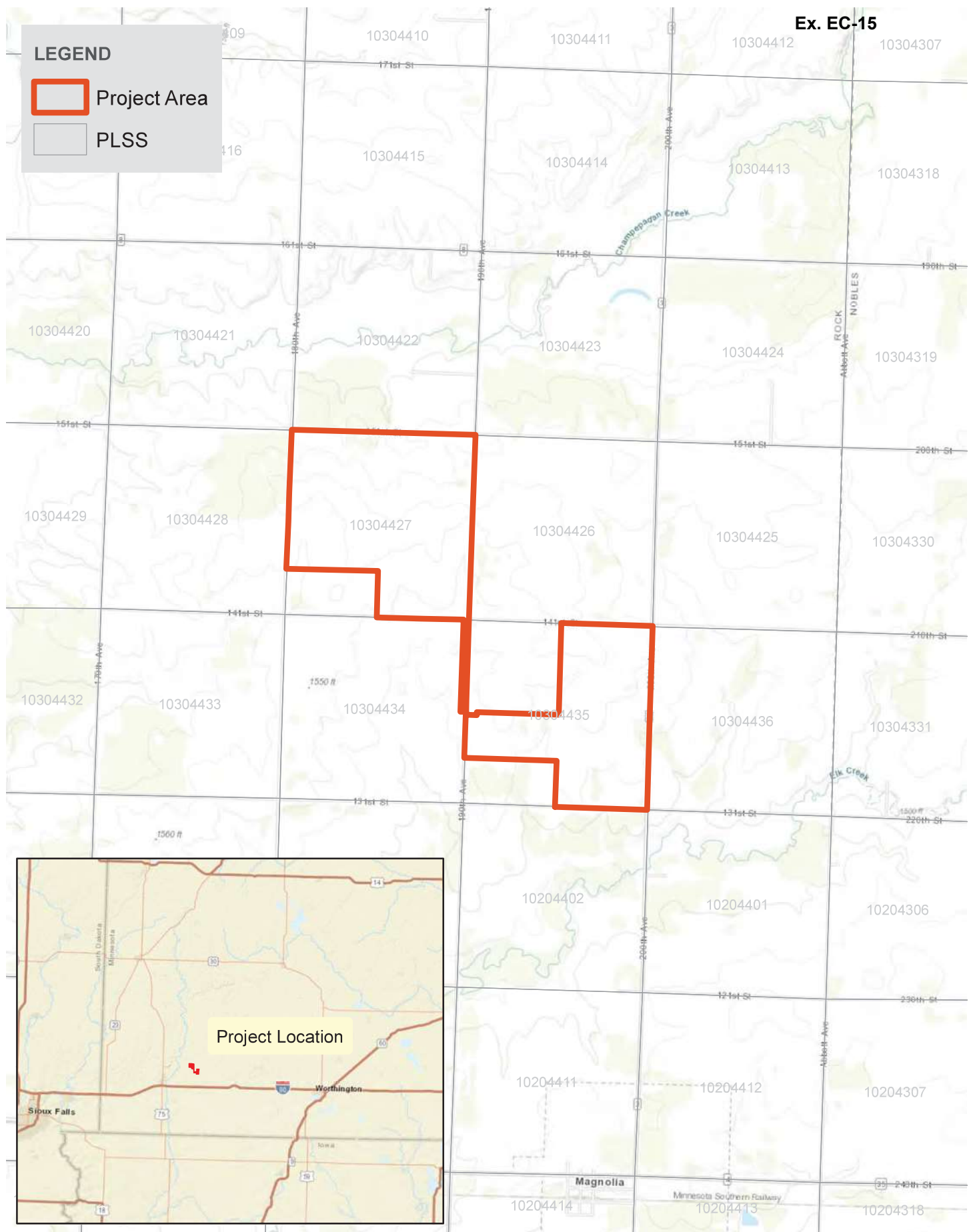


FIGURE 1
PROJECT LOCATION
MAGNOLIA, MINNESOTA

Ex. EC-15

