ENVIRONMENTAL ASSESSMENT

Coggon Solar Project and Coggon Substation Expansion
Linn County, Iowa

United States Department of Agriculture
Rural Utilities Service

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May 2022

Table of Contents

Figures (Appendix A)

Tables

Appendices

Abbreviations and Acronyms

AC	Alternating Current
APE	Area of Potential Effects
BCA	Bear Creek Archaeology
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIPCO	Central Iowa Power Cooperative
COD	Commercial Operation Date
CWA	Clean Water Act
dB	Decibels
DC	Direct Current
DNR	Department of Natural Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FR	Federal Register
GIS	Geographic Information System
GHG	Greenhouse Gas
gpm	Gallons per minute
IEEE	Institute for Electrical and Electronic Engineers
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NAI	Natural Areas Inventory
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NLCD	National Land Cover Database
NLEB	Northern Long-eared Bat
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O&M	Operations and Maintenance
OSA	Office of the State Archaeologist
PCU	Power Conversion Unit
PPA	Power Purchase Agreement
PV	photovoltaic

RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RUS	Rural Utilities Service, U.S. Department of Agriculture
SHPO	State Historic Preservation Office
SPCC	Spill Prevention Control and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
WMA	Wildlife Management Area

1.0 Introduction and Purpose and Need

1.1 Introduction

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development located approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (Figure 1, Appendix A). For the purposes of this analysis, the Project area is approximately 796 acres in size (Figure 1, Appendix A); however, the Project footprint, once known, will be less than 640 acres in size. Construction of the Project is anticipated to begin in as soon as October 2022 with a projected Commercial Operation Date (COD) of December 2023. The Project is expected to operate for approximately 35 years from COD at which time it is anticipated the Project will be decommissioned.

Coggon Solar executed a Power Purchase Agreement (PPA) with the Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2023. The Project is expected to operate as merchant during the remaining non-contract period or under an additional PPA with CIPCO or other utility off-taker (between 10 and 15 years). More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives.

The Project location was selected due to its proximity to CIPCO's 161-kilovolt (kV) Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (Figure 2, Appendix A). As part of this Project, CIPCO is proposing to expand the existing Coggon Substation by constructing a new 161 kV substation terminal (see Section 1.3.5 below). This expansion will occur on the existing CIPCO property immediately adjacent to the existing substation, and no additional land will be required to accommodate the expansion. Construction of the proposed substation expansion is anticipated to begin June 2022 and be completed by February 2023. The substation expansion would be a connected action associated with development of the overall Project, and is, therefore, included in the environmental analysis herein.

The Project will provide renewable energy to CIPCO through the electrical transmission grid at CIPCO's Coggon Substation via an up to 400-foot 161kV transmission line (gen-tie) (Figure 2, Appendix A). The Project will generate electricity using multiple arrays of photovoltaic (PV) panels electrically connected to associated power inverter units. The current from the power conversion units (PCUs) will be gathered by an internal electrical collection system and will dead end at a proposed Project substation. The PCUs will then be stepped-up to transmission voltage prior to leaving the Project area and interconnecting with CIPCO's Coggon Substation (Figure 2, Appendix A). It is estimated that the Project will require 6 acres of land use per 1 MW of generation. This allows for approximately 100 MW electrical production within the up to 640-acre Project area.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). With Coggon Solar's request for financial assistance from the USDA RUS, funding of the proposed Project becomes a federal action subject to review under the National Environmental Policy Act (NEPA) of 1969, the National Historic Preservation Act (NHPA) of 1966, and all applicable federal environmental laws and regulations. This EA was prepared to analyze potential impacts to the natural and human environments associated with the proposed Project in accordance with 7 Code of Federal Regulations (CFR) Part 1970, RUS' Environmental Policies and Procedures, and 40 CFR Parts 1500-1508, the regulations promulgated by the Council on Environmental Quality for implementing the NEPA. This EA also addresses other laws, regulations, executive orders, and guidelines promulgated to protect and enhance environmental quality including, but not limited to, the Endangered Species Act (ESA), the Farmland Protection Policy Act (FPPA), the Clean Water Act (CWA), the National Historic Preservation Act (NHPA) and executive orders governing floodplain management, protection of wetlands, and environmental justice.

The purpose of this EA is to analyze the potential environmental impacts of the Project to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). This

EA provides a detailed Project description, describes the purpose and need for the Project, identifies natural resources within the Project area (NEPA analysis area; Appendix A), and analyzes alternatives considered reasonable and feasible to accomplish the Proposed Action. Discussions of the affected environment, the environmental consequences of the Project, and any proposed mitigation, if required, for potential environmental impacts are also included.

Based on the analysis contained in this document, RUS will determine whether to proceed with financing the Project and whether the alternative that is selected will have a significant impact on the quality of the human environment. If, after circulating the document for public and agency comment, RUS finds the Project will not have a significant impact on the quality of the human environment, a FONSI will be prepared. If at any point in the preparation of an EA, RUS determines the Project will have a significant impact on the quality of the human environment, preparation of an EIS will be initiated.

1.2 Purpose and Need

Coggon Solar LLC is a wholly owned subsidiary of CRE-Coggon Iowa LLC, a wholly owned subsidiary of Clenera DevCo, LLC (Clenera DevCo), a wholly owned subsidiary of Clenera Holdings, LLC, which is ultimately 90.1% owned by Enlight Renewable Energy LTD, an Israeli public company. Clenera DevCo acquires, develops, builds, and manages utility-scale solar farms and energy storage facilities throughout the United States with a goal of providing reliable, affordable energy systems and working with utility partners like CIPCO to provide clean energy sources to their communities.

The purpose of the Project is to construct a commercial solar facility to generate and distribute PV solar energy, a clean renewable energy source, to the existing electrical grid within CIPCO's service territory and meet CIPCO's commitment to providing its member cooperatives and their communities, including Linn County, cost-effective, safe, and reliable energy. Coggon Solar executed a PPA with CIPCO for 100% of the Project's energy output for a 20-year term beginning in 2022, and development of the Project is consistent with goals and objectives specific to alternative and renewable energy set forth in the Linn County Comprehensive Plan (Linn County 2013).

CIPCO has determined that expansion of the existing substation is needed to accommodate Project interconnection, meet future energy demands on the existing electrical grid, and provide reliable, low-cost electricity to CIPCO's member cooperatives and customers.

1.3 Project Description

Project activities analyzed in this EA include Project construction, operation and maintenance, and decommissioning. A brief description of Project components and activities is provided below.

1.3.1 Project Components

Project components include:

- PV modules/arrays (i.e., solar panels);
- Solar trackers or fixed support structures;
- Direct current (DC) collection cable and combiner boxes;
- Solar power inverters and medium voltage transformers;
- Electrical collection system (34.5-kV lines); and,
- Project substation including breakers, switches, and main step-up transformer and an up to 400-foot gen-tie line to the existing point of interconnection (POI) at CIPCO's Coggon Substation (Figure 2, Appendix A).

Two potential on-site locations for the proposed Project substation (see Section 1.1) are currently being considered (Option #1 and Option #2; Figure 2, Appendix A). Both are located in an agricultural field adjacent to CIPCO's Coggon Substation (Figure 2, Appendix A). The final location of the Project substation will be chosen closer to final design.

Other facilities proposed as part of the Project will include:

- Internal access roads
- Project substation to connect the gen-tie to the existing POI (CIPCO's Coggon Substation; Figure 2, Appendix A)
- Meteorological towers and weather data collectors
- Distribution power for construction and operations control systems; and
- Communications cables or lines.

PV technology utilizes the sun's light energy and converts it directly into DC electrical energy within the PV panels (i.e., modules). The PV modules can be mounted together in different configurations, depending on the equipment selected, on a common support framework. The modules will be dark blue or black in color and are inherently designed to absorb light, thus limiting glare and light reflection. The modules will be mounted in arrays on single-axis trackers, which rotate along a north-south axis to track the sun's movement from the east in the morning to the west in the evening. The arrays will generally be arranged in a linear pattern as allowed by topography and other environmental constraints. In the case of high winds or heavy snowfall, the trackers move the modules to a position where the wind will put a minimum strain on the racking and support system. The solar trackers will be powered by motors and will be directed by an actuator that responds to the sun's direction.

The Project will utilize up to approximately 325,000 state-of-the-art PV modules/arrays that have been widely deployed at commercial scale solar facilities. Structures supporting the PV modules will consist of steel piles (e.g., cylindrical pipes, H-beams, or equivalent). The solar panels will be mounted on a galvanized steel and/or aluminum rack system, positioned approximately 2 to 3 feet above the finished grade, with a total height of up to 15 feet. The racking system foundation will consist of metal posts (pilings) pile-driven into the ground to a depth just below the frost level. Rows of solar panels will be spaced approximately 20 feet apart. The solar panel model will be chosen closer to construction. All required equipment will be manufactured off-site and delivered to the site for final assembly and installation. Photos of typical solar arrays are found in Appendix B.

Access to the Project area will primarily be from Coggon Road (County Road D62), Sutton Road, and Linn/Delaware Road (County Road W63) (Figure 2, Appendix A). Auxiliary roads inside the Project footprint will be approximately 12 to 25 feet wide and will likely use compacted native materials or gravel surface. The finished width of the internal roads may be up to 25 feet.

Project access roads will be located around the perimeter and within the PV array to allow for Project maintenance and operation following construction. Access to all areas within the solar arrays is provided by access aisles. These aisles are not roads but clear spaces between the individual rows of solar panels that will be seeded with a native mix of vegetation that will be mowed and maintained, as necessary, to allow for pedestrian and vehicle access to all areas of the site for maintenance and emergency response.

For public safety and security purposes, the perimeter of the Project will be surrounded by eight-foot-tall chain link fencing. Secure access gates will be installed, and an on-site monitoring system will be managed remotely.

The Project may include an administration/operations and maintenance (O&M) facility. The final plans for the O&M facility are not yet complete, however, two options are currently being considered for this facility. One option will consist of construction of a new building, approximately 3,500 square feet in size, to belocated adjacent to the Project substation (Figure 2, Appendix A). As part of the second option, Coggon Solar will utilize one of the existing structures on the Project site; however, the structure has not yet been identified. The O&M building will provide offices and administration areas for Project staff. In addition, the facility will include storage and/or warehouse areas for housing spare parts and equipment, as well as fuels, transformer oil, and other incidental chemicals. The design and construction of the administration/O&M building, control room, and warehouse will be consistent with all applicable state and local building codes. In the event that an O&M facility is not needed on-site, storage containers similar to CONEX boxes will be placed in the designated O&M facility area to store spare parts and equipment.

1.3.2 Construction

Construction of the Project is expected to take approximately 12 months beginning in October 2022 with an anticipated COD of December 2023. Construction activities will include mobilization to the site, ground preparation (e.g., vegetation clearing, grading, earthwork, etc.), construction and installation of solar modules, trenching and installation of the electrical collection system (34.5-kV lines), commissioning and testing of Project infrastructure, and demobilization. In addition, one private residence, located along a private driveway northeast of the Pering Ridge Road and Castle Lane intersection, will be purchased by Coggon Solar and will either be demolished or used as the project O&M facility. All construction activities will be conducted in compliance with applicable local, state, and federal requirements. All required local, state, and federal construction permits will be obtained prior to commencement of Project activities. In addition, the Project will be in compliance with Linn County setback requirements.

The placement of Project solar modules will largely follow the natural contours of the Project site. Although localized grading and filling may be required, it is anticipated that only minimal earthwork and clearing will be necessary due to the existing topography and agricultural use of the site. Lay-down yards and temporary staging areas will be interspersed throughout the site to allow for temporary storage of construction materials. A construction office and trailers will be located immediately west of CIPCO's Coggon Substation (Figure 2, Appendix A).

During construction of the Project, the on-site workforce will consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. Construction typically requires a monthly average of approximately 100 to 200 employees during the construction period, with labor requirements peaking at approximately 300 workers. It is possible that special or unforeseen circumstances may warrant an increased number of on-site workers for a short period of time; however, these increases are generally temporary and approximately two to three weeks in duration.

Prior to construction, Coggon Solar will coordinate with Linn County to conduct a pre-construction survey of public roads that may be impacted by construction of the facility to determine existing road conditions as required by the local zoning ordinance. Coggon Solar will be responsible for on-going road maintenance and dust control measures identified by the Linn County Engineer during all phases of construction. Coggon Solar will immediately repair any damage to public roads or drainage systems stemming from Project activities.

A Vegetation Management Plan was developed in coordination with Linn County that identifies vegetation management measures to be implemented during and after construction (see Appendix D). In addition, heavy equipment and haul trucks arriving from areas with known invasive species issues will be washed in advance, and if needed, locally sourced topsoil will be used, eliminating the possibility of non-native seeds from being transported to the site. Following construction all disturbed areas will be stabilized and reseeded with weed-free certified, native seed varieties, and or returned to suitable farmland, as requested by the landowner.

Best Management Practices (BMPs) will be implemented during construction to avoid and minimize soil erosion and sedimentation. The Iowa Department of Natural Resources (DNR) regulates soil erosion and sedimentation through the National Pollutant Discharge Elimination System (NPDES) (Section 455B.197 of the Code of Iowa). Under the NPDES permitting program, the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) are required for construction activities that will disturb an area of one acre or more. The SWPPP will identify potential sources of erosion or sedimentation that may be reasonably expected to affect the quality of storm water discharges as well as identify best management practices (BMPs) that ensure the reduction of these pollutants during storm water discharges. Coggon Solar will obtain all applicable permits prior to construction and implement BMPs as required by the Iowa DNR.

1.3.3 Operation and Maintenance

Once constructed, the Project is expected to be in operation seven days per week, and 365 days per year. The Project is expected to operate for approximately 35 years from COD (anticipated to be December 2022).

The Project will be operated remotely and will primarily be an unmanned facility. However, maintenance employees or contractors will be on site periodically, as needed, to conduct maintenance, which will generally include testing and maintenance of solar modules, invertors or other electrical equipment, road and fence repairs, mechanized vegetation management (including management of weeds or invasive species), and site security. It is anticipated that one to three vehicles at a time could be present at the site throughout the life of the Project for operations and maintenance activities. Operations and maintenance vehicles will consist primarily of light duty pickup trucks.

Once operational, the Project will utilize fully shielded lighting, low-pressure sodium lamps (LPS), and motion sensors to minimize lighting during the overnight hours. Project signage will be limited to power plant-approved signs that will be attached to the perimeter fencing and within the Project area. The signs will include site information including gate numbers (where appropriate), emergency contact information, and notifications/warnings (e.g., No Trespassing, High Voltage, Danger, etc.) and will not be illuminated, minimizing the effects of lighting from signage on the night skies.
The solar modules will be underplanted with a mix of low-growing native grasses and wildflowers intended to prevent erosion and provide habitat for local pollinators. A Vegetation Management Plan is being developed in coordination with Linn County that identifies vegetation management measures to be implemented during operation and maintenance of the Project (see Appendix D), including measures to minimize the transport of non-native or invasive plant species to the Project site.

In order to optimize performance of the solar modules, and to maintain desirable vegetation at the site, vegetation growth will not exceed a height of 36 inches. Coggon Solar will contract with a professional contractor to manage vegetation height and to implement weed control measures during operation and maintenance of the Project. Weed control measures may include the use of approved herbicides, which will be stored off-site, and applied in compliance with all local, state, and federal rules and regulations. Additional details specific to weed control measures are found in Appendix D.

1.3.4 Decommissioning

At the end of the Project's useful life (35 years from COD), Project components will be decommissioned and dismantled, and the Project site restored. A decommissioning plan prepared for the Project is included in Appendix E. Activities associated with Project decommissioning are anticipated to be completed within a 12-month timeframe.

Details of the plan include:

- At or before the end of Project operations, Coggon Solar will notify Linn County of its intent to decommission the Project.
- The solar PV modules will be removed from the racking system (used to support the solar modules), loaded into trailers, and shipped off-site for salvage. No modules will be disposed of in Linn County. Typically, the steel posts for the racking system will be removed to a depth of ten feet below grade.
- The above ground aluminum and copper conductors and below grade medium voltage conductors will be removed and shipped off-site for salvage. All conduits will be removed and disposed of off-site. The inverters and transformers will be removed and loaded onto trailers and shipped off-site for disassembly and possible salvage. The perimeter fence will be removed and disposed of off-site.
- The Project's substation will be removed from the site, including all above-grade equipment (e.g., transformers, breakers, busbars), crushed rock surfacing, and fencing. All below grade equipment (e.g., foundations) will be removed to a depth of ten (10) feet below grade.
- All crushed rock surfacing will be removed from the Project's access roads. The removed crushed rock will be loaded into dump trucks and hauled off-site for disposal. The cost to remove the crushed rock, load it into dump trucks, and haul it to the destination will be at the

expense of the Project at which point the ownership of the crushed rock will transfer to the demolition contractor.

- Following the removal of crushed rock surfacing, a layer of local topsoil will be added to replace the removed rock. The areas where crushed rock has been processed will be fine graded to provide suitable drainage and reseeded with native seed to stabilize soil and prevent erosion.
- All disturbed areas will be stabilized and reseeded with weed-free certified, native seed varieties, and/or returned to farmland, as requested by the landowner.

1.3.5 Proposed CIPCO Substation

The existing Coggon Substation is located immediately south of Linn Delaware Road and north of the Project (Figure 2, Appendix A). This site was previously developed by CIPCO in 2014 when the substation was built. The proposed expansion of the existing substation will occur on the approximate 4.9-acre property owned by CIPCO and no additional land acquisition will be required to accommodate the substation expansion.

The Coggon Substation currently has a fenced-in footprint approximately 1.7 acres in size. Following the proposed expansion, the fenced-in substation footprint will be approximately 2.4 acres in size. A site diagram of the proposed substation is included in Appendix F.

The proposed substation expansion will consist of eight new breakers, new line entrance dead-end steel structures, a 161/69 kV transformer, bus and conductor, switches, and other associated equipment. Due to the added number of 161 kV terminals and layout requirements, the substation configuration is also changing from the existing straight bus configuration to a breaker and a half configuration. This will result in increased reliability and operational resilience for the area.

Prior to construction activities, land within the area of expansion will be graded to prepare for construction and to provide drainage and water retention. After grading is complete, ground grid will be installed and eventually covered with rock (i.e., gravel) to meet grounding recommendations provided by the Institute for Electrical and Electronic Engineers (IEEE). Following construction, the substation will continue to be fenced by an eight-foot chain link fence topped with barbed wire.

All applicable construction permits (see Section 1.3.2) will be obtained prior to proposed construction activities at the substation.

1.4 Project Scoping

Coggon Solar distributed scoping letters to 14 federal, state, and local agencies on March 21, 2021. Appendix C includes a list of agencies to which letters were sent, copies of those letters, and any agency responses received (summarized below). To date, comments have been received from the following agencies:

- Federal Aviation Administration (FAA)
- USDA Natural Resources Conservation Service (NRCS), Linn County District Conservationist
- U.S. Army Corps of Engineers (USACE), Rock Island District
- Iowa Department of Natural Resources (DNR) Sovereign Lands
- City of Coggon – City Clerk

The FAA responded via telephone and email on April 5, 2021, confirming the FAA contact information and indicating Coggon Solar should contact the FAA once the anticipated solar module locations were known to determine if the Project will require FAA review. As the Project moved into the design phase, six structure locations were submitted for review and approval using the FAA's Notice Criteria Tool; none of the locations exceeded the FAA's Notice Criteria; therefore, additional coordination with the FAA was not required (see Section 3.1.1).

An email was received from the USDA NRCS (Linn County District Conservationist) on April 7, 2021, indicating the NRCS could not assist with the NEPA process.

The USACE responded via email on April 26, 2021, inquiring as to whether a wetland delineation had been conducted for the Project. A subsequent email from the USACE indicated the presence of streams and potential wetlands in the Project vicinity and included a recommendation that impacts to these features be minimized and any required permits be obtained.

The Iowa DNR Sovereign Lands Department responded via email on April 13, 2021, inquiring as to whether an Environmental Review request had been filed for the Project with the Iowa DNR. Stantec provided clarification that Coggon Solar submitted an Environmental Review request in December 2020 and that the Iowa DNR had responded with information related to state-listed threatened and endangered species in the vicinity of the Project (Appendix C). A second letter, sent to Coggon Solar in February 2021, provided clarification on recommendations made in the December 2020 letter. Although received prior to the scoping period, all correspondence from the Iowa DNR is included in the administrative record for the Project. The Iowa DNR, in a letter dated December 15, 2020 (Appendix C), identified no site-specific records of rare species or significant natural communities within the Project area (Appendix C).

The City Clerk for the City of Coggon responded via email on April 5, 2021, requesting clarification on the ownership of the Coggon Substation referenced in the scoping letter. A response was provided confirming that CIPCO owns the Coggon Substation located immediately northeast of the Project site.

No new Project alternatives were developed as a result of these comments. All scoping comments received are included in the Administrative Record for this EA.

2.0 Alternatives Evaluated Including the Proposed Action

2.1 Proposed Action

The Proposed Action includes the construction, operation, and maintenance of the approximately 638.4-acre Coggon Solar Project located approximately 2.8 miles west of the town of Coggon, Iowa (Figures 1 and 2, Appendix A). Details of Project components and activities are described in Section 2.1 above.

Construction of the Project is anticipated to begin in February of 2022 with a projected COD of December 2022. Coggon Solar executed a PPA with CIPCO for 100% of the Project's energy output for a 20-year term beginning in 2022 (see Section 1.2.1 above). The Project is expected to operate for approximately 35 years from COD, at which time, the Project will be decommissioned (Appendix E).

The Project location was selected, in part, due to its proximity to CIPCO's 161-kV Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (Figure 2, Appendix A). In addition, the Project location was selected because of sufficient access to large tracts of private land, favorable solar resources, and appropriate terrain for a solar development.

The Linn County Comprehensive Plan outlines guiding principles, goals, and objectives specific to increase the use of alternative and renewable energy sources in Linn County, including solar (Linn County 2013). One of the guiding principles identified by Linn County is to "use alternative and renewable energy resources and energy efficiency strategies to build the local economy, improve the environment, and reduce long-term risks associated with traditional energy supply." The Proposed Action is consistent with these principles as it will contribute to the local tax base through property taxes over the life of the Project, will generate a clean source of renewable energy from the sun, and improve the environment by offsetting carbon dioxide (CO_2) emissions associated with traditional power generation.

As part of this Project, CIPCO is proposing to expand the existing Coggon Substation by constructing a new 161 kV substation terminal (see Section 1.3.5). This work will occur on existing CIPCO property, and no land acquisition will be required to accommodate the expansion.

2.2 No Action Alternative

Under the No Action Alternative, the Project will not be constructed and potential impacts to the human and natural environment associated with Project activities (i.e., construction, operation and maintenance, and decommissioning) will not occur. Under the No Action Alternative, RUS will not provide funding for the Project and no changes will occur to the existing Coggon Substation. Existing conditions will likely remain unchanged, and the land will continue to be used to produce row crops.

The No Action Alternative does not meet the purpose and need of the Project as it will not result in the generation and distribution of a clean source of renewable energy. The No Action Alternative will not support Linn County's guiding principles, goals, and objectives specific to the use of alternative and renewable energy sources (Linn County 2013); however, it was carried forward for detailed analysis as a comparison to the Proposed Action.

2.3 Other Alternatives Considered But Dismissed

Coggon Solar initially screened four potential solar development locations within CIPCO's service territory. The first phase of the site selection process evaluated existing substations and transmission lines (i.e., potential POIs) in CIPCO's service territory to ensure sufficient capacity to connect a 100-MW solar project to the existing electrical grid. In addition, Coggon Solar prioritized project locations where sufficient tracts of private land were available adjacent to the POIs to minimize interconnection costs and minimize facility upgrades required for a new generating facility. Engineering and environmental constraints were

considered to ensure Project constructability and to minimize effects to the natural environment and private property. Coggon Solar pursued project locations in proximity to communities receptive to solar development to avoid and minimize Project controversy, and where landowners were willing to negotiate and enter into land agreements with the Project.

As mentioned above, the current Project location was selected due to its proximity to CIPCO's 161-kV Coggon Substation (Figure 2, Appendix A) and because other key site selection criteria were met (see Section 2.1). As such, only the current Project location was carried forward for detailed analysis, and other off-site locations were not evaluated further.

3.0 Affected Environment and Environmental Consequences

3.1 Land Use

The Farmland Protection Policy Act of 1981 (FPPA), 7 U.S.C. 4201, *et seq*., purpose is "to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are…compatible with…policies to protect farmland" (7 U.S.C. 4201(b)).

This section provides a discussion of current and future land use, important farmland, and formally classified lands, including managed conservation lands, within the Project area (NEPA analysis area; Appendix A). The land use analysis is based on publicly available state, regional, county, and municipal-level planning documents, as well as USDA soils data.

3.1.1 Affected Environment – Land Use

3.1.1.1 General Land Use

General land use within the Project area consists primarily of agricultural lands used for the production of rowcrops (i.e., corn or soybeans) (Figure 3, Appendix A). Agricultural fields within the Project area are separated by perennial and intermittent streams with associated grassed buffers. Robinson Road, Castle Lane, and Coggon Road separate sections of the Project area (Figure 2, Appendix A). The Project is bordered by Linn Delaware Road to the north, Sutton Road to the west, and agricultural fields to the east; Coggon Road intersects the Project area to the south (Figure 2, Appendix A).

One rural residence is located within the Project area north of Castle Lane and east of Robinson Road (Figure 2, Appendix A). In addition, although not included in the current Project area, two farmsteads are located immediately adjacent to the Project area on Castle Lane west of Robinson Road (Figure 2, Appendix A).

The National Land Cover Dataset (NLCD) indicates the Project area is dominated by agriculture (Figure 3, Appendix A). Additional land cover types mapped by NLCD include developed land (open space, low intensity, and medium intensity), hay/pasture, emergent herbaceous wetlands, and woody wetlands. A summary of the mapped land cover types within the Project area is provided in Table 3.1-1.

Table 3.1-1. National Land Cover Dataset Cover Types within Project Area Expressed as Acreage and Percentage of Coggon Solar Project Area

NLCD Land Cover Type	Acreage	Percent of Project Area
Cultivated Crops	755.5	94.8%
Developed	27.3	3.4%
Hay/Pasture/Herbaceous	8.4	1.1%
Emergent Herbaceous Wetlands	4.5	0.6%
Woody Wetlands	1.3	0.2%
Mixed Forest	0.03	<0.01
Total*	796.9	100%

*Total may not add up exactly due to rounding of decimal places.

The Project is located in northern Linn County, Iowa. Therefore, the 2013 Linn County Comprehensive Plan was reviewed to assess the Proposed Action's compatibility with policies and strategies regarding alternative energy sources and solar facility development within Linn County and to identify mapped existing land use and future land use for the Project area. The Project area was previously zoned as Agricultural

Area (AA) (Linn County Planning and Development 2013). Coggon Solar applied for a rezoning permit from Linn County in July 2021. Specifically, the application requested the Project area be rezoned from Agricultural Area (AA) to Agriculture/Renewable Energy (AA/RE). The rezoning application was approved by Linn County in January 2022.

Table 3.1-2 outlines the goals, objectives, and strategies identified for renewable energy in the 2013 Linn County Comprehensive Plan.

Table 3.1-2. Land Use Goals, Objectives, and Strategies from the Linn County Comprehensive Plan

Plan Element	Guiding Principle	Goal	Objective	Strategy (Priority Level: H, M, L)
Alternative and Renewable Energy	Encourage and support the use of alternative and renewable energy resources and energy efficiency strategies. Use alternative and renewable energy resources and energy efficiency strategies to build the local economy, improve the environment, and reduce long-term risks associated with traditional energy supply	Encourage and support the development and use of alternative and renewable energy resources.	Increase the use of alternative and renewable energy resources in the county.	Partner with local utility providers to identify and utilize incentives for the increased use of renewable energy resources. (M)
		Identify and mitigate barriers to the development of local alternative and renewable energy resources and increased energy efficiency strategies.	Encourage development of local alternative and renewable energy resources through identification and removal of regulatory barriers.	Review and amend, when necessary, applicable Linn County ordinances (e.g., Small Wind Energy Conversion Systems and Wind Farms in the Linn County Unified Development Code). (L)
Economic Development and Employment	Ensure sustainable economic development.	Seek opportunities to diversify and expand the local employment base by providing a supportive environment for existing and new businesses, as well as entrepreneurial activities.	Encourage and support renewable energy production, including all related support businesses.	Through the use of policy and regulation, allow for wind, solar, biofuel, biomass, waste-to-energy, and geothermal energy production and related businesses, where appropriate. (H)

3.1.1.2 Important Farmland

The Project area consists nearly entirely of farmland classified as prime farmland, farmland of statewide importance, prime farmland if drained, and prime farmland if irrigated (Figure 4, Appendix A; USDA NRCS

2019). The total acreage of prime farmland of each type within the Project area is provided in Table 3.1-3 below.

Table 3.1-3. Acreage of Important Farmland by Classification within the Coggon Solar Project Area (Figure 4, Appendix A)

Farmland Classification within Coggon Solar Project Area	Acreage
All areas are prime farmland	259.9
Farmland of statewide importance	255.6
Prime farmland if drained	273.0
Prime farmland if irrigated	8.4
Total	**796.9**

An AD-1006 Farmland Conversion Impact Rating Form was completed for the NEPA analysis area and submitted to the state USDA NRCS office (Appendix G). Per the form, the Project has a total impact rating score of 189 (see completed form in Appendix G) (described further in Section 3.1.2 below).

3.1.1.3 Formally Classified Land

There are no formally classified lands (i.e., designated natural resource areas or public lands) within or immediately adjacent to the Project area (U.S. Geological Survey [USGS] GAP 2020; Figure 5, Appendix A).

One Iowa DNR conservation area is located within a one-mile radius of the Project: Buffalo Creek Wildlife Management Area (WMA), located approximately 0.94 miles northeast of the Project area (Figure 5, Appendix A). Other managed conservation lands, including Buffalo Creek Park, Buffalo Wildlife Area, Paris Wapsipinicon Access, Dix Road Wapsipinicon Access, and Hitaga Sand Ridge Preserve are located within approximately three miles of the Project area (Figure 5, Appendix A).

3.1.1.4 Airports

No airports are located within or immediately adjacent to the Project. The closest airport is the privately managed Hannan Airport located near Center Point, Iowa, approximately 8.8 miles southwest of the Project. The Manchester Municipal Airport, located approximately 13.9 miles north of the Project, is the closest municipal airport.

The requirements for filing with the FAA for proposed structures (e.g., solar panels, etc.) vary based on a number of factors, including, but not limited to, structure height, proximity to an airport, location, and frequencies emitted from the structure (CFR Title 14 Part 77.9). Six structure locations were submitted for review and approval using the FAA's Notice Criteria Tool; none of the locations exceeded the FAA's Notice Criteria; therefore, additional coordination with the FAA was not required.

3.1.2 Environmental Consequences

3.1.2.1 General Land Use and Important Farmland

Coggon Solar applied for a rezoning permit from Linn County in July 2021. Specifically, the application requested the Project area be rezoned from Agricultural Area (AA) to Agriculture/Renewable Energy (AA/RE). The rezoning application was approved by Linn County in January 2022.

An AD-1006 Farmland Conversion Impact Rating Form was completed for the Project area (NEPA Analysis Area) and submitted to the state USDA NRCS office (Appendix G). Under the Proposed Action, up to 640 acres of agricultural land will be directly converted (i.e., taken out of production) to accommodate construction and development of the Project (Figure 4, Appendix A). Per the form, the Project has a total impact rating score of 189 (see completed form in Appendix G).

For Projects with scores greater than or equal to 160, which includes the Proposed Action, the FPPA recommends federal agencies consider the following measures specific to farmland impacts:

- Minimize impacts to farmland by limiting the degree or magnitude of the action and its implementation
- Rectify the impact by repairing, rehabilitating, or restoring the impacted environment
- Reduce the impact over time by preservation and maintenance operations during the life of the action

The Project is expected to operate for up to 35 years, at which time, Project facilities will be removed, and land could once again be used for the production of agriculture at the discretion of the landowner. The following measures will be implemented to prevent soil erosion, protect topsoil, and replenish nutrients in the underlying soil for future agricultural use:

- Given the existing topography and agricultural use of the site, only minimal grading is anticipated as a result of construction under the Proposed Action and no significant removal of topsoil is expected.
- Following construction, solar modules will be underplanted with a mix of low-growing native grasses and wildflowers intended to prevent erosion and provide habitat for local pollinators. Native grasses will be maintained throughout the operational life of the Project.

Therefore, although implementation of the Proposed Action will result in the conversion of farmland to non-agricultural use over the life of the Project, effects to farmland are not anticipated to be irreversible.

No farmland will be impacted as a result of the proposed expansion of the Coggon Substation.

3.1.2.2 Formally Classified Lands

No formally classified lands (i.e., designated natural resource areas or public lands) are located within or immediately adjacent to the Project area (Figure 5, Appendix A). Therefore, no direct effects to formally classified lands will occur as a result of the Proposed Action.

A viewshed analysis conducted for the Project (see Section 3.8) indicates none of the managed conservation lands discussed in Section 3.1.1, including Buffalo Creek WMA, Buffalo Creek Park, Buffalo Wildlife Area, Paris Wapsipinicon Access, Dix Road Wapsipinicon Access, and Hitaga Sand Ridge Preserve, are within the viewshed of the Project; therefore, no indirect visual effects to these conservation lands will occur as a result of the Proposed Action (see Section 3.8).

3.1.2.3 Airports

The Project does not exceed FAA notice criteria; therefore, no further coordination with the FAA is required.

3.2 Floodplain

Executive Order 11988, signed on May 24, 1977, requires federal agencies to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy and modifications of floodplains, and to avoid the direct or indirect support of floodplain development whenever there is a practicable alternative. The preferred method for satisfying this requirement is to avoid sites within the floodplain. If an action must be located within the floodplain, the executive order requires that agencies minimize potential harm to people and property and to natural and beneficial floodplain values by incorporating current floodplain management standards into the project. Executive Order 11988 also outlines an 8-step decision-making process to evaluate and address floodplain impacts.

Executive Order 13690, signed on January 30, 2015, was issued to improve the nation's resilience to flooding and better prepare for the impacts of climate change. When avoiding floodplains is not possible, Executive Order 13690 calls for agencies to make efforts to improve the resilience of communities as part of federal actions. This order established the Federal Flood Risk Management Standard, which requires a

higher vertical elevation and a greater horizontal extent to the floodplain be considered. The additional vertical and horizontal increments are calculated by one of three methods: climate-informed science approach, freeboard value approach, or 0.2 percent annual chance flood (i.e., 500-year flood) approach (see Section 3.2.1).

3.2.1 Affected Environment - Floodplain

Data from the Federal Emergency Management Agency (FEMA) were obtained for the Project to determine the acreage of 500-year floodplain, 100-year floodplain and 100-year floodway present within the Project area (Figure 6, Appendix A).

The 500-year floodplain is defined by FEMA as the elevation on the terrain that has 0.2% annual chance of flooding (one in 500 years). Floodplain management guidelines require federal agencies to apply the 0.2 percent probability of flood occurrence in a given year to the location of “critical actions.” Critical actions (24 CFR §55.2) are those defined as an activity for which even a slight chance of flooding would be too great a risk because it might result in loss of life, injury, or property damage. No critical actions are proposed within the 500-year floodplain (Figure 6, Appendix A); therefore the 8-step decision-making process for alternatives does not apply.

The 100-year floodplain is defined by FEMA as the elevation on the terrain surrounding a river system at which a flood has a one percent chance of reaching in any given year. A regulatory floodway lies within the 100-year floodplain and is defined as the channel of a river or watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without increasing the water surface elevation more than a designed height. The Project area does not overlap with a mapped 100-year floodway (Figure 6, Appendix A).

Approximately 31.1 acres of 100-year floodplain are mapped within the Project area (Figure 6, Appendix A). However, the Coggon Substation is not located within the 100-year floodplain (Figure 6, Appendix A).

3.2.2 Environmental Consequences - Floodplain

Effects to floodplains were evaluated as part of this analysis in accordance with RUS guidance (7 CFR 1970, Subpart C). The Project area does not overlap with a 500-year floodplain; therefore, no effects to the 500-year floodplain will occur as a result of the Project.

The final Project footprint will be sited to avoid the 100-year floodplain to the extent practicable (Figure 6, Appendix A). However, it is anticipated that one permanent stream crossing will be required south of Coggon Road (Figure 6, Appendix A) to facilitate Project construction and operation. This crossing will result in the unavoidable impact to approximately 0.02 acre of the mapped 100-year floodplain.

Once the final Project footprint has been determined, Coggon Solar will coordinate with the appropriate federal, state and county offices to obtain any applicable floodplain permits for up to one permanent stream crossing within the 100-year floodplain. No other impacts to floodplain will occur as a result of the Project.

No impacts to floodplains will occur as a result of the Coggon Substation expansion.

3.3 Wetlands

Section 404 of the Clean Water Act (CWA), 33 U.S.C. 1251, *et seq*., 1344, which is administered by the USACE, regulates the placement of fill or dredged material into wetlands and other Waters of the United States. In addition, the purpose of Executive Order 11990, signed on May 24, 1977, is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.” To meet these objectives, it requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided.

3.3.1 Affected Environment - Wetlands

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) indicates approximately 17.55 acres of wetland within the Project area (NEPA analysis area) (Figure 7, Appendix A). Table 3.3-1 summarizes the mapped wetlands by type.

Table 3.3-1. Acreage of NWI-Indicated Wetlands within the Coggon Solar Project Area

NWI Wetland Type	Acreage
Freshwater Emergent Wetland (PEM1B)	0.35
Freshwater Forested/Scrub-Shrub (PFO1B and PSS1B)	12.88
Riverine (R4SBA and R4SBC)	4.31
Total	**17.55**

A formal wetland determination was conducted for the Project on April 22, 2021, using methods defined in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0; USACE 2010) (Stantec 2021a). The study limits for the wetland delineation included the NEPA analysis area (Figure 8, Appendix A). Approximately 1.17 acres of wetland (0.31 acre of palustrine emergent/scrub-shrub wetland and 0.86 acre of palustrine forested/emergent wetland) were mapped within the wetland delineation study limits (Figure 8, Appendix A).

A formal wetland delineation was conducted for the CIPCO substation on September 30, 2021, that identified approximately 0.14 acre of wetland (Impact 7G, Inc. 2021).

3.3.2 Environmental Consequences - Wetlands

Coggon Solar has committed to avoiding wetland impacts to the extent practicable. As such, the final Project footprint will be configured to avoid wetlands, and no direct (permanent or temporary) impacts to wetlands will occur as a result of construction or operation of the solar development. Given the avoidance measures implemented during Project design, and the implementation of BMPs and a SWPPP in compliance with Iowa DNR requirements, no reasonably foreseeable adverse indirect effects to wetlands will occur as a result of the Proposed Action.

As the Project moves into final design, if unavoidable impacts to wetlands will occur, Coggon Solar will coordinate with the USACE, Iowa DNR, and the RUS to obtain a Joint CWA Section 404/401 permit, if needed, for the Project. All applicable permits will be obtained by Coggon Solar prior to construction.

Approximately 0.14 acre of wetland will be impacted by the proposed substation expansion (Impact 7G 2021). Prior to construction activities, CIPCO will coordinate with the USACE, Iowa DNR, and RUS to determine if a Joint CWA Section 404/401 permit is required for the substation expansion. All applicable permits will be obtained by CIPCO prior to construction.

Surface water runoff that could occur during construction activities has the potential to contribute sediments and pollutants to wetlands immediately adjacent to or downstream of the Project area. However, construction activities will include implementation of BMPs to avoid potential impacts to wetlands resulting from surface water runoff. In addition, Coggon Solar and CIPCO (Coggon Substation only) will implement SWPPPs in compliance with Iowa DNR requirements to ensure that all ground disturbance is stabilized to prevent erosion and sedimentation into wetlands and streams. Following construction, areas disturbed by construction will be restored as per the SWPPP and NPDES requirements.

3.4 Water Resources

For the purposes of this analysis, water resources include both groundwater and surface water. Groundwater is the subsurface hydrologic resource that is used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater is described in terms of depth to aquifer, aquifer or well capacity, and surrounding geologic composition. Surface water resources analyzed in this section include watersheds and streams.

Floodplain and wetlands are analyzed separately in Sections 3.2 and 3.3, respectively, and are therefore not included in this section.

3.4.1 Affected Environment – Water Resources

3.4.1.1 Groundwater

Groundwater is located within soil and rock formations beneath the ground surface. Aquifers provide a source of water to man-made wells and natural springs and consist of rock units that have sufficient permeability to allow for the flow of groundwater to these features.

Per the Iowa Geological Survey, the Silurian-Devonian aquifer underlies most of the state of Iowa, including Linn County and the Project area. This aquifer is an important source of water in eastern Iowa, and serves rural, public, and industrial users (State of Iowa 2003 as cited in IGS 2021). Most private wells that draw water from this aquifer range from 100 to 700 feet deep with most domestic wells yielding approximately 10 to 30 gallons per minute (gpm). Municipal or industrial wells may yield approximately 150 to 400 gpm. Rural residences and farmsteads within and surrounding the Project area likely depend on private wells that draw from this aquifer for both drinking water and as a water source for farm operations.

The Environmental Protection Agency (EPA) defines a sole source aquifer as one that supplies at least 50 percent of the drinking water for its service area, and where there are no reasonably available alternative drinking water sources should the aquifer become contaminated. No sole source aquifers are located within the state of Iowa (USEPA 2021).

3.4.1.2 Surface Water

Data from the USGS National Hydrography Dataset (NHD) indicate several segments of unnamed intermittent and perennial streams associated with grassed waterways and riparian corridors within and immediately adjacent to the Project area (Figure 7, Appendix A). No lakes or ponds are mapped within the Project area (Figure 7, Appendix A) and none were observed during the site visit (Stantec 2021a).

Concurrent with the wetland investigation (see Section 3.3), all mapped streams identified by USGS NHD were investigated in the field on April 22, 2021, to determine if the streams had a defined bed and bank, an ordinary high-water mark, and appeared to active sort sediment under normal circumstances (Stantec 2021a). For the purposes of the field investigation, streams that were observed to meet these criteria on the day of the fieldwork were considered to meet Waters of the U.S. criteria. Four stream segments meeting Waters of the U.S. criteria were identified during the field investigation (S1, S2, S3, and S4; Stantec 2021a).

3.4.2 Environmental Consequences – Water Resources

3.4.2.1 Groundwater

No sole source aquifers are located within the state of Iowa; therefore, no effects to sole source aquifers will occur as a result of the Proposed Action. Given the implementation of BMPs and a SWPPP to avoid and minimize the effects of stormwater runoff (see Surface Water discuss below), no adverse effects to the drinking water supply are anticipated as a result of the Proposed Action.

The Proposed Action will not require the addition of any new wells that will draw water from the aquifer system. However, wells owned by landowners leasing their land to Coggon Solar for the Project, or other local sources of water, may be used as a source of water for dust control during construction, as well as module washing following construction of the Project. Following construction, the amount of water to be

consumed by the Project is anticipated to be similar to that of a typical farm operation, and no significant effects to the groundwater system are anticipated as a result of the Proposed Action.

3.4.2.2 Surface Water

Three stream crossings are proposed as a result of the Proposed Action (Figure 8, Appendix A). Two temporary crossings are proposed north of Coggon Road to allow for site access and facilitate movement of equipment during construction (Figure 8, Appendix A). It is anticipated these crossings will be removed once construction activities are completed and the area returned to pre-construction conditions. Each crossing will be approximately 16 feet wide and temporary ground disturbance is expected to be less than 0.04 acre at each location. In addition, one permanent stream crossing is proposed south of Coggon Road to allow for movement of Project vehicles both during construction and during operation and maintenance of the Project (Figure 8, Appendix A). This crossing will also be approximately 16 feet wide and result in impacts of less than 0.02 acre.

It is anticipated that each crossing will be covered under a USACE Nationwide Permit. Once the Project footprint is determined and the final locations of these crossings are known, Coggon Solar will coordinate with the USACE, Iowa DNR, and RUS to obtain a Joint CWA Section 404/401 permit for these stream crossings.

No streams will be impacted as a result of the proposed Coggon Substation expansion.

Stormwater runoff that could occur during construction activities has the potential to contribute sediments and pollutants to streams immediately adjacent to or downstream of the Project area. However, construction activities will include implementation of BMPs to avoid potential impacts to streams resulting from stormwater runoff. In addition, Coggon Solar and CIPCO (Coggon Substation only) will implement SWPPPs in compliance with Iowa DNR requirements to ensure that all ground disturbance is stabilized to prevent erosion and sedimentation into streams. Following construction, areas disturbed by construction will be restored per the SWPPP and NPDES permit requirements. Given the avoidance measures implemented during Project design, and the implementation of BMPs and SWPPPs in compliance with Iowa DNR requirements, no reasonably foreseeable adverse indirect effects to surface water will occur as a result of the Proposed Action.

3.5 Coastal Resources

3.5.1 Affected Environment – Coastal Resources

The Project is located in Iowa which does not have any coastal zones or Coastal Barrier Resources System Units (https://www.fws.gov/CBRA/Maps/Mapper.html).

3.5.2 Environmental Consequences – Coastal Resources

Impacts to coastal resources will not occur as a result of the Proposed Action.

3.6 Biological Resources

3.6.1 Fish, Wildlife, and Vegetation

3.6.1.1 Affected Environment – Vegetation, Fish, and Wildlife

Vegetation

The Project is located within the Iowan Surface ecoregion of the Western Corn Belt Plains and is characterized by irregular to smooth plains and elongated hills parallel to river valleys. The vegetation of the Iowan Surface ecoregion was historically dominated by prairie with oak savanna and woodlands; however, over 75 percent of the Western Corn Belt Plains have since been converted to cropland agriculture and livestock forage (Chapman et al. 2002). The Project area consists primarily of agricultural fields used for the production of row crops (Table 3.1-1; Figure 3, Appendix A). Non-cropped areas are

limited to a small woodland community (approximately one acre in size), as well as narrow grassed drainageways within cropfields and ditches along roadways and driveways.

Common Fish and Wildlife Resources

Approximately 95% of land within the Project area is used for the production of cultivated crops (Table 3.1-1; Figure 3, Appendix A). Therefore, the majority of the terrestrial wildlife found in the Project area likely consists of generalist species adapted to surviving in a highly agricultural environment. These species may include, but are not limited to, white-tailed deer (*Odocoileus virginianus)*, coyote (*Canis latrans)*, raccoon (*Procyon lotor),* opossum (*Didelphis virginiana),* squirrel (*Sciurus* spp.*),* voles (*Microtus* spp.*)*, mice (*Peromyscus* spp.*)*, songbirds, waterfowl, red-tailed hawk (*Buteo jamaicensis)*, and wild turkey (*Meleagris gallopavo)*. Other potential wildlife habitats within the Project area include road ditches, field edges, and fencerows and hedgerows, all of which provide varied sources of food, cover, and nesting.

Although limited, woodlands within the Project area may be used by common mammal and bird species for food and cover. In addition to those listed above, common bird species with potential occur within the Project area include, but are not limited to, ring-necked pheasant (*Phasianus colchicus*), owls such as the great horned owl (*Bubo virginianus*) and barred owl (*Strix varia*), American crow (*Corvus brachyrhynchos),* northern cardinal (*Cardinal cardinalis*), and red-winged blackbird (*Agelaius phoeniceus*).

Streams within and immediately adjacent to the Project area provide habitat for aquatic species, including common mussels, fish, amphibians, and reptiles, and serve as a water source for other wildlife species. These streams, as well as wetlands, are likely used by amphibians such as the American toad (*Anaxyrus americanus*) and northern leopard frog (*Lithobates pipiens*), reptiles such as the northern painted turtle (*Chrysemys picta*) and common garter snake (*Thamnophis sirtalis*), and waterfowl such as mallard (*Anas platyrhynchos*) and Canada goose (*Branta canadensis).* Mammals, such as beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*) and mink (*Mustela vison*), may also use wetlands and streams for food and cover.

3.6.1.2 Environmental Consequences – Vegetation, Fish, and Wildlife

Vegetation

Construction of the Project will include grading of the site for installation of solar modules, access roads, security fencing, and other infrastructure, including the CIPCO substation. This will result in conversion of up to 640 acres of farmland to non-agricultural uses (see Section 3.1). Herbaceous vegetation within any of the non-cropped areas such as narrow grassed waterways and field edges within the Project area may also be cleared as a result of construction.

Following construction, the solar modules will be underplanted with a mix of low-growing native grasses and wildflowers intended to prevent erosion and provide habitat for local pollinators. A Vegetation Management Plan has been developed in coordination with Linn County that includes vegetation management measures to be implemented during operation and maintenance of the Project (see Appendix D), including measures to minimize the transport or development of non-native or invasive plant species within the Project area.

The Project is expected to operate for up to 35 years, at which time, the Project will be decommissioned, and all disturbed areas will be stabilized and reseeded with weed-free certified native seed varieties, or returned to farmland, as requested by the landowners.

Given the measures to be implemented as part of the Vegetation Management Plan (see Appendix D), no long-term adverse effects to vegetation are anticipated as a result of the Proposed Action.

Common Fish and Wildlife Resources

One woodland, approximately one acre in size, is present within the Project area (Stantec 2021a); however, no tree clearing activities are anticipated as part of the Project. As such, no impacts to wildlife species that prefer woodland habitat is anticipated as a result of the Project. The solar arrays will be sited entirely within cropped areas, with the exception of access road or collection line crossings of road ditches which have limited wildlife habitat value for those species that require grassland habitat.

Incidental injury and mortality from construction of the Project will be limited to slow-moving or burrowing species, such as small mammals, reptiles, and amphibians that may be unable to quickly move away from the active construction area. Construction activities conducted during the early growing season may adversely affect nests and young of birds that nest in early crops, such as killdeer (*Charadrius vociferus)*; however, construction activities are not anticipated to kill or harm a significant number of wildlife species. Mobile species and mature individuals present in the vicinity of the Project during construction are likely to move away from the Project area into other areas of suitable habitat.

Mortality of terrestrial wildlife may occur as a result of collision with vehicles (i.e., road kills) during construction; however, given the proximity of the Project to existing roadways, the risk of mortality to general wildlife resources is not anticipated to be significantly increased over existing conditions.

Three stream crossings (two temporary and one permanent) are proposed as a result of the Proposed Action (see Section 3.4.2; Figure 8, Appendix A). It is anticipated that each crossing will be covered under a USACE Nationwide Permit. Once the Project footprint is determined and the final locations of these stream crossings are known, Coggon Solar will coordinate with the USACE, Iowa DNR, and RUS to obtain a Joint CWA Section 404/401 permit for these stream crossings. Each stream crossing will be constructed in compliance with all applicable permit conditions. Typical cross sections of these crossings will be provided during permitting; however, none of the proposed stream crossings will impede the movement of aquatic species. Indirect effects to streams will be minimized through the implementation of BMPs and a SWPPP during construction of the Project (see Section 3.4). With the implementation of these measures, impacts to aquatic resources as a result of the stream crossings is anticipated to be minor.

Increased noise and human activity associated with construction may result in some short-term displacement of wildlife species that use agricultural fields and field edges, such as white-tailed deer, raccoon, and striped skunk (*Mephitis mephitis*). However, due to the existing disturbance from tractors, plows, and other agricultural equipment, most wildlife in the Project area is likely accustomed to a certain amount of noise and human disturbance. Therefore, impacts to wildlife as a result of construction noise are anticipated to be minor, and limited to the duration of construction.

The Project will be operated remotely and will primarily be an unmanned facility; therefore, any noise generated as a result of operation of the solar facility will likely have no effect on wildlife species. Following construction, the solar modules will be underplanted with a mix of low-growing native grasses and wildflowers, which may provide habitat for smaller wildlife species, as well as birds and insects (including butterflies). Security fencing placed around the perimeter of the site will limit the use of the Project area by larger terrestrial species such as white-tailed deer causing most individuals to avoid the area or choose alternate travel corridors. However, travel corridors for these species will remain along streams and grassed buffers found immediately adjacent to the Project area (Figure 2, Appendix A). Maintenance activities, including vegetation management, may have an effect on common wildlife species; however, impacts to these species are anticipated to be minor.

3.6.2 Threatened and Endangered Species

3.6.2.1 Affected Environment – Threatened and Endangered Species

Federally Listed Species

The federal Endangered Species Act (ESA) of 1973 (16 U.S.C. §§1531 et seq.) provides for the listing, conservation, and recovery of endangered species. Section 9 of the ESA prohibits the take of any endangered or threatened species listed under the ESA. In reference to fish and wildlife, the ESA defines “take” as “…to harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect: species listed as endangered or threatened, or to attempt to engage in any such conduct.” In reference to plants the ESA defines “take” as “…to collect, pick, cut, dig up, or destroy in any manner.” The no-take provisions under the act, which prohibit landowners from causing harm to listed species, apply only to animals. Plant species on private lands are, in general, protected only where a federal action (e.g., regulatory permit) is involved. In contrast, listed plants occurring on federal lands receive full protection under the ESA.

Per a review of the USFWS's Information for Planning and Consultation (IPaC) database, two federally listed animal species, four federally listed plant species, and one candidate species, have ranges that include the Project area (Appendix H).

- Higgins Eye Pearlymussel (*Lampsilis higginsii*) – Endangered
- Northern Long-eared Bat – Threatened (4(d) rule)
- Northern Wild Monkshood (*Aconitum noveboracense*) - Threatened
- Prairie Bush Clover (*Lespedeza leptostachya*) – Threatened
- Eastern Prairie Fringed Orchid (*Platanthera leucophaea*) - Threatened
- Western Prairie Fringed Orchid (*Platanthera praeclara*) – Threatened
- Monarch Butterfly (*Danaus plexippus*) - Candidate

Determinations of effect for each of the federally listed species are provided in Section 3.6.2.2 below.

Higgins Eye Pearlymussel

The Higgins eye pearlymussel was listed as endangered by the USFWS on June 14, 1976 (41 FR 24062-24067). A USFWS Higgins Eye Mussel Recovery Plan was first developed and signed on July 29, 1983 (USFWS 1983a). Revision of the plan began in 1994 in response to concern that the large flood of 1993 may have significantly impacted Higgins eye pearlymussels. The most recent version of the plan is the Higgins eye pearlymussel (*Lampsilis higginsii*) Recovery Plan: First Revision signed on May 12, 2004 (USFWS 2004). The Higgins eye pearlymussel is also currently listed as endangered by the State of Iowa.

The Higgins eye has been characterized as a large river mussel species (USFWS 2004). Therefore, no suitable habitat for this species is present within the Project area.

Northern Long-eared Bat

On April 2, 2015, the USFWS published a final rule designating the northern long-eared bat (NLEB) as a threatened species throughout its geographic range (81 Fed. Reg. 1900-1922), which includes Linn County, Iowa. The listing and an interim 4(d) rule became effective on May 4, 2015. On January 28, 2020, the D.C. District Court held that the listing of the NLEB as threatened was arbitrary and capricious and not based on the best available science and remanded the listing rule to the USFWS for a new determination. However, the court did not vacate the listing rule, leaving the species' threatened status as well as the 4(d) rule in effect until a new listing rule is finalized. On March 23, 2022, the USFWS proposed to list the NLEB as endangered (87 FR 16442). A final decision is anticipated in November 2022. No critical habitat is designated at this time (81 FR 24707-24714). The NLEB is not currently listed in the state of Iowa; however, it is identified as a Species of Greatest Conservation Need in the Iowa Wildlife Action Plan (Iowa Department of Natural Resources 2015).
Winter habitat for this species includes underground caves and cave-like structures such as abandoned or active mines and railroad tunnels. These hibernacula typically have high humidity, minimal air current, large passages with cracks and crevices for roosting, and maintain a relatively cool temperature (0 - 9º Celsius (C)) (USFWS 2014). The NLEB is a commonly encountered species throughout the majority of the Midwest, being commonly captured in mist-net surveys (USFWS 2013). However, they are infrequently found in hibernacula in the Midwest (USFWS 2013).

The NLEB is known to use a wide variety of forested habitats for roosting, foraging, and traveling, and may also utilize some adjacent and interspersed non-forested habitat such as emergent wetlands and edges of fields. This species has also been found roosting in structures such as barns and sheds (particularly when suitable roost trees are unavailable). The bats emerge at dusk to forage in upland and lowland woodlots and tree-lined corridors, feeding on insects, which they glean or catch while in flight using echolocation (USFWS 2014). Roosting habitat includes forested areas with live trees and/or snags with a diameter at breast height (DBH) of at least three inches with exfoliating bark, cracks, crevices and/or other cavities.

Trees are considered suitable roost trees if they meet those requirements and are located within 1,000 feet of another suitable roost tree, woodlot, or wooded fencerow (USFWS 2020).

The Project is within the known range of the NLEB; however, no documented NLEB maternity roosts or hibernacula are known from Linn County (USFWS 2016). The Iowa DNR Natural Areas Inventory (NAI) database indicates at least one record of the NLEB within Linn County (IDNR 2021).

During a site visit conducted in spring 2021, one woodland, approximately one acre in size, was observed immediately north of Castle Lane and west of a private driveway immediately north of the Pering Ridge Road/Castle Lane intersection (Stantec 2021a). In July 2021, Coggon Solar coordinated with the USFWS regarding potential Project effects to the NLEB (Appendix H). To be conservative, the potential for tree clearing activities was disclosed using the NLEB key within the IPaC system and a determination of May Affect, but Not Likely to Adversely Affect was made for the NLEB. The USFWS indicated the Project may affect the NLEB; however, any take that may occur as a result of the Project is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o) (Appendix H).

Since the July 2021 coordination, Coggon Solar has indicated that no tree clearing will occur as a result of the Proposed Action and impacts to this woodland community will be avoided. Therefore, no suitable summer habitat (i.e., woodland) for the NLEB will be impacted and no effects to the NLEB will occur as a result of the Project.

Northern Wild Monkshood

The northern wild monkshood was listed as threatened by the USFWS on April 26, 1978 (43 FR 17910-17916). A USFWS National Recovery Plan for northern Monkshood was developed and signed on September 23, 1983 (USFWS 1983b). This species is also listed as threatened by the state of Iowa. The Iowa DNR NAI database indicates no records of this species in Linn County (IDNR 2021). No suitable habitat for this species (i.e., mesic tallgrass prairie to wet meadow) is present within the Project area (IDNR 2021).

No suitable habitat for the northern wild monkshood (i.e., shaded to partially shaded cliffs and talus slopes) is present within the Project area.

Prairie Bush Clover

The prairie bush clover was listed as threatened by the USFWS in February 1988. This species is also listed as threatened by the state of Iowa. The Iowa DNR NAI database indicates at least one record of the prairie bush clover in Linn County (IDNR 2021); however, no suitable habitat for the prairie bush clover (i.e., native or remnant prairie) is present within the Project area.

Eastern Prairie Fringed Orchid

The eastern prairie fringed orchid was listed as threatened by the USFWS on September 28, 1989 (54 FR 39857-39863). This species is also listed as threatened by the state of Iowa. The Iowa DNR NAI database indicates at least one record of the eastern prairie fringed orchid in Linn County (IDNR 2021); however, no suitable habitat for this species (i.e., mesic tallgrass prairie to wet meadow) is present within the Project area.

Western Prairie Fringed Orchid

The western prairie fringed was listed as threatened by the USFWS on September 28, 1989 (54 FR 39857-39863). This species is also listed as threatened by the state of Iowa. The Iowa DNR NAI database indicates at least one record of the western prairie fringed orchid in Linn County (IDNR 2021); however, no suitable habitat for this species (i.e., mesic prairie to wet meadow) is present within the Project area.

Monarch Butterfly

The monarch butterfly is a candidate species that warrants listing under the ESA but is currently precluded by other higher-priority species on the USFWS's National Working List. While not required by section 7 of the ESA, impacts to candidate species are encouraged to be considered when conducting environmental reviews for projects; however, candidate species receive no statutory protection under the ESA.

The monarch butterfly is a wide-ranging species that occupies different regions and habitats depending on time of year and its lifecycle. In Iowa, monarch butterflies are present from mid-May through August for breeding and migrate through the state in September and early October (Iowa Monarch Conservation Consortium 2018). Monarch butterflies need a variety of nectar-producing plants with a wide array of blooming times for foraging and milkweed (*Asclepias* spp.) for breeding. Several species of milkweed are native to Iowa including common milkweed (*Asclepias syriaca*), butterfly milkweed (*Asclepias tuberosa*), and swamp milkweed (*Asclepias incarnata*). Breeding habitat in Iowa may occur in prairies, pastures, hayfields, wetlands, agricultural fields, field edges, rights-of-way corridors, and urban and suburban gardens.

The Project area consists primarily of agricultural fields used for the production of row crops (Table 3.1-1; Figure 3, Appendix A). Non-cropped areas within the Project area, including narrow grassed drainageways within cropfields and ditches along roadways and driveways, may provide habitat for the monarch butterfly, especially if milkweed species are present. Common milkweed is a species commonly observed in roadside communities in Iowa; therefore, it is likely that milkweed species are present in proximity to the Project.

State-Listed Species

Listed species in Iowa are protected under Iowa's Endangered Plants and Wildlife Law (EPWL) (Chapter 481B of the Code of Iowa) and regulatory authority under State law lies with the Iowa DNR.

The Iowa NAI database indicates records of 50 state-listed threatened and endangered species from Linn County, including 8 mussels, 1 snail, 2 insects, 8 fish, 2 amphibians, 2 reptiles, 2 birds, 1 mammal, and 24 state-listed plants (IDNR 2021). Specific locations of these occurrences are not publicly available. Appendix H provides a summary of habitat preferences and a habitat assessment for each state-listed species with the potential to occur within Linn County. In addition to the state-listed species, Iowa DNR NAI data indicate 47 special concern species with records from Linn County. These species are not afforded protection under Iowa's EPWL (Chapter 481B of the Code of Iowa) and are not included in the habitat assessment summary in Appendix H.

The Iowa DNR, in its letter dated December 15, 2020 (Appendix C), identified no site-specific records of rare species or significant natural communities within the Project area (Appendix C). The Iowa DNR letter identified a small fen community in the vicinity of the Project; however, based on the location data provided, this community is located just north and outside of the current Project area.

No suitable habitat was observed within the study limits for those state-listed animal or plant species with records from Linn County (Appendix H). Non-cropped areas are limited to a small woodland community (approximately one acre in size), as well as roadside ditches and narrow grassed buffers associated with streams within the Project area. Given the low quality of these communities, they are unlikely to provide suitable habitat for any of the state-listed species with records from Linn County.

3.6.2.2 Environmental Consequences – Threatened and Endangered Species

Federally Listed Species

Table 3.6-1 provides a summary of the Determinations of Effect for each of the federally listed species identified by the USFWS (Appendix H).

Table 3.6-1. Summary of Determinations of Effect for Federally Listed Species Whose Ranges Include the Coggon Solar Project Area

Species	Determination of Effect	Justification
Higgins Eye Pearlymussel	No Effect	No suitable habitat within the Project area.
Northern Long-eared Bat	No Effect	One acre of woodland is present within the Project area; however, no tree clearing will occur as a result of the Project.
Northern Wild Monkshood	No Effect	No suitable habitat within the Project area.
Prairie Bush Clover	No Effect	No suitable habitat within the Project area.
Eastern Prairie Fringed Orchid	No Effect	No suitable habitat within the Project area.
Western Prairie Fringed Orchid	No Effect	No suitable habitat within the Project area.

Suitable habitat for the monarch butterfly, a federal candidate species, is present within and adjacent to the Project area. Construction activities may affect this species; however, the extent of Project effects to this species will depend upon location and timing of construction activities. Construction activities could result in the loss of vegetation that may be used by this species; however, impacts will be limited to those areas of non-cropped vegetation within the Project area. In addition, there is a risk of mortality to this species as a result of construction equipment or vehicles used during operation of the Project. However, the risk of mortality as a result of vehicles is not anticipated to be significantly different than the risk currently posed by vehicles on existing public roads or in farm fields within and adjacent the Project area.

Following construction, the areas beneath the proposed solar array and in between the rows will be underplanted with a mix of low-growing native grasses and wildflowers (including butterfly milkweed) that will provide habitat for local pollinators, including the monarch butterfly, which may provide an overall beneficial effect to this species over the current conditions. In addition, areas outside of the planned perimeter fence not used for the production of row crops, if there are any, along with select areas inside the fence, will be seeded with grasses, sedges, and wildflowers that provide beneficial habitat for pollinator species (Appendix D). Coggon Solar will evaluate and adopt, if feasible, additional measures to benefit pollinator species that may include maintaining an 18” or greater vegetation canopy, reduced mowings during the larval stage of butterflies (i.e., generally May through August), and avoiding mowing in some areas of the site during the larval stage.

State-Listed Species

No suitable habitat was observed within the study limits for those state-listed animal or plant species with records from Linn County (Appendix H). Therefore, no adverse effects to state-listed species are anticipated as a result of the Proposed Action.

3.6.3 Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act of 1918 (MBTA), 16 U.S.C. 703, *et seq.*, prohibits the taking, killing, possession, transportation and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior.

The Bald and Golden Eagle Protection Act of 1940 (BGEPA) (16 U.S.C. 668-668d and 50 CFR 22.26) and its implementing regulations, provides additional protection to bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) such that it is unlawful to take an eagle. In this statute, the definition of “take” is to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest, or disturb.” The term “disturb” is defined in 50 CFR 22.3 as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best available scientific information available: (1) injury to an

eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

The USFWS National Bald Eagle Management Guidelines state that bald eagle nests within 660 feet of construction activities may be at risk of disturbance during the breeding season (USFWS 2007).

3.6.3.1 Affected Environment – MBTA and BGEPA

Migratory Birds

There is potential for migratory birds to be present within the Project area during the spring, summer, and fall. A few species may also overwinter in the Project vicinity. Agricultural fields used for the production of rowcrops comprise approximately 98% of the Project area (see Section 3.1; Figure 3, Appendix A). These cropfields provide limited stopover habitat for species protected by the MBTA during spring and fall migration. Non-cropped areas that provide suitable habitat for MBTA species are limited to a small woodland community, narrow grassed waterways, field edges and road ditches or grassed buffers adjacent to roads and driveways within the Project area. In addition, streams, riparian corridors, wetlands, and woodlands immediately adjacent to the Project area may provide suitable breeding and migration stopover habitat for bird species protected by the MBTA.

During a site visit conducted in spring 2021, one woodland, approximately one acre in size, was observed immediately north of Castle Lane and west of a private driveway immediately north of the Pering Ridge Road/Castle Lane intersection (Stantec 2021a). This woodland provides suitable nesting habitat for bird species that nest in trees. However, no tree clearing will occur as a result of the Proposed Action and impacts to this woodland community will be avoided.

Bald Eagle

On July 9, 2007, the USFWS announced the bald eagle (*Haliaeetus leucocephalus)* will be removed in the lower 48 states from the Federal List of Endangered and Threatened Wildlife (72 FR 37346-37372). The rule became effective on August 8, 2007. The bald eagle remains protected under the BGEPA and is listed as special concern in Iowa. Special concern species in Iowa are species for which problems of status or distribution are suspected but are not documented. These species are not protected by Iowa's Endangered Plants and Wildlife Law (Chapter 481B of the Code of Iowa), but the Iowa DNR recommends consideration of special concern species during project development.

Bald eagles may be observed throughout Iowa, especially in the winter months and along major river corridors. The Iowa DNR NAI database indicates this species is known from Linn County; however, no suitable nesting habitat is present within or immediately adjacent to the Project area.

Golden Eagle

The golden eagle is protected under the BGEPA and the MBTA. The species is not currently listed in Iowa, nor is it considered a breeding bird in Iowa. Golden eagles can be found in Iowa from November through March, most commonly in the bluffs of northeastern Iowa.

3.6.3.2 Environmental Consequences – MBTA and BGEPA

Migratory Birds

The Project area is dominated by agricultural fields used for the production of row crops. Agricultural lands may provide suitable stopover habitat for some MBTA species. Conversion of these lands could eliminate stopover habitat within the Project area, if present. However, suitable stopover habitat is available in fields adjacent to the Project area; therefore, the Proposed Action is not expected to affect migratory pathways in the vicinity of the Project.

No impacts to woodlands would occur as a result of the Proposed Action; therefore, no impacts to suitable habitat for those MBTA species that nest in trees would occur.

Non-cropped areas comprise a very small portion of the Project area and are limited to a small woodland community, narrow grassed waterways within agricultural fields, field edges, and road ditches or grassed buffers along roads and driveways. Impacts to populations of migratory birds are not anticipated to be significant because active cropfields are generally not suitable for the ground-nesting birds, and the risks to grassland or other ground-nesting bird species will be limited to those non-cropped portions of the site. Nevertheless, depending upon the timing of construction activities, limited impacts to MBTA species could occur as a result of ground clearing activities and could include nest abandonment or destruction (if nests are present) or mortality of eggs, young, or adults. However, adult birds are generally mobile and, if disturbed by construction activities, will likely be able to disperse to available suitable habitat outside of the Project area.

Bald Eagle

No suitable nesting habitat for the bald eagle is present within or immediately adjacent to the Project area. Large rivers, lakes, and livestock operations serve as attractants for eagles, potentially drawing them into an area. However, no livestock operations, large rivers or lakes are found within or immediately adjacent to the Project area that are likely to attract eagles. Further, operation of the Project is not anticipated to pose a risk to bald eagles. Therefore, no adverse effects to the bald eagle are anticipated as a result of the Proposed Action.

Golden Eagle

No adverse effects to the golden eagle are anticipated as a result of construction or operation of the Project under the Proposed Action.

3.7 Historic and Cultural Properties

According to the National Historic Preservation Act (NHPA) of 1966, as amended, 16 U.S.C. 470, *et seq*., "the historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people" (16 U.S.C 470(b)(2)). Further, the Federal government has a responsibility to "foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony" (16 U.S.C. 470-1(1)). As a result of Section 106 of the NHPA and its implementing regulations, federal agencies are required to take into account the impact of federal undertakings upon historic properties in the area of the undertaking (16 U.S.C. 470f; 36 C.F.R. Part 800) (Revised January 2001).

For the purposes of this EA and the Section 106 process, the Direct Area of Potential Effect (APE) for cultural resources is defined as the Project area given ground disturbance as a result of the Project will only occur within that area; however, the Project footprint will ultimately be no larger than 640 acres in size. Visual effects to cultural resources were evaluated within the calculated viewshed of the Project (see Section 3.8); additional information regarding visual effects is described below.

3.7.1 Affected Environment

3.7.1.1 Archaeological Resources

A Phase I archaeological survey was conducted for the Project in April 2021 in accordance with the Secretary of the Interior's standards for the identification of historic properties (National Park Service [NPS] 1983 as cited in BCA 2021).

The survey limits for Phase I archaeological survey were approximately 747 acres in size (BCA 2021). An archival search was also conducted prior to the field investigation to identify previously recorded archaeological sites within a one-mile buffer of the survey limits (BCA 2021).

The archival search identified two previously recorded archaeological sites within the survey limits. In addition, 11 previously recorded archaeological sites are located within a one-mile buffer of the survey limits (BCA 2021). One historic farmstead/residence (13LN487) and two additional farmstead sites (13LN502 and 13LN504) are located west of the Project area and were recommended as eligible for nomination to the National Register of Historic Places (NRHP) (BCA 2021). The remainder of the archaeological sites within

the one-mile buffer were recommended as not eligible for the NRHP (Rogers and Page 1994 as cited in BCA 2021).

Two previously recorded archeological sites were surveyed during the Phase I investigation (13LN486 and 13LN505) (BCA 2021). In addition, one previously unrecorded archaeological site was identified during the survey (13LN1238) (BCA 2021). Only one of the previously recorded sites (13LN505) is located within the current Project area (BCA 2021). All three sites are recommended not eligible for nomination to the NRHP, and no further work was recommended for these sites (BCA 2021).

Coggon Substation

An archaeological survey was initially conducted at the Coggon Substation in 2013 (Louis Berger 2013). No archaeological sites were identified during the 2013 survey, therefore, the RUS determined that the 2013 project had No Adverse Effect to Historic Properties and the SHPO concurred with that finding on October 29, 2013 (Appendix J).

An archaeological survey was conducted for the current Project in September 2021 (Tallgrass Archaeology 2021). The 2021 survey area extended the 2013 survey boundary approximate 52 feet to the west and approximately 59 feet to the south to include the previously unsurveyed portions of the 4.9-acre substation property. The 2021 investigation identified no archaeological materials (Tallgrass Archaeology 2021).

Historic Structures

Three previously recorded historic properties were identified during the initial field investigation, including the Ellis/Leach Farm (574-00968), a barn remnant associated with the Ellis/Leach Farm (57-00969), and Castle Farmstead (57-00973) (BCA 2021). The Ellis/Leach Farm and its associated structure were recommended not eligible for the NRHP (Rogers and Page 1994 as cited in BCA 2021). Therefore, no further work is recommended for those two sites (BCA 2021).

The Castle Farmstead is located immediately outside of the current Project area; however, the Project area encircles the property on which the farmstead is found. The farmstead has been recommended as eligible for nomination to the NRHP (BCA 2021).

<u>Coggon Substation</u>

No historic structures were identified during either the 2013 survey (Louis Berger 2013) or the 2021 survey (Tallgrass Archaeology 2021).

3.7.2 Environmental Consequences

3.7.2.1 Archaeological Resources

Of the three archaeological sites surveyed during the field investigation, only one of the previously recorded sites (13LN505) is located within the Direct APE (BCA 2021). No further work was recommended for this site, and it was determined to be Not Eligible for nomination to the NRHP (Rogers and Page as cited in BCA 2021). No further work is recommended at this location (BCA 2021). Therefore, no direct or indirect effects to archaeological resources will occur as a result of the Proposed Action.

Coggon Substation

The 2021 investigation at the Coggon Substation identified no archaeological materials and site clearance was recommended (Tallgrass Archaeology 2021). Therefore, no direct or indirect effects to archaeological resources will occur as a result of the proposed substation expansion.

Historic Structures

A Geographic Information System (GIS) viewshed analysis indicates the Project could be visible from various vantage points within a four-mile radius of the Project (Figure 1, Appendix K). A windshield reconnaissance survey for historic structures was conducted that included 65 historic properties within the calculated viewshed (BCA 2021). Based on the results of the survey, 16 historic properties will have a moderate to high impact to their viewshed, and of those, 11 properties located within or immediately adjacent to the Project will have a high impact to their viewshed (BCA 2021).

The Castle Farmstead is located immediately adjacent to the Project area and has been recommended as eligible for nomination to the NRHP (BCA 2021). No direct effects to this resource will occur as a result of the Project. However, an indirect effect will occur as a result of changes to the visual landscape. The landscape surrounding the farmstead currently consists primarily of agricultural fields with views of Coggon Road (County Road D62), Sutton Road, and Robinson Road if not obscured by tall crops during certain times of the year. Under the Proposed Action, solar panels will be installed on existing agricultural fields surrounding the farmstead, resulting in a high impact to the viewshed of this structure.

To avoid adverse visual effects to historic structures within the calculated viewshed, Coggon Solar will implement vegetative screening (e.g., large shrubs, trees, etc.). A vegetative screening concept is included in Appendix J. Screening will consist of evergreen or shrub species, with preference given to native species, that will be a minimum of eight feet in height at the time of planting and have a projected growth rate of a minimum six inches per year and spaced no greater than twelve (12) feet apart measured on-center. Screening would be maintained for the duration of the Project and individual plants will replaced upon death or disease.

The RUS initiated the formal Section 106 process with the Iowa SHPO on November 8, 2021 (Appendix J). A copy of the Phase I cultural resources report (BCA 2021) was submitted along with a letter indicating a Finding of No Adverse Effect to Historic Properties. This finding is contingent upon implementation of vegetative screening to avoid potentially adverse visual effects to historic properties. A response was received from the SHPO via email on December 8, 2021, indicating concurrence with the Finding of No Adverse Effect with Conditions (i.e., implementation of vegetation screening).

Coggon Substation

No historic structures were identified as a result of the 2021 survey of the Coggon Substation (Tallgrass Archaeology 2021). A finding of No Historic Properties Affected was recommended.

3.8 Aesthetics

3.8.1 Affected Environment – Aesthetics

The landscape within and surrounding the Project area is dominated by agricultural fields used for the production of rowcrops (i.e., corn and soybeans). Groups viewing the Project area include local residents, as well as people traveling on paved roads immediately adjacent to the Project (Coggon Road (County Road D62), Sutton Road, and Linn/Delaware Road (County Road W63)), and nearby gravel roads (Robinson Road, Pering Ridge Road, Castle Lane, and Hutchinson Road, among others) (Figure 2, Appendix A).

3.8.1.1 Viewshed Analysis

A GIS viewshed analysis (Appendix K) was conducted within a 4-mile radius of the Project to determine those areas from which the Project is most likely to be visible to a six-foot tall person (i.e., the average height of a human male) (Appendix K). The analysis considered topography and elevation data, as well as landcover data from the NLCD. This analysis assumed a 40-foot height for vegetation identified by NLCD as deciduous forest, evergreen forest, or mixed forest. Depending upon topography, forested areas may serve as visual barriers between the Project site and potential receptors (e.g., homes, businesses, natural or sensitive areas, etc.).

All non-forested landcover types identified by NLCD were conservatively considered to be bare ground for the purpose of the viewshed analysis (i.e., no visual barrier). Given the agricultural land use in the vicinity of the Project, the calculated viewshed depicted on Figure 1 in Appendix K is likely a conservative estimate of the viewshed given crops may provide a visual barrier from some vantage points during certain times of the year.

3.8.1.2 Glint/Glare Analysis

The specific model of the PV solar modules to be used for the Project has not yet been determined; however, typically PV solar modules are dark blue or black in color, and have an anti-reflective coating designed to absorb light and reduce glare and light reflection. In general, PV solar modules tend to be less reflective than windows and water features.

A glint/glare study was conducted for the Project to assess glare potential to sensitive receptors such as airports, roads, and residences (Appendix I). The GlareGauge software used in the analysis calculates glare potential at specific receptors over the course of a typical year, in one-minute time intervals, based on tracker position and sun position and the reflective properties of the PV modules. The amount of time receptors receive significant glare is calculated. The glare is then classified into three categories of potential ocular impact:

- Green - low potential to cause after-image (flash blindness)
- Yellow - potential to cause temporary after-image
- Red - potential to cause retinal burn (permanent eye damage)

The results of the glint/glare analysis for the Project indicate no significant glare potential to any of the identified glare receptors analyzed for the Project and resulted in a finding of no hazard. A finding of no hazard indicates there were no time periods where receptors could be exposed to green, yellow, or red glare (Appendix I).

3.8.2 Environmental Consequences – Aesthetics

The Proposed Action will result in changes to the visual aesthetics within and adjacent to the Project area over the 35-year life of the Project. Individual reactions to aesthetic changes to the Project area are likely to range from no reaction or annoyance to strong reactions to the visual changes within the agricultural landscape. Reactions of individuals are likely to be influenced by numerous factors, including proximity to the Project area, how frequently the person will be in view of the Project area, and their perceived importance of the visual agricultural landscape.

A viewshed analysis indicates the Project is visible from various vantage points within a 4-mile radius of the Project (Figure 1, Appendix K). The calculated viewshed is a conservative estimate given that crops are likely to provide a visual barrier from some vantage points during certain times of the year. The degree of visibility at these vantage points ranges from More Visible to Less Visible, depending upon topography (Figure 1, Appendix K). The Project will not be visible to most of the town of Coggon; however, there is a small area near the south end of town where the Project may be visible (Figure 1, Appendix K).

Based on the viewshed analysis, none of the managed conservation lands discussed in Section 3.1.1, including Buffalo Creek WMA, Buffalo Creek Park, Buffalo Wildlife Area, Paris Wapsipinicon Access, Dix Road Wapsipinicon Access, and Hitaga Sand Ridge Preserve, are within the viewshed of the Project; therefore, no indirect visual effects to these conservation lands will occur as a result of the Proposed Action.

Indirect visual effects to cultural resources as a result of the Proposed Action are discussed in Section 3.7.2.

The results of the glint/glare analysis for the Project indicate no significant glare potential to any of the identified glare receptors analyzed for the Project and resulted in a finding of no hazard (Appendix I).

The proposed expansion of the Coggon Substation includes the addition of components similar to those already in place at the existing substation. Therefore, no changes to the visual aesthetic of the Coggon Substation will occur as a result of the Proposed Action.

3.9 Air Quality

The Clean Air Act (CAA) 42 U.S.C. §7401 *et seq.* (1970) is a comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the U.S. EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants.

3.9.1 Affected Environment – Air Quality

The Project area is not within a nonattainment area for any measured pollutant (http://www3.epa.gov/airquality/greenbook/ancl.html). A nonattainment area is an area for which air quality measurements do not meet NAAQS criteria.

The Project area is subject to air pollutants from mobile sources that include vehicles that travel on public roads and farm equipment operating in the vicinity of the Project. Due to dissipation by wind, pollutants from these sources do not attain high enough concentrations to warrant measurement or to result in degradation to sensitive resources.

The atmospheric buildup of CO2 and other Green House Gases (GHGs) is largely the result of human activities, such as the burning of fossil fuels (USEPA 2021). Global carbon emissions from fossil fuels have significantly increased since 1900. In addition to carbon, combustion of fossil fuels also produces other air pollutants, such as nitrogen oxides, sulfur dioxide, volatile organic compounds, and heavy metals, which negatively affect human health, along with air and water quality.

3.9.2 Environmental Consequences – Air Quality

Temporary and localized impacts to air quality will occur as a result of Project construction, including the Coggon Substation, under the Proposed Action. Impacts will occur as a result of emissions from engine exhaust (criteria pollutants and GHGs) and fugitive dust generation during soil disturbance and will primarily occur during construction. Dust may annoy existing residents and travelers and could potentially be deposited on surfaces in close proximity to the Project. Given the rural nature of the Project area, fugitive dust associated with vehicle travel on gravel roads and with agricultural practices is a normal occurrence and residents and local travels are likely acclimated to dealing with dust. Implementation of BMPs during construction, including the use of a water truck, are anticipated to minimize the amount of dust generated by construction activities. No significant adverse effect to air quality is anticipated to occur as a result of construction of the Project.

Once the Project is constructed, no significant adverse effects to air quality will occur as a result of Project operations and maintenance. Adverse impacts to air quality are not anticipated as the Project will not release pollutants into the atmosphere, and in fact, will reduce fossil fuel use over the life of the Project through the generation of solar energy, a safe and reliable renewable energy source, and providing a long-term beneficial effect to local residents and customers within CIPCO's service territory. Project operations may require a small amount of vehicular traffic resulting in the release of carbon dioxide emissions and particulates. These emissions are not estimated to have a significant effect on local or regional air quality or contribute greatly to the amount of greenhouse gases. Project operation and maintenance under the Proposed Action will not generate any new sources of air pollutants.

Air quality impacts associated with decommissioning will be similar to those during construction and may include localized engine exhaust emissions from equipment and vehicles. These emissions are not anticipated to have a significant effect on local or regional air quality or contribute greatly to the amount of greenhouse gases.

3.10 Socioeconomics and Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, states that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health

or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The analysis pursuant to this executive order follows guidelines from the Council on Environmental Quality (CEQ), Environmental Justice Guidance under the National Environmental Policy Act (CEQ 1997).

The CEQ guidelines state that minority populations should be identified where "… (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis" (CEQ 1997).

3.10.1 Affected Environment – Socioeconomics and Environmental Justice

The Project is located in Linn County, Iowa approximately 2.8 miles west of Coggon, Iowa in Census Tract 19113010100 (U.S. Census Bureau 2021a). Table 3.10-1 provides a summary of population trends and income data for Linn County and the state of Iowa for comparison to Census Tract 1911301011, which includes the Project area.

Table 3.10-1. Socioeconomic Characteristics of Linn County and the State of Iowa

Socioeconomic Indicator	Linn County	State of Iowa
Population (2020 Census Data)[1]	230,299	3,190,369
Percent Change in Population (2010 Census to 2020 Census)[2]	9%	4.7%
Median Household Income (2015 to 2019; 2019 dollars)[2]	$64,903	$60,523
Persons in Poverty[2]	11.2%	11.1%

[1] U.S. Census Bureau. 2021a. 2020 Census Demographic Data Map Viewer.
[2] U.S. Census Bureau. 2021b. U.S. Census Bureau Quick Facts.

Linn County has a total estimated population of 230,299, of which 2,850 (1.2 percent) live in Census Tract 19113010100 (U.S. Census Bureau 2021a). This census tract, which includes the Project area, has a population density of 26.6 persons per square mile.

As of 2019, the median household income in Linn County was $64,903 compared to $60,523 for the state of Iowa (U.S. Census Bureau 2021b). Median household income was not available at the census tract level; however, the median household income for the city of Coggon (located approximately 2.8 east of the Project) was $66,406 as of 2019 (Data USA 2021).

As of June 2021, the unemployment rate for Linn County was 5.7% (U.S. Bureau of Labor Statistics 2021) which is higher in comparison to the unemployment rate 4.1% reported at the state level as of July 2021 (Iowa Workforce Development 2021).

As of the 2017 Census of Agriculture, there were 1,374 farms in Linn County constituting 324,507 acres (USDA 2017). As of 2019, the agriculture industry in Linn County employed approximately 1.0 percent of the Linn County population (work in the agriculture, forestry, fishing and hunting, and mining industry) (U.S. Census Bureau 2019).

Table 3.10-2 summarizes demographic data for Census Tract 19113010100, as well as Linn County and the state of Iowa. These data were compiled using 2020 census data (U.S. Census Bureau 2021a).

Table 3.10-2. Demographic Data for the State of Iowa, Linn County, and Census Tract 19113010100 (2020 Census Data)[1]

Location	Total Population [1]	Total Population by Race (Percentage of Total Population)						
		White	Black	American Indian or Alaskan Native	Asian	Native Hawaiian or Pacific Islander	Other	Two or More Races
State of Iowa	3,190,369	2,694,521 84.5%	131,972 4.1%	14,486 0.5%	75,629 2.4%	5,788 0.2%	88,720 2.8%	179,283 5.6%
Linn County	230,299	190,644 82.8%	16,449 7.1%	548 0.2%	5,374 2.3%	528 0.2%	3,019 1.3%	13,737 6.0%
Census Tract 19113010100	2,850	2,736 96%	8 0.3%	4 0.1%	0	0	7 0.2%	95 3.3%

[1] U.S. Census Bureau. 2021a. 2020 Census Demographic Data Map Viewer.

Demographic data for Census Tract 19113010100, which includes the Project area, indicate a predominantly white population (96%), which is a higher percentage in comparison to the white population in Linn County (82.8%) and the state of Iowa (84.5%) (U.S. Census Bureau 2021a). Minority populations comprise approximately 3.9% of the total population at the census tract level in comparison to 17.3 percent for Linn County (U.S. Census Bureau 2021a).

3.10.2 Environmental Consequences – Socioeconomics and Environmental Justice

Under the Proposed Action, the Project will be located on land leased to Coggon Solar by willing landowners. In addition, one private residence, located along a private driveway northeast of the Pering Ridge Road and Castle Lane intersection, will be purchased by Coggon Solar and will either be demolished or used as the project O&M facility. The proposed expansion of the Coggon Substation will occur on land already owned by CIPCO and no land acquisition will be required. No displacements will occur as a result of the Project. The income generated by the lease agreements provide an economic benefit to individual landowners. Coggon Solar is not aware of any job losses that will occur as a result of the Project. Therefore, no long-term or negative socioeconomic effects to landowners within the Project area are anticipated as a result of the Project.

No adverse effects to minority or low-income populations are expected as a result of the Proposed Action and no adverse effects were identified during development of this EA that will disproportionately impact minority or low-income populations.

Construction of the Project is anticipated to begin as soon as August 2022 and the Project is expected to begin operation by December 2023. During construction of the Project, the on-site workforce is anticipated to consist of approximately 100 to 200 employees monthly during the construction period, with labor requirements peaking at approximately 300 workers. The construction labor force will likely consist of both local and regional contractors to be determined closer to construction. During construction, local businesses such as those in Coggon and surrounding communities, will likely benefit from increased sales and revenue associated with the addition of construction workers in the vicinity of the Project, resulting in a short-term, beneficial effect to the local economy. In addition, it is anticipated that Linn County will receive an estimated $4,750,000 in property tax revenue over the 35-year life of the Project, a long-term beneficial economic effect.

Construction for the proposed Coggon Substation expansion is anticipated to begin June 2022 and be completed by February 2023. During construction activities, the on-site workforce is anticipated to be approximately 10 to 15 people per day during the peak construction period.

Operation of the Project under the Proposed Action will contribute to a reduction in fossil fuel usage within CIPCO's service territory over the life the Project through the generation of solar energy, which is expected to provide a long-term beneficial effect to local residents and CIPCO customers.

The Proposed Action will reduce fossil fuel use over the life of the Project through the generation of solar energy, a safe and reliable renewable energy source, providing a long-term beneficial effect to local residents and customers within CIPCO's service territory.

3.11 Noise

3.11.1 Affected Environment – Noise

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that interferes or disrupts normal activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. Reaction of individuals to similar noise events is diverse and influenced by numerous factors, such as the type of noise, its perceived importance, the time of day during which the noise occurs, its duration, frequency, level, and community attitudes towards the source of noise.

Sound level measurements are often reported using the 'A-weighting' scale of a sound level meter. Since the human ear does not respond equally to all frequencies (or pitches), measured sound levels are often adjusted or weighted to correspond to the frequency response of human hearing and the human perception of loudness. A-weighting slightly boosts high frequency sound, while reducing low frequency components providing a better indicator of perceived loudness at relatively modest volumes. These measurements are called A-weighted levels, (abbreviated dBA). Table 3.11-1 illustrates ranges of A-weighted levels for common noise sources.

Table 3.11-1. Common Sound Level/Sources and Subjective Responses

Thresholds/Noise Sources	Noise Level (dBA)	Subjective Evaluations
Human Threshold of Pain Carrier jet takeoff (50 ft)	140	Deafening
Siren (100 ft) Loud rock band	130	
Jet takeoff (200 ft) Auto horn (3 ft)	120	
Chain saw	110	
Noisy snowmobile		
Lawn mower (3 ft)	100	Very Loud
Noisy motorcycle (50 ft)		
Heavy truck (50 ft)	90	
Pneumatic drill (50 ft) Busy urban street, daytime	80	Loud
Normal automobile at 50 mph Vacuum cleaner (3 ft)	70	
Large air conditioning unit (20 ft) Conversation (3 ft)	60	Moderate

Thresholds/Noise Sources	Noise Level (dBA)	Subjective Evaluations
Quiet residential area Light auto traffic (100 ft)	50	
Library Quiet home	40	Faint
Soft whisper	30	
Slight rustling of leaves	20	
Broadcasting Studio	10	Very Faint
Threshold of Human Hearing	0	

Existing sources of noise in the vicinity of the Project are typical to those found in agricultural settings. Noise sources likely perceived at existing rural residences and farm operations include vehicle traffic on public roads and operation of farm equipment (e.g., tractors, plows, etc.).

3.11.2 Environmental Consequences - Noise

Construction of the Project as a result of the Proposed Action, including the Coggon Substation, will generate noise that will likely be audible at homes and along public roads within and surrounding the Project area. Noise levels will vary with each phase of construction depending on the construction activity and the amount or size of equipment used. Noise levels from the construction activities, including increased truck traffic noise during delivery of Project components, will occur primarily during daylight hours. Noise perceptible to surrounding residences and/or farm operations are anticipated to be similar to that of a typical road construction project and are not anticipated to be significantly louder than farm machinery operating on a nearby farm. Audible sounds may include heavy truck traffic, earthmoving equipment, or clanking metal tracks. Project effects to noise levels during construction are anticipated to be short-term and limited to the duration of Project construction activities. No long-term or significant adverse effect to noise levels will occur as a result of Project construction under the Proposed Action.

The two main sources of sound emissions from Project operation will be the inverter strings and associated transformers. The solar panels produce DC voltage which must be converted to alternating current (AC) voltage through a series of inverters. Solar energy facilities operate by converting solar radiation into electricity, meaning the Project will only produce electricity between sunrise and sunset. After sunset, the site no longer receives solar radiation, and the inverters will shift into stand-by mode.

The specific model of equipment proposed for the Project will not be determined until closer to construction. However, sound levels generated by inverters typically used for solar developments are approximately 71.5 dBA at distance of one meter (approximately three feet) (Delta Electronics 2021), which is roughly the equivalent of a normal automobile at 50 miles per hour or vacuum cleaner (see Table 3.11-1). Coggon Solar intends to use transformers with a low noise level (assumed to be approximately 25 dBA) (Prolec Energy 2021) in compliance with standards set forth by the National Electrical Manufacturers Association (NEMA). Therefore, sound generated as a result of operation of the solar facility is not anticipated to be significant at any sensitive receptors (i.e., homes) adjacent to the Project area. Following construction, no changes to existing noise levels are anticipated as a result of operation of the Coggon Substation (CIPCO, personal communication).

Potential effects to noise levels as a result of Project decommissioning will be similar to those experienced during construction. Other than short-term and localized noise during decommissioning, which will occur primarily during daylight hours, no significant adverse effect to noise levels will occur as a result of Project decommissioning.

3.12 Transportation

3.12.1 Affected Environment – Transportation

The Project area is bordered by Linn Delaware Road (County Road W63) to the north, Sutton Road to the west, and agricultural fields to the east; Coggon Road (County Road D62) intersects the Project area to the south (Figure 2, Appendix A). Robinson Road, Castle Lane, and Coggon Road separate sections of the Project area (Figure 2, Appendix A). Iowa Highway 13 services Coggon, Iowa approximately 2.8 miles east of the Project area.

County roads and gravel roads within the Project area are currently used by local residents and farmers, as well as people visiting or traveling through northern Linn County.

3.12.2 Environmental Consequences – Transportation

Within the Project area, construction access will primarily be from Coggon Road (County Road D62), Sutton Road, and Linn/Delaware Road (County Road W63) (Figure 2, Appendix A), though truck deliveries may also utilize Iowa Highway 13 east of the Project area.

Coggon Solar is currently coordinating with the Linn County Engineer to identify those roads to be used during all phases of the Project, including construction. Prior to construction, Coggon Solar will coordinate with the Linn County Engineer to conduct a pre-construction survey of public roads that may be impacted by construction of the Project to determine existing road conditions as required by the local zoning ordinance. All applicable permits related to transportation, including weight and size permits if required, will be obtained prior to construction. Coggon Solar will be responsible for on-going road maintenance identified by the Linn County Engineer during all phases of construction. Coggon Solar will immediately repair any damage to public roads stemming from Project activities. Therefore, no long-term, adverse effects to county and local roads are anticipated as a result of construction activities under the Proposed Action.

During construction, a temporary increase in traffic volume is anticipated along these roads. The increased traffic will occur primarily during daylight hours as a result of workers driving to and from the site, as well an increase in truck traffic to transport Project components, construction equipment, and construction materials to the Project area. Impacts to traffic patterns such as unreasonable congestion or unsafe conditions are not anticipated as a result of construction activities under the Proposed Action.

Once constructed, the Project will be operated remotely and will primarily be an unmanned facility. Up to three vehicles at a time could be present at the site at various times throughout the life of the Project; however, Project operations and maintenance traffic is expected to be minimal and will consist primarily of light duty trucks. Therefore, no adverse effects to county or local roads or traffic patterns are anticipated as a result of Project operation and maintenance under the Proposed Action.

Traffic conditions as a result of Project decommissioning are anticipated to similar to that experienced during Project construction. Therefore, no long-term adverse effects to local or county roads, or travel patterns, are anticipated as a result of Project decommissioning under the Proposed Action.

3.13 Human Health and Safety

3.13.1 Affected Environment – Human Health and Safety

3.13.1.1 Hazardous Materials

Stantec, on behalf of Coggon Solar, prepared a Phase I Environmental Site Assessment (ESA) report for the Project (Stantec 2021b). The Phase I ESA evaluated an approximately 755-acre study area that encompassed the current the Project area.
The Phase I ESA was conducted in conformance with the requirements of ASTM International (ASTM) Designation: E 2247-16 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forested and Rural Property and included a review of standard federal, state,

and tribal environmental records, standard historical records, and landowner interviews to investigate past and current land uses at the Project area or adjacent properties (Stantec 2021b). The purpose of the study is to provide information regarding Recognized Environmental Conditions (RECs) that have the potential to affect soil and groundwater quality at the site. The results of the Phase I ESA indicate no RECs in connection with the Project area (Stantec 2021b).

3.13.1.2 Health and Safety

Residents within and surrounding the Project area are served by the Linn County Sheriff's office, which provides public safety services throughout Linn County. The sheriff's office is located in Cedar Rapids approximately 32 miles south of the Project.

There are currently 38 fire departments that serve communities in Linn County (https://www.countyoffice.org/ia-linn-county-fire-departments/). The closest fire department to the Project area is the Coggon Fire Department, a volunteer fire department located approximately 2.8 miles east of the Project. The nearest hospital with an emergency room is located in Cedar Rapids; however, there are nine emergency medical service/ambulance providers that serve Linn County. including the Project area.

3.13.2 Environmental Consequences – Human Health and Safety

3.13.2.1 Hazardous Materials

The results of the Phase I ESA indicate no RECs in connection with the Project area (Stantec 2021b). Petroleum, oil, and lubricants will be used in the operation and maintenance of heavy construction equipment and vehicles during both construction and decommissioning, and some use of solvents and/or cleaners may occur as a result of Project operation and maintenance. In addition to implementation of a SWPPP to avoid and minimize effects to surface waters (i.e., streams) resulting from stormwater runoff or pollutants (see Section 3.4.2), Coggon Solar will implement a Spill Prevention Control and Countermeasure (SPCC) Plan which will outline measures for cleanup and management of any potential fuel or pollutant spills as a result of the Project. In addition, CIPCO developed a SPCC that outlines measures for cleanup and management of any potential spills of oil or other pollutants at the Coggon Substation. These measures will continue to be implemented as part of the proposed substation expansion.

The model of PV solar modules to be used for the Project has not yet been determined; however, it is anticipated the modules will consist of state-of-the-art monocrystalline silicon that do not contain hazardous materials as defined by the Resource Conservation and Recovery Act (RCRA). Although some solar modules are classified as hazardous waste under the RCRA, Coggon Solar is committed to using only Tier 1 and Tier 2 equipment that does not contain materials that meet the hazardous materials designation. The solar modules will not be comprised of hazardous materials, and therefore, the installation and operation of these modules is not anticipated to result in contamination of soil or groundwater. Therefore, no significant risks to human health and safety resulting from hazardous materials are anticipated as a result of the Proposed Action.

The Project is expected to operate for approximately 35 years from COD, at which time, the Project will be decommissioned (Appendix E). As a result of decommissioning, solar modules will be removed and either repurposed or recycled. The panels will be disposed of in accordance with applicable federal, state, or local laws and regulations, and will not be disposed of in Linn County.

3.13.2.2 Emergency Services

Police and/or fire protection will be needed for the Project area in the event of an emergency. Prior to construction activities, Coggon Solar will work with local emergency response agencies to develop an Emergency Management Plan for the Project. These agencies will include, but may not be limited to, the Linn County Sheriff's Office and the Coggon Fire Department. The plan will include Project-specific safety procedures and emergency contacts. Construction, operation and maintenance, and decommissioning of the Project under the Proposed Action is not anticipated to result in significant effects to emergency services within Linn County.

For public safety and security purposes, the perimeter of the Project will be surrounded by fencing. Secure access gates will be installed, and an on-site monitoring system will be managed remotely.

No significant adverse effects to existing emergency services are anticipated as a result of the Proposed Action.

4.0 Cumulative Effects

CEQ regulations define cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.70). Also, cumulative impacts are those "which when viewed with other reasonably foreseeable or proposed agency actions have cumulatively significant impacts" (40 CFR 1508.25(a)(2)).

Cumulative impacts occur when the effects of an action are added to the effects of other actions occurring in a specific geographic area and timeframe. The cumulative impact analysis presented below follows CEQ's guidelines (CEQ 1997).

4.1 Past, Present, and Reasonably Foreseeable Future Actions Relevant to the Cumulative Effects Analysis

The geographic scope of the cumulative effects analysis varies for each resource below and depends on the spatial extent of potential cumulative impacts. The temporal boundary for all resources is defined as the duration of Project operation anticipated to be 35 years from COD. Resources that will not be impacted by the Proposed Action, have beneficial effects, or are only subject to temporary effects were excluded from this analysis. For that reason, cumulative effects to the following resources were not analyzed due to the lack of long-term or adverse effects to these resources:

- Floodplain
- Wetlands
- Water Resources
- Coastal Resources
- Biological Resources
- Air Quality
- Socioeconomics and Environmental Justice
- Noise
- Transportation
- Human Health and Safety

Depending upon the geographic scope of the cumulative effects analysis areas (defined by resource area below), past, present, and reasonably foreseeable actions considered in the cumulative effects analysis for the Project included agricultural practices, land management, private development, urban development and urban sprawl, industrial development, and transportation projects.

In addition, power generation projects have also had an effect, including transmission lines and substations, conventional power plants, and a former nuclear power plant. One reasonably foreseeable future utility-scale energy project is the Duane Arnold Solar Project (NextEra Energy Resources 2021), proposed to be located north of the town of Palo, Iowa, approximately 15 miles southwest of the Project. Commercial operation of the Duane Arnold Solar Project is currently proposed to begin in August 2023.

4.2 Cumulative Effects Analysis by Resources

4.2.1 Land Use

The cumulative effects analysis area for land use is Linn County. This analysis area was chosen because the Linn County Comprehensive Plan (Linn County 2013) outlines the goals, objectives, and strategies identified for renewable energy and economic development in Linn County (see Table 3.1-2), and agricultural data are available at the county level.

Approximately 98% of the Project area consists of agricultural lands used for the production of rowcrops, and all Project infrastructure will be located in cropfields. Therefore, only effects to farmland were considered in the cumulative effects analysis for land use because that is the only land use type on which the Proposed Action will have an additive effect when combined with other past, present, and reasonably foreseeable future projects within the cumulative effects analysis area. It is assumed for the purposes of this analysis that all present and future projects will be developed in compliance with Linn County zoning requirements.

As of 2017, USDA Census of Agriculture data indicate a total of 324,507 acres of farmland within Linn County (USDA 2017) which is a 4% reduction in farmland since the 2012 census data. It is assumed that past actions (described in Section 4.1 above) may have had temporary or permanent impacts on farmland within Linn County. It is likely that present and reasonably foreseeable future developments in Linn County may also have temporary or permanent impacts to farmland.

The Proposed Action will result in the direct conversion of up to 640 acres of farmland (see Section 3.1.2) which represent 0.2% of the total farmland in Linn County (640 divided by 324,507 = 0.2%). Although implementation of the Proposed Action will result in the conversion of farmland to non-agricultural use over the life of the Project, effects to farmland are not anticipated to be irreversible. However, these effects when combined with other past, present, and reasonably foreseeable projects will result in a cumulative effect to farmland.

4.2.2 Historic and Cultural Properties

The cumulative effects analysis for historic and cultural properties included both archaeological resources and historic structures. The cumulative effects analysis area for each of these resources is different and each is described below.

Archaeological Resources

The cumulative effects analysis area for archaeological resources is the Project area given ground disturbance as a result of the Project will be limited to that area.

Past and present actions in the cumulative effects analysis area for archaeological resources consist primarily of farming practices (i.e., production of row crops). With the exception of the proposed expansion of the Coggon Substation included as part of the Proposed Action, no other reasonably foreseeable future actions are known within the cumulative effects analysis area for this resource.

One previously recorded archaeological site is located within the Direct APE (BCA 2021). However, no further work was recommended for this site, and it was determined Not Eligible for the NRHP (Rogers and Page as cited in BCA 2021). No archaeological sites were identified during investigations for the proposed Coggon Substation expansion (Louis Berger 2013 and Tallgrass Archaeology 2021). No direct or indirect effects to archaeological resources will occur as a result of the Proposed Action; therefore, no cumulative effects to archaeological resources will occur as a result of the Proposed Action.

Historic Structures

The cumulative effects analysis area for historic structures is the calculated viewshed of the Project, the analysis for which included a four-mile radius of the Project as shown in Appendix K. No direct effects to historic structures will occur as a result of the Project; therefore, the cumulative effects analysis in this section focuses on the potential for cumulative visual effects to historic properties within the analysis area.

Past and present actions in the cumulative effects analysis area for historic structures (e.g., construction of homes or structures, power generation projects, road improvements, farming practices, etc.) likely changed the visual landscape and may have resulted in visual effects to historic structures. Reasonably foreseeable future actions within the cumulative effects analysis area for historic structures include, but may not be limited to continued agricultural practices, construction of farm buildings or rural residences, and land management measures that may be implemented by private landowners. With the exception of the proposed expansion of the Coggon Substation included as part of the Proposed Action, no other reasonably foreseeable future actions are known within the cumulative effects analysis area.

To avoid adverse visual effects to historic structures within the calculated viewshed, Coggon Solar will implement vegetative screening (e.g., large shrubs, trees, etc.) as part of the Proposed Action. A vegetative screening concept is included in Appendix J. With the implementation of vegetative screening, no adverse effects to historic properties are anticipated as a result of the Proposed Action. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future actions is not anticipated to have an adverse cumulative visual effect to historic structures.

4.2.3 Aesthetics

The cumulative effects analysis area for aesthetics is the calculated viewshed for the Project, the analysis for which included a four-mile radius of the Project as shown in Appendix K. The landscape within the viewshed is dominated by agricultural fields used for the production of rowcrops (i.e., corn and soybeans).

For the purposes of this analysis, it is assumed that past and present actions in the cumulative effects analysis area for aesthetics (e.g., construction of homes or structures, power generation projects, road improvements, clearing of trees, etc.) likely resulted in changes to the visual landscape. Reasonably foreseeable future actions within the cumulative analysis area for aesthetics include, but may not be limited to continued agricultural practices, construction of farm buildings or rural residences, and land management measures that may be implemented by private landowners. With the exception of the proposed expansion of the Coggon Substation included as part of the Proposed Action, no other reasonably foreseeable future actions are known within the cumulative effects analysis area.

The Proposed Action will result in changes to the visual aesthetics within the cumulative effects analysis area over the 35-year life of the Project. As described above, individual reactions to aesthetic changes to the Project area are likely to range from no reaction or annoyance to strong reactions to the visual changes within the agricultural landscape. The reasonably foreseeable future actions that could occur within the analysis area (described above) are not expected to change the visual aesthetics of the analysis area; therefore, the Proposed Action, when combined with other reasonably foreseeable future actions will have a less than significant cumulative effect to aesthetics.

5.0 Summary of Mitigation

Coggon Solar and CIPCO (Coggon Substation only) intend to implement BMPs and other measures to avoid and minimize Project effects as a result of the Proposed Action. Avoidance and minimization measures for individual resources are described in the appropriate subsections of Chapter 3 and are summarized below. Other BMPs and minimization measures may be incorporated as the Project moves forward into final design.

- The Project will comply with all applicable federal, state, and local laws, regulations, and ordinances. All required federal, state, and local permits will be obtained prior to commencement of Project activities.
- The Project will comply with setback requirements set forth by Linn County.
- BMPs will be implemented during construction to avoid and minimize soil erosion and sedimentation.
- Coggon Solar and CIPCO (Coggon Substation only) will implement SWPPPs in compliance with Iowa DNR requirements to ensure that all ground disturbance is stabilized to prevent erosion and sedimentation resulting from stormwater runoff. Following construction, areas disturbed by construction will be restored as per the SWPPP and NPDES requirements.
- A Vegetation Management Plan has been developed in coordination with Linn County that identifies vegetation management measures to be implemented during operation and maintenance of the Project (see Appendix D), including measures to minimize the transport of non-native or invasive plant species to the Project site.
- Solar modules will be underplanted with a mix of low-growing native grasses and wildflowers intended to prevent erosion, replenish soil nutrients, and provide habitat for local pollinators.
- The current Project area was sited to avoid impacts to the 500-year floodplain. Permanent impacts to the 100-year floodplain were minimized to the greatest extent practicable. All applicable floodplain permit will be obtained prior to construction and all activities will be in compliance with applicable permit conditions.
- The current Project area was sited to avoid impacts to wetlands and streams to the extent practicable. All applicable permits will be obtained prior to construction.
- Prior to construction, Coggon Solar will coordinate with the Linn County Engineer to conduct a pre-construction survey of public roads that may be impacted by construction of the Project to determine existing road conditions as required by the local zoning ordinance. All applicable permits related to transportation, including weight and size permits if required, will be obtained prior to construction.
- Coggon Solar will implement a SPCC Plan which will outline measures for cleanup and management of any potential fuel or pollutant spills as a result of the Project. Existing measures in the SPCC for the Coggon Substation will continue to be implemented by CIPCO.
- Coggon Solar will work with local emergency response agencies to develop an Emergency Management Plan for the Project.
- For public safety and security purposes, the perimeter of the Project will be surrounded by fencing. Secure access gates will be installed, and an on-site monitoring system will be managed remotely.

Given the implementation of the avoidance and minimization measures listed above, no compensatory mitigation is warranted for any of the resources evaluated in Chapter 3 of this EA; therefore, no compensatory mitigation measures are proposed for the Project.

6.0 Coordination, Consultation, and Correspondence

As described in Section 1.4, Coggon Solar consulted with federal, state, and local agencies early in the NEPA process to solicit comments regarding potential impacts associated with the Project. Agency scoping letters were provided to the resource management agencies on the distribution list found in Appendix C. Copies of the consultation letters sent to resource management agencies and responses received to date are also provided in Appendix C.

6.1 Tribal Consultation

On April 21, 2021, the RUS invited six American Indian tribes with potential interests in the Project vicinity to participate in Project consultation pursuant to Section 106 of the NHPA. Letters were sent to inform the tribes of the Project and to solicit their comments pertaining to the Project, to their tribal lands or interests, or to properties of religious or cultural significance, and requested that they notify the RUS if they wanted to participate in the Section 106 process for the Project. Appendix J includes the letters sent to each tribe, as well as any responses received to date.

The Tribal Historic Preservation Officer (THPO) of the Miami Tribe of Oklahoma responded via email on May 5, 2021, requesting to participate as a consulting party in the Section 106 process for the Project. The letter also requested to be notified immediately if any human remains or Native American cultural items are discovered during any phase of the Project.

The RUS initiated the formal Section 106 process with the Miami Tribe of Oklahoma on November 4, 2021. A copy of the Phase I cultural resources report (BCA 2021) was submitted along with a letter indicating a Finding of No Adverse Effects to Historic Properties for the Project. A response was received from the THPO of the Miami Tribe of Oklahoma on February 2, 2022. This letter indicated no objection to the Project and again requested that the Miami Tribe of Oklahoma be notified immediately if human remains, or Native American cultural items are discovered during any phase of the Project.

6.2 Other Consultation

On April 14, 2021, Stantec, on behalf of RUS, emailed a letter inviting both the Iowa SHPO and the Iowa Office of the State Archaeologist (OSA) to participate in Section 106 (NHPA) consultation for the Project. Appendix J provides the initial consultation letters sent to both the Iowa SHPO and OSA, as well as their responses to date, which are summarized in this section.

An email response was received from Iowa SHPO on April 14, 2021, that indicated Project materials needed to be submitted electronically. The initial email along with a location figure was uploaded to the online system on April 14, 2021. An email response was also received from OSA on April 14, 2021, confirming OSA as an interested party. The letter provided information about known resources in the vicinity of the Project and provided guidance for archaeological surveys to be conducted at the Project.

The RUS initiated the formal Section 106 process with the Iowa SHPO on November 8, 2021 (Appendix J). A copy of the Phase I cultural resources report (BCA 2021) was submitted along with a letter indicating a Finding of No Adverse Effects to Historic Properties. This finding was contingent on implementation of vegetative screening to avoid potentially adverse visual effects to historic properties. A response was received from the SHPO via email on December 8, 2021, indicating concurrence with the Finding of No Adverse Effects with Conditions (i.e., implementation of vegetation screening). A preliminary concept for the vegetative screening is included in Appendix J. Coggon Solar will coordinate with the RUS once final design of the proposed vegetation screening is complete (anticipated closer to construction).

Coggon Substation

The RUS determined the 2013 substation project had No Adverse Effect to Historic Properties and the SHPO concurred with that finding on October 29, 2013 (Appendix J).

7.0 References

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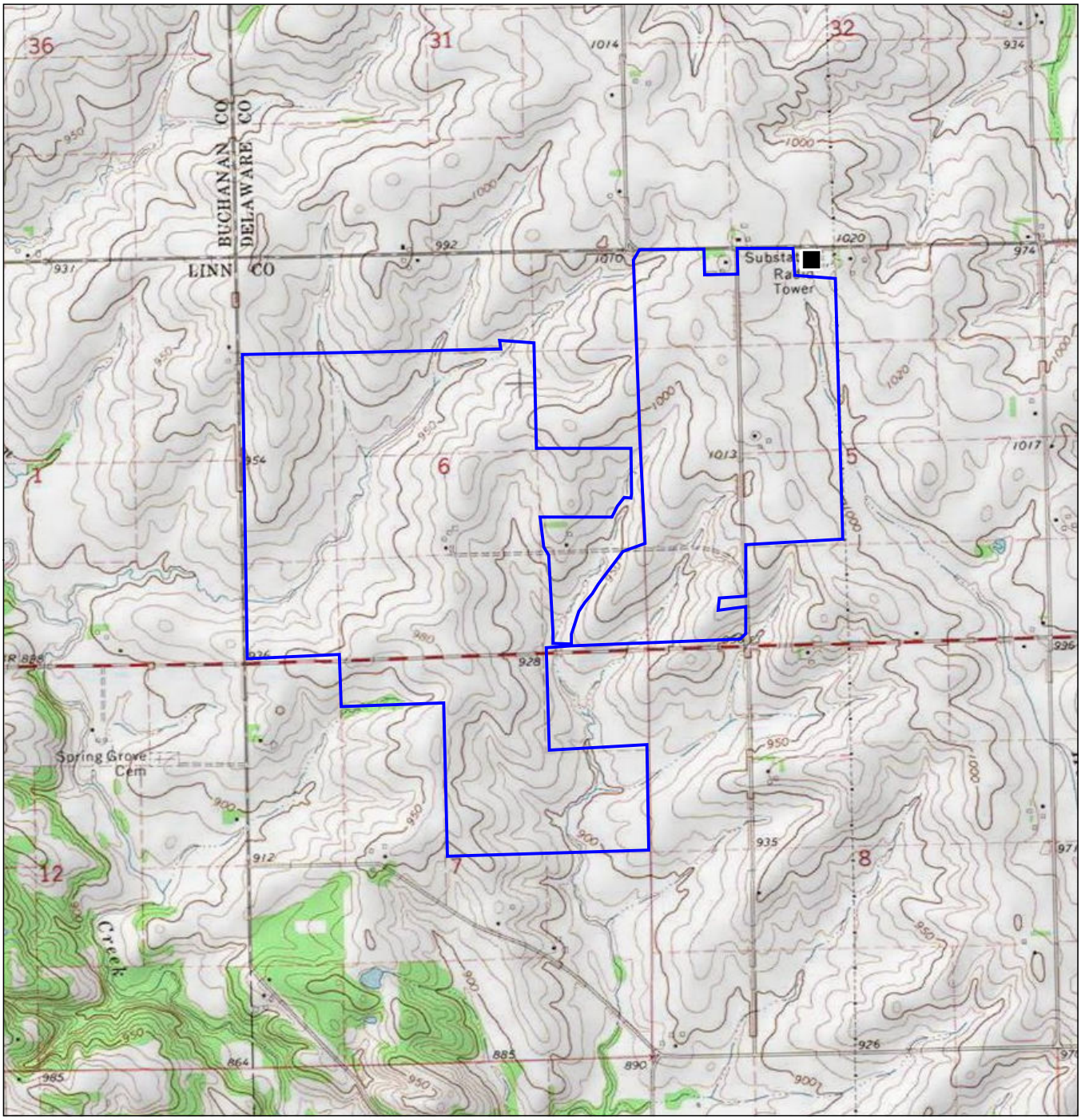
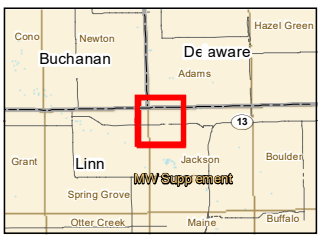
8.0 List of Preparers

Name	Title
USDA. Rural Utility Service	
Kristen Bastis	Environmental Protection Specialist/Archaeologist
Basia Howard	Acting Federal Preservation Officer/Deputy FPO
Charles Stephens	Acting Director of Environmental and Engineering Staff and Assistant Administrator Water and Environmental Programs
Coggon Solar, LLC	
Tom Fitzgerald	Director, Development
CIPCO	
William Sondermann	Manager of Engineering
Stantec Consulting Services Inc.	
Stacey Parks	NEPA Specialist/Stantec Project Manager
Sydney Edwards	NEPA Specialist
Beth Kramer	NEPA Specialist
Terry VanDeWalle	NEPA and Resource Specialist

Appendix A - Project Figures





Legend

- NEPA Analysis Area
- CIPCO's Coggon Substation (Point of Interconnect)

0 1,000 2,000 Feet

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N

Stantec

Notes

1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS
3. Background: USGS 7.5' Topographic Quadrangles

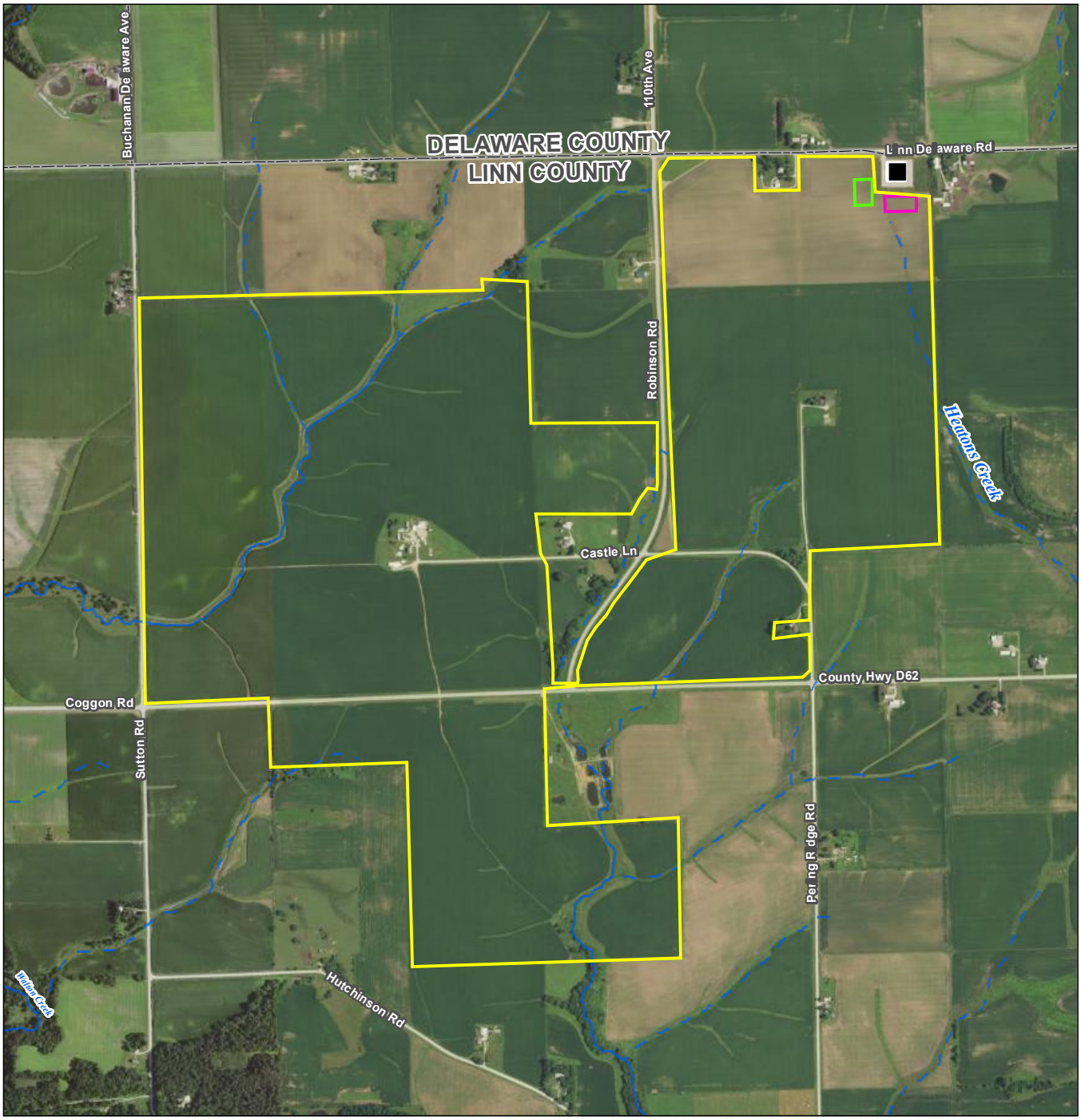
Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

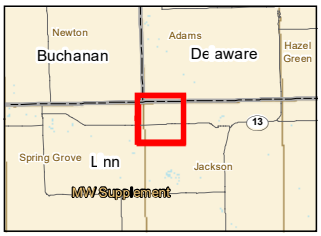
Prepared by RA on 2021-03-16
TR by AS on 2021-03-16
IR by SP on 2021-03-17

Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Figure No.
1

Title
Project Location





Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS
3. Background: 2019 NAIP

Legend
- NEPA Analysis Area
- CIPCO's Coggon Substation (Point of Interconnect)
- Project Substation Option #1
- Project Substation Option #2

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody

0 750 1,500 Feet
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Stantec

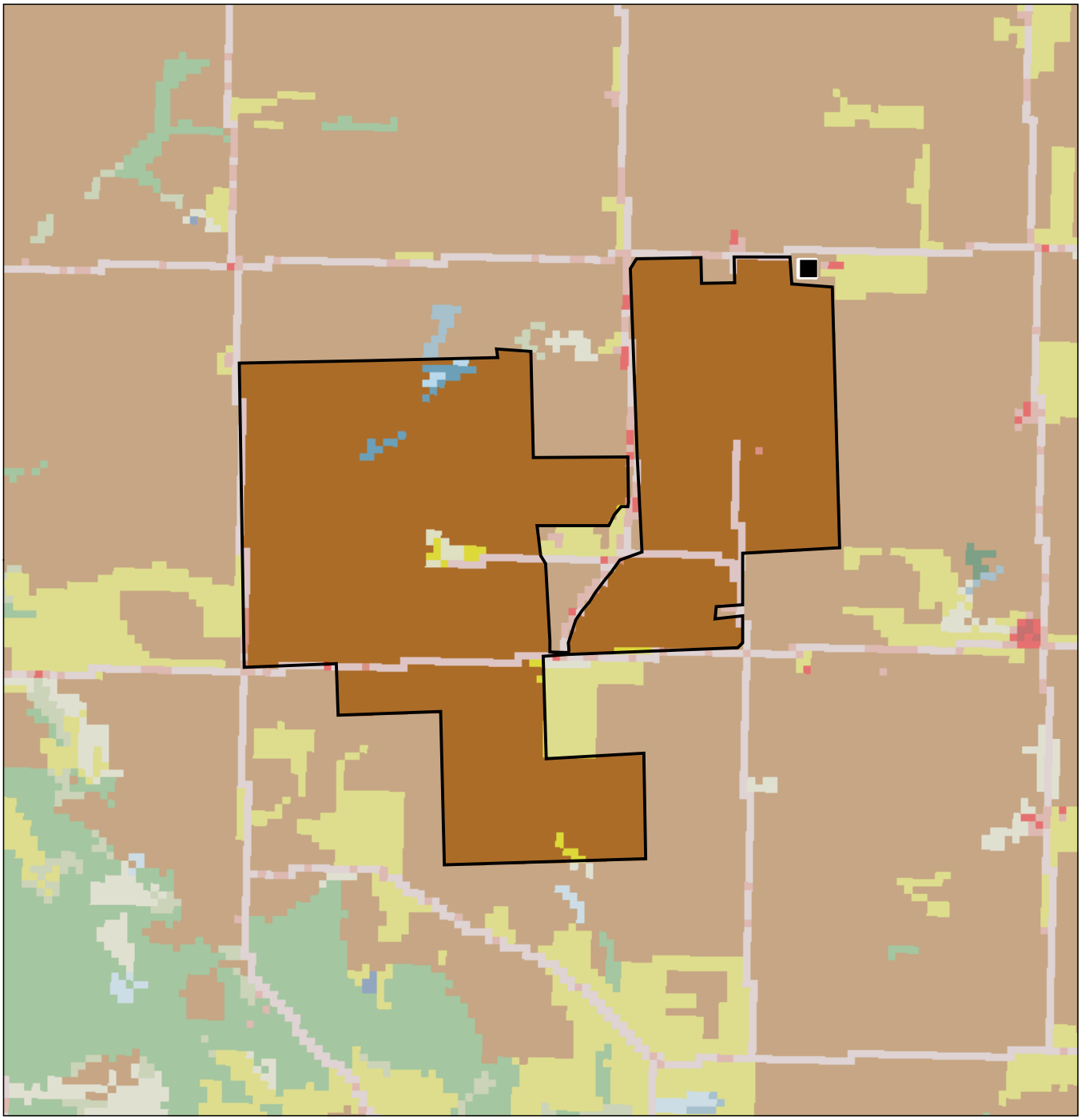
Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

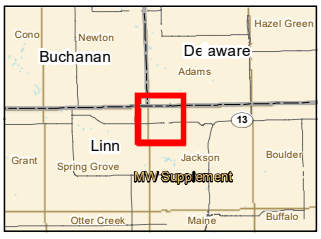
Prepared by RA on 2021-03-16
TR by AS on 2021-03-16
IR by SP on 2021-03-17

Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Figure No.
2

Title
Project Overview





Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS
3. Background: NLCD 2016

Legend

- NEPA Analysis Area
- CIPCO's Coggon Substation (Point of Interconnection)

NLCD 2016

- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Herbaceous
- Hay/Pasture
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

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Stantec

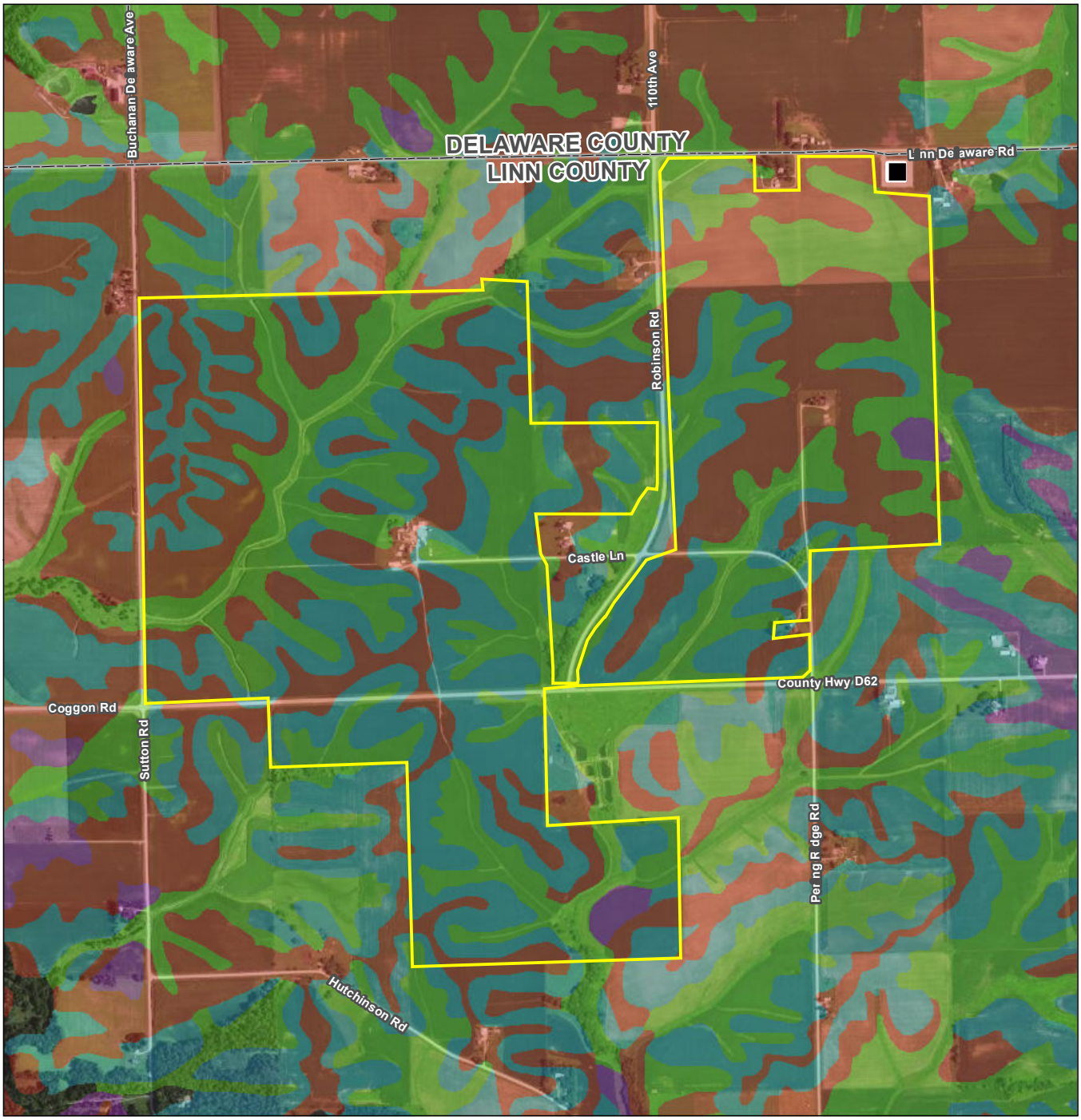
Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

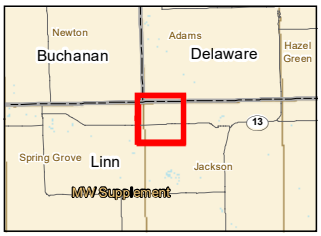
Prepared by RA on 2021-07-21
TR by AS on 2021-07-21
IR by SP on 2022-03-09

Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Figure No.
3

Title
National Land Cover Dataset





Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS, NRCS
3. Background: 2019 NAIP

Legend
- NEPA Analysis Area
- CIPCO's Coggon Substation (Point of Interconnect)

NRCS Soil Survey Data
Prime Farmland Classification
- All areas are prime farmland
- Farmland of statewide importance
- Prime farmland if drained
- Prime farmland if irrigated
- Not prime farmland

0 750 1,500 Feet
(At original document size of 8.5x11)
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Stantec

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

Prepared by RA on 2021-07-21
TR by AS on 2021-07-21
IR by SP on 2022-03-09

Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Figure No.
4

Title
NRCS Soil Survey Data
Prime Farmland Classification

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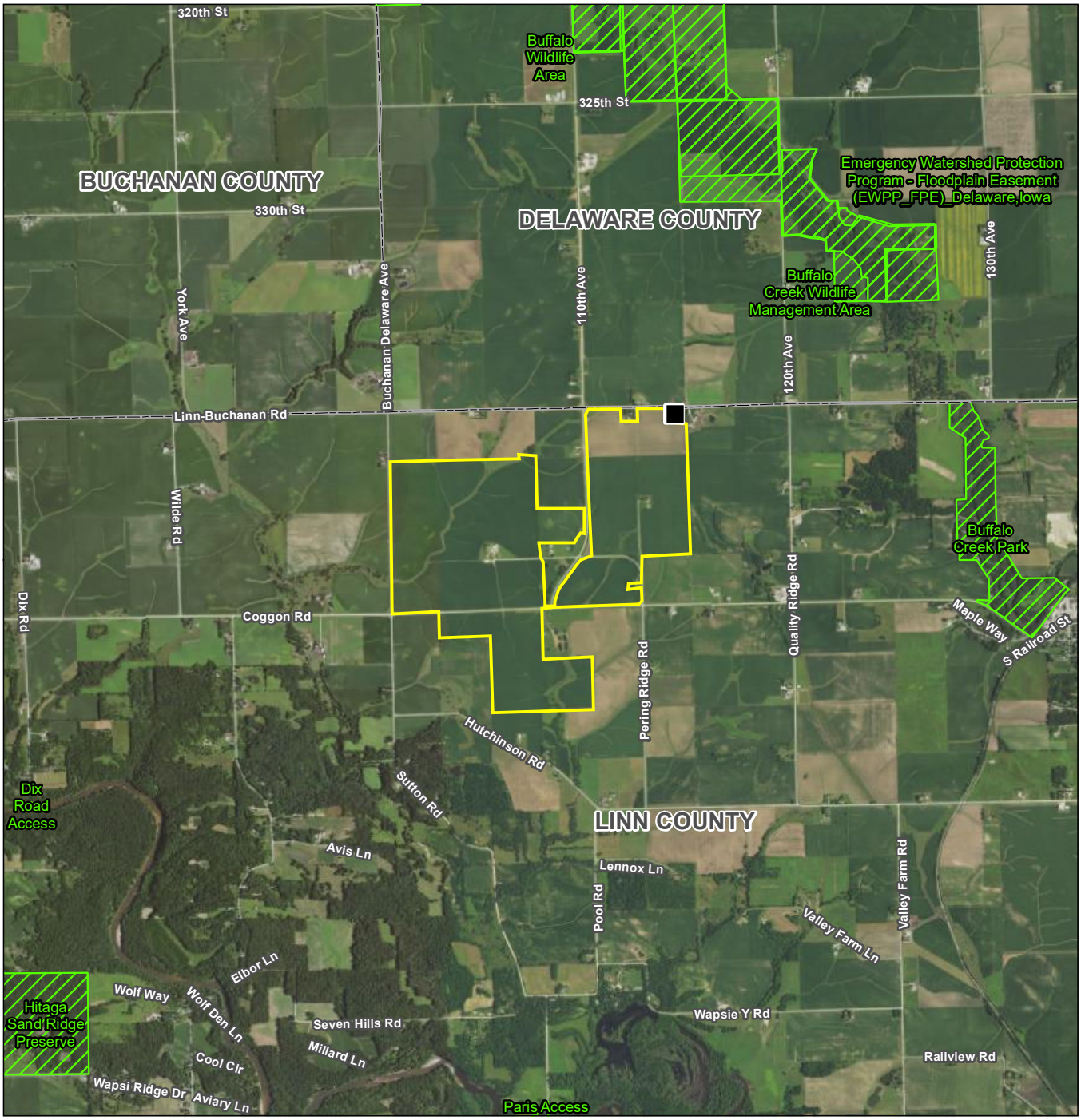

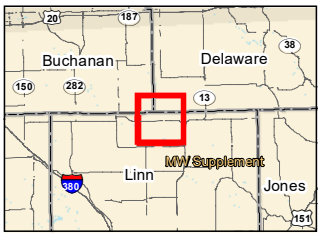

Legend

- NEPA Analysis Area
- CIPCO's Coggon Substation (Point of Interconnect)
- Managed Conservation Land

0 2,000 4,000 Feet

(At original document size of 8.5x11)
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Stantec

Notes

1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS, PAD-US
3. Background: 2019 NAIP

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

Prepared by RA on 2021-07-21
TR by AS on 2021-07-21
IR by SP on 2022-03-09

Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Figure No.
5

Title
Managed Conservation Lands

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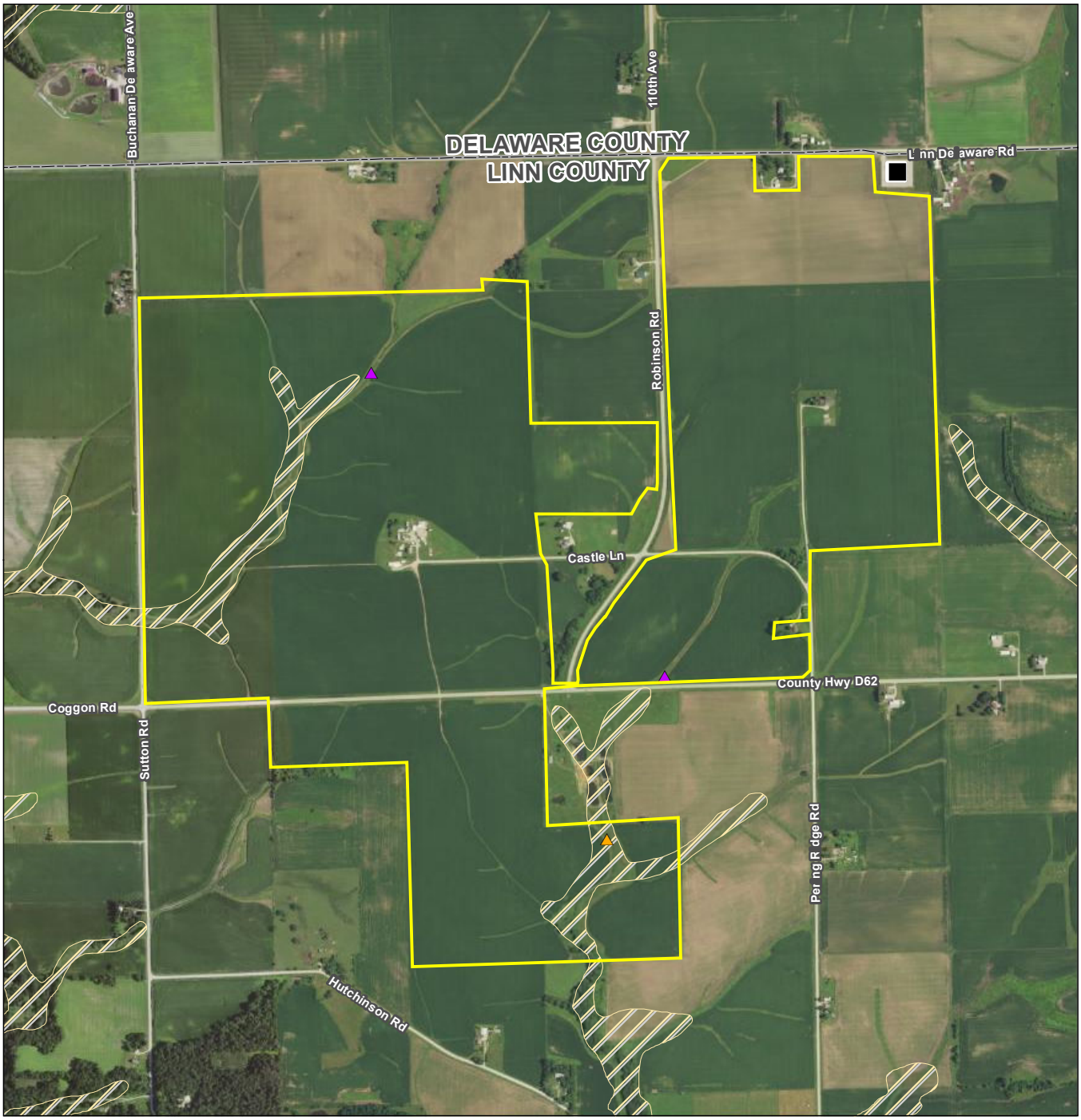

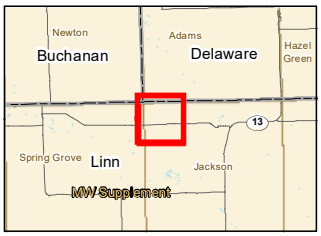

Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS, FEMA
3. Background: 2019 NAIP

Legend
- NEPA Analysis Area
- CIPCO's Coggon Substation (Point of Interconnect)
- Proposed Permanent Stream Crossing
- Proposed Temporary Stream Crossing

FEMA Flood Hazard Area
- 100-year Floodplain
- 500-year Floodplain*
- Floodway*

*No features within data frame

0 750 1,500 Feet

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N

Stantec

Project Location	Prepared by RA on 2021-07-21
T86N, R6W, S5, 6, 7, 8	TR by AS on 2021-07-21
T. of Jackson, Linn Co., IA	IR by SP on 2022-03-09

Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Figure No.
6

Title
FEMA Flood Hazard Area

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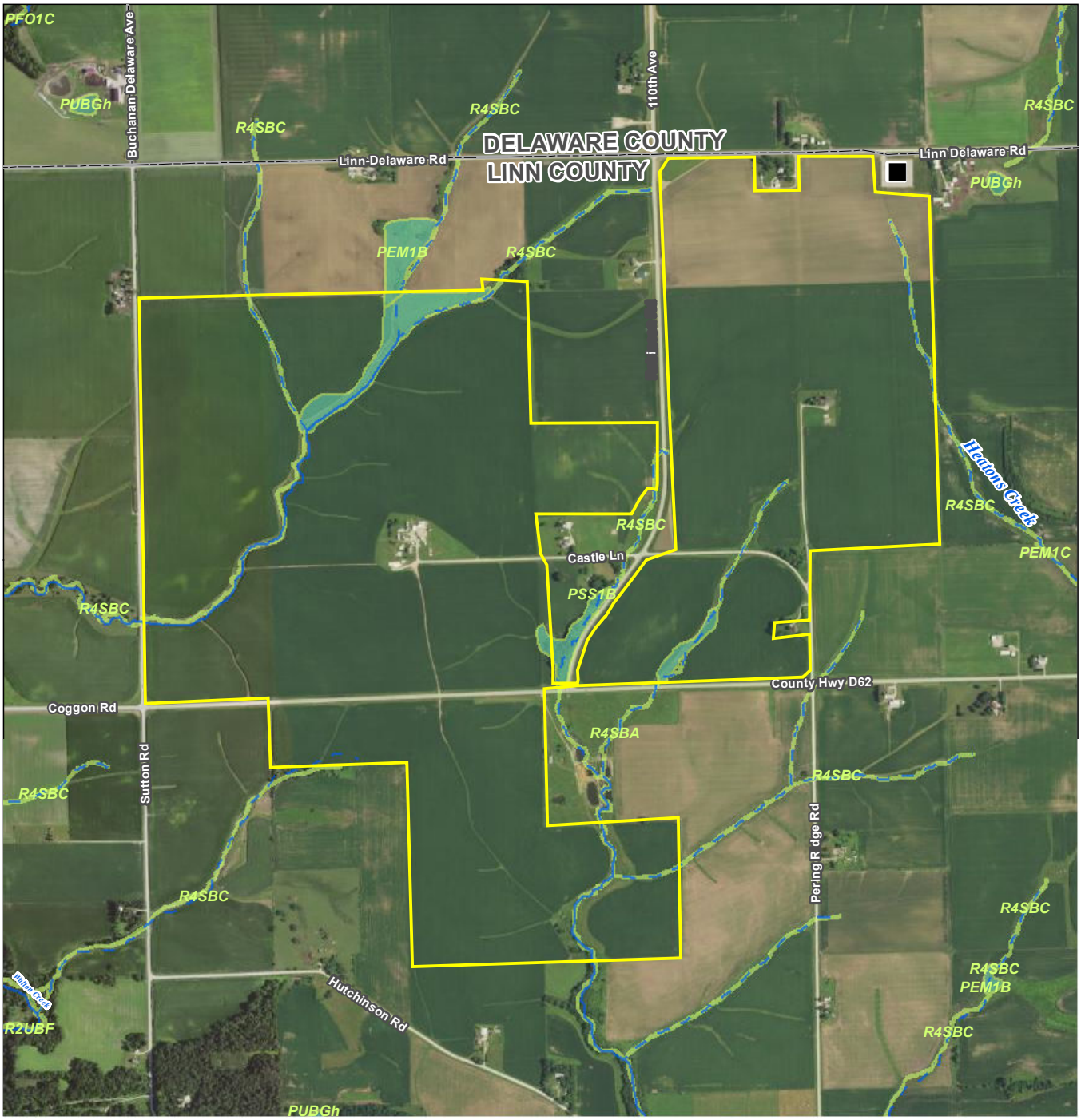

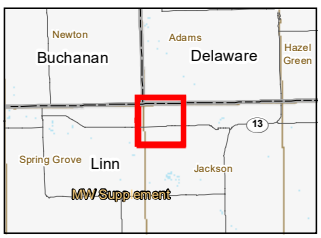

Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS, USFWS
3. Background: 2019 NAIP

Legend
- NEPA Analysis Area
- CIPCO's Coggon Substation (Point of Interconnect)
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody*

0 750 1,500 Feet
(At original document size of 8.5x11)
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Stantec

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

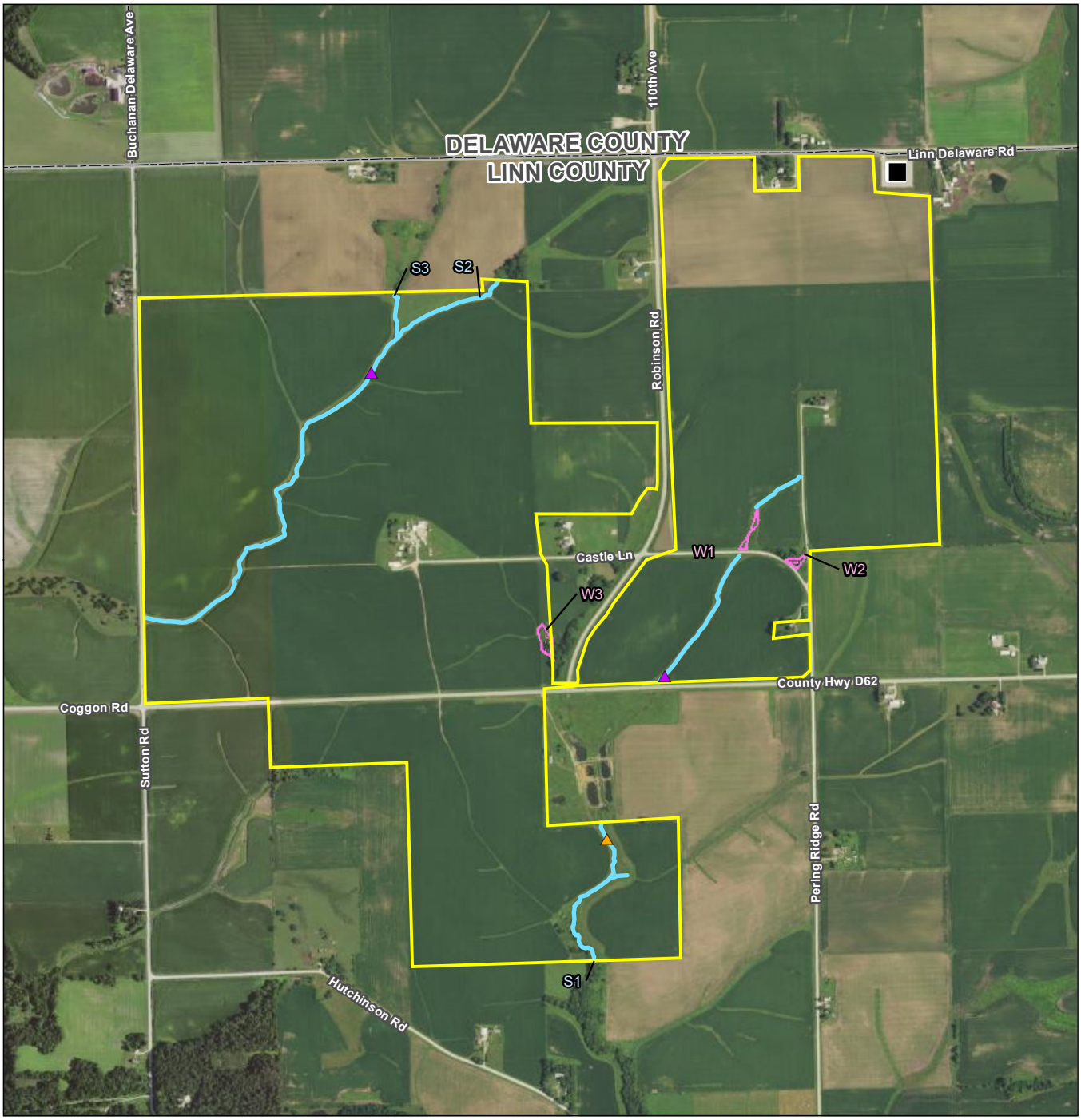
Prepared by RA on 2021-04-05
TR by JDP on 2021-04-08
IR by SP on 2021-05-03

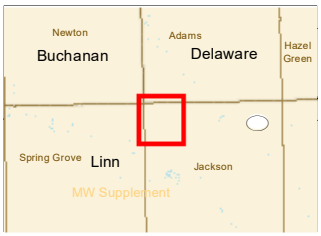
Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Figure No.
7

Title
National Wetlands Inventory Data

*No features within data frame





Legend

- NEPA Analysis Area
- CIPCO's Coggon Substation (Point of Interconnect)
- Proposed Permanent Stream Crossing
- Proposed Temporary Stream Crossing
- Field Delineated Waterway
- Field Delineated Wetland

0 750 1,500 Feet

(At original document size of 8.5x11)
1:18,000

N

Notes

1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS
3. Background: 2019 NAIP

Stantec

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

Prepared by RA on 2021-08-26
TR by MZ on 2021-08-26
IR by SP on 2022-03-09

Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Figure No.
8

Title
Wetland Delineation and Stream Data

Appendix B – Photographs of Typical Solar Arrays

Appendix C – Agency Coordination

Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

U.S. Army Corp of Engineers
Rock Island District
Clock Tower Building
P.O. Box 2004
Rock Island IL 61204-2004

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

To **Whom it May Concern**,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. In accordance with the RUS National Environmental Policy Act (NEPA) guidance, the Project will require the preparation of an Environmental Assessment (EA, 7 CFR Part 1970 C), biological and cultural studies and related state and federal permitting. Stantec Consulting Services Inc. (Stantec) has been retained to assist Coggon Solar with the preparation of the NEPA document, as well as to complete pre-construction environmental studies required for planning and construction of the Project. The purpose of this letter is to formally introduce the Project and request information specific to the Project area in order to identify environmental or other constraints early in the NEPA process.

Project Background

Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019 and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

Project Description

This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

Stantec, on behalf of Coggon Solar, respectfully requests that you review the enclosed maps and identify any issues associated with the Project as they relate to your area of expertise. Upon completion of your review, we ask that you please send a written response to either of the addresses below, stating specific findings, concerns or further requirements. So that we identify any potential issues early in the NEPA process, we would appreciate your response within 30 days of your receipt of this letter; however, all responses received will be addressed in the NEPA document and kept as part of the Project record. If you require any further information such as Geographic Information System (GIS) shape files or other maps, please do not hesitate to contact us. Comments and questions can be submitted to:

Stacey Parks
Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202
Independence, IA 50644
Email: stacey.parks@stantec.com

Tom Fitzgerald
Coggon Solar, LLC
P.O. Box 2576
Boise, Idaho 83701
Email: tom.fitzgerald@clenera.com

Regards,

STANTEC CONSULTING SERVICES INC.

Stacey Parks
Senior Scientist/Associate
Phone: (319) 327-0457
stacey.parks@stantec.com

cc: Tom Fitzgerald, Coggon Solar, LLC

Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

Federal Aviation Administration - Central Region
901 Locust Street
Kansas City MO 64106-2641

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

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Email: stacey.parks@stantec.com

Tom Fitzgerald
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P.O. Box 2576
Boise, Idaho 83701
Email: tom.fitzgerald@clenera.com

Regards,

STANTEC CONSULTING SERVICES INC.

Stacey Parks
Senior Scientist/Associate
Phone: (319) 327-0457
stacey.parks@stantec.com

cc: Tom Fitzgerald, Coggon Solar, LLC

Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

U.S. Department of Agriculture
Iowa Natural Resources Conservation Service State Office
Neil Smith Federal Building
210 Walnut Street, Rm. 693
Des Moines IA 50309

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

To **Whom it May Concern**,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. In accordance with the RUS National Environmental Policy Act (NEPA) guidance, the Project will require the preparation of an Environmental Assessment (EA, 7 CFR Part 1970 C), biological and cultural studies and related state and federal permitting. Stantec Consulting Services Inc. (Stantec) has been retained to assist Coggon Solar with the preparation of the NEPA document, as well as to complete pre-construction environmental studies required for planning and construction of the Project. The purpose of this letter is to formally introduce the Project and request information specific to the Project area in order to identify environmental or other constraints early in the NEPA process.

Project Background

Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

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2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

USDA Natural Resources Conservation Service
Marion Service Center
Helen Leavenworth, District Conservationist
891 62nd Street
Marion IA 52302

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

Dear Ms. Leavenworth,

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2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

U.S. Fish and Wildlife Service
Iowa/Illinois Ecological Services Field Office
1511 47th Avenue
Moline IL 61265

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

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March 31, 2021

U.S. Environmental Protection Agency - Region 7 (Midwest)
NEPA Scoping Notice
11201 Renner Blvd
Lenexa KS 66219

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

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Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

Iowa Department of Natural Resources
Wallace State Office Building
502 E 9th Street, 4th Floor
Des Moines IA 50309

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

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Stantec Consulting Services Inc.
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March 31, 2021

Iowa Utilities Board
1375 E Court Ave
Des Moines IA 50319

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

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cc: Tom Fitzgerald, Coggon Solar, LLC

Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

Linn County Board of Supervisors
935 2nd Street SW
Cedar Rapids IA 52404

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

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Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019 and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

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Stantec, on behalf of Coggon Solar, respectfully requests that you review the enclosed maps and identify any issues associated with the Project as they relate to your area of expertise. Upon completion of your review, we ask that you please send a written response to either of the addresses below, stating specific findings, concerns or further requirements. So that we identify any potential issues early in the NEPA process, we would appreciate your response within 30 days of your receipt of this letter; however, all responses received will be addressed in the NEPA document and kept as part of the Project record. If you require any further information such as Geographic Information System (GIS) shape files or other maps, please do not hesitate to contact us. Comments and questions can be submitted to:

Stacey Parks
Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202
Independence, IA 50644
Email: stacey.parks@stantec.com

Tom Fitzgerald
Coggon Solar, LLC
P.O. Box 2576
Boise, Idaho 83701
Email: tom.fitzgerald@clenera.com

Regards,

STANTEC CONSULTING SERVICES INC.

Stacey Parks
Senior Scientist/Associate
Phone: (319) 327-0457
stacey.parks@stantec.com

cc: Tom Fitzgerald, Coggon Solar, LLC

Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

Linn County Conservation
10260 Morris Hills Road
Toddville IA 52341

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

To **Whom it May Concern**,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022.

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2300 Swan Lake Boulevard, Suite 202
Independence, IA 50644
Email: stacey.parks@stantec.com

Tom Fitzgerald
Coggon Solar, LLC
P.O. Box 2576
Boise, Idaho 83701
Email: tom.fitzgerald@clenera.com

Regards,

STANTEC CONSULTING SERVICES INC.

Stacey Parks
Senior Scientist/Associate
Phone: (319) 327-0457
stacey.parks@stantec.com

cc: Tom Fitzgerald, Coggon Solar, LLC

Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

Linn County Planning and Development
Charlie Nichols, Planning Manager
935 2nd Street SW, First Floor
Cedar Rapids IA 52404

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

Dear Mr. Nichols,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022.

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Stacey Parks
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2300 Swan Lake Boulevard, Suite 202
Independence, IA 50644
Email: stacey.parks@stantec.com

Tom Fitzgerald
Coggon Solar, LLC
P.O. Box 2576
Boise, Idaho 83701
Email: tom.fitzgerald@clenera.com

Regards,

STANTEC CONSULTING SERVICES INC.

Stacey Parks
Senior Scientist/Associate
Phone: (319) 327-0457
stacey.parks@stantec.com

cc: Tom Fitzgerald, Coggon Solar, LLC

Stantec Consulting Services Inc.
2300 Swan Lake Boulevard, Suite 202, Independence, IA 50644

March 31, 2021

City of Coggon, Iowa
P.O. Box 79
Coggon IA 52218

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

To **Whom it May Concern**,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022.

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Email: stacey.parks@stantec.com

Tom Fitzgerald
Coggon Solar, LLC
P.O. Box 2576
Boise, Idaho 83701
Email: tom.fitzgerald@clenera.com

Regards,

STANTEC CONSULTING SERVICES INC.

Stacey Parks
Senior Scientist/Associate
Phone: (319) 327-0457
stacey.parks@stantec.com

cc: Tom Fitzgerald, Coggon Solar, LLC

From: Stewart, Vee (FAA)
To: Parks, Stacey
Subject: !!!Stacey 319-327-0457 (questions on filing for a solar farm)
Date: Monday, April 5, 2021 2:46:55 PM
Attachments: image001.png

Good afternoon again Stacey,

I am the correct contact for this project. Please share my contact info as needed. I will help the e-filer determine if this project exceeds the FAA's notice criteria and if it does what locations are to be e-filed.

Thank you,

Vee Stewart, Airspace Specialist: IA, KS, MO, NE, WI
FAA Obstruction Evaluation Group, AJV-A520
Office: 816-329-2508
https://oeaaa.faa.gov

In administering 14 CFR Part 77, the FAA's prime objectives are:
To promote air safety and the efficient use of navigable airspace.

"The time is always right to do what is right." Dr. Martin Luther King, Jr.

MissionSupport

From: Leavenworth, Helen - NRCS, Marion, IA
To: Parks, Stacey
Subject: Coggon Solar project
Date: Wednesday, April 7, 2021 10:42:23 AM

Hi Stacey:

Thank you for your letter requesting information on behalf of Coggon Solar for NEPA issues. Since the USDA-NRCS is not the lead agency on the program you are applying for, I cannot assist with the NEPA documentation for the project.

Sincerely,

Helen Leavenworth

NRCS District Conservationist
891 62nd St, Marion, IA 52302
Linn County, IA
Office Phone: 319-377-5960 x3
Cell Phone: 319-290-2541

From: Dillard, Sean M CIV USARMY CEMVR (USA)
To: Parks, Stacey
Subject: RE: 2021-0563
Date: Monday, April 26, 2021 2:18:22 PM

You're not requesting an AJD just somewhat of a pre-application statement?

From the gist of it, looks like there's some streams in your project area, and it's not uncommon for streams like this to have fringe/adjacent wetlands on them. Just attempt to keep your stream/wetland impacts to a minimum, which shouldn't be too difficult. Looks like you got lots of open upland space between the streams. We can authorize you a permit with up to 0.1 acres of Waters of the U.S. impact without the need for mitigation. Anything greater than that will require you to mitigate for.

Sean Dillard

Regulatory Biologist
Army Corps of Engineers
Des Moines Field Office, Rock Island District
309-794-5379

From: Parks, Stacey <Stacey.Parks@stantec.com>
Sent: Monday, April 26, 2021 2:11 PM
To: Dillard, Sean M CIV USARMY CEMVR (USA) <Sean.M.Dillard@usace.army.mil>
Cc: Tom Fitzgerald <tom.fitzgerald@clenera.com>
Subject: [Non-DoD Source] RE: 2021-0563

Hi Sean –

Thanks for email. The letter was sent out as a part of early agency coordination for the Coggon Solar Project to identify any potential environmental issues early in the NEPA process being conducted for the USDA Rural Utilities Service.

Stantec is working with Coggon Solar LLC to prepare the NEPA document, but also to conduct field studies for the Project. This Project area is about 750 acres right now, and there are two perennial streams mapped within the current Project area. A wetland delineation is underway for the Project, including a field evaluation of streams.

Once the delineation is complete and potential impacts to wetlands and waterways are known, I expect there will be additional coordination with your office to determine the need for a 404/401 permit. In the meantime, if you have any comments or questions based on the preliminary information I sent you, feel free to reach out anytime. I look forward to working with you.

Thanks,

Stacey Parks

Associate/Senior Scientist

Mobile: 319 327-0457
Stacey.Parks@stantec.com

Stantec
2300 Swan Lake Boulevard Suite 202
Independence IA 50644-9708

From: Dillard, Sean M CIV USARMY CEMVR (USA) <Sean.M.Dillard@usace.army.mil>
Sent: Monday, April 26, 2021 1:43 PM
To: Parks, Stacey <Stacey.Parks@stantec.com>
Subject: 2021-0563

Good afternoon Ms. Parks,

I'm reviewing an AJD request our office received recently. Do you have a wetland delineation or other such field determinations for streams/wetlands for this project? It appears to be a rather large project area with potentially jurisdictional streams throughout it.

Sean Dillard
Regulatory Biologist
Army Corps of Engineers
Des Moines Field Office, Rock Island District
309-794-5379

December 15, 2020

DUSTIN THOMPSON
CLENERA, LLC
800 W MAIN STREET #900
BOISE, ID 83702

RE: Environmental Review for Natural Resources 2020-1295ER-01
Potential Solar Energy Facility Project: Coggon Solar Project
Linn County

Dear Mr. Thompson:

Thank you for inviting the Department's comments on the impact of this project. The Department has searched records for state- and federal-listed endangered or threatened species, rare natural communities, sensitive habitat, and state lands and waters in a proposed project area. Recommendations based on the Department's review of records and data available at the time of this request follow.

There is a small fen wetland straddling the line between the NE quarter and the NW quarter of the NE quarter of Section 6, T86NR6W, Linn County associated with a unit of muck soil in a pasture. It is recommended to avoid this site.

The Department recommends to establish and maintain native vegetation around the solar panels that is beneficial to pollinators. This would include flowering plants with blooming windows that cover the entire growing season.

In order to try to reduce the potential for bird collisions, it is recommended that the panels be constructed with white edges to break up the reflection of each panel.

The Department has searched Natural Areas Inventory records for the project area and found no site-specific records of rare species or significant natural communities that could be impacted by this project. However, Department data are not the result of thorough field surveys. These species are associated with several habitats, including wooded river and stream corridors, prairie remnants, and wetlands. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required.

Although the Department does not regulate solar farms, there are concerns regarding potential adverse impacts to wildlife populations associated with these farms beyond mortality associated with collisions. Given the possibility of habitat avoidance, the Department strongly recommends a one mile buffer between facilities and natural resource areas, including riparian corridors.

This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include comment from the Environmental Services Division of this Department. This letter does not constitute a permit. Other permits may be required from the Department or other state or federal agencies before work begins on this project.

Please reference the following DNR Environmental Review/Sovereign Land Program tracking number assigned to this project in all future correspondence related to this project: 2020-1295ER-01.

If you have questions about this letter or require further information, please contact me at (515) 725-8464.

Sincerely,

Seth Moore
Environmental Specialist
Conservation and Recreation Division

February 19, 2021

BROWNWINICK LAW
ATTN: JAMES PRAY
666 GRAND AVENUE
SUITE 2000 RUAN CENTER
DES MOINES, IA 50309

RE: Environmental Review for Natural Resources on Solar Farms
Clenera, LLC Solar Farm
Linn County

Dear Mr. Pray,

In response to a request for an Environmental Review for Natural Resources, the Iowa Department of Natural Resources (DNR) will search records for state- and federal- listed endangered or threatened species, rare natural communities, sensitive habitat, and state lands and waters in a proposed project area. The Department received a request to review the Clenera, LLC Solar Farm on September 23, 2020 and issued our response letter on December 15, 2020. The DNR does not regulate solar farms and can only provide recommendations. As you have noted, these are "recommendations"; they are not legally enforceable requirements. Speaking specifically to your points in your February 9, 2021 email regarding the environmental review letter that was issued:

1. Third Paragraph: This is a recommendation for native vegetation plantings that are beneficial to pollinators around the solar panels. There were no specific plans in the review request that stated exactly what would or would not be planted around the solar panels. Since this was the case, the DNR felt that this recommendation was warranted. If it is the case that a diverse assortment of native species will be planted and maintained, then no further concerns are merited regarding this recommendation. Additionally, please note that this recommendation is consistent with cooperative, voluntary efforts to support recovery of Monarch populations. The Monarch was recently classified as a Candidate for listing under the federal Endangered Species Act following the United States Fish and Wildlife Service's determination that listing under the Act is warranted but precluded by other priorities at this time. If the Monarch population continues to decline, it may be listed in the future, at which time federal protections for Monarchs and their habitat may become a regulatory issue for energy projects. As such, it is in all of our interests to take voluntary steps now to help recover the Monarch and support pollinators generally. For additional information, see the Iowa Monarch Consortium's Iowa Monarch Conservation Strategy at: https://monarch.ent.iastate.edu/

2. Fourth paragraph: The DNR made this recommendation based on its current knowledge of solar panels and the information provided in the review request. If the solar panels that will be used have lower reflectivity, and no current studies indicate higher bird loss, then the DNR has no further concerns on this aspect of the project;

3. Sixth Paragraph: This recommendation is based on DNR's current understanding of solar panel impacts to animal species that may be present at natural resource areas or riparian corridors next to solar farms. Any development close to these areas can have an impact on the animals that reside there or migrate through. In order to alleviate the potential risk that could be associated with this development we included buffer recommendations in the review letter.

The DNR seeks out the best available information on solar projects that it can find and provides a review that includes input from staff from several different parts of the DNR. If there are additional resources or knowledge about solar projects and impacts to natural resources, the DNR will review these sources and update our review criteria as applicable.

Please reference the following DNR Environmental Review/Sovereign Land Program tracking number assigned to this project in all future correspondence related to this project: 2020-1295.

If you have questions about this letter or require further information, please contact me at (515) 330-6432.

Sincerely,

Seth Moore
Environmental Specialist
Conservation and Recreation Division

From: Parks, Stacey
To: cityclerk@coggonia.org; Tom Fitzgerald
Cc: "Heather Beeh"
Subject: RE: Proposed Coggon Solar Project
Date: Monday, April 5, 2021 11:44:00 AM

Hi Brenda –

Thanks for your response. The substation referenced in the letter is owned by Central Iowa Power Cooperative (CIPCO), and it is a 161kV transmission level substation.

Please make sure to let us know if you have any further questions, and Tom can provide additional details, as needed.

Thanks again,

Stacey Parks
Associate/Senior Scientist

Mobile: 319 327-0457
Stacey.Parks@stantec.com

Stantec
2300 Swan Lake Boulevard Suite 202
Independence IA 50644-9708

From: cityclerk@coggonia.org <cityclerk@coggonia.org>
Sent: Monday, April 5, 2021 10:44 AM
To: Parks, Stacey <Stacey.Parks@stantec.com>; tom.fitzgerald@clenara.com
Cc: 'Heather Beeh' <heather.beeh@gmail.com>
Subject: Proposed Coggon Solar Project

Dear Stacey,

The City received your letter outlining the above project which will be 2.8 miles west of Coggon. In this letter you stated that the proposed project site was selected due to its proximity to the "Coggon Substation" which in the letter says immediately northeast. Coggon has a municipal light plant and has two substations but neither are in the area you have mentioned, they are both located within City limits. Is it possible that ITC owns that and refers to it as a Coggon substation?

Thank you,
Brenda Quandt
City Clerk
City of Coggon
319-435-2314
Pop. 658
Coggonia.org.

Appendix D - Vegetation Management Plan

Vegetation Management Plan: Coggon Solar Project

Coggon Solar LLC

10/1/2021

Table of Contents

Contents

Project Owner & Site Location

Coggon Solar Project
Coggon, Linn County, IA

The Coggon Solar Project site is located approximately 2.75 miles west of the Town of Coggon, situated in the immediate vicinity where the boarders of Linn County, Delaware County, and Buchanan County meet. Linn-Delaware Road is to the north of the Project, Sutton Road is to the west, with Coggon Road separating the northern and southern portions of the Project. The total area leased by Coggon Solar LLC is approx. 750 acres, of which 640 acres will constitute the Project site.

Owner: Coggon Solar LLC
800 W. Main Street, Suite 900
Boise, ID 83702

Contacts:

Layne Ashton
Development Manager
Tel. (801) 473-6090
layne.ashton@clenera.com

Tom Fitzgerald
Director of Development
(415) 562-7675
tom.fitzgerald@clenera.com

Introduction

Coggon Solar is committed to minimizing negative impacts to soil on the Project site so that in the future, the site may be returned to active agricultural production. This vegetation management plan will, among other things: assist in maintaining, and even improving good soil conditions; aid in appropriate drainage of the site; provide food for wildlife; to prevent wind and water erosion; and otherwise stabilize the soil. The Project has coordinated with the USDA County's Natural Resources Conservation Service to identify native plant species to be used to at the site to accomplish the foregoing listed items.

The Coggon Solar Project (Project) will be developed, constructed, and operated by Coggon Solar LLC (Coggon Solar), with the assistance from Clenera, LLC ("Clenera"), its development and management partner. Clenera is a utility-scale solar energy company headquartered in Boise, Idaho. Combining breakthrough technology with a deeply integrated team approach, Clenera provides reliable, affordable energy systems and helps its partners become clean energy leaders in their communities. Clenera's current operating portfolio exceeds 1.6 GW, with more than 14 GW of solar and storage assets in development. Learn more at www.clenera.com.

Construction of the Coggon Solar Project is anticipated to begin in Q1 2022, with a projected Commercial Operation Date ("COD") of December 2022.

Project Description

The Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules that will be used for the Project do not contain hazardous materials that are called out by the Resource Conservation and Recovery Act (RCRA). The modules will be mounted on single-axis trackers, which rotate along a North-South axis to track the sun movement from the East in the morning to the West in the evening.

It is expected that there will be approximately 325,000 PV modules at the site. The solar modules will be connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161kV for interconnection to the transmission system at the adjacent CIPCO Coggon substation.

Site Overview & Conditions

Land use within the Project site is dominated by agricultural fields used for the production of row crops.

The Project site is located on relatively flat land with varying topography and slopes primarily between 1% and 5%, though there are locations where the slopes reach roughly 9%. The

terrain generally slopes to the south.

Concerning drainage, the western portion of the site generally drains to the southwest towards Walton Creek, and the central portion generally drains south also towards Walton Creek. A small portion of the northeastern parcel drains southeast following Heatons Creek.

Based on Web Soil Survey data available through the U.S. Department of Agriculture, two major soil units are mapped across the site: Kenyon Loam (approximately 48% of the project area), and the Clyde-Floyd complex (32%). A number of smaller units were mapped on site, such as Floyd loam, Dickinson fine sandy loam, Spart loamy find sand, and Readlyn silt loam, among others. Specific to the geotechnical work performed at the site (soil borings), the subsurface conditions generally consist of sandy lean clay with varying amounts of silt and gravel. The clay was typically soft to medium stiff in the upper 5 to 10 feet, and stiff to very stiff below that. Clayey sand with varying amounts of gravel was also encountered in isolated areas on the site. Groundwater was observed in several of the soil borings as shallow as 12 feet below ground surface. Seasonal fluctuations in groundwater are expected, and perched groundwater may be or at least near the ground surface during seasonally wet periods

The planned reintroduction of native grasses, sedges, and forbs (wildflowers) suited to the soil conditions found at the Project site will provide several vital benefits including: 1) soil health will be improved as the soil 'rests' and the prairie matures; and 2) nutrients will be restored back into the soil and allow healthy microorganisms to flourish.

Native Seeding Requirement

Chapter 107 of the Linn County Unified Development Code – Renewable Energy Overlay District calls for the use of native flowering species to be included in the seed mix.

Vegetation Plan Purpose

The principal vegetative goal of the Project is to seed with all native species to create and maintain perennial, primarily native vegetation throughout the site that does not interfere with solar energy production and transmission and minimizes the amount of invasive species found on site.

The use of single-axis tracking modules with a base edge of approximately 17.5 inches will allow for diversity of native habitat while avoiding shading of the panels from plant growth.

The native plant community will increase pollination to nearby crops; provide healthy foraging habitats for pollinating insects and other animals; require less maintenance and less mowing; promote soil stabilization; reduce erosion; and ultimately reduce the sediment load in nearby ditches and streams. In addition, the native habitat will reduce overland runoff by capturing stormwater on site and allow the extensive root systems of native plants to naturally filter runoff into the ground, reducing offsite water flow. Of note, unlike contemporary row crop

farming, the planned native habitat will not require the application of any fertilizers throughout the life of the Project, further improving the quality of the water in the watershed.

Seeding Overview

Native prairie and wetland species provide low maintenance vegetation that will not require fertilizer, amended soils or irrigation on the Project site. Grasses, sedges and forbs will be selected based on their ecological appropriateness to the conditions of this site, are native to the region and chosen with consideration of their mature height to avoid interference with panel productivity. For the Project site, all grasses and sedges used throughout the site will be low growing (<17.5" mature height) to ensure they do not interfere with solar energy production. The 17.5" inches will allow for diversity of native habitat while avoiding shading of the panels from plant growth.

The seeding mix will include native grasses and sedges below the planned solar arrays and in between the rows. Areas outside of the planned perimeter fence, if there are any, along with select areas inside the fence may be seeded with grasses, sedges, and wildflowers that qualify as pollinator friendly solar and beneficial habitat or used for agricultural production.

Because the array area will be seeded with only grasses and sedges, management/removal of any unwanted broadleaf plants is much easier than in a mixed prairie setting. Unwanted plants in the array would include non-native invasive plants or any plant whose height interferes with solar production. This will allow for increased diversity when creating the perimeter grass and forb mixes if there is an outside of the fence perimeter area. If any forbs migrate into the array areas and become a shading issue on the panels, they can easily be removed via appropriate management techniques (e.g., spot spraying with broadleaf specific herbicide). This is not expected to be a significant issue and all efforts will be made to minimize herbicide use.

If selected, the inclusion of some taller forbs outside the array areas can greatly increase the eligible species for the seed mixes, enhancing forb diversity and strengthening the pollinator forage capacity of the site while also allowing maximum solar energy generation capacity from the Project.

Invasive Species Prevention During Construction

Preventing new infestations of invasive species is important on any restoration site and solar sites are no different. The following Best Management Practices shall be implemented by construction contractors associated with the Project and apply to all equipment and materials coming to and from the Project site:

Before arriving at or leaving the Project site, inspect equipment and remove visible plants, seeds, mud, and dirt clods; and

While on the Project site and moving to and from different areas, reasonable efforts will be made to remove visible plants, seeds, mud, and dirt clods; and

Construction materials imported to the Project site including any soil, erosion control products, and seed mixes shall be free of invasive species, if possible.

If new invasive species are found on the Project site, the appropriate maintenance/management personnel shall be notified. This Vegetation Management Plan will be amended as necessary with the approved restoration industry response to the invasive species, e.g., physical removal and/or appropriate, limited herbicide use.

Recommended Native Seed Mixes

The USDA Natural Resource Conservation Service (NRCS) has provided the recommended native seed mixtures cited in this Site Vegetation Plan. The Natural Resources Conservation Service will approve modifications to its recommended seed mixtures on an as needed basis for purposes such as addressing concerns relating to costs, availability, installation, and maintenance objectives.

As the recommended seed mixture has been provided by NRCS, it is expected that the species specified in the Project's seed mixes are tolerant of the current and expected soil conditions found throughout the Project site and will provide habitat area for wildlife and native insects.

Seed Mixes

Grasses, sedges, and wildflowers provide long-term stability and structure to the landscape and help fill voids that would otherwise be ripe for weed invasion. Not insignificantly, grasses/sedges also provide excellent habitat for birds and nesting insects. Native wildflowers provide the critical forage of nectar and pollen for native insects including bees and butterflies as well as providing host plants for their egg laying. In addition, the native vegetation will reduce overland runoff by allowing the extensive root systems of native plants to naturally filter it into the ground, increasing the absorption of the site from its current use.

It is important to note that the species recommended by NRCS for the Project site are based on their ability to successfully establish from seed as well as their ability to thrive within the unique conditions found on solar sites. Per NRCS, the seed list is a combination of well-performing, workhorse species coupled with smaller amounts of more unique species for a robust mixture. However, the availability and pricing does change and adjustments to the seed mixes may be required when the Project begins construction, and the site is ready for seeding.

Seeding Installation Procedures

This section describes appropriate procedures for Project site preparation, soil preparation, and seeding techniques for installing native plant seed on a site of this size and with the expected site conditions.

Site Preparation for Vegetative Cover:
A cover crop will be seeded prior to the start of construction to provide soil stabilization, to comply with construction stormwater discharge permitting and SWPPP, as well as to control

erosion and reduce muddy conditions during construction. The cover crop may contain rye, spring wheat or oats and/or other typical seed mixtures used for construction purposes. Grading of the Project development area will be completed prior to seeding or soil preparation activities being completed.

Reasonable efforts shall be used to ensure that soil compaction is prevented and/or mitigated as appropriate.

Construction debris, garbage and building materials will be removed and/or staged outside the intended seeding areas.

An herbicide application will be completed using glyphosate (Round-up® or equivalent) as per manufacturer's directions in areas with undesirable vegetation growing. Follow the manufacturer's directions before disturbing the soil or completing seeding activities. In wetland and basin areas an aquatically approved (by US EPA as per label) substitute shall be used.

When broadleaf vegetation is present a triclopyr herbicide will be added (Garlon 3A® or equivalent) as per manufacturer's directions. When a broadleaf herbicide is used allow a minimum of 30 days before disturbing the site or completing seeding.

All herbicides will be applied according to manufacturer's directions by licensed herbicide applicators utilizing appropriate ground-based application equipment under acceptable weather and site conditions to minimize any aerial drift or overland movement of herbicide.

Disk and harrow soil taking into consideration as to how this will be accomplished under and between the arrays, in preparation for seeding.

Seeding:
Following the site preparation steps described above, native seed will be applied using a spreader appropriate for seeding between array rows and under the modules.

To the extent possible, especially under the arrays, a final round of harrowing will be completed after the seeding of the native grasses and cover crop.

Lastly, the wildflower and sedge seed (where appropriate) will be broadcast onto the soil under and between the arrays and rows using an appropriate seeding technique.

Project construction will commence and be completed in 2022. The selected seeding contractor will confirm final soil conditions. Permanent seeding will follow installation of access roads, foundations, PV panels, final grading, and buried wiring as it is completed. Based on Project construction timing, seeding with native seed mixes plus a cover crop will occur in 2022.

Two to four mowing trips may be necessary and will be determined by inspection of vegetation growth, local weather conditions and virulence of invasive species. The number and time of mowing applicable to Project site conditions will be determined and completed accordingly. Mowing during this stage of development is meant to keep the native seedlings from being shaded out and to keep weeds from seeding out and proliferating. Herbicide application is not recommended during the first or second growing seasons because prairie seedlings are still establishing and susceptible to inadvertent kill by herbicide use.

Vegetation Reporting & Management

For optimal performance of the solar modules and for maintaining desirable vegetation at the site, the services of a site Vegetation Management Contractor (VMC) will perform mowings and weed prevention as needed. The VMC will monitor and document the condition of vegetation on the Project site, as well as any significant deviations in vegetative growth. This information will be documented in a summary report by the VMC . The report will also include photographs or video of both the vegetation and site condition. Copies of reports, photographs and videos will be provided to the NRCS. During visits, the VMC will manage the minimal use of herbicide chemicals, approved for use by NRCS, and in accordance with product application instructions, and in accordance with local, state, and federal laws. The VMC will also monitor growing conditions at the site.

During the germination year, the Project development areas seeded in native habitat will be mowed to control annual weed development and to aid in the growth of the prairie seedlings by reducing shade competition and prevent weeds from setting seed. Optimum cutting height is typically 4 to 6 inches this first year. In the geographic location of the Project, typically 2-4 mowings may need to be completed depending on time of seeding and growing conditions at the Project site. The mowing will be done using a flail mower or similar, finely mulching the clippings to prevent smothering of young plants.

In years following the first full growing season Integrated Vegetation Management (IVM) services are utilized to control annual, biennial and perennial weed species within the developing native landscape. The previous year's report will help to guide maintenance activities for the following year. This is referred to as an "adaptive management" strategy, where on-site conditions dictate the management activities that are required.

A weed for purposes of this project is any non-native invasive plant, any plant that interferes with the establishment of the planted seed mixes, or any plant that interferes with solar production. Typical IVM services include spot herbicide spraying and spot mowing. In general, mowing is used to control annual and biennial weeds that are presenting problems with prairie establishment whereas spot spraying is used on perennial weed species that are or have the potential to become problematic. The equipment commonly used on solar sites this size are small tractors and ATVs mounted with appropriate equipment.

On natural prairies, the management tool of fire accomplished this maintenance much faster but was largely human initiated. As the tool of fire cannot be used to maintain installed vegetation at solar projects, flail mowers are used to chop the biomass into small particles, depositing it as fertilizer for the next growing season. This is done near the end of year five and then every three to five years from the initial mowing. This can spur seed germination and add growth of desirable shorter plants within the prairie while reducing biomass. In the event that flail mowing insufficiently reduces biomass at the Project site, Coggon Solar will identify and use an alternate management option. Spot herbicide treatments are a modern tool in reducing non-natives so the prairie can naturally fill in and take over as designed.

Attachment A: Area Map

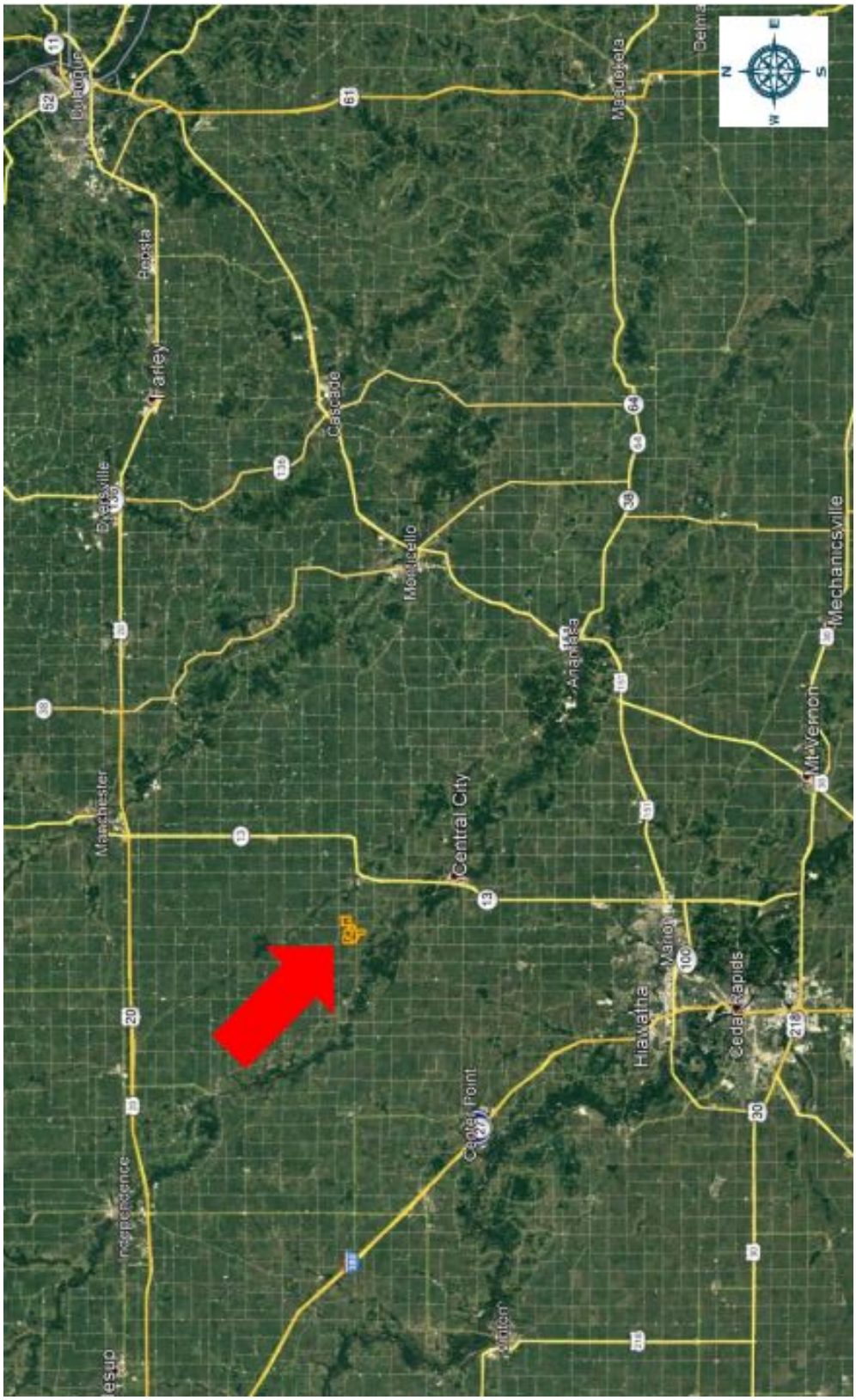
Attachment B: Site Location Map

Attachment C: Soils Map

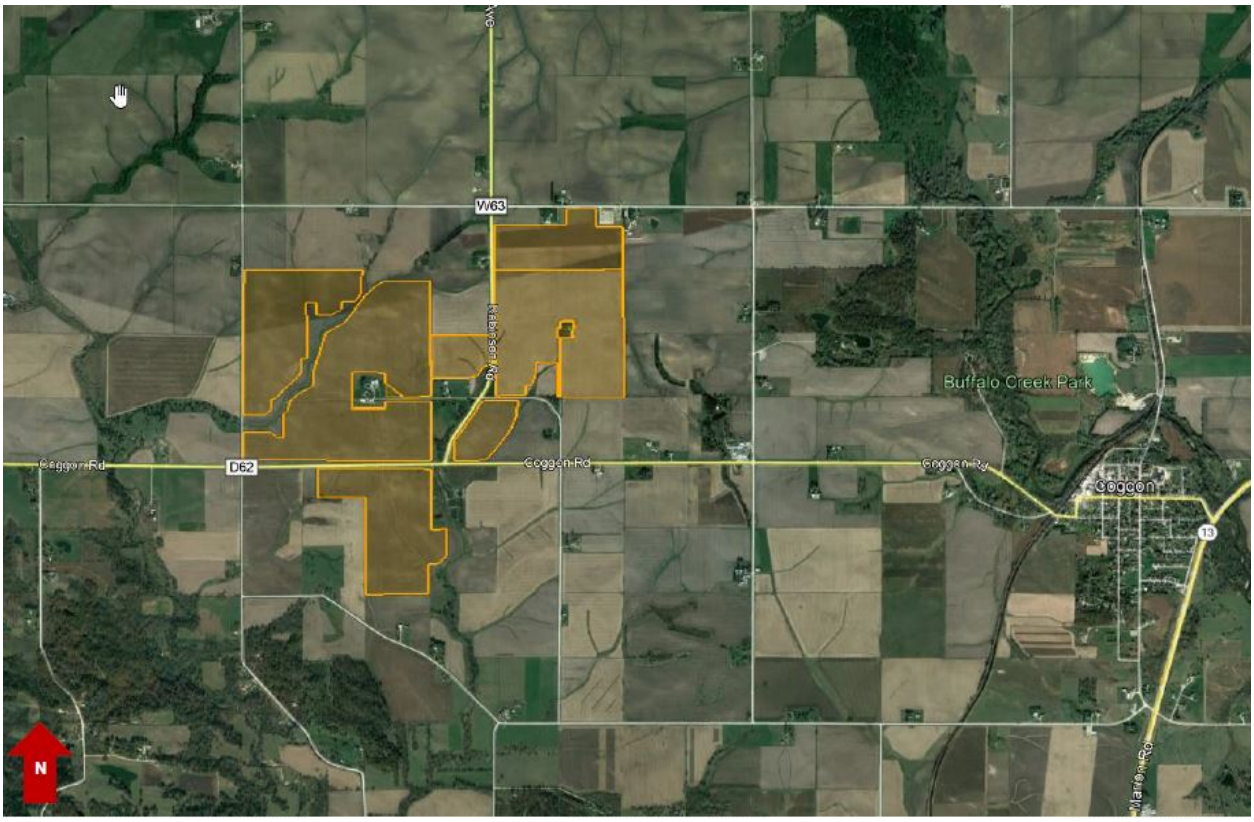
Attachment D: Vegetation Reporting Form

Attachment E: Recommended Seed Mix for solar array area

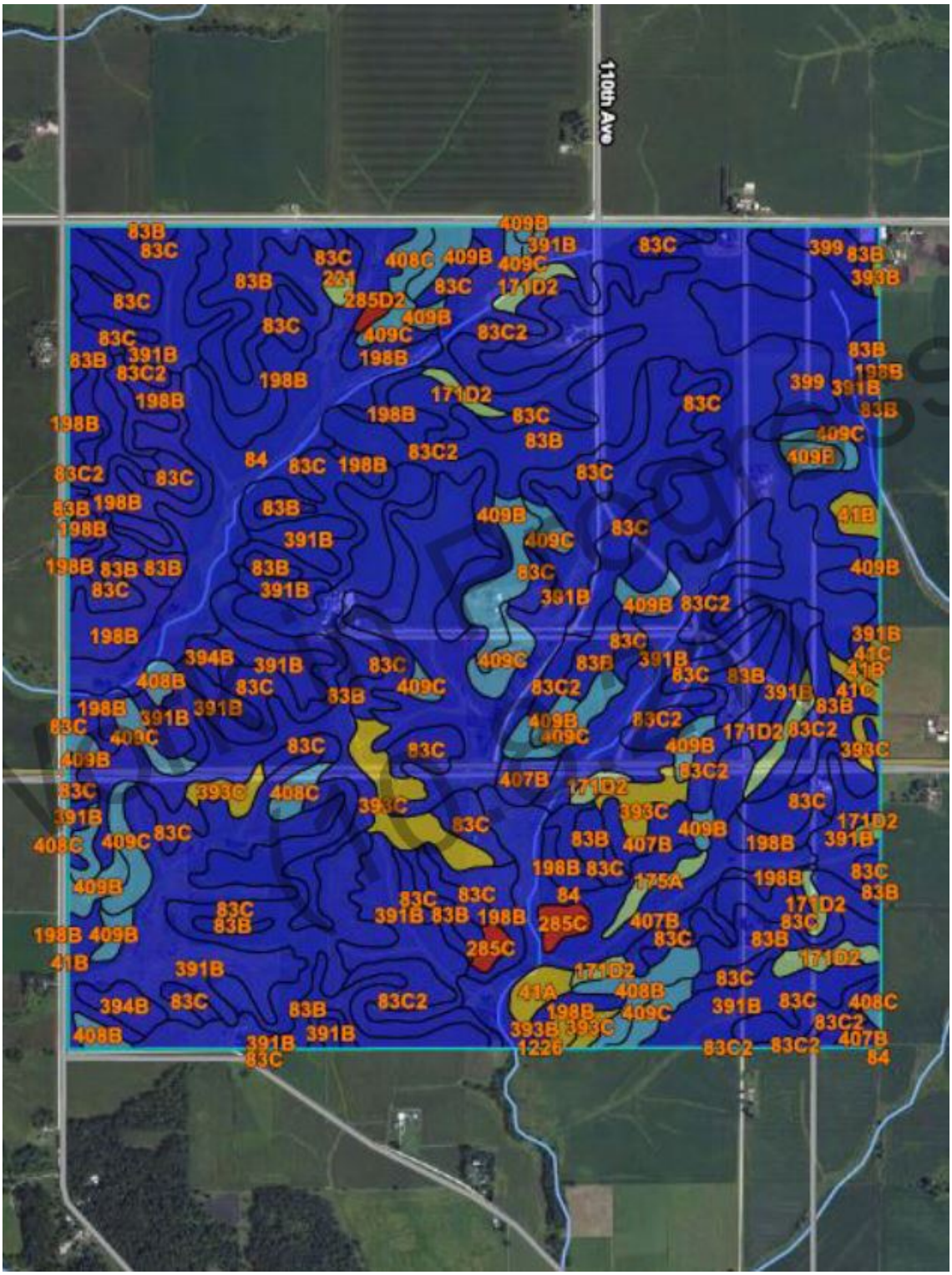
Attachment A: Area Map



Attachment B: Site Location Map



Attachment C: Soils Map



Coggon Solar Vegetation Management Report

To be Completed by the Vegetation Management Contractor (VMC) at Every Visit & Mowing

Use Extra Sheets if Necessary

Date _____ **VCM Company:**_____

Weather Contions: **VMC Employee Completing this Form:**

Temp.: _____ **Skies:** _____ **Name of Site Manager:** _____

Ground Condition for Mowing: Wet / Dry

Date Submitted to Natural Resources Conservation Service: _____

NRCS Recipient of Report (incl. name, phone & email address):

_____

Wildlife Encountered, including Pollinators:

Condition of Vegetation Within the Array Area (638 Acres):

Condition of Vegetation in Buffer Area (outside fenced area 112 acres)

Presence of Noxious Weeds (name of weed & extent of infestation)

Herbicide Use:

Wind Conditions: _____

Name of Herbicide: _____

Mix Rate: _____

Amount Used:

Photograph or Video Condition of Vegetation
Photograph Noxious Weeds
* VMC = Vegetation Management

USDA NRCS
Natural Resources Conservation Service

IA - CPA - 4 REV.
April 2020
(File Code 180-12-12)

Seeding Plan

Name Prepared by _____ Date **10/19/2021**
Tract No. _____
Field No. _____
Program: _____ Acres: 638.00 Contract No. _____

Seeding Mix Summary

Grasses	Scientific Name	Common Name	Seeds/Ft^2	PLS Lbs/Acre	PLS Lbs Total
1	*Schizachyrium scoparium*	Little Bluestem	4.000	0.726	463.19
2	*Bouteloua curtipendula*	Sideoats Grama	3.400	1.543	984.27
3	*Elymus virginicus*	Virginia Wildrye	0.800	0.519	330.85
4	*Elymus canadensis*	Canada Wildrye	0.500	0.262	167.01
5	*Sporobolus compositus*	Composite Dropseed	4.500	0.408	260.54
6	*Carex vulpinoidea*	Fox Sedge	0.500	0.014	8.68
7	*Koeleria macrantha*	Prairie Junegrass	2.000	0.027	17.37
8	*Carex brevior*	Shortbeak Sedge	1.000	0.094	59.90
9	*Bouteloua gracilis*	Blue Grama	0.300	0.020	13.03
10	*Carex bicknellii*	Bicknell's Sedge	0.300	0.048	30.65
11	*Festuca subverticillata*	Nodding Fescue	1.500	0.204	130.27
12	*Dichanthelium oligosanthes var. scribnerianum*	Scribner's Rosette Grass	0.500	0.151	96.50
13	*Juncus tenuis*	Poverty Rush	0.500	0.001	0.87
14	*Carex brevior*	Shortbeak Sedge	0.200	0.019	11.98
		SUBTOTAL GRASSES	**20.000**	**4.036**	**2575.114**

Forbs/Legumes	Scientific Name	Common Name	Seeds/Ft^2	PLS Lbs/Acre	PLS Lbs Total
1	*Liatris cylindracea*	Ontario Blazing Star	0.800	0.156	99.25
2	*Penstemon digitalis*	Foxglove Penstemon	2.380	0.050	31.80
3	*Galium boreale*	Northern Bedstraw	0.400	0.016	9.93
4	*Oligoneuron rigidum*	Stiff Goldenrod	2.000	0.133	84.73
5	*Dalea purpurea*	Purple Prairie Clover	2.500	0.378	241.24
6	*Achillea millefolium*	Western Yarrow	2.000	0.031	19.49
7	*Potentilla arguta*	Prairie Cinquefoil	2.000	0.024	15.10
8	*Pycnanthemum virginianum*	Common Mountain Mint	2.000	0.025	15.79
9	*Viola pedatifida*	Prairie Violet	1.000	0.097	62.03
10	*Anemone cylindrica*	Candle Anemone	1.000	0.105	66.81
11	*Echinacea pallida*	Pale Coneflower	0.200	0.105	66.81
12	*Dodecatheon meadia*	Shooting Star	0.300	0.014	8.68
13	*Symphyotrichum ericoides*	White Heath Aster	0.200	0.003	1.74
14	*Liatris pycnostachya*	Prairie Blazing Star	0.350	0.087	55.27
15	*Rudbeckia hirta*	Black-eyed Susan	0.400	0.012	7.55
16	*Dalea candida*	White Prairie Clover	0.500	0.072	45.71
17	*Dalea purpurea*	Purple Prairie Clover	0.500	0.076	48.25
18	*Hypericum sphaerocarpum*	Roundseed St. Johnswort	0.010	0.001	0.51
19	*Geranium maculatum*	Wild Geranium	0.500	0.272	173.70
20	*Desmodium canadense*	Showy Ticktrefoil	0.100	0.050	31.58
21	*Hypoxis hirsuta*	Common Goldstar	0.200	0.007	4.34
22	*Asclepias tuberosa*	Butterfly Milkweed	0.200	0.127	80.79
23	*Aquilegia canadensis*	Red Columbine	0.100	0.007	4.57
24	*Lobelia cardinalis*	Cardinal Flower	0.100	0.001	0.43
25	*Sisyrinchium campestre*	Prairie Blue-eyed Grass	0.300	0.018	11.58
		SUBTOTAL FORBS	**20.040**	**1.862**	**1,187.684**

Woody	Scientific Name	Common Name	Seeds/Ft^2	PLS Lbs/Acre	PLS Lbs Total
		SUBTOTAL VINES/WOODY	0.000	0.000	0.000
		TOTAL	40.040	5.898	3,762.799

Estimated Cost/Acre _____ **Estimated Total Cost** **$0.00**

	Soil Test Information	Total Needed lbs
Lime (ECCE) (Actual Lime)		
Nitrogen		
Phosphate (P205)		
Potash (K20)		

Seeding Dates: _____

Additional Seeding Criteria: _____

Seeding was completed by _____ **according to the above requirements.**
(Date)

_____ _____
(Producer's Signature) (Date)

Field Office _____ **Certified by** _____
(NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services.
For CRP cost-share, return receipts to Farm Service Agency.
For all other cost-share projects, attach seed tags and receipts for seed, fertilizer, lime, etc.

Appendix E - Decommissioning Plan

October 18, 2021

Mr. Layne Ashton
Clēnera - Renewable Energy
800 W. Main St.
Boise, ID 83702
layne.ashton@clenera.com
Ph: 208.639.3232

Subject: **Decommissioning Plan Cost Estimate and Closure ScheduleLinn County Solar Project, Coggon, Iowa**
Terracon Proposal No. 35217062

Mr. Ashton:

Terracon Consultants Inc. has prepared this decommissioning plan and cost estimate at the request of Clēnera – Renewable Energy (Clēnera) for the Linn County solar project near Coggon, Iowa.

The proposed Solar Energy System (SES) is located Linn County on both sides of D62 (Coggon Road). The project is currently in the design phase and is expected to be approximately 120 MW DC in size. The project will contain approximately 300,160 solar PV modules installed on a single-axis tracker racking system. The DC power from the PV modules will be collected by a cable system installed above ground. The system will include approximately 33 DC to AC inverters and step-up pad-mounted transformers. The AC power collection system will consist of buried medium voltage cables run to a centralized electric substation where the voltage will be stepped up and the system connected to the utility. The project substation will be connected to the existing Linn County Rural Electric Cooperative (REC) via overhead high voltage conductors. The project site will have an internal gravel access road will be surrounded by a perimeter security fence. The installation of the project will be done with minimal permanent alterations to the land. Very little grading will be required. The SES has a design life of 35 years.

When it is determined that the SES should be retired, the project equipment will be removed, and the site restored as described herein. It is assumed that the project will incur costs from the removal and disposal of the PV modules, racking system, inverters, transformers, racking foundations or posts, substation equipment and other project equipment, as well as for the restoration of the site following the removal of equipment. All modules will be removed and repurposed or recycled at the Project's end-of-life of 35 years. Modules utilized at the Project, which are the best and most current technology available, will retain approximately 75% of nameplate rating. This high percentage of remaining nameplate rating will make the Project's used modules highly valuable in the ever-growing secondary market for reuse, either here in the U.S., or abroad. In addition, at such point that the modules are no longer considered efficient enough for reuse, high-value recycling can help minimize life cycle impacts and recover valuable and energy intensive materials, thereby increasing sustainability. For example, 100% of the aluminum, 95% of the glass and 85% of the silicon of the module is considered recyclable/reusable.

The Solar Energy Industry Association (SEIA) has developed the SEIA Preferred Recycling Partners Program. According to SEIA, there are currently twenty-three Preferred Recycling Partner companies that recycles PV modules. A sampling of module recycling companies includes First Solar, We Recycle Solar, and Dynamic Lifestyle Innovations. Of note, Dynamic Lifestyle Innovations has a recycling facility in Onalaska, Wisconsin, just 140 miles from Coggon.

The Financial Assurance is being estimated in 2020 dollars. It is assumed that the wattage output of the modules will gradually reduce by approximately 25% over the next 35 years. The value of the solar modules was reduced accordingly, over time. The salvage of the rest of the equipment is based on the equipment's scrap value per pound. The difference between the cost to decommission the system and the salvage value is calculated each year. No financial assurance is required if the salvage value of the equipment is worth more than the decommission costs. Financial assurance is needed if the salvage value is less than the decommissioning costs. Initially the salvage value is greater than the decommissioning value **(See TABLE 1)**. **TABLE 2** shows the estimated salvage value over the next 35 years. Assuming a 1.5% inflation factor, the decommissioning cost is estimated to be greater than the salvage value in 2044 **(See TABLE 3)**. The required financial assurance would be updated annually and then be increased by an inflation factor when the decommissioning cost is greater than the salvage value for the following years.

The Decommissioning Plan:

- At or before the end of solar project's operations, The Project shall notify Linn County of its intent to decommission the project.

- The solar PV modules will be removed from the racking system, loaded into trailers and shipped off-site for salvage. The steel racking system will be cut into manageable sized sections, loaded into trailers and hauled off-site for scrap. The steel posts for the racking system will be removed. In the event that they cannot be removed without major site disruption, the steel posts for the racking system will be removed to a depth of ten (10) feet below grade.

- The above ground aluminum and copper conductors and below grade medium voltage conductors shall be removed and shipped off-site for salvage. All conduits will be removed and disposed of off-site. The inverters and transformers will be removed and loaded onto trailers and shipped off-site for disassembly and possible salvage. It is assumed that the perimeter fence will be removed and disposed of off-site.

- The Project substation will be removed from the site, including all above-grade equipment (e.g., transformers, breakers, busbars), buildings, crushed rock surfacing, and fencing. All below grade equipment (e.g., foundations) will be removed. In the event that they cannot be removed without major site disruption, the equipment will be removed to a depth of ten (10) feet below grade.

- All crushed rock surfacing will be removed from the Project's access roads. The removed crushed rock will be loaded into dump trucks and hauled off-site for disposal. The cost to remove the crushed rock, load it into dump trucks, and haul it to the final destination will be at the expense of the Project at which point the ownership of the crushed rock will be transferred to the demolition contractor.

- Following the removal of crushed rock surfacing, a layer of topsoil will be added to replace the removed rock. The areas where crushed rock has been processed will be fine graded to provide suitable

drainage. In right- of-way and non-agricultural areas, the ground will be seeded to prevent erosion.

- All disturbed areas at the site will be returned to as close to predevelopment conditions as possible. This will allow all land disturbed by the construction of the Project to be returned to prior site use at the end of the useful life of the Project. The cost estimates provided in the following section include activities and costs to return the land to a condition suitable for prior site use after the retiring of the Project.

- Clēnera will use temporary erosion control measures (i.e., Best Management Practices - BMPs) during the decommissioning of the solar project.

The Decommissioning Schedule:

As per the Linn County Ordinances, "following a continuous one-year period in which no electricity is generated, or if substantial action on the project is discontinued for a period of one year, the permit holder will have one year to complete decommissioning of the utility scale solar installation. Decommissioning shall be completed in accordance with the approved decommissioning plan. The landowner or tenant must notify the county when the project is discontinued."

The activities associated with this decommissioning plan described above are anticipated to be completed within a twelve (12) month timeframe, according to the following estimated schedule:

- Decommissioning Planning and Permitting 2 months
- Demolition and Removal of Recyclables 9 months
- Project Site Restoration 1 month

Additional time may be required for post-decommissioning activities, including monitoring of new vegetation. However, this timetable and the cost estimates below should provide sufficient time and budget to comply with any applicable health and safety regulations.

Decommissioning Costs

The total estimated cost to decommission the project at the end of its estimated 35-year useful life in 2020 dollars with a 20% contingency is estimated to be approximately **$2,098,902** (See **TABLE 1** cost breakdown). The salvage value for the system for the first year is estimated at **$9,701,016** (See **TABLE 2**). The salvage value for the system is estimated to be more than the cost of decommission the system (**$7,602,114 = $9,701,016 - $2,098,902**) for the first year. Assuming a 1.5% inflation factor, the decommissioning cost is estimated to be greater than the salvage value in 2044 **(See TABLE 3)**. Clēnera will work with the County for an agreeable financial assurance system.

If you have any questions or required additional information, please do not hesitate to contact me. Certified:

Christian W. New

Christian W. New, P.E.
Iowa P.E. License No. P20936

Attachment: Table 1 - Decommissioning Cost Estimate (Year 1)
Table 2 - Salvage and Reuse Value
Table 3 - Decommissioning Cost Estimate (Year 30)

TABLE 1
DECOMMISSIONING COST ESTIMATE
LINN COUNTY SOLAR PROJECT
CLENERA - RENEWABLE ENERGY

Solar Array Removal				
Solar Modules	300,160	Modules	$ 1.25	$ 375,200.00
Inverter	33	Unit	$ 2,200.00	$ 72,600.00
Step-up Transformers	33	Unit	$ 800.00	$ 26,400.00
Tracker Racking Frame (4x28 modules per unit)	2,680	Unit	$ 100.00	$ 268,000.00
Racking Posts (7 posts per tracker unit)	18,760	Unit	$ 7.25	$ 136,010.00
Wire - MV - Below Grade - per LF of trench	33,100	LF	$ 1.00	$ 33,100.00
Wire - PV - Above Grade - CAB or BLA	140,000	LF	$ 0.50	$ 70,000.00
Substation Removal				
Overhead wire/conductor removal	1	Unit	$ 10,000.00	$ 10,000.00
Poles and Structure Removal	1	Unit	$ 10,000.00	$ 10,000.00
Transformer Removal	1	Unit	$ 20,000.00	$ 20,000.00
Concrete Foundation	4	Day	$ 1,500.00	$ 6,000.00
Control House Removal	1	Unit	$ 800.00	$ 800.00
Circuit Breaker and Cap Bank Removal	6	Unit	$ 750.00	$ 4,500.00
Site/Civil Removal				
Gravel Access Road Removal (14ft wide, 6" deep)	9,350	CY	$ 24.00	$ 224,400.00
Perimeter Fence Removal	43,000	LF	$ 3.00	$ 129,000.00
Subsoil Tilling/Plowing	650	Acre	$ 22.00	$ 14,300.00
Seeding	650	Acre	$ 13.50	$ 8,775.00
Other Costs				
Trucking/Hauling/Disposal	1,200	Truck Load	$ 150.00	$ 180,000.00
Mobilization/Demobilization	1	LS	$ 160,000.00	$ 160,000.00
TOTAL ESTIMATED FACILITY DECOMMISSIONING COSTS (2020 DOLLARS):				**$ 1,749,085.00**
20% Contingency				**$ 349,817.00**
TOTAL ESTIMATED FACILITY DECOMMISSIONING COSTS WITH CONTINGENCY (2020 DOLLARS):				**$ 2,098,902.00**
TOTAL SALVAGE VALUE (2020 DOLLARS)				**$9,701,016.00**
TOTAL DECOMMISSIONING WITH SALVAGE VALUE (2020 DOLLARS)				**$7,602,114.00**

Total Financial Assurance after Annual Inflation (2020 Dollars)	**Not Required Since Salvage Value More Than Decommissioning Costs**

Decommissioning Cost Inflation Adjustment:

Year	Assumed Inflation Factor	Adjusted Decommissioning Cost Estimate	Adjusted Salvage Value	Difference
2020	**-**	**$2,098,902.00**	**$9,701,016.00**	**$7,602,114.00**

Note(s):

1. All costs are presented in current (2020) dollars. The costs will be updated with the federal inflation factor each year.
2. The decommissioning estimate is based on information provided by Clēnera. The decommissioning estimate will be updated as information becomes available.
3. Market conditions may result in cost variations at the time of decommissioning. The estimate can be updated with annual inflation factors.
4. An off-site landfill is assumed to be used for the disposal of non-recyclable waste.
5. Transformer oils are assumed to be drained and disposed of off-site as part of the demolition.
6. All underground equipment and foundations will be removed to a depth of ten (10) feet. The steel posts for the racking system will be removed. In the event that they cannot be removed without major site disruption, the steel posts for the racking system will be removed to a depth of ten (10) feet below grade.
7. Access roads, parking areas, storage yards, crane pads, and all other areas constructed from concrete, gravel, or compactable fill will be removed, recycled, and reclaimed.
8. The Project laydown yard that was utilized during construction of the Project was assumed to be previously reclaimed and restored; no further grading, seeding, or other restoration of the laydown yard was included in this estimate.

TABLE 2
SALVAGE AND REUSE VALUE
LINN COUNTY SOLAR PROJECT
CLENERA - RENEWABLE ENERGY

ITEM																																		
Valuation over a 35 year period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054
Initial Solar Modules	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160	300,160
MW System	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Depreciation and Reduction in Wattage (2.8%/year)	2.80%	5.60%	8.40%	11.20%	14.00%	16.80%	19.60%	22.40%	25.20%	28.00%	30.80%	33.60%	36.40%	39.20%	42.00%	44.80%	47.60%	50.40%	53.20%	56.00%	58.80%	61.60%	64.40%	67.20%	70.00%	72.80%	75.60%	78.40%	81.20%	84.00%	86.80%	89.60%	92.40%	95.20%	98.00%
Watt per module	400	378	366	355	344	333	322	310	299	288	277	266	254	243	232	221	210	198	187	176	165	154	142	131	120	109	98	86	75	64	53	42	30	19	8
Total Watt	120,000,000	113,340,416	109,978,624	106,616,832	103,255,040	99,893,248	96,531,456	93,169,664	89,807,872	86,446,080	83,084,288	79,722,496	76,360,704	72,998,912	69,637,120	66,275,328	62,913,536	59,551,744	56,189,952	52,828,160	49,466,368	46,104,576	42,742,784	39,380,992	36,019,200	32,657,408	29,295,616	25,933,824	22,572,032	19,210,240	15,848,448	12,486,656	9,124,864	5,763,072	2,401,280
Value per Watt	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080
Value of undamaged modues	**$9,600,000**	**$9,067,233**	**$8,798,290**	**$8,529,347**	**$8,260,403**	**$7,991,460**	**$7,722,516**	**$7,453,573**	**$7,184,630**	**$6,915,686**	**$6,646,743**	**$6,377,800**	**$6,108,856**	**$5,839,913**	**$5,570,970**	**$5,302,026**	**$5,033,083**	**$4,764,140**	**$4,495,196**	**$4,226,253**	**$3,957,309**	**$3,688,366**	**$3,419,423**	**$3,150,479**	**$2,881,536**	**$2,612,593**	**$2,343,649**	**$2,074,706**	**$1,805,763**	**$1,536,819**	**$1,267,876**	**$998,932**	**$729,989**	**$461,046**	**$192,102**
Number of Inverters	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
Weight of Each Unit (lbs.)	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Total Weight	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950
Scrap Value per pound	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080	$0.080
Total Salvage Value ($)	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**	**$396**
Step-up Transformers	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
Weight of Each Unit (lbs.)	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000
Total Weight	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000	264,000
Scrap Value per pound	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250	$0.250
Total Salvage Value ($)	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**	**$66,000**
Tracker Racking Frame (4x28 modules per unit) included in module cost	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Racking Posts (7 posts per tracker unit) included in module cost	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wire - MV - Below Grade - per LF of trench	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100	33,100
Pound per foot	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200
Total Salvage Value ($)	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**	**$6,620**
Wire - PV - Above Grade - CAB or BLA	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000
Pound per foot	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200	$0.200
Total Salvage Value ($)	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**	**$28,000**
TOTAL SALVAGE VALUE	**$9,701,016**	**$9,168,249**	**$8,899,306**	**$8,630,363**	**$8,361,419**	**$8,092,476**	**$7,823,532**	**$7,554,589**	**$7,285,646**	**$7,016,702**	**$6,747,759**	**$6,478,816**	**$6,209,872**	**$5,940,929**	**$5,671,986**	**$5,403,042**	**$5,134,099**	**$4,865,156**	**$4,596,212**	**$4,327,269**	**$4,058,325**	**$3,789,382**	**$3,520,439**	**$3,251,495**	**$2,982,552**	**$2,713,609**	**$2,444,665**	**$2,175,722**	**$1,906,779**	**$1,637,835**	**$1,368,892**	**$1,099,948**	**$831,005**	**$562,062**	**$293,118**

Note(s):

1. All costs are presented in current (2020) dollars. The costs will be updated with an inflation factor each year.
2. The decommissioning estimate is based on information provided by Clenera. The decommissioning estimate will be updated as information becomes available.
3. Market conditions may result in cost variations at the time of decommissioning. The estimate can be updated with annual inflation factors.
4. An off-site landfill is assumed to be used for the disposal of non-recyclable waste.
5. Transformer oils are assumed to be drained and disposed of off-site as part of the demolition.
6. All underground equipment and foundations will be removed to a depth of ten (10) feet. All non-hazardous structures or foundations greater than ten (10) feet below grade will remain.
7. Access roads, parking areas, storage yards, crane pads, and all other areas constructed from concrete, gravel, or compactable fill will be removed, recycled, and reclaimed.
8. The Project laydown yard that was utilized during construction of the Project was assumed to be previously reclaimed and restored; no further grading, seeding, or other restoration of the laydown yard was included in this estimate.

TABLE 3
DECOMMISSIONING COST ESTIMATE
LINN COUNTY SOLAR PROJECT
CLENERA - RENEWABLE ENERGY

Solar Array Removal				
Solar Modules	300,160	Modules	$ 1.25	$ 375,200.00
Inverter	33	Unit	$ 2,200.00	$ 72,600.00
Step-up Transformers	33	Unit	$ 800.00	$ 26,400.00
Tracker Racking Frame (4x28 modules per unit)	2,680	Unit	$ 100.00	$ 268,000.00
Racking Posts (7 posts per tracker unit)	18,760	Unit	$ 7.25	$ 136,010.00
Wire - MV - Below Grade - per LF of trench	33,100	LF	$ 1.00	$ 33,100.00
Wire - PV - Above Grade - CAB or BLA	140,000	LF	$ 0.50	$ 70,000.00
Substation Removal				
Overhead wire/conductor removal	1	Unit	$ 10,000.00	$ 10,000.00
Poles and Structure Removal	1	Unit	$ 10,000.00	$ 10,000.00
Transformer Removal	1	Unit	$ 20,000.00	$ 20,000.00
Concrete Foundation	4	Day	$ 1,500.00	$ 6,000.00
Control House Removal	1	Unit	$ 800.00	$ 800.00
Circuit Breaker and Cap Bank Removal	6	Unit	$ 750.00	$ 4,500.00
Site/Civil Removal				
Gravel Access Road Removal (14ft wide, 6" deep)	9,350	CY	$ 24.00	$ 224,400.00
Perimeter Fence Removal	43,000	LF	$ 3.00	$ 129,000.00
Subsoil Tilling/Plowing	650	Acre	$ 22.00	$ 14,300.00
Seeding	650	Acre	$ 13.50	$ 8,775.00
Other Costs				
Trucking/Hauling/Disposal	1,200	Truck Load	$ 150.00	$ 180,000.00
Mobilization/Demobilization	1	LS	$ 160,000.00	$ 160,000.00
TOTAL ESTIMATED FACILITY DECOMMISSIONING COSTS (2020 DOLLARS):				**$ 1,749,085.00**
20% Contingency				**$ 349,817.00**
TOTAL ESTIMATED FACILITY DECOMMISSIONING COSTS WITH CONTINGENCY (2020 DOLLARS):				$ 2,098,902.00
TOTAL SALVAGE VALUE (2020 DOLLARS)				**$9,701,016.00**
TOTAL DECOMMISSIONING WITH SALVAGE VALUE (2020 DOLLARS)				**$7,602,114.00**

Total Financial Assurance after Annual Inflation (2020 Dollars)	**Not Required Since Salvage Value More Than Decommissioning Costs**

Decommissioning Cost Inflation Adjustment:

Year	Assumed Inflation Factor	Adjusted Decommissioning Cost Estimate	Adjusted Salvage Value	Difference
2020	**-**	**$2,098,902.00**	$9,701,016.00	$7,602,114.00
2021	**1.50**	$2,130,385.53	$9,168,249.28	$7,037,863.75
2022	**1.50**	$2,162,341.31	$8,899,305.92	$6,736,964.61
2023	**1.50**	$2,194,776.43	$8,630,362.56	$6,435,586.13
2024	**1.50**	$2,227,698.08	$8,361,419.20	$6,133,721.12
2025	**1.50**	$2,261,113.55	$8,092,475.84	$5,831,362.29
2026	**1.50**	$2,295,030.25	$7,823,532.48	$5,528,502.23
2027	**1.50**	$2,329,455.71	$7,554,589.12	$5,225,133.41
2028	**1.50**	$2,364,397.54	$7,285,645.76	$4,921,248.22
2029	**1.50**	$2,399,863.51	$7,016,702.40	$4,616,838.89
2030	**1.50**	$2,435,861.46	$6,747,759.04	$4,311,897.58
2031	**1.50**	$2,472,399.38	$6,478,815.68	$4,006,416.30
2032	**1.50**	$2,509,485.37	$6,209,872.32	$3,700,386.95
2033	**1.50**	$2,547,127.65	$5,940,928.96	$3,393,801.31
2034	**1.50**	$2,585,334.57	$5,671,985.60	$3,086,651.03
2035	**1.50**	$2,624,114.59	$5,403,042.24	$2,778,927.65
2036	**1.50**	$2,663,476.30	$5,134,098.88	$2,470,622.58
2037	**1.50**	$2,703,428.45	$4,865,155.52	$2,161,727.07
2038	**1.50**	$2,743,979.88	$4,596,212.16	$1,852,232.28
2039	**1.50**	$2,785,139.57	$4,327,268.80	$1,542,129.23
2040	**1.50**	$2,826,916.67	$4,058,325.44	$1,231,408.77
2041	**1.50**	$2,869,320.42	$3,789,382.08	$920,061.66
2042	**1.50**	$2,912,360.22	$3,520,438.72	$608,078.50
2043	**1.50**	$2,956,045.63	$3,251,495.36	$295,449.73
2044	**1.50**	$3,000,386.31	$2,982,552.00	-$17,834.31

Note(s):

1. All costs are presented in current (2020) dollars. The costs will be updated with the federal inflation factor each year.

2. The decommissioning estimate is based on information provided by Clēnera. The decommissioning estimate will be updated as information becomes available.

3. Market conditions may result in cost variations at the time of decommissioning. The estimate can be updated with annual inflation factors.

4. An off-site landfill is assumed to be used for the disposal of non-recyclable waste.

5. Transformer oils are assumed to be drained and disposed of off-site as part of the demolition.

6. All underground equipment and foundations will be removed to a depth of ten (10) feet. The steel posts for the racking system will be removed. In the event that they cannot be removed without major site disruption, the steel posts for the racking system will be removed to a depth of ten (10) feet below grade.

7. Access roads, parking areas, storage yards, crane pads, and all other areas constructed from concrete, gravel, or compactable fill will be removed, recycled, and reclaimed.

8. The Project laydown yard that was utilized during construction of the Project was assumed to be previously reclaimed and restored; no further grading, seeding, or other restoration of the laydown yard was included in this estimate.

Appendix F – Substation Layout

161KV BREAKER AND A HALF CONVERSION

LINN-DELAWARE ROAD

SECTION 32
SECTION 5

SECTION 32
SECTION 5

R.O.W.

R.O.W.

PROPERTY LINE R.O.W. S 88°54'39" W 376.96'

S 88°54'39" W 175.01'

N=3576963.09
E=5443307.21

IRON

EX. INV. 1013.71

EX. 15" RCP

EX. INV. 1014.34

EX. 36" CMP

EX. INV. 1014.06

EX. INV. 1013.98

EX. DRAIN TILE

EX. 4" DRAIN TILE

50.00'
SETBACK

EX. FENCE

EX. 20' GATE

EX. BLDG.

265.00'

EX. INV. 1015.33

N=3576977.45
E=5443683.60

EX. 24" CMP

EX. INV. 1016.60

IRON

S 01°39'53" E
7.00'

EX. POWER POLE

ASPH

IRON

BM 1
N=3576980.70
E=5443859.00

50.00'
SETBACK

SECTION QTR LINE

EX. FENCE

10.00'
SETBACK

388.99'

323.00'

S01°39'33" E 381.94'

SETBACK LINE

PROPERTY LINE

EX. CULT. LINE

10.00'
SETBACK

NEW 8" DRAIN TILE (BY OTHERS)

EAST-WEST BASELINE

EX. FENCE

EX. OIL CONT.
MANHOLE #1
TOP OF LID EL.=1014.17

EX. 6" SOLID HDPE PIPE
FOR CONTINUATION
SEE DWG OCD-01

NORTH-SOUTH BASELINE

EX. OIL CONT.
MANHOLE #2
TOP OF LID
EL.=1012.89

EX. DISCHARGE
2" SCH. 40 PVC

EX. FENCE

NEW 8" DR. TILE
(BY OTHERS)

8" DRAIN TILE

BIORETENTION BASIN

FOREBAY

INLET RISER

SETBACK LINE

30.5'

50.00'
SETBACK

IRON

BM 3
N=3576580.96
E=5443318.62

ALTERNATIVE ROUTE FOR
DRAIN TILE (BY OTHERS)

PROPERTY LINE

N 88°54'56" E 551.96'

EMERGENCY
OVERFLOW WEIR

NEW RELIEF INTAKE STRUCTURE
WITH OPEN GRATE (BY OTHERS)

EMERGENCY
OVERFLOW
WEIR

265.00'

EX. 4" DRAIN TILE

EX. CULT. LINE

IRON

BM 2
N=3576591.88
E=5443870.50

EX. BLDG.

N

SCALE 1" = 30'

30' 0 30' 60'

IOWA ONE-CALL
800/292-8989
TOLL-FREE
CALL- BEFORE- YOU- DIG

REV	DESCRIPTION	
-	-	-
-	-	-
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-	-	-
2	NEW SUBSTATION AS-BUILTS	3/9/15 TRF
1	UPDATE BENCHMARKS AND ISSUE FOR CONST	4/4/14 CLD
0	NEW 161/69KV SUBSTATION	2/10/14 CLD

3

APPROVED FOR CONSTRUCTION

ENGR.: _____

APP.: _____

CIPCO

Appendix G - Farmland Conversion Rating Form (Form AD 1006)

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request 3/15/22	
Name of Project Coggon Solar		Federal Agency Involved USDA Rural Utilities Service	
Proposed Land Use Solar Development		County and State Linn County, Iowa	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 3/15/22	Person Completing Form: Neil Sass
Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑ NO ☐	Acres Irrigated	Average Farm Size
Major Crop(s): corn	Farmable Land In Govt. Jurisdiction Acres: 397232 % 86	Amount of Farmland As Defined in FPPA Acres: 26616 % 57	
Name of Land Evaluation System Used: CSR2	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS: 3/24/22	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	640			
B. Total Acres To Be Converted Indirectly	156.9			
C. Total Acres In Site	796.9			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	541.3			
B. Total Acres Statewide Important or Local Important Farmland	255.6			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	.2994			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	58			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	84			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	15			
2. Perimeter In Non-urban Use	(10)	10			
3. Percent Of Site Being Farmed	(20)	20			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	15			
6. Distance To Urban Support Services	(15)	10			
7. Size Of Present Farm Unit Compared To Average	(10)	10			
8. Creation Of Non-farmable Farmland	(10)	0			
9. Availability Of Farm Support Services	(5)	5			
10. On-Farm Investments	(20)	20			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	105	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	84	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	105	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	189	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

Name of Federal agency representative completing this form:	Date:

(See Instructions on reverse side) **Form AD-1006 (03-02)**

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map**,** or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \text{ X } 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

Appendix H - Threatened and Endangered Species Coordination

For all wind energy projects, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.) and Migratory Bird Treaty Act (16 U.S.C. 703 et seq), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

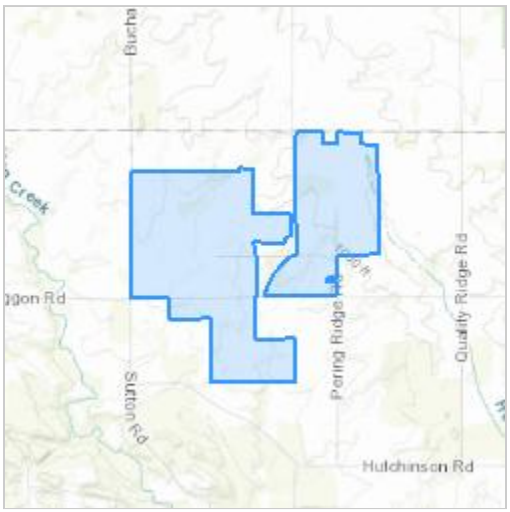
Illinois-Iowa Ecological Services Field Office
Illinois & Iowa Ecological Services Field Office
1511 47th Ave
Moline, IL 61265-7022
(309) 757-5800

Project Summary

Consultation Code: 03E18000-2021-SLI-1969
Event Code: 03E18000-2021-E-04945
Project Name: Coggon Solar Project
Project Type: POWER GENERATION
Project Description: Coggon Solar is a proposed 100 megawatt (MW) solar development located approximately 2.8 miles west of Coggon, Iowa in Linn County. The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.283948699999996,-91.58961312745052,14z



Counties: Delaware and Linn counties, Iowa

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Clams

NAME	STATUS
Higgins Eye (pearlymussel) *Lampsilis higginsii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5428	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Eastern Prairie Fringed Orchid *Platanthera leucophaea*	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/601	
Northern Wild Monkshood *Aconitum noveboracense*	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/1450	
Prairie Bush-clover *Lespedeza leptostachya*	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/4458	
Western Prairie Fringed Orchid *Platanthera praeclara*	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/1669	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1B

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1B
- PFO1C
- PSS1B

RIVERINE

- R4SBA
- R4SBC

Habitat Assessment – State-Listed Threatened and Endangered Species Identified by the INAI as Occurring in Linn County
Coggon Solar Project, Linn County, Iowa

SPECIES	STATUS[1]	HABITAT PREFERENCE	HABITAT PRESENCE WITHIN PROJECT LIMITS	COMMENTS
MUSSELS				
Alasmidonta viridis (Slippershell Mussel)	END	Creeks and the headwaters of large rivers in sand, mud, or fine gravel. They require clean, clear water.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Lampsilis higginsii (Higgins-eye Pearlymussel)	END (State and Federal)	Deeper waters of rivers and large streams with gravel or sand substrates.[2]	No	Streams within the study limits do not provide suitable habitat for this species.
Lampsilis teres (Yellow Sandshell)	END	Medium to large rivers in sand or fine gravel.[2]	No	Streams within the study limits do not provide suitable habitat for this species.
Tritogonia verrucosa (Pistolgrip)	END	Medium to large rivers in mud, sand, or gravel.[2]	No	Streams within the study limits do not provide suitable habitat for this species.
Anodontoides ferussacianus (Cylindrical Papershell)	THR	Interior rivers and streams; constructed lakes, ponds, and reservoirs.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Lasmigona compressa (Creek Heelsplitter)	THR	Creeks and the headwaters of small to medium rivers in fine gravel or sand.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Strophitus undulates (Creeper)	THR	Small to medium-sized streams and occasionally large rivers in mud, sand, or gravel.[2]	No	Streams within the study limits do not provide suitable habitat for this species.
Venustaconcha ellipsiformis (Ellipse)	THR	Small to medium streams in gravel or a sand/gravel mix.[2]	No	Streams within the study limits do not provide suitable habitat for this species.
SNAILS				
Vertigo meramecensis (Bluff Vertigo)	END	Algific slopes and maderate cliffs.[4]	No	No suitable habitat within the study limits.
INSECTS				
Euphydryas phaeton (Baltimore)	THR	Wet meadows, bogs, and marshes.[3]	No	No suitable habitat within the study imits.
Problema byssus (Byssus skipper)	THR	Tallgrass prairie.[3,4]	No	No suitable habitat within the study limits.
FISH				
Acipenser fulvescens (Lake Sturgeon)	END	Prefers shallow shoals in lakes and deepest parts of large rivers.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Notropis texanus (Weed Shiner)	END	Riverine, slough, and lake habitats with sand bottom and slow or no current.[4]	No	Streams within the study limits do not provide suitable habitat for this species.

Footnotes

[1] END = Endangered THR = Threatened; SC = Special Concern
[2] Fieldguide to Freshwater Mussels of the Midwest (Cummings and Mayer 1992)
[3] www.butterfliesandmoths.org
[4] IDNR Website
[5] Vascular Plants of Iowa by Eilers and Roosa (1994)

Habitat Assessment – State-Listed Threatened and Endangered Species Identified by the INAI as Occurring in Linn County
Coggon Solar Project, Linn County, Iowa

SPECIES	STATUS[1]	HABITAT PREFERENCE	HABITAT PRESENCE WITHIN PROJECT LIMITS	COMMENTS
Ammocrypta clara (Western Sand Darter)	THR	Prefer large streams or rivers with slight to moderate current with a sandy bottom.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Esox americanus (Grass Pickerel)	THR	Prefer clear, shallow, densely vegetated of waters of low gradient streams, springs, marshes, oxbows, overflow, and pothole ponds. They prefer clear waters, particularly areas that have not been ditched, dredged, or channelized. They avoid turbid or muddy water with silt bottoms.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Etheostoma spectabile (Orangethroat Darter)	THR	Prefer small to mid-sized well-meandered streams and spring runs. They are usually associated with well-timbered riparian zones. They are more tolerant of low flow and warmer water than most darter species found in Iowa.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Lampetra appendix (American Brook Lamprey)	THR	Small, high-quality streams and mid-sized rivers.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Moxostoma duquesnei (Black Redhorse)	THR	Require good water quality in mid-size streams with clean, coarse substrates with minimal disturbance of channel form or riparian vegetation.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
Notropis heterolepis (Blacknose Shiner)	THR	Small creeks in weedy shallow areas.[4]	No	Streams within the study limits do not provide suitable habitat for this species.
AMPHIBIANS				
Ambystoma laterale (Blue-spotted Salamander)	END	Moist soils with small ponds. Shelter under fallen, rotten logs, in leaf litter, moss, and other debris provided the soil is damp.[4]	No	No suitable habitat within the study limits.
Notophthalmus viridescens (Central Newt)	THR	Well vegetated woodland ponds, roadside ditches and riverside pools.[4]	No	No suitable habitat within the study limits.
REPTILES				
Emydoidea blandingii (Blanding's Turtle)	THR	Prefer shallow marshy habitats with abundant submerged vegetation, however, they can be found in almost any aquatic habitat. They are semi-terrestrial and often move between wetlands during the active season.[4]	No	No suitable summer or overwintering habitat is present within the study limits.

Footnotes

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[2] Fieldguide to Freshwater Mussels of the Midwest (Cummings and Mayer 1992)
[3] www.butterfliesandmoths.org
[4] IDNR Website
[5] Vascular Plants of Iowa by Eilers and Roosa (1994)

Habitat Assessment – State-Listed Threatened and Endangered Species Identified by the INAI as Occurring in Linn County
Coggon Solar Project, Linn County, Iowa

SPECIES	STATUS[1]	HABITAT PREFERENCE	HABITAT PRESENCE WITHIN PROJECT LIMITS	COMMENTS
Terrapene ornata (Ornate Box Turtle)	THR	Use tall grass prairie, short grass prairie if tall grass is unavailable, during the summer. Sand habitat is used for nesting and overwintering. This habitat must have open, shifting and unstable dunes.[4]	No	No tall grass prairie or short grass prairie communities are present within the study limits.
BIRDS				
Tyto alba (Barn Owl)	END	A savanna species that nests and roosts in dark, secluded places. Historically, it nested in tree cavities, specifically in silver maple, American sycamore, and white oak. Today, barn owls are often found roosting and nesting in old barns or abandoned buildings. Barn owls hunt in grassland habitats along field edges, fence-rows, and wetland edges where their favored prey is most available.[4]	No	No suitable habitat within the study limits.
Ammodramus henslowii (Henslow's Sparrow)	THR	Tall, dense grass with a well-developed litter layer with little to no woody vegetation. Henslow's sparrows are found primarily in grasslands greater than 100 acres.[4]	No	No suitable habitat within the study limits.
MAMMALS				
Perognathus flavescens (Plains Pocket Mouse)	END	Large open prairie with dry loess or sandy soils. Prefer loose sand for burrows and grooming habits (sand bathers).[4]	No	No suitable habitat within the study limits.
PLANTS				
Dichanthelium boreale (Northern Panic-grass)	END	Dry, sandy prairies.[5]	No	No suitable habitat within the study limits.
Hypericum boreale (Northern St. John's-wort)	END	Sandy margins of marshes.[5]	No	No suitable habitat within the study limits.
Ilex verticillata (Winterberry)	END	Sandy woods; streamsides.[5]	No	No suitable habitat within the study limits.
Platanthera flava (Pale Green Orchid)	END	Found in wet to moist bogs, swamps, floodplains, and prairies.[5]	No	No suitable habitat within the study limits.
Platanthera leucophaea (Eastern Prairie Fringed Orchid)	END (State) and THR (Federal)	Prairie swales.[5]	No	No suitable habitat within the study limits.

Footnotes

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[2] Fieldguide to Freshwater Mussels of the Midwest (Cummings and Mayer 1992)
[3] www.butterfliesandmoths.org
[4] IDNR Website
[5] Vascular Plants of Iowa by Eilers and Roosa (1994)

Habitat Assessment – State-Listed Threatened and Endangered Species Identified by the INAI as Occurring in Linn County
Coggon Solar Project, Linn County, Iowa

SPECIES	STATUS[1]	HABITAT PREFERENCE	HABITAT PRESENCE WITHIN PROJECT LIMITS	COMMENTS
Polygala polygama (Racemed Milkwort)	END	Sandy plains; sand blowouts.[5]	No	No suitable habitat within the study limits.
Viola incognita (Large-leaf White Violet)	END	Low, moist woods.[5]	No	No suitable habitat within the study limits.
Xyris torta (Yellow-eyed Grass)	END	Sandy pond margins; vernal pools.[5]	No	No suitable habitat within the study limits.
Besseya bullii (Kitten Tails)	THR	Dry, sometimes rocky, prairie ridges.[5]	No	No suitable habitat within the study limits.
Botrychium multifidum (Leathery Grape Fern)	THR	Sandy, uplands woods; moist sand; sedge meadows.[5]	No	No suitable habitat within the study limits.
Botrychium simplex (Little Grape Fern)	THR	Open, moist, sandy areas.[5]	No	No suitable habitat within the study limits.
Chimaphila umbellata (Prince's Pine)	THR	Moist, upland woods.[5]	No	No suitable habitat within the study limits.
Cypripedium reginae (Showy Lady's Slipper)	THR	Moist woods; algific talus slopes and wet prairies.[5]	No	No suitable habitat within the study limits.
Equisetum sylvaticum (Woodland Horsetail)	THR	Seeps; wooded areas; sandy places; prairie swales.[5]	No	No suitable habitat within the study limits.
Gaylussacia baccata (Black Huckleberry)	THR	Sandy soil in open woods.[5]	No	No suitable habitat within the study limits.
Lespedeza leptostachya (Prairie Bush-clover)	THR (State and Federal)	Prairie remnants; dry, gravelly prairies.[5]	No	No suitable habitat within the study limits.
Menyanthes trifoliata (Buckbean)	THR	Shallow water of fens and marshes.[5]	No	No suitable habitat within the study limits.
Mimulus glabratus (Yellow Monkey Flower)	THR	Shallow water of cold springs; slowly flowing streams; fens.[5]	No	No suitable habitat within the study limits.
Oenothera perennis (Small Sundrops)	THR	Moist prairies.[5]	No	No suitable habitat within the study limits.
Planthera praeclara (Western Prairie Fringed Orchid)	THR (State and Federal)	Prairie swales.[5]	No	No suitable habitat within the study limits.
Platanthera psycodes (Purple Fringed Orchid)	THR	Moist prairies; moist woods; seeps.[5]	No	No suitable habitat within the study limits.
Polygala incarnata (Pink Milkwort)	THR	Dry, sandy soil.[5]	No	No suitable habitat within the study limits.
Potentilla fruticosa (Shrubby Cinquefoil)	THR	Limestone ledges; bluffs.[5]	No	No suitable habitat within the study limits.
Spiranthes ovalis (Oval Ladies'-tresses)	THR	Found in dry open woods and pasture.[5]	No	No suitable habitat within the study limits.

Footnotes

[1] END = Endangered THR = Threatened; SC = Special Concern
[2] Fieldguide to Freshwater Mussels of the Midwest (Cummings and Mayer 1992)
[3] www.butterfliesandmoths.org
[4] IDNR Website
[5] Vascular Plants of Iowa by Eilers and Roosa (1994)

Appendix I - Glint/Glare Analysis

800 W Main St, Suite 900
Boise, ID 83702
208-639-3232

The GlareGuage tool requires the user to define the project area containing solar panels, define certain parameters of the project, and then define the various potential glare receptors prior to the calculation step. The following key parameters are considered when studying the glare potential of a project:

- Area occupied by solar panels
- Type, orientation, and angle limits for the row trackers
- PV module height and presence of any antireflective coatings
- Location and elevation of receptors: airport runway approaches, residences, and roadways.

The PV array was defined as six (6) separate areas separated by roads, matching the site's preliminary layout, current as of the date of this memorandum. The studied receptors included

- roads within and surrounding the project including 110th Ave, Coggon Rd, Linn-Buchanan Rd, Quality Ridge Rd, and Sutton Rd;
- the airport flight path receptors for Cedar Rapids Municipal, Dyersville Area, Independence Municipal, Manchester Muni, and Marion airports;
- and 18 discrete observation receptors (OPs) representing residences in and around the project area.

The GlareGauge software calculates the potential for glare for all receptors over the course of a typical year, in 1-minute time intervals, based on tracker position and sun position and the reflective properties of the PV modules. The amount of time when receptors are receiving significant glare are classified and summed. The glare is classified according to three categories of ocular impact:

- Green - low potential to cause after-image (flash blindness)
- Yellow - potential to cause temporary after-image
- Red - potential to cause retinal burn (permanent eye damage)

Results

The analysis results from the Forge Solar tool are attached for reference. The results indicate that there is no significant glare potential for any of the listed glare receptors. A finding of no hazard means there were no time periods estimated by the software tool where any of the receptors would be receiving Green, Yellow, or Red glare.

Best regards,

Joshua Gunderson | Senior Project Engineer
Clēnera *- an Enlight Company*

ForgeSolar

Coggon_IA_Advanced

Coggon-1

Created July 29, 2021
Updated July 30, 2021
Time-step 1 minute
Timezone offset UTC-6
Site ID 56811.10150

Project type Advanced
Project status: active
Category 100 MW to 1 GW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

Summary of Results No glare predicted!

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
PV array 1	SA tracking	SA tracking	0	0	-
PV array 2	SA tracking	SA tracking	0	0	-
PV array 3	SA tracking	SA tracking	0	0	-
PV array 4	SA tracking	SA tracking	0	0	-
PV array 5	SA tracking	SA tracking	0	0	-
PV array 6	SA tracking	SA tracking	0	0	-

Component Data

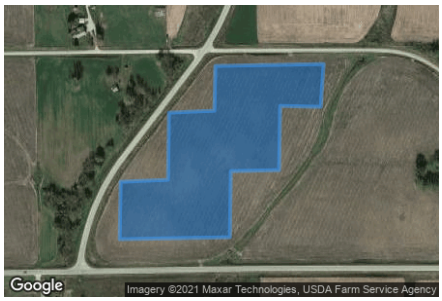
PV Array(s)

Total PV footprint area: 512.5 acres

Name: PV array 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 60.0 deg
Resting angle: 30.0 deg
Footprint area: 160.6 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.295115	-91.568657	1016.07	5.00	1021.07
2	42.285836	-91.568288	1006.94	5.00	1011.94
3	42.285804	-91.572751	990.30	5.00	995.30
4	42.288106	-91.572826	999.57	5.00	1004.57
5	42.288106	-91.571710	1010.52	5.00	1015.52
6	42.290264	-91.571689	1016.99	5.00	1022.00
7	42.290264	-91.573448	1014.35	5.00	1019.35
8	42.288058	-91.573277	997.88	5.00	1002.88
9	42.288074	-91.574178	994.62	5.00	999.62
10	42.287344	-91.574156	982.25	5.00	987.25
11	42.287344	-91.575444	986.52	5.00	991.52
12	42.286042	-91.575422	964.20	5.00	969.21
13	42.286074	-91.577697	967.32	5.00	972.32
14	42.288344	-91.577740	970.93	5.00	975.93
15	42.288312	-91.577396	976.65	5.00	981.65
16	42.289788	-91.577375	982.42	5.00	987.42
17	42.289804	-91.577826	984.51	5.00	989.51
18	42.295090	-91.577847	1006.24	5.00	1011.24
19	42.295090	-91.575294	1024.11	5.00	1029.11
20	42.293915	-91.575358	1032.55	5.00	1037.55
21	42.293915	-91.573255	1023.19	5.00	1028.19
22	42.292820	-91.573255	1021.38	5.00	1026.38
23	42.292836	-91.571989	1016.22	5.00	1021.22
24	42.295074	-91.571946	1021.56	5.00	1026.56

Name: PV array 2
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 60.0 deg
Resting angle: 30.0 deg
Footprint area: 14.8 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

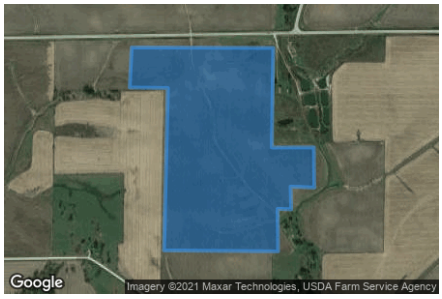


Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.285434	-91.578702	957.07	5.00	962.07
2	42.285466	-91.576298	958.90	5.00	963.90
3	42.284768	-91.576363	950.66	5.00	955.66
4	42.284784	-91.577264	956.32	5.00	961.32
5	42.283736	-91.577285	939.93	5.00	944.93
6	42.283720	-91.578358	949.04	5.00	954.04
7	42.282640	-91.578380	928.00	5.00	933.00
8	42.282609	-91.580826	929.81	5.00	934.81
9	42.283545	-91.580805	928.62	5.00	933.62
10	42.283577	-91.579753	952.15	5.00	957.15
11	42.284672	-91.579732	940.87	5.00	945.87
12	42.284704	-91.578723	960.22	5.00	965.22

Name: PV array 3
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 60.0 deg
Resting angle: 30.0 deg
Footprint area: 17.6 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

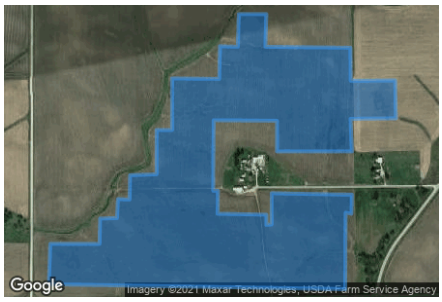
Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.278339	-91.577888	910.46	5.00	915.46
2	42.274941	-91.577930	917.12	5.00	922.12
3	42.274957	-91.580806	890.78	5.00	895.78
4	42.276100	-91.580827	896.12	5.00	901.12
5	42.276085	-91.579604	901.89	5.00	906.89
6	42.277196	-91.579561	897.18	5.00	902.18
7	42.277180	-91.580141	896.86	5.00	901.86
8	42.278418	-91.580098	903.10	5.00	908.10

Name: PV array 4
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 60.0 deg
Resting angle: 30.0 deg
Footprint area: 82.5 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad



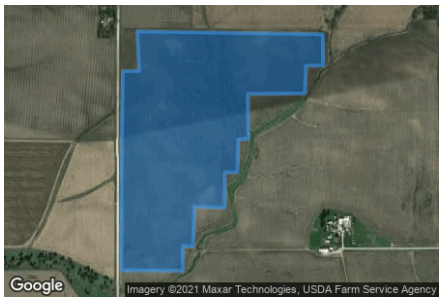
Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.280280	-91.587393	964.00	5.00	969.00
2	42.280296	-91.589088	944.43	5.00	949.43
3	42.281614	-91.589003	957.06	5.00	962.06
4	42.281598	-91.582716	923.27	5.00	928.27
5	42.278328	-91.582780	928.44	5.00	933.44
6	42.278328	-91.580913	902.89	5.00	907.89
7	42.277010	-91.580892	895.79	5.00	900.79
8	42.277042	-91.581943	909.42	5.00	914.42
9	42.276296	-91.581922	895.89	5.00	900.89
10	42.276311	-91.582522	900.35	5.00	905.35
11	42.274914	-91.582501	907.28	5.00	912.28
12	42.274946	-91.587565	940.21	5.00	945.21

Name: PV array 5
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 60.0 deg
Resting angle: 30.0 deg
Footprint area: 144.0 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.282313	-91.583127	927.48	5.00	932.48
2	42.282471	-91.596284	943.16	5.00	948.16
3	42.283789	-91.596219	911.91	5.00	916.91
4	42.283789	-91.594031	919.93	5.00	924.93
5	42.284614	-91.594009	912.86	5.00	917.86
6	42.284630	-91.593258	918.30	5.00	923.30
7	42.285249	-91.593215	913.56	5.00	918.56
8	42.285233	-91.592700	918.58	5.00	923.58
9	42.286027	-91.592679	918.03	5.00	923.03
10	42.286059	-91.591499	921.64	5.00	926.64
11	42.287503	-91.591499	921.23	5.00	926.23
12	42.287503	-91.590812	929.71	5.00	934.71
13	42.289186	-91.590812	927.63	5.00	932.63
14	42.289170	-91.588720	954.43	5.00	959.43
15	42.290234	-91.588688	934.44	5.00	939.44
16	42.290218	-91.587894	945.93	5.00	950.93
17	42.291281	-91.587851	938.66	5.00	943.66
18	42.291281	-91.586628	950.23	5.00	955.23
19	42.290218	-91.586671	957.26	5.00	962.26
20	42.290186	-91.582894	996.26	5.00	1001.26
21	42.289107	-91.582883	978.31	5.00	983.31
22	42.289123	-91.580909	996.31	5.00	1001.31
23	42.287884	-91.580877	981.70	5.00	986.70
24	42.287869	-91.582894	967.00	5.00	972.00
25	42.286805	-91.582830	962.50	5.00	967.50
26	42.286805	-91.586156	973.29	5.00	978.29
27	42.287805	-91.586156	984.22	5.00	989.22
28	42.287821	-91.588967	949.01	5.00	954.01
29	42.285519	-91.588988	951.93	5.00	956.93
30	42.285519	-91.588773	955.38	5.00	960.38
31	42.284773	-91.588795	948.44	5.00	953.44
32	42.284741	-91.586628	977.82	5.00	982.82
33	42.284408	-91.586628	978.07	5.00	983.07
34	42.284424	-91.586392	977.98	5.00	982.98
35	42.285440	-91.586392	964.51	5.00	969.51
36	42.285392	-91.582830	949.15	5.00	954.15
37	42.284773	-91.582851	940.68	5.00	945.68
38	42.284805	-91.583109	937.25	5.00	942.25

Name: PV array 6
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 60.0 deg
Resting angle: 30.0 deg
Footprint area: 93.0 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.284926	-91.596885	909.22	5.00	914.22
2	42.284910	-91.594160	910.07	5.00	915.07
3	42.285720	-91.594160	916.95	5.00	921.95
4	42.285704	-91.593709	914.57	5.00	919.57
5	42.287006	-91.593634	927.87	5.00	932.87
6	42.286966	-91.592293	921.03	5.00	926.03
7	42.288117	-91.592293	925.42	5.00	930.42
8	42.288117	-91.591724	923.35	5.00	928.35
9	42.289196	-91.591692	928.38	5.00	933.38
10	42.289208	-91.591252	928.40	5.00	933.40
11	42.290675	-91.591268	938.25	5.00	943.25
12	42.290696	-91.588731	935.03	5.00	940.03
13	42.291601	-91.588688	942.07	5.00	947.07
14	42.291601	-91.587926	938.75	5.00	943.75
15	42.292625	-91.587937	945.09	5.00	950.09
16	42.292720	-91.596177	985.68	5.00	990.68
17	42.291434	-91.596091	970.16	5.00	975.16
18	42.291419	-91.596821	961.68	5.00	966.68
19	42.289180	-91.596864	948.71	5.00	953.71
20	42.288815	-91.596842	950.42	5.00	955.42
21	42.288514	-91.596864	946.29	5.00	951.29
22	42.288196	-91.596864	942.42	5.00	947.42

2-Mile Flight Path Receptor(s)

Name: Cedar Rapids Municipal - 1
Description:
Threshold height : 50 ft
Direction: 132.0 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	41.890732	-91.714789	862.99	50.00	912.99
2-mile point	41.910071	-91.743695	766.61	699.84	1466.45

Name: Cedar Rapids Municipal - 2
Description:
Threshold height : 50 ft
Direction: 312.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

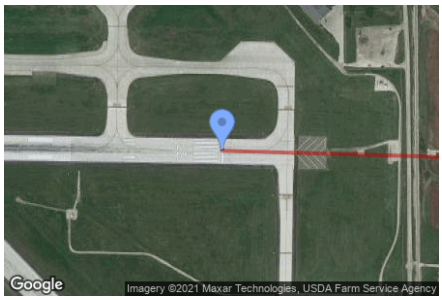
Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	41.879294	-91.699983	842.76	50.00	892.76
2-mile point	41.859802	-91.671269	855.40	590.82	1446.21

Name: Cedar Rapids Municipal - 3
Description:
Threshold height : 50 ft
Direction: 90.9 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	41.884598	-91.728822	849.37	50.00	899.37
2-mile point	41.885027	-91.767699	864.85	587.97	1452.82

Name: Cedar Rapids Municipal - 4
Description:
Threshold height : 50 ft
Direction: 271.6 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	41.884311	-91.699211	853.80	50.00	903.80
2-mile point	41.883493	-91.660346	797.54	659.71	1457.26



Name: Dyersville Area - 1
Description:
Threshold height : 50 ft
Direction: 118.2 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	42.497497	-91.182868	968.86	50.00	1018.86
2-mile point	42.511182	-91.217452	1010.57	561.74	1572.31

Name: Dyersville Area - 2
Description:
Threshold height : 50 ft
Direction: 292.8 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	42.495338	-91.176243	961.23	50.00	1011.23
2-mile point	42.484148	-91.140045	933.95	630.74	1564.69

Name: Independence Municipal - 1
Description:
Threshold height : 50 ft
Direction: 0.0 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	42.449802	-91.947608	975.60	50.00	1025.60
2-mile point	42.420889	-91.947608	967.93	611.13	1579.05

Name: Independence Municipal - 2
Description:
Threshold height : 50 ft
Direction: 180.0 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	42.463968	-91.947778	968.80	50.00	1018.80
2-mile point	42.492880	-91.947778	964.99	607.27	1572.26

Name: Manchester Muni - 1
Description:
Threshold height : 50 ft
Direction: 358.6 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	42.485751	-91.497873	980.70	50.00	1030.70
2-mile point	42.456847	-91.496914	1018.48	565.68	1584.16

Name: Manchester Muni - 2
Description:
Threshold height : 50 ft
Direction: 180.9 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	42.494943	-91.497898	948.76	50.00	998.76
2-mile point	42.523852	-91.497281	969.70	582.52	1552.22

Name: Marion Airport - 1
Description:
Threshold height : 50 ft
Direction: 353.9 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	42.025161	-91.531097	855.11	50.00	905.11
2-mile point	41.996412	-91.526956	847.72	610.85	1458.57

Name: Marion Airport - 2
Description:
Threshold height : 50 ft
Direction: 173.3 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	42.034321	-91.532397	858.87	50.00	908.87
2-mile point	42.063036	-91.536950	861.58	600.75	1462.32

Route Receptor(s)

Name: 110th Ave
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.301208	-91.578164	1025.94	6.00	1031.94
2	42.295097	-91.578121	1001.17	6.00	1007.17
3	42.288923	-91.578035	975.23	6.00	981.23
4	42.287542	-91.578035	964.28	6.00	970.28
5	42.287097	-91.578164	962.03	6.00	968.03
6	42.286573	-91.578336	960.35	6.00	966.35
7	42.286240	-91.578529	959.00	6.00	965.00
8	42.285716	-91.578915	957.76	6.00	963.76
9	42.285319	-91.579258	952.42	6.00	958.42
10	42.284827	-91.579838	942.92	6.00	948.92
11	42.284319	-91.580374	935.60	6.00	941.60
12	42.283684	-91.580975	926.57	6.00	932.57
13	42.283129	-91.581404	923.36	6.00	929.36
14	42.282636	-91.581604	921.74	6.00	927.74
15	42.282093	-91.581722	924.80	6.00	930.80

Name: Coggon Rd
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.282017	-91.612453	932.85	6.00	938.85
2	42.281859	-91.597025	930.67	6.00	936.67
3	42.282002	-91.585508	965.28	6.00	971.28
4	42.282081	-91.572875	950.63	6.00	956.63
5	42.282144	-91.558380	993.78	6.00	999.78

Name: Linn-Buchanan Rd
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.296431	-91.617861	916.64	6.00	922.64
2	42.296304	-91.529197	930.17	6.00	936.17

Name: Quality Ridge Rd
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.274635	-91.558423	965.80	6.00	971.80
2	42.285875	-91.558380	1000.87	6.00	1006.87
3	42.294566	-91.558316	970.69	6.00	976.69
4	42.298494	-91.558573	958.78	6.00	964.78

Name: Sutton Rd
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.274587	-91.597090	907.97	6.00	913.97
2	42.301382	-91.597047	946.66	6.00	952.66

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	ft	ft	ft
OP 1	42.295874	-91.573608	1032.30	6.00	1038.30
OP 2	42.296695	-91.573030	1031.92	6.00	1037.92
OP 3	42.295819	-91.567448	1021.55	6.00	1027.55
OP 4	42.293548	-91.578981	1007.20	6.00	1013.20
OP 5	42.296061	-91.588213	994.29	6.00	1000.29
OP 6	42.298525	-91.578555	1034.37	6.00	1040.37
OP 7	42.283591	-91.573432	988.46	6.00	994.46
OP 8	42.285952	-91.581682	971.02	6.00	977.02
OP 9	42.281879	-91.570140	989.69	6.00	995.69
OP 10	42.282459	-91.564673	1018.22	6.00	1024.22
OP 11	42.281423	-91.566358	1001.58	6.00	1007.58
OP 12	42.271456	-91.582558	914.41	6.00	920.41
OP 13	42.272758	-91.585203	942.22	6.00	948.22
OP 14	42.274856	-91.590545	959.94	6.00	965.94
OP 15	42.282413	-91.602933	902.32	6.00	908.32
OP 16	42.298918	-91.597497	990.81	6.00	996.81
OP 17	42.289680	-91.572357	1030.36	6.00	1036.36
OP 18	42.285923	-91.587329	978.67	6.00	984.67

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
PV array 1	SA tracking	SA tracking	0	0	-	-
PV array 2	SA tracking	SA tracking	0	0	-	-
PV array 3	SA tracking	SA tracking	0	0	-	-
PV array 4	SA tracking	SA tracking	0	0	-	-
PV array 5	SA tracking	SA tracking	0	0	-	-
PV array 6	SA tracking	SA tracking	0	0	-	-

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 no glare found

Component	Green glare (min)	Yellow glare (min)
FP: Cedar Rapids Municipal - 1	0	0
FP: Cedar Rapids Municipal - 2	0	0
FP: Cedar Rapids Municipal - 3	0	0
FP: Cedar Rapids Municipal - 4	0	0
FP: Dyersville Area - 1	0	0
FP: Dyersville Area - 2	0	0
FP: Independence Municipal - 1	0	0
FP: Independence Municipal - 2	0	0
FP: Manchester Muni - 1	0	0
FP: Manchester Muni - 2	0	0
FP: Marion Airport - 1	0	0
FP: Marion Airport - 2	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
Route: 110th Ave	0	0
Route: Coggon Rd	0	0
Route: Linn-Buchanan Rd	0	0
Route: Quality Ridge Rd	0	0
Route: Sutton Rd	0	0

No glare found

PV array 2 no glare found

Component	Green glare (min)	Yellow glare (min)
FP: Cedar Rapids Municipal - 1	0	0
FP: Cedar Rapids Municipal - 2	0	0
FP: Cedar Rapids Municipal - 3	0	0
FP: Cedar Rapids Municipal - 4	0	0
FP: Dyersville Area - 1	0	0
FP: Dyersville Area - 2	0	0
FP: Independence Municipal - 1	0	0
FP: Independence Municipal - 2	0	0
FP: Manchester Muni - 1	0	0
FP: Manchester Muni - 2	0	0
FP: Marion Airport - 1	0	0
FP: Marion Airport - 2	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
Route: 110th Ave	0	0
Route: Coggon Rd	0	0
Route: Linn-Buchanan Rd	0	0
Route: Quality Ridge Rd	0	0
Route: Sutton Rd	0	0

No glare found

PV array 3 no glare found

Component	Green glare (min)	Yellow glare (min)
FP: Cedar Rapids Municipal - 1	0	0
FP: Cedar Rapids Municipal - 2	0	0
FP: Cedar Rapids Municipal - 3	0	0
FP: Cedar Rapids Municipal - 4	0	0
FP: Dyersville Area - 1	0	0
FP: Dyersville Area - 2	0	0
FP: Independence Municipal - 1	0	0
FP: Independence Municipal - 2	0	0
FP: Manchester Muni - 1	0	0
FP: Manchester Muni - 2	0	0
FP: Marion Airport - 1	0	0
FP: Marion Airport - 2	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
Route: 110th Ave	0	0
Route: Coggon Rd	0	0
Route: Linn-Buchanan Rd	0	0
Route: Quality Ridge Rd	0	0
Route: Sutton Rd	0	0

No glare found

PV array 4 no glare found

Component	Green glare (min)	Yellow glare (min)
FP: Cedar Rapids Municipal - 1	0	0
FP: Cedar Rapids Municipal - 2	0	0
FP: Cedar Rapids Municipal - 3	0	0
FP: Cedar Rapids Municipal - 4	0	0
FP: Dyersville Area - 1	0	0
FP: Dyersville Area - 2	0	0
FP: Independence Municipal - 1	0	0
FP: Independence Municipal - 2	0	0
FP: Manchester Muni - 1	0	0
FP: Manchester Muni - 2	0	0
FP: Marion Airport - 1	0	0
FP: Marion Airport - 2	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
Route: 110th Ave	0	0
Route: Coggon Rd	0	0
Route: Linn-Buchanan Rd	0	0
Route: Quality Ridge Rd	0	0
Route: Sutton Rd	0	0

No glare found

PV array 5 no glare found

Component	Green glare (min)	Yellow glare (min)
FP: Cedar Rapids Municipal - 1	0	0
FP: Cedar Rapids Municipal - 2	0	0
FP: Cedar Rapids Municipal - 3	0	0
FP: Cedar Rapids Municipal - 4	0	0
FP: Dyersville Area - 1	0	0
FP: Dyersville Area - 2	0	0
FP: Independence Municipal - 1	0	0
FP: Independence Municipal - 2	0	0
FP: Manchester Muni - 1	0	0
FP: Manchester Muni - 2	0	0
FP: Marion Airport - 1	0	0
FP: Marion Airport - 2	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
Route: 110th Ave	0	0
Route: Coggon Rd	0	0
Route: Linn-Buchanan Rd	0	0
Route: Quality Ridge Rd	0	0
Route: Sutton Rd	0	0

No glare found

PV array 6 no glare found

Component	Green glare (min)	Yellow glare (min)
FP: Cedar Rapids Municipal - 1	0	0
FP: Cedar Rapids Municipal - 2	0	0
FP: Cedar Rapids Municipal - 3	0	0
FP: Cedar Rapids Municipal - 4	0	0
FP: Dyersville Area - 1	0	0
FP: Dyersville Area - 2	0	0
FP: Independence Municipal - 1	0	0
FP: Independence Municipal - 2	0	0
FP: Manchester Muni - 1	0	0
FP: Manchester Muni - 2	0	0
FP: Marion Airport - 1	0	0
FP: Marion Airport - 2	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
Route: 110th Ave	0	0
Route: Coggon Rd	0	0
Route: Linn-Buchanan Rd	0	0
Route: Quality Ridge Rd	0	0
Route: Sutton Rd	0	0

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for larg PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.

- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, no discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

Appendix J – Section 106 Coordination

Iowa SHPO and OSA Scoping Letters and Agency Responses

Tribal Outreach Letters and Responses

Section 106 Consultation – November 2021

Preliminary Vegetative Screening Plan

Coggon Substation - Section 106 Consultation

From:	Parks, Stacey
To:	heather.gibb@iowa.gov
Cc:	Howard, Basia - RD, Washington, DC; Bastis, Kristen - RD, Washington, DC; Allen, Christine - RD, Washington, DC; Tom Fitzgerald; Layne Ashton
Subject:	Agency Scoping, USDA Rural Utilities Service - Coggon Solar Project, Linn County, Iowa
Date:	Wednesday, April 14, 2021 9:29:00 AM
Attachments:	[redacted]

Good Morning –

Attached for your review please find an agency scoping letter for the proposed Coggon Solar Project located in Linn County, Iowa. A hard copy of this letter was submitted to your office with enclosures; however, in light of the COVID 19 pandemic, I am also submitting the information via email at the request of the U.S. Department of Agriculture (USDA) Rural Utilities Services (RUS).

Coggon Solar, LLC is seeking funding assistance for the Coggon Solar Project from the USDA RUS. Therefore, the project will be reviewed under the jurisdiction of the RUS. In accordance with the RUS National Environmental Policy Act (NEPA) guidance, the project will require the preparation of an Environmental Assessment (EA, 7 CFR Part 1970 C), biological and cultural studies and related state and federal permitting. If the RUS elects to fund the project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800. The purpose of the attached letter is to formally introduce the project and request agency comments to identify project constraints early in the NEPA process.

Following your review, any questions or comments concerning Section 106 review of the project can be directed to Basia Howard by email at basia.howard@usda.gov. Any general questions or comments about the project can be directed to Kristen Basis by email at kristen.basis@usda.gov.

Thanks,

Stacey Parks
Associate/Senior Scientist

Mobile: 319 327-0457
Stacey.Parks@stantec.com

Stantec
2300 Swan Lake Boulevard Suite 202
Independence IA 50644-9708

United States Department of Agriculture

Rural Development
Rural Utilities Service
1400 Independence Ave SW, Room 2230 Stop 1570,
Washington, DC, 20250
Voice 202.695.2540

11/4/2021

Iowa Department of Cultural Affairs
State Historic Preservation Office
State Historical Building, 3rd Floor East
600 E. Locust Street
Des Moines, Iowa 50319

Subject: USDA RD Rural Utilities Service Staff SHPO Recommended Finding of No Adverse Effects
Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa.

Dear Ms Gibb:

Coggon Solar, LLC is seeking financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its Electric Program for Coggon Solar Project. This Project will not be using the NPA.[1]

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

The Coggon Solar project's purpose is to construct a commercial solar facility to generate and distribute PV solar energy, a clean renewable energy source, to the existing electrical grid within CIPCO's service territory and meet CIPCO's commitment to providing its member cooperatives and their communities, including Linn County, cost-effective, safe, and reliable energy. Coggon Solar executed a PPA with CIPCO for 100% of the Project's energy output for a 20-year term beginning in 2022, and development of the Project is consistent with goals and objectives specific to

[1] *Nationwide Programmatic Agreement among the U.S. Department of Agriculture Rural Development Programs, National Conference of State Historic Preservation Officers, Tribal Signatories, and The Advisory Council on Historic Preservation for Sequencing Section 106* (NPA).

alternative and renewable energy set forth in the Linn County Comprehensive Plan (Linn County 2013).

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered “direct” regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). “Indirect” effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

The APE for the referenced project consists of The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size as shown on the enclosed map. Additionally, The APE does not include any federal and/or tribal lands as defined pursuant to 36 CFR § 800.16(x).

On 4/12/2021 the following Indian tribes were notified about the Coggon Solar Project: Sac & Fox Nation Oklahoma, Sac & Fox Nation of Missouri in Kansas and Nebraska, Menominee Indian Tribe of Wisconsin, Sac & Fox Tribe of the Mississippi in Iowa, Miami Tribe of Oklahoma, Apache Tribe of Oklahoma. In a letter dated May 5, 2021, The Miami Tribe of Oklahoma responded stating “The Miami Tribe offers no objection to the above-referenced project at this time” and requested to be contacted regarding any post review discoveries. The remaining five tribes did not respond.

The enclosed report titled, Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa issued in September 2021 describes the results of the survey of the APE. Three sites were identified during the Phase I survey and all three sites are recommended not eligible for the National Register of Historic Places (NRHP). A viewshed analysis identified structures that may be eligible for the NRHP. Coggon solar is willing to install vegetative screening for the life of the project so that none of the Historic Properties in the view shed will be adversely effected. Based on the findings of the Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa September 2021, and the vegetative screening installation, a

finding of no historic properties affected in accordance with 36 CFR § 800.4(d)(1) is appropriate for the referenced project.

Accordingly, the RUS is submitting a finding of no historic properties affected in accordance with 36 CFR § 800.4(d)(1) and supporting documentation for review and consideration by the Iowa State Historic Preservation Office. Please provide your concurrence or objection, **electronically** within 30 days of your receipt of this recommended finding. In accordance with 36 CFR § 800.3(c)(4), RUS will proceed to the next step in review if we do not receive a response from you within thirty days. Please direct any questions you may have to Kristen Bastis, Environmental Protection Specialist at kristen.bastis@usda.gov.

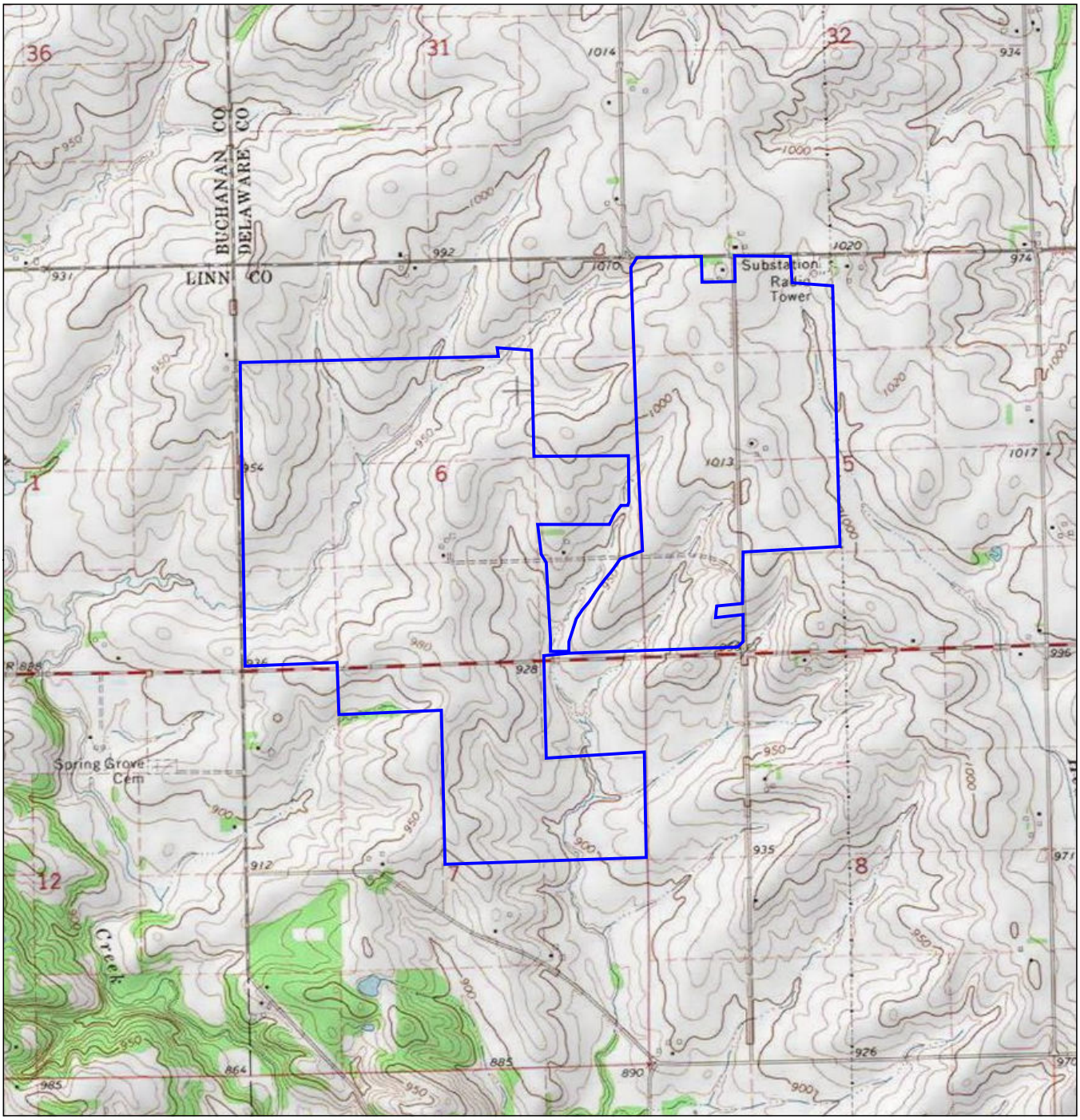
Sincerely,

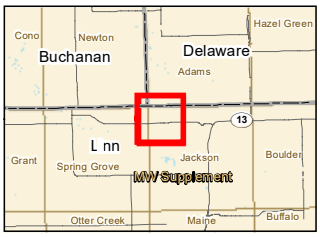
Erika Seibert
Federal Preservation Officer
Rural Utilities Service

Enclosure(s)

Map of the project area

Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa





Legend

Approximate Project Boundary

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

N

Stantec

Notes

1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS
3. Background: USGS 7.5' Topographic Quadrangles

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

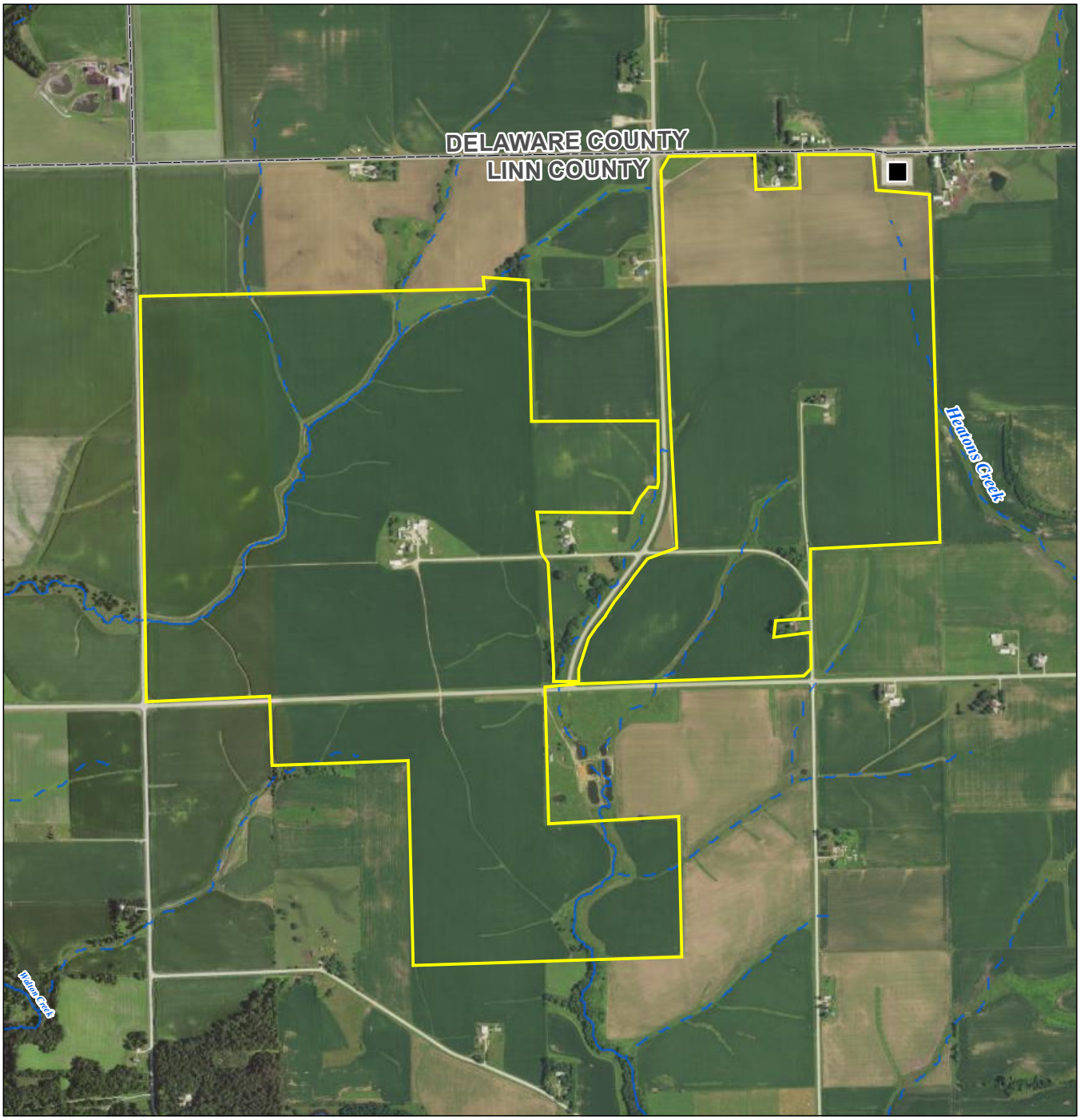
Prepared by RA on 2021-03-16
TR by AS on 2021-03-16
IR by SP on 2021-03-17

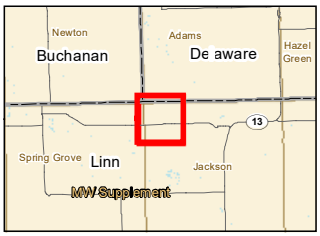
Client/Project 193708231
Coggon Solar Energy Project
Coggon Sollar LLC
NEPA

Figure No.
1

Title
Project Location

V:\1937\Active\193708231\03_data\gis_cad\gis\mxds\environmental_assessment\fig1_topo_193708231.mxd Revised: 2021-03-19 By: roalvarez





Legend

- Approximate Project Boundary
- Coggon Substation (Point of Interconnection)

National Hydrography Dataset

- Perennial Stream
- Intermittent Stream
- Waterbody

0 750 1,500 Feet

(At original document size of 8.5x11)
1:18,000

N

Stantec

Notes

1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS
3. Background: 2019 NAIP

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

Prepared by RA on 2021-03-16
TR by AS on 2021-03-16
IR by SP on 2021-03-17

Client/Project 193708231
Coggon Solar Energy Project
Coggon Sollar LLC
NEPA

Figure No.
2

Title
Project Overview

From:	Parks, Stacey
To:	Gibb, Heather
Cc:	Howard, Basia - RD, Washington, DC; Bastis, Kristen - RD, Washington, DC; Allen, Christine - RD, Washington, DC; Tom Fitzgerald; Layne Ashton; DCA SHPO106
Subject:	RE: Agency Scoping, USDA Rural Utilities Service - Coggon Solar Project, Linn County, Iowa
Date:	Wednesday, April 14, 2021 10:36:00 AM

Hi Heather –

Thanks for the quick response and providing the information for the online submission form.

The USDA Rural Utilities Services is the lead agency on this project and we will get the scoping letter uploaded with the form.

Thanks again for providing the information below. I appreciate you taking the time to respond.

Have a good day!

Stacey Parks
Associate/Senior Scientist

Mobile: 319 327-0457
Stacey.Parks@stantec.com

Stantec
2300 Swan Lake Boulevard Suite 202
Independence IA 50644-9708

From: Gibb, Heather <heather.gibb@iowa.gov>
Sent: Wednesday, April 14, 2021 9:48 AM
To: Parks, Stacey <Stacey.Parks@stantec.com>
Cc: Howard, Basia - RD, Washington, DC <basia.howard@usda.gov>; Bastis, Kristen - RD, Washington, DC <Kristen.Bastis@usda.gov>; Allen, Christine - RD, Washington, DC <Christine.Allen@usda.gov>; Tom Fitzgerald <tom.fitzgerald@clenera.com>; Layne Ashton <layne.ashton@clenera.com>; DCA SHPO106 <shpo106@iowa.gov>
Subject: Re: Agency Scoping, USDA Rural Utilities Service - Coggon Solar Project, Linn County, Iowa

Hello Ms. Parks,

Thank you for reaching out to our office. We are unable to accept email submissions for Section 106. We do have a temporary submission form that is available and I am copying and pasting instructions below. Please note that without the formal involvement of a federal agency, we are only able to provide technical assistance. This early engagement can still benefit the future Section 106 consultation and we appreciate the opportunity for consultation.

Here is a link to a form for e-submission. Please do not share this link. We are keeping track of who we provide the link to so we can update them with any changes to process as we continue to work out any issues.

Please complete the form when you have a project. When you submit your form, it will input your

information into a temporary holding place for us to log and then review. You can upload your documents as a single file or several. The submission should be the same that you would provide to our office in hard copy, but in pdf format. If you are unable to upload your attachments or have any other issues, then please contact me with questions. We appreciate everyone's willingness to be patient and work with us through this difficult time.

https://docs.google.com/forms/d/e/1FAIpQLScGnwpSFzZUYJZFMpPA8F-W4H3dj6BBLmfXil7ecoRpPcwZ5w/viewform?usp=sf_link

Best,

Heather Gibb, Ph.D.
Interim Deputy State Historic Preservation Officer
Review & Compliance Manager
Pronouns: She/Her/Hers
heather.gibb@iowa.gov | 515.281.4137 | iowaculture.gov

Iowa Arts Council | Produce Iowa | State Historical Society of Iowa
Iowa Department of Cultural Affairs

Share your stories using #IowaCulture

Like many others, I'm working from home in an effort to slow the spread of the coronavirus. I'm regularly checking messages and will get back to you as soon as possible. For immediate assistance, the best way to reach me is this email (heather.gibb@iowa.gov).

Please note: Our office is currently closed to the public in an effort to slow the spread of the COVID-19. During this time, SHPO staff will be available most effectively through email correspondence and conference calls

On Wed, Apr 14, 2021 at 9:29 AM Parks, Stacey <Stacey.Parks@stantec.com> wrote:

> Good Morning –
>
> Attached for your review please find an agency scoping letter for the proposed Coggon Solar Project located in Linn County, Iowa. A hard copy of this letter was submitted to your office with enclosures; however, in light of the COVID 19 pandemic, I am also submitting the information via email at the request of the U.S. Department of Agriculture (USDA) Rural Utilities Services (RUS).
>
> Coggon Solar, LLC is seeking funding assistance for the Coggon Solar Project from the USDA RUS. Therefore, the project will be reviewed under the jurisdiction of the RUS. In accordance with the RUS National Environmental Policy Act (NEPA) guidance, the project will require the preparation of an Environmental Assessment (EA, 7 CFR Part 1970 C), biological and cultural studies and related state and federal permitting. If the RUS elects to fund the project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800. The purpose of the attached letter is to formally introduce the project and request agency comments to identify project constraints early in the NEPA process.
>
> Following your review, any questions or comments concerning Section 106 review of the project can

be directed to Basia Howard by email at basia.howard@usda.gov. Any general questions or comments about the project can be directed to Kristen Basis by email at kristen.basis@usda.gov.

Thanks,

Stacey Parks
Associate/Senior Scientist

Mobile: 319 327-0457
Stacey.Parks@stantec.com

Stantec
2300 Swan Lake Boulevard Suite 202
Independence IA 50644-9708

From:	Parks, Stacey
To:	john-doershuk@uiowa.edu
Cc:	Howard, Basia - RD, Washington, DC; Bastis, Kristen - RD, Washington, DC; Allen, Christine - RD, Washington, DC; Tom Fitzgerald; Layne Ashton
Subject:	Agency Scoping, USDA Rural Utilities Service - Coggon Solar Project, Linn County, Iowa
Date:	Wednesday, April 14, 2021 9:32:00 AM
Attachments:	[redacted]SolarScoping.pdf Figures_[redacted]Scoping.pdf

---

Good Morning –

Attached for your review please find an agency scoping letter for the proposed Coggon Solar Project located in Linn County, Iowa. A hard copy of this letter was submitted to your office with enclosures; however, in light of the COVID 19 pandemic, I am also submitting the information via email at the request of the U.S. Department of Agriculture (USDA) Rural Utilities Services (RUS).

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Following your review, any questions or comments concerning Section 106 review of the project can be directed to Basia Howard by email at basia.howard@usda.gov. Any general questions or comments about the project can be directed to Kristen Basis by email at kristen.basis@usda.gov.

Thanks,

Stacey Parks
Associate/Senior Scientist

Mobile: 319 327-0457
Stacey.Parks@stantec.com

Stantec
2300 Swan Lake Boulevard Suite 202
Independence IA 50644-9708

USDA
United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Room 4010 Stop 1571 Washington, DC 20250

Voice 202.380.6340

April 12, 2021

John Doershuk
Director and State Archaeologist
Office of the State Archaeologist
University of Iowa
700 Clinton Street
Iowa City, Iowa 52242

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

Dear Mr. Doershuk,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022. The purpose of this letter is to formally introduce the Project and request information specific to the Project area in order to identify environmental or other constraints early in the NEPA process, and to initiate the Section 106 review process.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. In accordance with the RUS National Environmental Policy Act (NEPA) guidance, the Project will require the preparation of an Environmental Assessment (EA, 7 CFR Part 1970 C), biological and cultural studies and related state and federal permitting. If the RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800.

Project Background

Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019 and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

Project Description

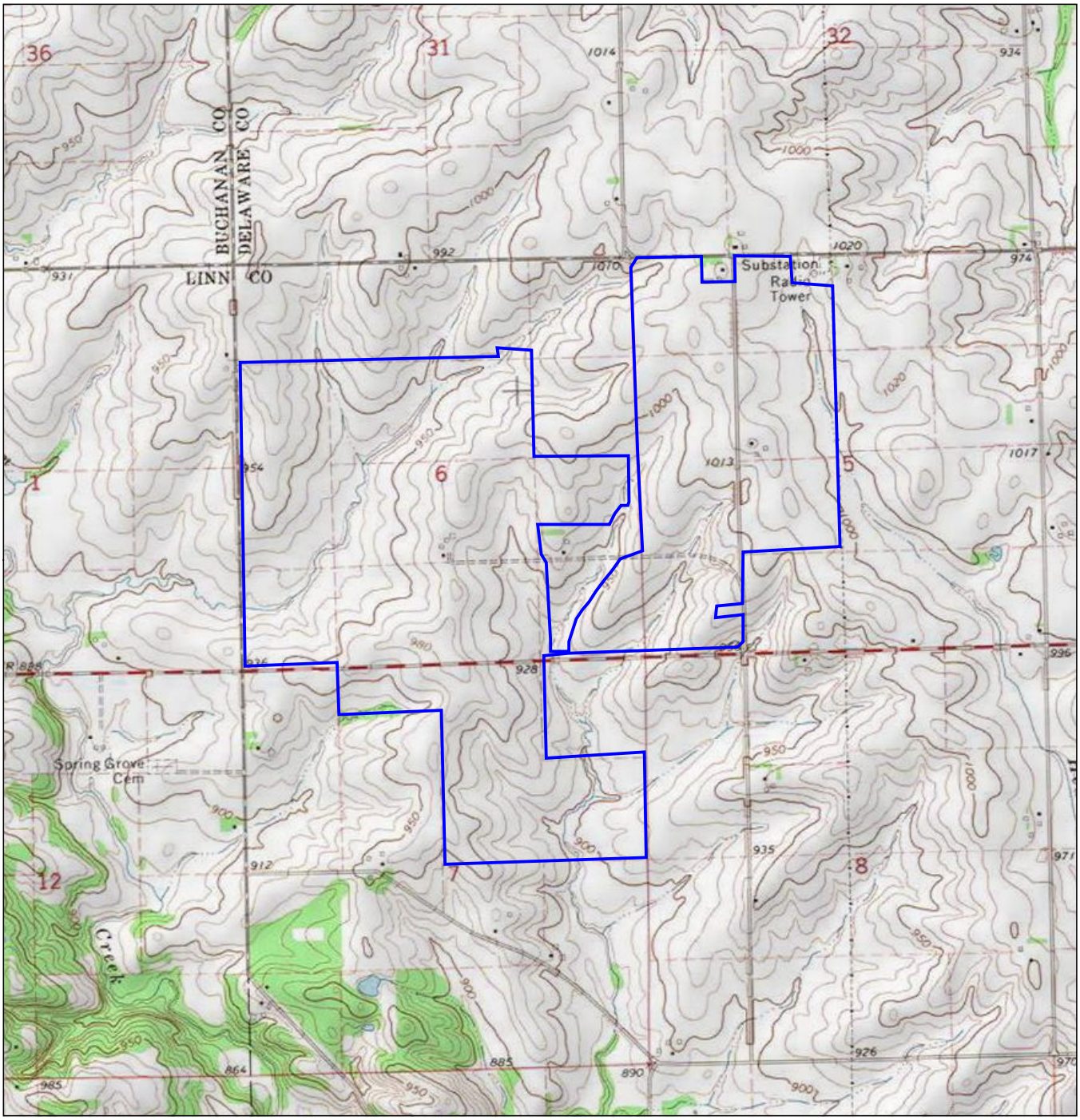
This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

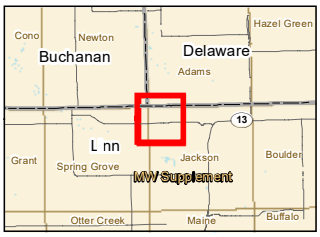
Following your review, questions or comments concerning Section 106 review of the Project can be directed to Basia Howard at 202-205-9756 or by email at basia.howard@usda.gov. Any general questions or comment about the Project can be directed to Kristen Bastis at 202-692-4910 or by email at kristen.bastis@usda.gov.

Ms. Basia M. Howard, M.A.
Deputy Federal Preservation Officer, Archaeologist
Rural Utilities Service, Rural Development
U.S. Department of Agriculture

Enclosures

CC
Stacey Parks, Associate/Senior Scientist, Stantec





Legend

Approximate Project Boundary

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

N

Stantec

Notes

1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS
3. Background: USGS 7.5' Topographic Quadrangles

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

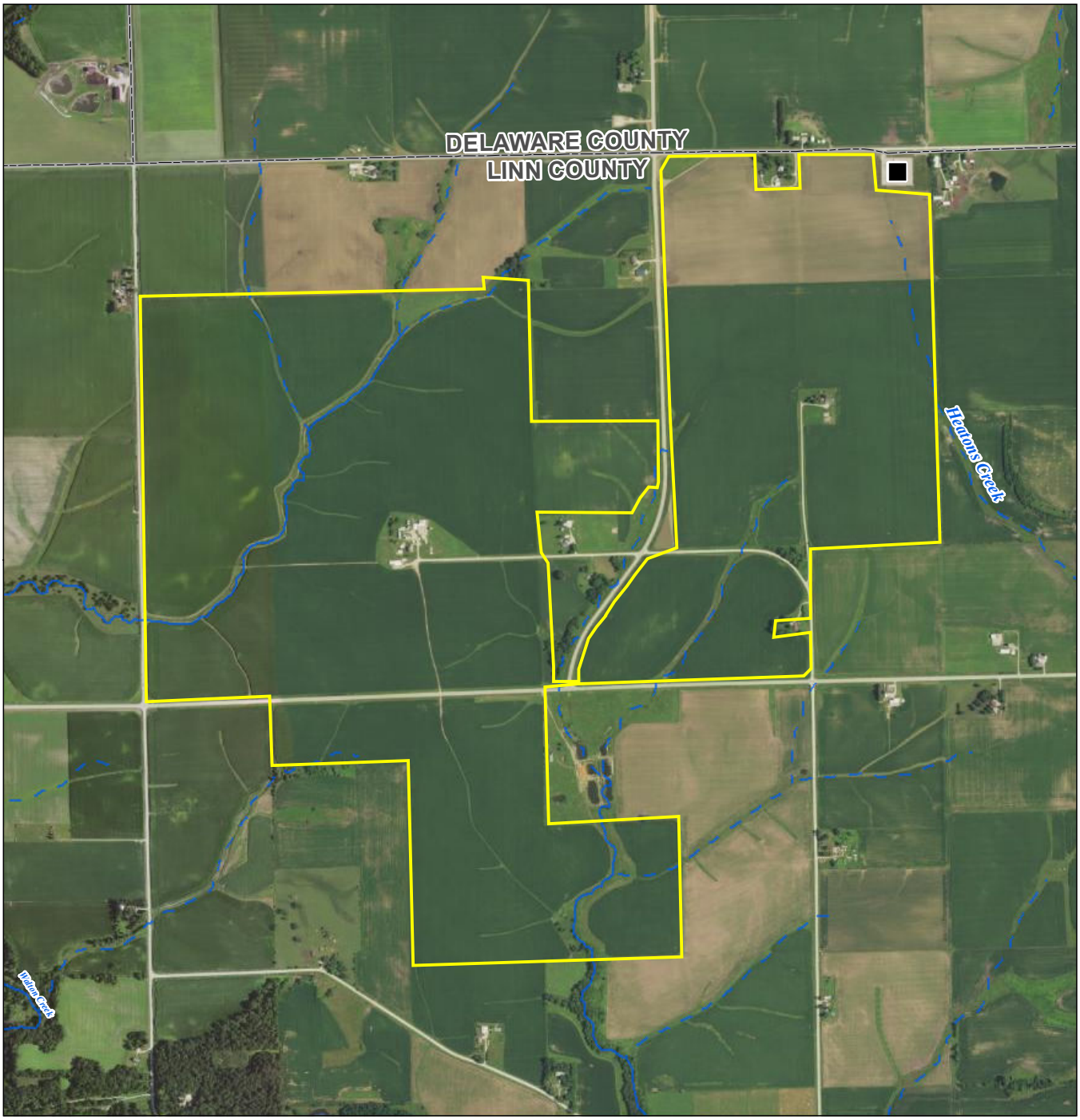
Prepared by RA on 2021-03-16
TR by AS on 2021-03-16
IR by SP on 2021-03-17

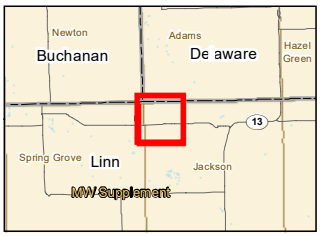
Client/Project 193708231
Coggon Solar Energy Project
Coggon Sollar LLC
NEPA

Figure No.
1

Title
Project Location

V:\1937\Active\193708231\03_data\gis_cad\gis\mxds\environmental_assessment\fig1_topo_193708231.mxd Revised: 2021-03-19 By: roalvarez





Legend

- Approximate Project Boundary
- Coggon Substation (Point of Interconnection)

National Hydrography Dataset

- Perennial Stream
- Intermittent Stream
- Waterbody

0 750 1,500 Feet

(At original document size of 8.5x11)
1:18,000

N

Stantec

Notes

1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, USGS, NADS
3. Background: 2019 NAIP

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

Prepared by RA on 2021-03-16
TR by AS on 2021-03-16
IR by SP on 2021-03-17

Client/Project 193708231
Coggon Solar Energy Project
Coggon Sollar LLC
NEPA

Figure No.
2

Title
Project Overview

From:	Parks, Stacey
To:	Doershuk, John F; heather.gibb@iowa.gov
Cc:	Howard, Basia - RD, Washington, DC; Bastis, Kristen - RD, Washington, DC; Allen, Christine - RD, Washington, DC; Tom Fitzgerald; Layne Ashton
Subject:	RE: [External] Agency Scoping, USDA Rural Utilities Service - Coggon Solar Project, Linn County, Iowa
Date:	Wednesday, April 14, 2021 12:00:00 PM
Attachments:	image002.png

Thanks, John. We will keep your response below with the administrative record for the project.

We did send a separate letter/submittal to Heather Gibb at the Iowa SHPO, but I really appreciate your summary of the responsibilities of both agencies.

We will reach out again later this summer once cultural surveys are complete and RUS is ready to begin the Section 106 process

Thanks again for your response. Have a good day!

Stacey

Stacey Parks
Associate/Senior Scientist

Mobile: 319 327-0457
Stacey.Parks@stantec.com

Stantec
2300 Swan Lake Boulevard Suite 202
Independence IA 50644-9708

From: Doershuk, John F <john-doershuk@uiowa.edu>
Sent: Wednesday, April 14, 2021 11:46 AM
To: Parks, Stacey <Stacey.Parks@stantec.com>; heather.gibb@iowa.gov
Cc: Howard, Basia - RD, Washington, DC <basia.howard@usda.gov>; Bastis, Kristen - RD, Washington, DC <Kristen.Bastis@usda.gov>; Allen, Christine - RD, Washington, DC <Christine.Allen@usda.gov>; Tom Fitzgerald <tom.fitzgerald@clenera.com>; Layne Ashton <layne.ashton@clenera.com>
Subject: RE: [External] Agency Scoping, USDA Rural Utilities Service - Coggon Solar Project, Linn County, Iowa

Thank you for this information on this important project. I do not see that you included the Iowa SHPO in this communication, perhaps because you have separately submitted the same information to them via their electronic portal. If not, please be aware that in Iowa the SHPO and OSA offices are separate, with Section 106 review and compliance responsibilities part of SHPO. OSA is responsible under Iowa State Code for protection and preservation of ancient human remains and for providing access to qualified users archaeological information such as locations of recorded archaeological sites and where previous investigations have been completed (along with the documents and photographs for each). OSA staff are also available on a fee basis to provide research services (archival, field, and reporting) as needed in support of Section 106 undertakings.

OSA is also an interested party to all Section 106 undertakings in Iowa; in this role I have accessed data available for the proposed project area and can provide the following observations. One previous archaeological survey, for a narrow north-south corridor, was conducted in 1985. The majority of the area investigated, which primarily follows the Section 5 and 6 boundary, is not included within the current project area boundaries as depicted in the figures provided. No archaeological sites were found by this survey but also the field methods used do not meet modern standards. Despite the lack of prior professional archaeological survey for this proposed project area, there are two recorded sites on file (13LN486 and 13LN505); neither has been evaluated for NRHP eligibility.

In sum, my recommendation is that the entire proposed project area has moderate potential for intact and significant archaeological sites and should be subject to investigation prior to ground-disturbing activities following the best practices as detailed in the *Guidelines for Archaeological Investigation* in Iowa (http://aiarchaeologist.org/guidelines/). Given the projected construction inception date of March 2022 this means given weather constraints that Phase I archaeological identification survey should commence as soon as practical (given consultation considerations) to allow for any additional evaluation or mitigation fieldwork prior to fall ground freeze (likely mid-November 2021) that prove needed.

Sincerely,
John

John F. Doershuk, Ph.D. (he, him, his)
State Archaeologist and Director, Office of the State Archaeologist
Adjunct Associate Professor, Anthropology
700 Clinton St. Building, University of Iowa
Iowa City, IA 52242
Office: 319-384-0751 Mobile: 319-530-9148
https://archaeology.uiowa.edu

IOWA

From: Parks, Stacey <Stacey.Parks@stantec.com>
Sent: Wednesday, April 14, 2021 9:33 AM
To: Doershuk, John F <john-doershuk@uiowa.edu>
Cc: Howard, Basia - RD, Washington, DC <basia.howard@usda.gov>; Bastis, Kristen - RD, Washington, DC <Kristen.Bastis@usda.gov>; Allen, Christine - RD, Washington, DC <Christine.Allen@usda.gov>; Tom Fitzgerald <tom.fitzgerald@clenera.com>; Layne Ashton <layne.ashton@clenera.com>
Subject: [External] Agency Scoping, USDA Rural Utilities Service - Coggon Solar Project, Linn County, Iowa

Good Morning –

Attached for your review please find an agency scoping letter for the proposed Coggon Solar Project located in Linn County, Iowa. A hard copy of this letter was submitted to your office with enclosures; however, in light of the COVID 19 pandemic, I am also submitting the information via email at the request of the U.S. Department of Agriculture (USDA) Rural Utilities Services (RUS).

Coggon Solar, LLC is seeking funding assistance for the Coggon Solar Project from the USDA RUS. Therefore, the project will be reviewed under the jurisdiction of the RUS. In accordance with the RUS National Environmental Policy Act (NEPA) guidance, the project will require the preparation of an Environmental Assessment (EA, 7 CFR Part 1970 C), biological and cultural studies and related state and federal permitting. If the RUS elects to fund the project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800. The purpose of the attached letter is to formally introduce the project and request agency comments to identify project constraints early in the NEPA process.

Following your review, any questions or comments concerning Section 106 review of the project can be directed to Basia Howard by email at basia.howard@usda.gov. Any general questions or comments about the project can be directed to Kristen Basis by email at kristen.basis@usda.gov.

Thanks,

Stacey Parks
Associate/Senior Scientist

Mobile: 319 327-0457
Stacey.Parks@stantec.com

Stantec
2300 Swan Lake Boulevard Suite 202
Independence IA 50644-9708

Tribal Outreach Letters and Responses

USDA
United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Room 4010 Stop 1571 Washington, DC 20250

Voice 202.380.6340

April 12, 2021

Ms. Diane Hunter, Tribal Historic Preservation Officer
Mr. Douglas Lankford, Chief
Miami Tribe of Oklahoma
P.O. Box 1326
Miami, OK 74355

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

Dear Ms. Hunter and Mr. Lankford,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022. You are being contacted about this project because of the possible interest of the Miami Tribe of Oklahoma in Linn County, Iowa.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. If the RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800.

Project Background

Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019 and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

Project Description

This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately

connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

Should the Miami Tribe of Oklahoma elect to participate in the Section 106 review of the Project, please notify the RUS in writing via letter or email at your earliest convenience. Questions or comments concerning Section 106 review of the Project can be directed to Basia Howard at 202-205-9756 or by email at basia.howard@usda.gov. Any general questions or comment about the Project can be directed to Kristen Bastis at 202-692-4910 or by email at kristen.bastis@usda.gov.

Ms. Basia M. Howard, M.A.
Deputy Federal Preservation Officer, Archaeologist
Rural Utilities Service, Rural Development
U.S. Department of Agriculture

Enclosures

CC
Stacey Parks, Associate/Senior Scientist, Stantec

From: Howard, Basia - RD, Washington, DC
To: Bastis, Kristen - RD, Washington, DC; Parks, Stacey
Subject: FW: [External Email]Coggon Solar, LLC Solar Project, Linn County, Iowa – Comments of the Miami Tribe of Oklahoma
Date: Wednesday, May 5, 2021 9:45:12 AM
Attachments: Coggon Solar, LLC Solar Proj[redacted]Comments of the Miami Tribe of Oklahoma.pdf

FYI

From: THPO <thpo@miamination.com>
Sent: Wednesday, May 5, 2021 10:32 AM
To: Howard, Basia - RD, Washington, DC <basia.howard@usda.gov>
Subject: [External Email]Coggon Solar, LLC Solar Project, Linn County, Iowa – Comments of the Miami Tribe of Oklahoma

Dear Ms. Howard:

Attached you will find the response of the Miami Tribe of Oklahoma to the above-referenced project.

Respectfully,

Diane Hunter
Tribal Historic Preservation Officer
Miami Tribe of Oklahoma
dhunter@miamination.com
918-541-8966

Miami Tribe of Oklahoma

3410 P St. NW, Miami, OK 74354 ● P.O. Box 1326, Miami, OK 74355
Ph: (918) 541-1300 ● Fax: (918) 542-7260
www.miamination.com

Via email: Basia.Howard@usda.gov

May 5, 2021

Basia Howard, M.A.
Deputy Federal Preservation Officer, Archaeologist
U.S. Department of Agriculture
Rural Utilities Service, Rural Development
1400 Independence Ave SW, Room 4010
Stop 1571
Washington, DC 20250

Re: Coggon Solar, LLC Solar Project, Linn County, Iowa – Comments of the Miami Tribe of Oklahoma

Dear Ms. Howard,

Aya, kikwehsitoole – I show you respect. The Miami Tribe of Oklahoma, a federally recognized Indian tribe with a Constitution ratified in 1939 under the Oklahoma Indian Welfare Act of 1936, respectfully submits the following comments regarding Coggon Solar, LLC Solar Project in Linn County, Iowa.

The Miami Tribe offers no objection to the above-referenced project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, given the Miami Tribe's deep and enduring relationship to its historic lands and cultural property within present-day Iowa, if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at 918-541-8966 or by email at dhunter@miamination.com to initiate consultation.

The Miami Tribe accepts the invitation to serve as a consulting party to the proposed project. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

Respectfully,

Diane Hunter

Diane Hunter
Tribal Historic Preservation Officer

USDA
United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Room 4010 Stop 1571 Washington, DC 20250

Voice 202.380.6340

April 12, 2021

Mr. Bobby Komardley, Chairman
Apache Tribe of Oklahoma
P.O. Box 1330
Andarko, OK 73005

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

Dear Mr. Komardley,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022. You are being contacted about this project because of the possible interest of the Apache Tribe of Oklahoma in Linn County, Iowa.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. If the RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800.

Project Background

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Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019 and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

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Should the Apache Tribe of Oklahoma elect to participate in the Section 106 review of the Project, please notify the RUS in writing via letter or email at your earliest convenience. Questions or comments concerning Section 106 review of the Project can be directed to Basia Howard at 202-205-9756 or by email at basia.howard@usda.gov. Any general questions or comment about the Project can be directed to Kristen Bastis at 202-692-4910 or by email at kristen.bastis@usda.gov.

Ms. Basia M. Howard, M.A.
Deputy Federal Preservation Officer, Archaeologist
Rural Utilities Service, Rural Development
U.S. Department of Agriculture

Enclosures

CC
Stacey Parks, Associate/Senior Scientist, Stantec

USDA
United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Room 4010 Stop 1571 Washington, DC 20250

Voice 202.380.6340

April 12, 2021

Mr. David Grignon, Tribal Historic Preservation Officer
Ms. Joan Delabreau, Chairwoman
Menominee Indian Tribe of Wisconsin
P.O. Box 910
Keshena, WI 54135

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

Dear Mr. Grignon and Ms. Delabreau,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022. You are being contacted about this project because of the possible interest of the Menominee Indian Tribe of Wisconsin in Linn County, Iowa.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. If the RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800.

Project Background

Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019 and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

Project Description

This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC

electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

Should the Menominee Indian Tribe of Wisconsin elect to participate in the Section 106 review of the Project, please notify the RUS in writing via letter or email at your earliest convenience. Questions or comments concerning Section 106 review of the Project can be directed to Basia Howard at 202-205-9756 or by email at basia.howard@usda.gov. Any general questions or comment about the Project can be directed to Kristen Bastis at 202-692-4910 or by email at kristen.bastis@usda.gov.

Ms. Basia M. Howard, M.A.
Deputy Federal Preservation Officer, Archaeologist
Rural Utilities Service, Rural Development
U.S. Department of Agriculture

Enclosures

CC
Stacey Parks, Associate/Senior Scientist, Stantec

USDA
United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Room 4010 Stop 1571 Washington, DC 20250

Voice 202.380.6340

April 12, 2021

Mr. Edmore Green, Chairman
Sac & Fox Nation of Missouri in Kansas and Nebraska
305 N. Main Street
Reserve, KS 66434

Reference: *Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa*

Dear Mr. Green,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022. You are being contacted about this project because of the possible interest of the Sac & Fox Nation of Missouri in Kansas and Nebraska in Linn County, Iowa.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. If the RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800.

Project Background

Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019 and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

Project Description

This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately

connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

Should the Sac & Fox Nation of Missouri in Kansas and Nebraska elect to participate in the Section 106 review of the Project, please notify the RUS in writing via letter or email at your earliest convenience. Questions or comments concerning Section 106 review of the Project can be directed to Basia Howard at 202-205-9756 or by email at basia.howard@usda.gov. Any general questions or comment about the Project can be directed to Kristen Bastis at 202-692-4910 or by email at kristen.bastis@usda.gov.

Ms. Basia M. Howard, M.A.
Deputy Federal Preservation Officer, Archaeologist
Rural Utilities Service, Rural Development
U.S. Department of Agriculture

Enclosures

CC
Stacey Parks, Associate/Senior Scientist, Stantec

USDA
United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Room 4010 Stop 1571 Washington, DC 20250

Voice 202.380.6340

April 12, 2021

Ms. Sandra Massey, Tribal Historic Preservation Officer
Mr. Justin Wood, Principal Chief
Sac & Fox Nation, Oklahoma
920883 South Highway 99, Building A
Stroud, OK 74079

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

Dear Ms. Massey and Mr. Wood,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022. You are being contacted about this project because of the possible interest of the Sac & Fox Nation, Oklahoma in Linn County, Iowa.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. If the RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800.

Project Background

Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019 and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

Project Description

This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC

electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

Should the Sac & Fox Nation, Oklahoma elect to participate in the Section 106 review of the Project, please notify the RUS in writing via letter or email at your earliest convenience. Questions or comments concerning Section 106 review of the Project can be directed to Basia Howard at 202-205-9756 or by email at basia.howard@usda.gov. Any general questions or comment about the Project can be directed to Kristen Bastis at 202-692-4910 or by email at kristen.bastis@usda.gov.

Ms. Basia M. Howard, M.A.
Deputy Federal Preservation Officer, Archaeologist
Rural Utilities Service, Rural Development
U.S. Department of Agriculture

Enclosures

CC
Stacey Parks, Associate/Senior Scientist, Stantec

USDA
United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Room 4010 Stop 1571 Washington, DC 20250

Voice 202.380.6340

April 26, 2021

Ms. Judith Bender, Chairwoman
Sac & Fox Tribe of the Mississippi in Iowa
349 Meskwaki Road
Tama, IA 52339

Reference: ***Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa***

Dear Ms. Bender,

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size. Construction of the Project is anticipated to begin in March of 2022 with a projected Commercial Operation Date of December 2022. You are being contacted about this project because of the possible interest of the Sac & Fox Nation of Missouri in Kansas and Nebraska in Linn County, Iowa.

Coggon Solar is seeking funding assistance for the Project from the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS). Therefore, the Project will be reviewed under the jurisdiction of the RUS. If the RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S. Code (U.S.C.) 306108, and its implementing regulations, 36 CFR Part 800.

Project Background

Coggon Solar executed a Power Purchase Agreement (PPA) with Central Iowa Power Cooperative (CIPCO) for 100% of the Project's energy output for a 20-year term beginning in 2022. More than approximately 300,000 customers are served by CIPCO through 13 member cooperatives. The Project location was selected due to its proximity to the Coggon Substation, located immediately northeast of the Project site and south of County Road W63 (see Figure 2). The Coggon Substation was identified by CIPCO as having sufficient capacity for a 100 MW solar project to interconnect utilizing existing infrastructure at the substation (i.e., no substation improvements needed to accommodate the Project).

Public Outreach

Coggon Solar met with and voluntarily negotiated with multiple landowners and has executed voluntary land agreements for the entire Project without the use of eminent domain. Public outreach for the Project included a public meeting held in January 2019

and Project mailers distributed in December 2020 to all landowners within 1,000 feet of the Project. Linn County officials, as well as CIPCO, have been engaged with and are in support of the Project and the benefits it will bring to Linn County, as well as to electric ratepayers in Iowa.

Project Description

This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

Should the Sac & Fox Tribe of the Mississippi in Iowa elect to participate in the Section 106 review of the Project, please notify the RUS in writing via letter or email at your earliest convenience. Questions or comments concerning Section 106 review of the Project can be directed to Basia Howard at 202-205-9756 or by email at basia.howard@usda.gov. Any general questions or comment about the Project can be directed to Kristen Bastis at 202-692-4910 or by email at kristen.bastis@usda.gov.

For Erika K. Martin Seibert, Ph.D.
Federal Preservation Officer, Archaeologist
Rural Utilities Service, Rural Development
U.S. Department of Agriculture

Enclosures

CC
Stacey Parks, Associate/Senior Scientist, Stantec

Section 106 Consultation – November 2021

USDA
United States Department of Agriculture

11/4/2021

Rural Development
Rural Utilities Service
1400 Independence Ave SW, Room 2230 Stop 1570,
Washington, DC, 20250
Voice 202.695.2540

Iowa Department of Cultural Affairs
State Historic Preservation Office
State Historical Building, 3rd Floor East
600 E. Locust Street
Des Moines, Iowa 50319

Subject: USDA RD Rural Utilities Service Staff SHPO Recommended Finding of No Adverse Effects
Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa.

Dear Ms Gibb:

Coggon Solar, LLC is seeking financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its Electric Program for Coggon Solar Project. This Project will not be using the NPA.[1]

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

The Coggon Solar project's purpose is to construct a commercial solar facility to generate and distribute PV solar energy, a clean renewable energy source, to the existing electrical grid within CIPCO's service territory and meet CIPCO's commitment to providing its member cooperatives and their communities, including Linn County, cost-effective, safe, and reliable energy. Coggon Solar executed a PPA with CIPCO for 100% of the Project's energy output for a 20-year term beginning in 2022, and development of the Project is consistent with goals and objectives specific to

[1] *Nationwide Programmatic Agreement among the U.S. Department of Agriculture Rural Development Programs, National Conference of State Historic Preservation Officers, Tribal Signatories, and The Advisory Council on Historic Preservation for Sequencing Section 106* (NPA).

alternative and renewable energy set forth in the Linn County Comprehensive Plan (Linn County 2013).

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered “direct” regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). “Indirect” effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

The APE for the referenced project consists of The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size as shown on the enclosed map. Additionally, The APE does not include any federal and/or tribal lands as defined pursuant to 36 CFR § 800.16(x).

On 4/12/2021 the following Indian tribes were notified about the Coggon Solar Project: Sac & Fox Nation Oklahoma, Sac & Fox Nation of Missouri in Kansas and Nebraska, Menominee Indian Tribe of Wisconsin, Sac & Fox Tribe of the Mississippi in Iowa, Miami Tribe of Oklahoma, Apache Tribe of Oklahoma. In a letter dated May 5, 2021, The Miami Tribe of Oklahoma responded stating “The Miami Tribe offers no objection to the above-referenced project at this time” and requested to be contacted regarding any post review discoveries. The remaining five tribes did not respond.

The enclosed report titled, Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa issued in September 2021 describes the results of the survey of the APE. Three sites were identified during the Phase I survey and all three sites are recommended not eligible for the National Register of Historic Places (NRHP). A viewshed analysis identified structures that may be eligible for the NRHP. Coggon solar is willing to install vegetative screening for the life of the project so that none of the Historic Properties in the view shed will be adversely effected. Based on the findings of the Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa September 2021, and the vegetative screening installation, a

finding of no historic properties affected in accordance with 36 CFR § 800.4(d)(1) is appropriate for the referenced project.

Accordingly, the RUS is submitting a finding of no historic properties affected in accordance with 36 CFR § 800.4(d)(1) and supporting documentation for review and consideration by the Iowa State Historic Preservation Office. Please provide your concurrence or objection, **electronically** within 30 days of your receipt of this recommended finding. In accordance with 36 CFR § 800.3(c)(4), RUS will proceed to the next step in review if we do not receive a response from you within thirty days. Please direct any questions you may have to Kristen Bastis, Environmental Protection Specialist at kristen.bastis@usda.gov.

Sincerely,

Erika Seibert
Federal Preservation Officer
Rural Utilities Service

Enclosure(s)

Map of the project area

Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa

From:	Bastis, Kristen - RD, Washington, DC
To:	Parks, Stacey
Subject:	R&C 210457122 - RECD - Linn - Coggon Solar - Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development located approximately 2.8 miles west of the town of C
Date:	Wednesday, December 8, 2021 9:37:52 AM

Stacey,
SHPO responded.

They concurred with the no effect with conditions of the vegetative screening.

Kristen Bastis, MA, RPA
Archaeologist/EPS, RUS
202- 961-6139 - cell
202-692-4910 - desk
Kristen.Bastis@usda.gov

From: noreply@salesforce.com <noreply@salesforce.com> **On Behalf Of** Sara Andre
Sent: Wednesday, December 8, 2021 10:26 AM
To: Bastis, Kristen - RD, Washington, DC <Kristen.Bastis@usda.gov>
Cc: shpo106@iowa.gov; dan.higginbottom@iowa.gov; Seibert, Erika - RD, Washington, DC <erika.seibert@usda.gov>
Subject: [External Email]R&C 210457122 - RECD - Linn - Coggon Solar - Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development located approximately 2.8 miles west of the town of Co...

We have received your submittal for the above referenced federal undertaking. We provide the following response in accordance with Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations 36 CFR 800.

Regarding this project, please see the following comments:

R&C 210457122 - RECD - Linn - Coggon Solar - Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development located approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (Figure 1, Appendix A). The initial Project area was approximately 750 acres in size; however, the Project area has been refined and is currently approximately 638.4 acres in size. The Project will provide renewable energy to CIPCO through the electrical transmission grid at CIPCO's Coggon Substation via an up to 400-foot 161kV transmission line (gen-tie) (Figure 2, Appendix A). The Project will generate electricity using multiple arrays of photovoltaic (PV) panels electrically connected to associated power inverter units. The current from the power conversion units (PCUs) will be gathered by an internal electrical collection system and will dead end at a proposed Project substation.

- Concur with the federal agency and/or their designated representative (No Adverse Effect - With Conditions)
- This is a no adverse effect with the conditions that National Register-eligible historic resources within the APE will be screened with large shrubs, trees, etc. to lessen the effect of the project.
- BCA 2843 is consistent with AIA Guidelines for Phase I intensive level survey.

You will not receive a hard copy of this email. It is the submitter's responsibility to maintain the official file of record. If you have any questions or comments, please feel free to contact our office.

Kind regards,

Sara André
Architectural Historian
State Historic Preservation Office
sara.andre@iowa.gov | 515-242-6157 | iowaculture.gov

Iowa Arts Council | Produce Iowa | State Historical Society of Iowa

Iowa Department of Cultural Affairs

USDA
United States Department of Agriculture

11/4/2021

Rural Development
Rural Utilities Service
1400 Independence Ave SW, Room 2230 Stop 1570,
Washington, DC, 20250
Voice 202.695.2540

Ms. Diane Hunter, Tribal Historic Preservation Officer
Miami Tribe of Oklahoma
P.O. Box 1326
Miami, OK 74355

Subject: USDA RD Rural Utilities Service Staff THPO Finding of No Adverse Effect to Historic Properties
Coggon Solar, LLC (c/o Clenera LLC), Proposed Coggon Solar Project, Linn County, Iowa

Dear Ms. Hunter:

Coggon Solar, LLC is seeking financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its Electric Program for Coggon Solar Project, Linn County, Iowa (Project). This Project will not be using the NPA.[1]

Coggon Solar, LLC (Coggon Solar) is proposing to construct the Coggon Solar Project (the Project), a 100 megawatt (MW) solar development approximately 2.8 miles west of the town of Coggon, Iowa (Linn County) (see Figures 1 and 2 attached). This Project will utilize solar photovoltaic (PV) modules to convert the energy from sunlight to DC electricity. The modules will be mounted on single-axis trackers, which rotate along a north-south axis to track the sun movement from the east in the morning to the west in the evening. The Project area will be completely fenced with roads around the perimeter and interspersed through the PV array. Within the fence, the solar modules are connected to solar inverters which convert DC electricity to AC electricity. The inverters are then joined in series and parallel, ultimately connecting to the Project substation. Within the Project substation, a main power transformer steps up the voltage from the collection system voltage to 161 kilovolts (kV) for interconnection to the transmission system at the adjacent Coggon Substation. The Project substation also provides for electrical protection, metering, communications, and emergency safety.

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[1] *Nationwide Programmatic Agreement among the U.S. Department of Agriculture Rural Development Programs, National Conference of State Historic Preservation Officers, Tribal Signatories, and The Advisory Council on Historic Preservation for Sequencing Section 106* (NPA).

alternative and renewable energy set forth in the Linn County Comprehensive Plan (Linn County 2013).

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

The APE for the referenced project consists of The Project area currently being analyzed is approximately 750 acres in size; however, the Project footprint will ultimately be no larger than 640 acres in size as shown on the enclosed map. Additionally, The APE does not include any federal and/or tribal lands as defined pursuant to 36 CFR § 800.16(x).

On 4/12/2021 the following Indian tribes were notified about the Coggon Solar Project: Sac & Fox Nation Oklahoma, Sac & Fox Nation of Missouri in Kansas and Nebraska, Menominee Indian Tribe of Wisconsin, Sac & Fox Tribe of the Mississippi in Iowa, Miami Tribe of Oklahoma, Apache Tribe of Oklahoma. In a letter dated May 5, 2021, The Miami Tribe of Oklahoma responded stating "The Miami Tribe offers no objection to the above-referenced project at this time" and requested to be contacted regarding any post review discoveries. The remaining five tribes did not respond.

The enclosed report titled, Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa describes the results of the survey of the area of potential effects (APE). Three sites were identified during the Phase I survey and all three sites are recommended not eligible for the National Register of Historic Places (NRHP). A viewshed analysis identified structures that may be eligible for the NRHP. Coggon solar is willing to install vegetative screening for the life of the project so that none of the Historic Properties in the view shed will be adversely effected. Based on the findings of the Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa September 2021, and the screening installation, a finding of no adverse effect in accordance with 36 CFR § 800.5(b) is appropriate for the referenced project.

Accordingly, the RUS is submitting a finding of no historic properties affected in accordance with 36 CFR § 800.4(d)(1) and supporting documentation for review and consideration by the Miami Tribe of Oklahoma. Please provide your concurrence or objection, **electronically** within 30 days of your receipt of this recommended finding. In accordance with 36 CFR § 800.3(c)(4), RUS will proceed to the next step in review if we do not receive a response from you within thirty days. Please direct any questions you may have to Kristen Bastis, Environmental Protection Specialist at kristen.bastis@usda.gov.

Sincerely,

Erika Seibert
Federal Preservation Officer
Rural Utilities Service

Enclosure(s)

Map of the project area

Phase I Cultural Resources Investigation for the proposed Coggon Solar Project, Linn, Delaware, and Buchannan Counties, Iowa

Miami Tribe of Oklahoma
3410 P St. NW, Miami, OK 74354 ● P.O. Box 1326, Miami, OK 74355
Ph: (918) 541-1300 ● Fax: (918) 542-7260
www.miamination.com

Via email: Kristen.Bastis@usda.gov

February 2, 2022

Kristen J. Bastis, MA
Environmental Protection Specialist
Environment and Engineering Staff
Water and Environmental Programs
Rural Utilities Service, Rural Development
United States Department of Agriculture
1400 Independence Ave., S.W.
Washington, DC 20250

Re: Coggon Solar Project, Linn County, Iowa – Comments of the Miami Tribe of Oklahoma

Dear Ms. Bastis:

Aya, kikwehsitoole – I show you respect. The Miami Tribe of Oklahoma, a federally recognized Indian tribe with a Constitution ratified in 1939 under the Oklahoma Indian Welfare Act of 1936, respectfully submits the following comments regarding Coggon Solar Project in Linn County, Iowa.

The Miami Tribe offers no objection to the above-referenced project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, given the Miami Tribe's deep and enduring relationship to its historic lands and cultural property within present-day Iowa, if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at 918-541-8966 or by email at dhunter@miamination.com to initiate consultation.

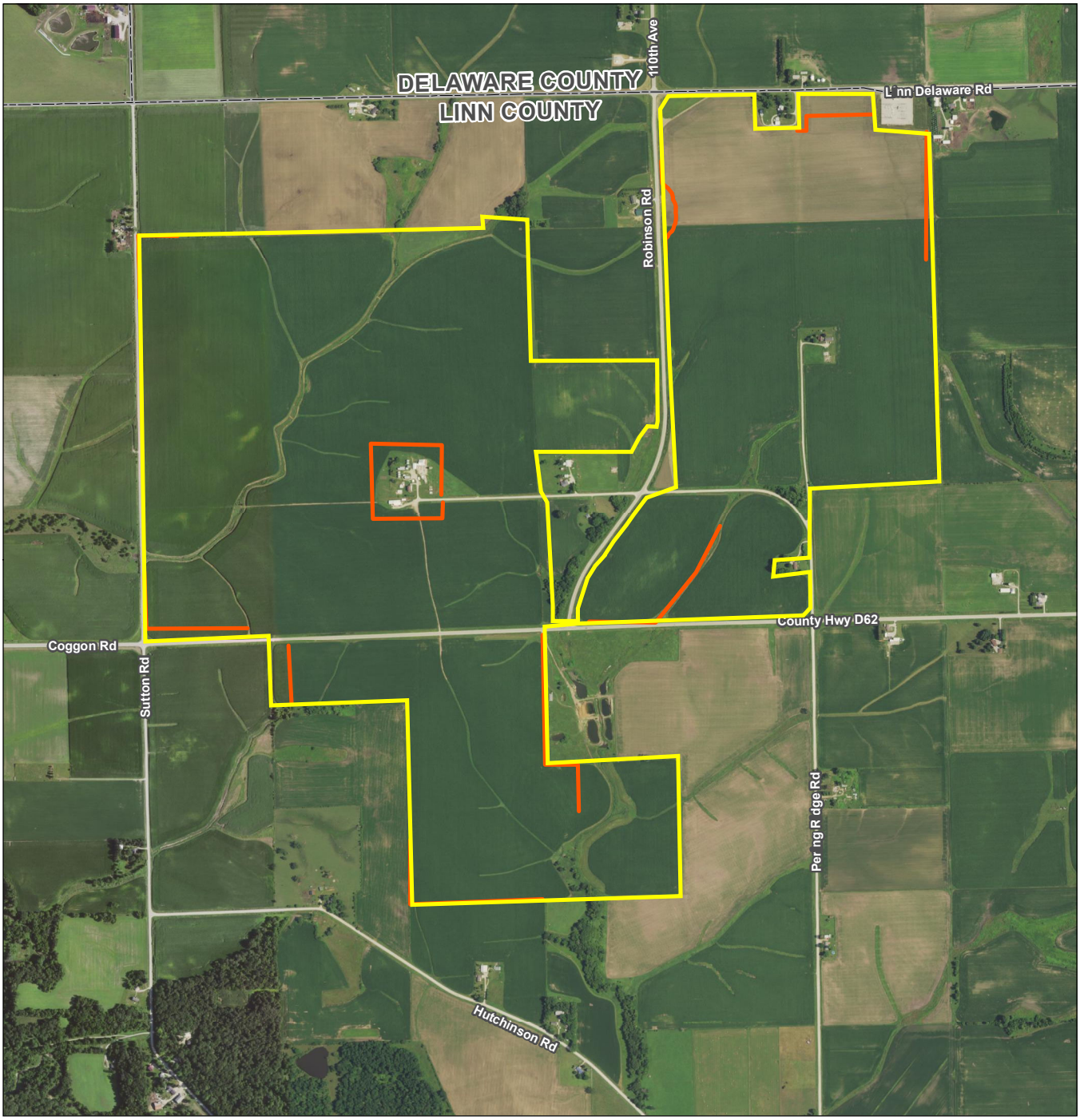
The Miami Tribe accepts the invitation to serve as a consulting party to the proposed project. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

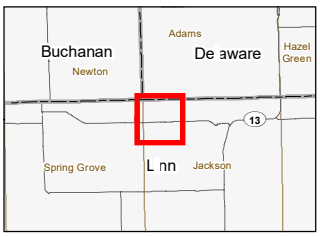
Respectfully,

Diane Hunter

Diane Hunter
Tribal Historic Preservation Officer

Preliminary Vegetative Screening Plan





Legend

- NEPA Analysis Area
- Preliminary Vegetative Screening

0 750 1,500 Feet

(At original document size of 8.5x11)
1:18,000

N

Stantec

Project Location
T86N, R6W, S5, 6, 7, 8
T. of Jackson, Linn Co., IA

Prepared by ML on 2022-03-29
TR by JM on 2022-03-29
IR by SP on 2022-03-29

Client/Project 193708231
Coggon Solar LLC
Coggon Solar Energy Project
NEPA

Title
Preliminary Vegetative Screening Plan

Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Stantec, Coggon Solar LLC, NADS
3. Background: 2019 NAIP

V:\19377\Active\193708231\03_data\gis_cad\gis\mxds\screening_plan\fig_screening_plan_193708231.mxd Revised: 2022-03-29 By: melamont

Coggon Substation – Section 106 Consultation

From:	Jones, Doug [DCA]
To:	Terry Fett; emily.orler@wdc.usda.gov; dennis.rankin@wdc.usda.gov; Laura.Dean@wdc.usda.gov
Cc:	Strand, June [DCA]; Cownie, Mary [DCA]; rwithrow@louisberger.com; Higginbottom, Daniel [DCA]; Jones, Doug [DCA]; King, Steve [DCA]
Subject:	RE: 130857060 CIPCO Coggon Substation Construction project in Linn County LBG Phase I Survey
Date:	Thursday, November 7, 2013 5:31:32 PM
Attachments:	[redacted] Phase I Survey RUS DTRM.pdf

Attached is the official SHPO comment letter for the above-referenced project, provided in accordance with Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations, 36 CFR Part 800 (revised, effective August 5, 2004). To read the document, you may need to download a free copy of Adobe Acrobat Reader at www.adobe.com.

Please note that you will not receive a hard copy of this letter by mail. There is no need to reply to this email unless you have specific questions or have problems opening the document. Feel free to contact me by email or phone.

Douglas W. Jones, Archaeologist and Review and Compliance Program Manager
and Interim Deputy State Historic Preservation Officer
State Historic Preservation Office
State Historical Society of Iowa
(515) 281-4358

NOV 0 4 2013

USDA

United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Stop 1571
Washington, DC 20250

October 29, 2013

TO: Doug Jones
Int. Deputy State Historic Preservation Officer
State Historical Society of Iowa

FROM: Mark S. Plank
Director, Engineering & Environmental Staff
USDA Rural Utilities Service

Mark S. Plank

SUBJECT: Central Iowa Power Cooperative – Coggon 161/69 kV Substation
R&C#: 130857060

The Rural Utilities Service (RUS) provide financial assistance to Central Iowa Power Cooperative (CIPCO) for the construction of the Coggon 161/69 kV Substation in Linn County, Iowa (R&C#: 130857060). RUS has determined that the projects are undertakings subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. 470f, and its implementing regulation, "Protection of Historic Properties" (36 CFR Part 800). The area of potential effects (APE) for the projects is defined as the 3.8 acre footprint of the proposed substation.

On behalf of CIPCO, the Louis Berger Group, Inc. prepared an archeological survey short report that consisted of archival background research, pedestrian survey, and six subsurface tests. The survey did not identify any archeological features, including prehistoric burial mounds, or historic structures within the APE. CIPCO submitted this survey to the SHPO in August 2013.

Based on review of the survey and the correspondence between CIPCO and the Iowa State Historic Preservation Office (SHPO), RUS has determined that the undertakings will have ***no historic properties affected.*** This finding concludes Section 106 review since it consistent with the recommendations made by the SHPO via email correspondence on August 27, 2013. Should you have any questions, please contact Emily Orler, RUS Environmental Protection Specialist, at Emily.orler@wdc.usda.gov.

CONCUR

NAME Douglas W. Jones

INT. DEPUTY STATE HISTORIC PRESERVATION OFFICER

DATE 11/7/2013

Appendix K – Viewshed Analysis

Stantec

Memo

To:	Stacey Parks, Project Manager	From:	Brandon Connare, Environmental Scientist
	Independence, IA		Buffalo, NY
File:	Coggan Solar Project	Date:	September 17, 2021

Reference: Coggon Solar Project Viewshed Analysis

Stantec Consulting Services, Inc. (Stantec) has produced, as requested by Coggon Solar, LLC (Coggan Solar), a viewshed analysis for the proposed Coggon Solar Project (Project), located near the city of Coggon, Iowa (Figure 1). A viewshed analysis is a GIS-based map indicating the potential visibility of a proposed project within a defined study area based upon the maximum height of proposed components and surrounding. This memorandum describes the approach taken to develop the viewshed analysis and discusses the results.

VIEWSHED ANALYSIS – APPROACH

A topographic viewshed map was prepared using United States Geological Survey (USGS) 3-meter digital elevation model (DEM) data, USGS National Land Cover Database (NLCD) data, coordinates, and dimensions of the Project Site layout as proposed, an assumed viewer height of 6 feet (1.8 meters), and ESRI ArcGIS® software with the Spatial Analyst extension. A uniformly spaced point grid covering the Project Site layout was created, and a 15-foot (4.6-meter) height was applied to all gridded points to represent the assumed maximum solar panel heights. NLCD land cover data was used to identify areas of forest land, and mapped locations of the forest land were assigned an assumed height of 40 feet and added to the DEM.

The above parameters were used in a viewshed analysis to model the degree of visibility (“More Visible” to “Less Visible”) of the Project within a four-mile radius (Study Area). The extent of potential visibility indicated in the analysis accounts for any line-of-sight obstruction by forested areas.

VIEWSHED ANALYSIS – RESULTS

The Project’s theoretical visibility is shown in the Project Viewshed Map (Figure 1). Project visibility is variable, and it is dependent upon proximity to the Project and topography of the surrounding area. Generally, visibility is greater from locations closer to the Project Site (i.e., within a one-mile radius; see Table 1).

Table 1. Project Visibility within a 4-mile Radius

	Area with Visibility (acres)	Area with no Visibility (acres)	Percentage of Area with Visibility
Within 1-mile radius	3,905	2,380	62%
Within 1 – 2-mile radius	2,062	7,196	22%
Within 2 – 3-mile radius	3,610	9,649	27%
Within 3 – 4-mile radius	9,649	13,618	41%
Total (within 4-mile radius)	**19,226**	**32,843**	**37%**

As distance from the Project increases, the influence of topographic features (e.g., ridges and river valleys) on Project visibility is more evident. A ridge that originates within the one-mile radius to the west of the Project Site, and extends further northwest, provides views where the Project is expected to be “More Visible,” particularly within the one- to two-mile radius. The Project is also visible (although, “Less Visible”) from areas

of higher elevation that are within the two- to three- and three- to four-mile radii northeast of the Project Site. Other, smaller, ridge tops within the Study Area also appear to offer views of the Project Site.

The Project Site is not visible from most lowlands, such as those associated with Buffalo Creek to the northeast or Wapsipinicon River to the southwest of the Project Site. Visibility of the Project Site also appears to be obstructed by areas of higher elevation that are closer to the Project Site. For instance, visibility of the Project is minimal beyond the ridge to the west of the Project where elevation and visibility are high. Project visibility appears to be minimal from larger residential areas, namely the City of Coggon, which is approximately two miles east of the Project Site.

Brandon Connare
Environmental Scientist

brandon.connare@stantec.com

Attachment: Figure 1 – Project Viewshed Map

c. Josh Hohn

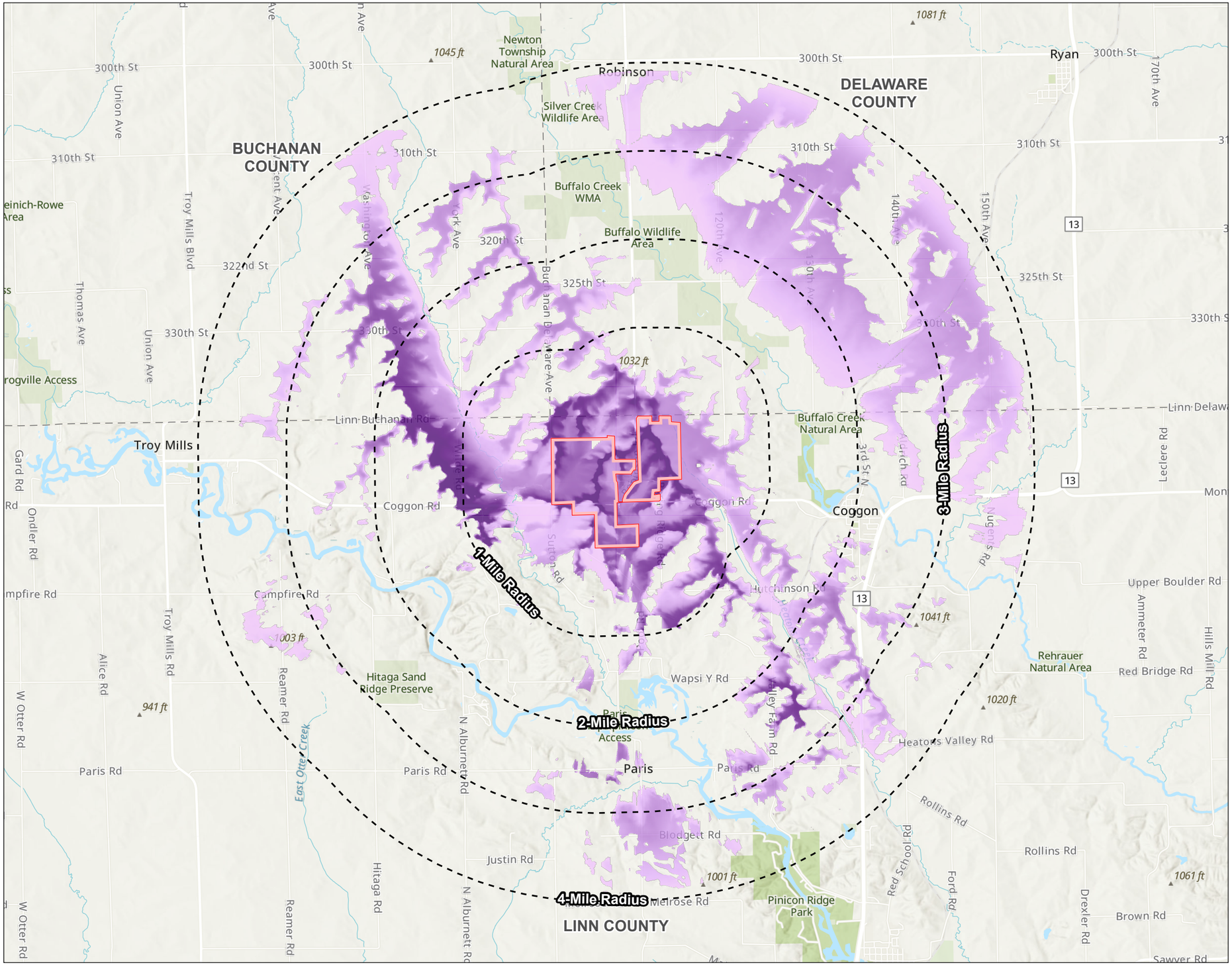


Figure No.
1

Title
Project Viewshed Map

Client/Project
Coggon Solar, LLC
Coggon Solar Project

193708231

Project Location
Linn County, Iowa

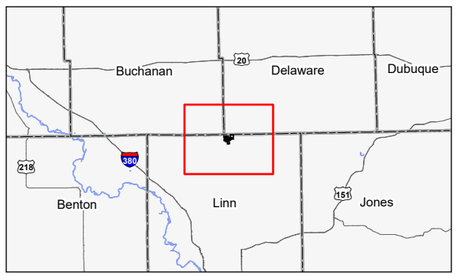
Prepared by JLH on 2021-08-04
TR by MZ on 2021-08-05
IR by SP on 2021-08-06

N

0 0.5 1 Miles
(At original document size of 11x17)
1:72,000

Legend
- Project Boundary
- Radius from Project Boundary

Visibility Assessment[4]
- More Visible
- Less Visible



Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: Stantec, Coggan Solar, USGS, NADS, NLCD, State of Iowa
3. Orthophotography: Esri
4. The value of "Visibility" indicates the theoretical visibility of solar panels 15 feet in height above the existing terrain to a 6 foot observer height. For areas with a forested land use classification a 40 foot elevation increase was added to the terrain for analysis purposes. 3 meter elevation data and NLCD land use data were used for this analysis.

Stantec