

Environmental Assessment

Alliance Proposed Solar Project Alliance, Box Butte County, Nebraska

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Prepared for:

U.S. Department of Agriculture
Rural Development Service

and

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List of Acronyms and Abbreviations

APE	Area of Potential Effect
BGEPA	Bald and Golden Eagle Protection Act
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CO	carbon monoxide
CREC	controlled recognized environmental condition
CWA	Clean Water Act
DC	direct current
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EMF	Electromagnetic Fields and Interference
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FCLs	Formally Classified Lands
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
FONSI	Finding of No Significant Impact
GPM	gallons per minute
IPaC	Information for Planning and Conservation
LEP	Limited English Proficiency
MEAN	Municipal Energy Agency of Nebraska
MW	megawatt

NAAQS	National Ambient Air Quality Standards
NDEE	Nebraska Department of Environment and Energy
NDNR	Nebraska Department of Natural Resources
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NOA	Notice of Availability
NO ₂	nitrogen dioxide
NOI	Notice of Intent
NO _x	nitrogen oxides
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
O ₃	ozone
OSHA	Occupational Safety and Health Administration
PAD-US	Protected Areas Database of the U.S.
Pb	lead
PPA	Power Purchase Agreement
PM _{2.5}	particulate matter under 2.5 microns
PM ₁₀	particulate matter under 10 microns
PV	photovoltaic
RECs	recognized environmental condition
RUS	Rural Utilities Service
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
T&E	Threatened and Endangered
THPO	Tribal Historic Preservation Office
TNW	traditionally navigable waters
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	volatile organic compounds
WOTUS	Waters of the United States

Introduction

This Environmental Assessment (EA) was prepared in accordance with Title 7 of the Code of Federal Regulations (CFR) Part 3100 (7 CFR 3100), which prescribes the policies and procedures of the U.S. Department of Agriculture (USDA) for implementing the National Environmental Policy Act (NEPA) of 1969, as amended, Title 7 CFR 1970 which provides environmental policies and procedures for the Rural Utilities Service (RUS), the regulations of the Council on Environmental Quality, 40 CFR parts 1500 through 1805, and the USDA Rural development guidance document 1970-C. Guidance document 1970-C serves as a guide for preparing EAs under NEPA. An EA is a concise public document used by the USDA to determine whether impacts associated with a project justify a finding of no significant impact or if preparation of an Environmental Impact Statement is needed.

USDA, Rural Development is a mission area that includes three federal agencies – Rural Business-Cooperative Service, Rural Housing Service, and Rural Utilities Service. The agencies have in excess of 50 programs that provide financial assistance and a variety of technical and educational assistance to eligible rural and tribal populations, eligible communities, individuals, cooperatives, and other entities with a goal of improving the quality of life, sustainability, infrastructure, economic opportunity, development, and security in rural America. Financial assistance can include direct loans, guaranteed loans, and grants in order to accomplish program objectives. The Applicant, SE Municipal Solar LLC is applying for funds under the RUS Electric Program Loan for Distributed Generation Energy Project Financing. Funding, if approved, will be used to finance 60% of total project costs.

An applicant seeking financial assistance from the USDA must sufficiently describe its proposal so that the USDA can apply the appropriate environmental review procedures for the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C] 4321, et seq.), related to review and approval. Serving as the lead federal agency, the RUS is responsible for compliance with NEPA, and as such, RUS must decide whether or not to provide financing assistance for this proposed project. Pursuant to CFR 7, the USDA must demonstrate that any decision complies with NEPA and requires that the environmental consequences of the proposed action and its alternatives be examined. This EA presents such an examination. The RUS's decision to approve financial assistance will be the analysis outlined in this EA in addition to subsequent detailed engineering and financial reviews.

The Municipal Energy Agency of Nebraska (MEAN) issued a request for proposals soliciting distributed solar electric generation for the City of Alliance, Nebraska. Distributed generation refers to electricity, usually from renewable sources, that is situated near the users as opposed to centralized generation from power plants where the electricity would have to be transmitted greater distances (thus increasing costs) to the consumer. SE Municipal Solar, LLC (SE Municipal Solar) prepared the winning bid to develop a solar facility and connect to the City of Alliance's electric grid, as well as obtain all necessary permits.

Terracon, retained by the applicant (SE Municipal Solar), has prepared this assessment in accordance with 7 CFR 1970, Subparts A (Environmental Policies) and C (NEPA EAs) as well as 40 CFR 1500. As part of this process, RUS will complete an independent analysis of this document to concur with scope and content. Once this analysis is complete, RUS may adopt this assessment as its EA in accordance with 7 CFR 1794.41.

1.0 PURPOSE AND NEED

1.1 Project Description

The proposed project area is approximately 1.5 miles west of the City of Alliance (Alliance), Nebraska and consists of a 60-acre tract of farmland located approximately 1,700 feet west of the intersection of Country Club Road and County Road 62 in Box Butte County (Box Butte County Assessor's Parcel Number 070046956). A general location map is provided as Exhibit 1 (Appendix A). The project site is relatively level, with a gentle gradient toward the east and an approximate elevation of 4,000 feet above mean sea level. No surface water features are located within one mile of the site.

The 60-acre site will be developed for distributed solar power generation, which includes the solar panels and associated support structures (racking), electrical inverters/transformers, buried electrical conduit, access apron, and security fencing. The proposed solar generation facility will be placed on land owned by Alliance, connecting to its municipal electric distribution system.

The project will deliver its generation to a transformer on site and will connect to its distribution system. Power will not be exported from the Alliance's electric distribution system. SE Municipal Solar will be responsible for running a buried connection line to the point of interconnection to Alliance's grid. Alliance's municipal utility will be responsible for providing a transformer at the point of interconnection and connecting it to its distribution system. There will be no transmission lines constructed in association with this project.

The proposed Project area is shown in relation to the City of Alliance in Figure 1.



Figure 1. Project area outlined in yellow.

All Project facilities would be designed, constructed, and operated in accordance with applicable laws, City and County ordinances, regulations, and standards. The construction of the project is anticipated to begin in 2023 and will take approximately 4 to 6 months to complete.

Adjoining properties to the site include rural residences, a community center, City-owned wells and well houses, and overhead powerlines. The project area is approximately 1,550 feet west of the intersection of County Road 62 and Country Club Road. Surrounding and adjacent land use is agricultural. Alliance's community center (West Side Event Center) is approximately 1,450 feet southeast of the southeast corner of the project area. A residence is adjacent to the northwest corner of the project area. Another residence is approximately 1,000 feet northeast of the northeast corner of the project area.

1.2 Purpose and Need

The purpose of the project is to construct a distributed generation facility that will produce and supply the City of Alliance with up to five percent of its annual energy usage, per the existing power purchase agreement (PPA) with SE Municipal Solar. The project will enable Alliance to lock in a competitive price for electricity over the next 25 years.

2.0 ALTERNATIVES EVALUATED INCLUDING THE PROPOSED ACTION

2.1 Proposed Action and Preferred Alternative

The Proposed Action will include the construction and operation of a 9.4-MW DC PV solar energy power system for the City of Alliance. The project involves installation of ground mounted photo voltaic (PV) solar arrays of various kilowatt (kW) sizes using single axis trackers as detailed in the site plans in Appendix B. Each array will be placed generally as shown on the site layout below in Figure 2. These are estimates and the module placements may vary inside the general layout area. The layout areas have been previously disturbed through either agricultural activities or prior construction (shelterbelts, overhead power lines, wells and wellhouses) in the area. Each array will have driven posts for mounting of the racking with cross pieces for the actual module installation. The posts for racking will be in rows with the posts generally 8–10 feet apart and 4–6 feet deep, posts are generally 3 inches in diameter. Each row of racking will be connected by a trench along the edge of the array, the trench from each portion of the array will extend to the location of the transformer on a concrete pad, where the City will take control of the energy generated. The trenches will be 18–24 inches deep and 12 inches wide. The ground disturbance will also include an area for project construction staging including parking and equipment/component storage. This area will receive heavy traffic and may be rutted at times. Ground-located facilities will be surrounded by perimeter safety fencing and will feature internet accessible Supervisory Control and Data Acquisition (SCADA) readouts.

Access to the facility for construction and operations will be from existing two-track access roads. The areas where arrays will be installed on driven piles will be accessed by vehicles driving on the existing ground surface. No grading for roads will be required and no new roads will be constructed.

The buried medium voltage (MV) electric line that will connect the arrays to Alliance's grid will involve trenching within the defined project area for approximately 2,150 feet (shown in violet in Figure 2). The MV line will connect to an existing overhead power line located on the northeast corner of the project area via a new transformer on a concrete pad.



Figure 2. Site layout and location of arrays.

Decommissioning

Within six months of ceasing operation, SE Municipal Solar shall remove all solar facilities from the property, with the exception of electrical lines buried at least four feet deep. Major pieces of equipment may be recyclable or reusable. The galvanized steel and aluminum racks may be sold for scrap or recycled. Electrical equipment could either be salvaged for reuse or recycled. Components such as the cabling would have a high resale value due to copper and aluminum content. Concrete from footings could be crushed and recycled as granular fill material. As much of the facility would consist of reusable or recyclable materials, there would be a minimal residual waste for disposal as a result of decommissioning the facility. Small amounts of registrable waste materials would be generated and managed in accordance with state requirements or subsequent applicable legislation. Residual non-hazardous wastes would be disposed of at a licensed landfill in operation at the time of decommissioning.

Subject to landowner preference, restoration will include a return to the same or functionally similar pre-construction drainage patterns, including farm drainage tiles,

decompaction of soil, and seeding with an appropriate, low-growing vegetative cover to stabilize soil, enhance soil structure, and increase soil fertility.

Beginning on the commercial operations date, a financial security in an amount equal to the expected net cost to complete the restoration will be maintained, with the amount updated every five years based on an estimate by a qualified third-party engineer.

2.2 Other Alternative Evaluated and Not Carried Forward

The following actions were considered as part of the NEPA process, but eliminated from detailed study as part of this EA.

Alternative sites were not evaluated. For the proposed project to fulfill its purpose of supplying distributed power generation to the City of Alliance, the site on which the solar energy power system would be constructed and operated had to meet the following requirements:

- Located in a relatively undeveloped area near Alliance;
- Adjacent to existing grid connections;
- Accessible by existing roadways;
- Size, configuration, land use, and topography suitable to accommodate enough arrays to produce 9.4 MW;
- No structures to be demolished;
- Not in a floodplain;
- Not in wetlands;
- No impact on surface water;
- Attainable compliance with local ordinances and development permits;
- Availability for lease / development; and
- Reasonable land and development costs.

The project site was chosen by the City of Alliance because it meets the required criteria and is available for lease. The City of Alliance owns the site of the proposed solar facility and the interconnection and selected this location because of its capacity to accommodate sufficient distributed generation without adversely affecting system stability.

Other means of electricity generation were considered, but it was determined that the only viable means of power generation in this instance would be from the construction and operation of a solar array.

Wind – Alliance’s annual average wind speed at 80 meters high is approximately 7.5 meters per second. Utility-scale, land-based wind turbines are typically installed between 80 and 100 meters. An Industry standard considers an average annual wind speed of 6.5 meters per second or greater at 80 meters for commercial viability for energy production (US DOE 2020). Although the average wind speeds near Alliance would support wind energy generation, this alternative was ruled out because the timing of solar maximum generation is a closer match with peak demand. Additionally, the average number of acres of land per megawatt of power generation by wind is 85 (Rosenbloom, 2006). The proposed site is 60 acres, which is insufficient to generate the targeted 9.4 MW.

Geothermal - Electricity from geothermal energy sources is not widely utilized in Nebraska. The state’s use of geothermal was 0.128% of Nebraska’s total energy consumption in 2019 (NDEE 2019). However, several commercial and residential sites in the state use geothermal heat pumps to heat and cool buildings (US EIA 2022). This alternative was not considered due to the larger scale energy need that likely would not be met using geothermal sources.

2.3 No Action Alternative (Status Quo)

Under the “No Action” alternative, the site would not be developed with a solar facility. The City would not receive the required distributed power in accordance with the PPA with SE Municipal Solar. The anticipated generation from this potential alternative energy/solar source would not be available, and Alliance would then have to seek alternative electric generation sources to meet anticipated need to replace existing power supply contracts that will come to an end. The project area would continue as agricultural land. The no-action alternative does not achieve the project’s purpose and need.

2.4 Environmental Resources Not Carried Forward for Detailed Analysis

The determination of environmental resources to be analyzed versus those not carried forward for detailed analysis is part of the EA scoping process. Council on Environmental Quality (CEQ) and regulations (40 CFR §1501.7[a] [3]) encourage project proponents to identify and eliminate from detailed study the resource areas that are not important or have no potential to be impacted through implementation of their respective proposed actions. Some resource areas or some aspects of resource areas would not be affected by the proposed or alternative actions. Resource areas that have been eliminated from further study in this document and the rationale for eliminating them are presented below:

Coastal Resources - The project area is not located within a state identified in the Coastal Zone Management Act of 1972 or Coastal Barriers Resources Act; therefore, there are no impacts to coastal resources. No further analysis is required.

Electromagnetic Fields and Interference (EMF) - No EMF transmitting objects such as overhead high-voltage electric transmission lines, substations, cell or microwave towers will be installed as part of the Proposed Action; therefore, detailed analysis of EMF is not required.

Corridor Analysis – A corridor analysis is not applicable for this project area as it does not follow a linear path nor have large electrical transmission lines, telecommunication cables, water or wastewater pipelines leading to or away from it; therefore, a detailed analysis is not required.

3.0 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

This chapter describes the current conditions of the environmental resources, either manmade or natural, that would be affected by implementation of the Proposed Action or alternatives. This chapter also describes the potential environmental impacts that are likely to occur as a result of implementation of the Proposed Action. The No Action Alternative provides a baseline against which the impacts of the Proposed Action can be compared.

3.1 Land Use

3.1.1 Affected Environment

Land use refers to the use of land for various activities, including commercial, industrial, recreational, agricultural, and residential. Adopted plans and development regulations control the type of land use and the intensity of development or activities permitted. Changes in land use patterns that result from development can affect the character of an area and result in physical impacts to the environment. This section describes the land use and ownership resources occurring in the project area and the potential impacts to those resources due to project implementation.

General Land Use

The project area real property is currently owned by the City of Alliance and consists of approximately 168 acres of agricultural land (see Appendix A) and supports three well houses. The site is situated approximately 1.5 miles west of the City of Alliance. This parcel is not within the city limits but does have a territorial zoning classification of A-Agriculture (City of Alliance, 2022).

Based on review of recent aerial photography, land use within the vicinity of the project area appears to be dominated by farmland on all four sides. Single-family residential property exists near the northwest corner of the site with another residence approximately 1,000 feet northeast of the northeast corner of the project area. This land use characterization was confirmed during the site reconnaissance on June 1, 2022. Three wells with wellhouses are located on the property, which are owned by the City of Alliance.

Vegetation appears to be dominated by pasture and hay grass species. The West Side Events Center is located adjacent to the project area to the southeast, and the center is surrounded by farmland.

Important Farmland

The Farmland Protection Policy Act (FPPA) and USDA Departmental Regulation No. 9500-3, Land Use Policy, provide protection for important farmland, prime forestland, and prime rangeland. The USDA regulation 7 CFR Part 658, implements the FPPA. The FPPA, 7 U.S.C. 4201, was enacted in 1981 in order to minimize the loss of prime farmland and unique farm, forest, and range lands as a result of Federal actions by converting these lands to nonagricultural uses. The FPPA definition of farmland includes all land defined as follows:

- a) Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber. It does not include land already in or committed to urban development or water storage.
- b) Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, as determined by the Secretary. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables; and
- c) Farmland, other than prime or unique farmland, that is of statewide or local importance for the production of food feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the Secretary determines should be considered as farmland for the purposes of this subtitle.

The USDA Natural Resources Conservation Service (NRCS) soil survey map is shown below in Figure 3. The full NRCS soil survey report is provided in Appendix A.

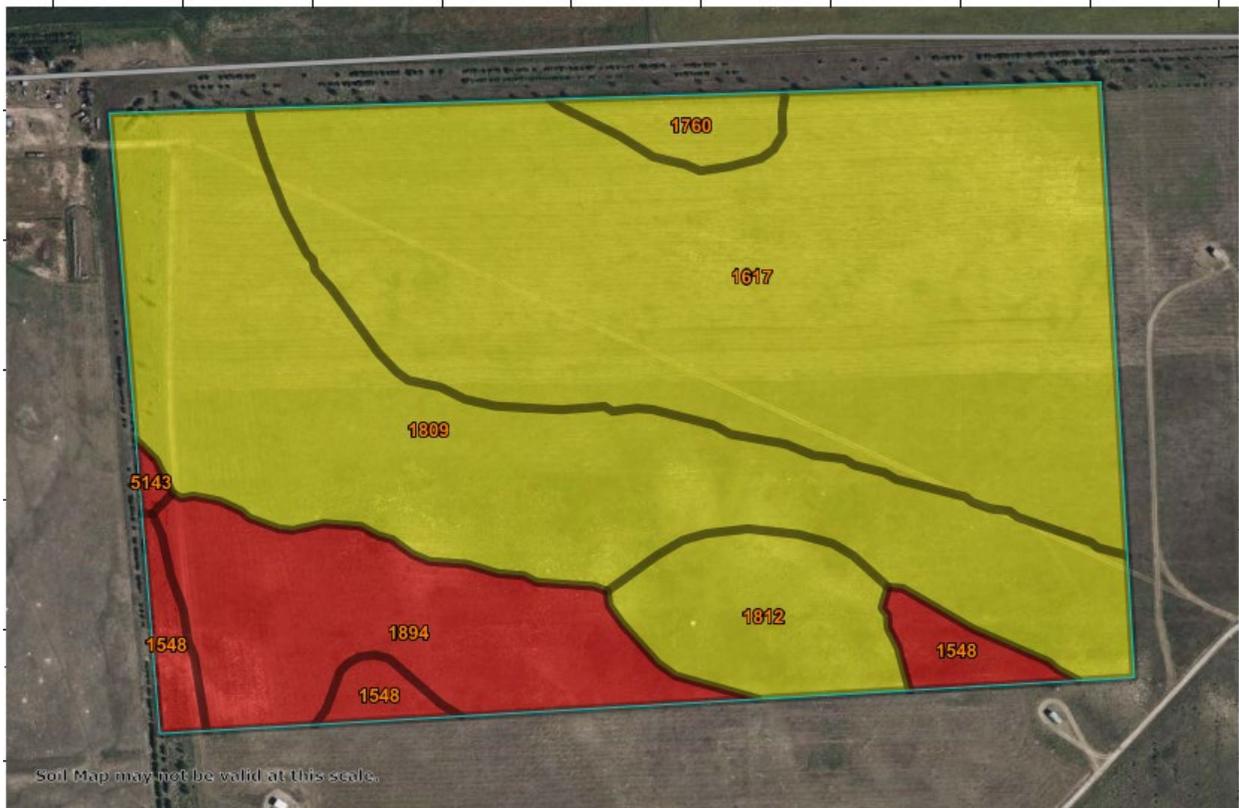


Figure 3. Soils Map showing prime farmland map units in yellow.

The NRCS soil survey contains information regarding USDA-identified prime farmland soils, which are required for a prime farmland designation. Soil types and their Farmland Classification are shown in Table 1 below. The land within the project boundary is not irrigated; therefore, not considered prime farmland. However, it is considered Statewide Important Farmland.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1548	Dailey loamy sand, 3 to 9 percent slopes	Not prime farmland	2.7	3.8%
1617	Keith loam, 0 to 1 percent slopes	Prime farmland if irrigated	32.0	44.6%
1760	Richfield loam, 0 to 1 percent slopes	Prime farmland if irrigated	1.4	2.0%
1809	Satanta fine sandy loam, 1 to 3 percent slopes	Prime farmland if irrigated	22.0	30.7%
1812	Satanta fine sandy loam, 3 to 6 percent slopes	Prime farmland if irrigated	4.5	6.3%
1894	Valent loamy fine sand, 9 to 20 percent slopes	Not prime farmland	8.8	12.3%
5143	Busher-Tassel loamy very fine sands, 6 to 30 percent slopes	Not prime farmland	0.2	0.2%
Totals for Area of Interest			71.6	100.0%

Table 1. Prime Farmland within the project boundary.

Formally Classified Lands

Formally Classified Lands (FCLs) are properties administered either by federal, state, or local agencies, or properties that have been given special protection through formal legislative designation. Review of FCLs for the project area began with a review of the USDA guidance document regarding FCLs. FCLs may cover a broad spectrum of agency oversight, so documentation entails referencing multiple agency databases. The USGS Protected Areas Database of the U.S. (PAD-US) combines a number of agency databases into a single source documenting lands with some level of federal, state, local, and private protection (Appendix A). Review of the PAD-US revealed that there are no known protected areas within the project area. The nearest PAD-US documented protected land is the city owned Hal Meurray Softball Complex located approximately 1.9 miles to the east. Additional protected lands include the city owned Knight Park, located approximately 2.2 miles to the east. In addition to the PAD-US, multiple agency databases were reviewed including the United States Fish and Wildlife Service (USFWS), United States Forest Service (USFS), Nebraska State Historic Preservation Office (SHPO), the National Park Service (NPS), and USGS to determine if the project area is located within the administrative boundaries of FCLs. No FCLs were identified within the area or adjacent or immediately adjacent to the north, south, east and west.

3.1.2 Environmental Consequences

No Action Alternative

Under the No-Action Alternative the agricultural land would continue to be cultivated and produce crops; therefore, there would be no change in land use and no impacts are anticipated.

Preferred Alternative

General Land Use will change from agricultural to solar electric generation. Since the current territorial zoning classification of the site is for agricultural use, the zoning classification will need to be modified and a conditional use permit will be required from Alliance. Impacts related to the change in use are not considered significant. Resources produced on the site will change from hay to electricity for the City.

Under the proposed action, prime farmland would not be impacted due the construction and operation of the solar farm. The applicant submitted a Farmland Conversion Impact Rating, Form AD-1006 to the NRCS office in Lincoln, Nebraska in June 2022 to evaluate the project's impacts to prime farmland. The NRCS responded on June 28, 2022 indicating the proposed location of the solar project scored an impact rating of 150. The NRCS detailed that the FPPA law states that sites with a rating less than 160 will need no further consideration for protection and no additional valuation is necessary. See Appendix F for completed Form AD-1006. In 2017, there were approximately 677,164 acres of land utilized for agricultural purposes (US Census 2017). Under this action, removing 60 acres of land from agricultural production is less than .01 percent of the current total of acres for the estimated 25 years of the projects expected operational life. This impact is not considered significant.

There are no FCL's within the project boundary; therefore, no impacts to FCL's are anticipated.

3.1.3 Mitigation Measures

The expected land use changes are in compliance with local zoning ordinances. The change in use from agricultural to energy generation will require a conditional use permit from the City. Ground disturbance activities will not occur until the conditional use permit has been approved/received and any additional mitigative measures specified in the permit will be adhered to.

3.2 Floodplains

3.2.1 Affected Environment

The project site is not mapped as being within the 100-year or the 500-year floodplain.

Based on email correspondence with Brent Kusak, Floodplain Administrator with the City of Alliance on March 1, 2023, the project site is located in Zone C, which is defined by the Federal Emergency Management Agency (FEMA) as the area of minimal flood hazard, usually depicted on Flood Insurance Rate Maps (FIRMs) as above the 500-year flood level.

3.2.2 Environmental Consequences

Since there are no mapped floodplains within the project area, no impacts to floodplains will occur under the No-Action or Preferred Alternatives. Based on correspondence with the City

of Alliance's floodplain administrator, the site is within FEMA Zone C, which is above the anticipated 500-year flood elevation. See Appendix F.

3.2.3 Mitigation Measures

No mitigation measures are warranted.

3.3 Wetlands

3.3.1 Affected Environment

The USACE and EPA define wetlands as follows: *"Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."*

In order for an area to satisfy this definition, it must exhibit the required indicators in all three categories; soil, hydrology, and vegetation. If any one of the three categories is missing wetland indicators, the area in question does not satisfy the USACE and EPA's definition of a wetland.

The Corps of Engineers 1987 Wetlands Delineation Manual references three levels of routine wetland determinations. This project utilized the *Level 1 – Onsite Inspection Unnecessary* method. Level 1 may be employed when the available information is sufficient for making a determination on the entire project area. A summary of the available information used to determine the presence or absence of wetlands in or near the project area is given below.

Hydrology:

The geotechnical report prepared by Terracon (Terracon 2022a and included in its entirety in Appendix A) indicated no groundwater within 20 feet of the ground surface in July of 2022. Groundwater was not observed in any of the five geotechnical borings. The USDA's Web Soil Survey indicates that groundwater is greater than 6.5 feet below the ground surface (bgs). The City of Alliance operates and maintains several wells on the project parcel. Well log data obtained from Nebraska Department of Natural Resources (NDNR) indicated the level of groundwater is between 60 feet and 100 feet bgs. Additionally, the USGS National Hydrography Data does not indicate any surface water present within the project boundaries. See the "Surface Waters" section below.

Soil:

The NRCS Web Soil Survey Soil Report indicates that minor components of the soil map units on the project site have hydric soil ratings. These minor components constitute 1 – 2 percent of the Keith Loam, Richfield Loam, and Santana fine sandy loam map units. The USDA defines a hydric soil as a soil that formed under conditions of saturation, flooding, or

ponding long enough during the growing season to develop anaerobic conditions in the upper part. See Soil Report in Appendix A. Although there are minor components in the project area that exhibit hydric soil indicators, the absence of wetland hydrology precludes the project area as satisfying the definition of a wetland because all three components (hydrology, soils and vegetation) must be present. The minor hydric soil components could be explained by the presence of center-pivot irrigation systems being used in the project area between 1988 and 2003 visible in aerial imagery included in Appendix C and publicly available on Google Earth. Irrigation would not likely be needed if the project area supported wetland hydrology.

Vegetation:

The current use of the site is cultivated hay grasses. The presence of past irrigation indicates that the species of vegetation that have existed on the site since at least 1988 are not hydrophytic (water-loving).

There are no mapped wetlands or other surface waters as indicated on the National Wetlands Inventory Maps within one-half mile of the project area, which is outlined in yellow (USFWS, 2022), see Figure 4. There are no mapped surface waters in the project area nor do surface waters appear in aerial imagery dating back to 1976.

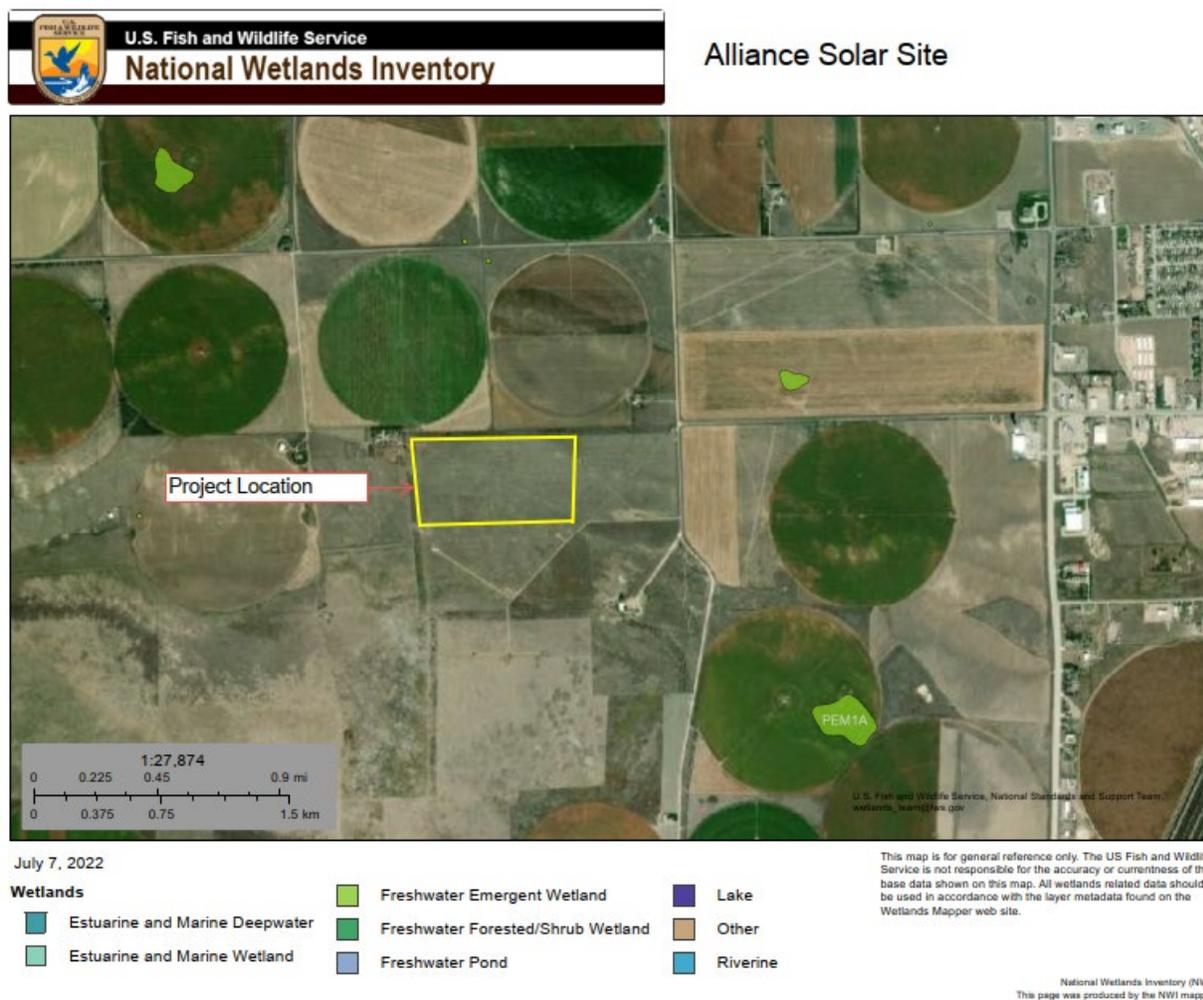


Figure 4. National Wetlands Inventory

3.3.2 Environmental Consequences

No wetlands are present within the project area; therefore, no impacts to wetlands will occur under the No-Action or Preferred Alternatives.

3.3.3 Mitigation Measures

No mitigation measures are warranted.

3.4 Water Resources

3.4.1 Affected Environment

Groundwater

Based on publicly available data from the Natural Resources Conservation Service (NRCS), groundwater at the project location is greater than six feet bgs (NRCS, 2022). In summer

2022, geotechnical borings were advanced on behalf of SE Municipal Solar. Five borings were drilled to between 20 and 20.5 feet bgs. Groundwater was not encountered in any of the borings (Terracon 2022a and Appendix A).

The nearest well to the project site is an observation well located near the southwest corner of the project area. It is owned by the City of Alliance and shows a static water level of 80 feet bgs (NDNR, 2022).

A sole source aquifer is not located within the state of Nebraska (EPA 2018) (Appendix A). However, the project site is located within the High Plains aquifer (HPA), also known as the Ogallala aquifer (University of Nebraska 2022). The City of Alliance utilizes this groundwater for drinking water. The total pumping capacity of Alliance's wells is 7,800 gallons per minute or 11 million gallons per day with storage capacity at 2.5 million gallons (City of Alliance 2022).

The Upper Niobrara White Natural Resources District (UNWNRD) provided comments on the project in September 2022 indicating:

- A moratorium on the development of high-capacity wells, greater than 50 gallons per minute is in place for the project site. Prior to drilling any high-capacity well, a variance would need to be applied for and granted by the UNWNRD board of directors.
- The UNWNRD administers sediment and erosion control regulations within the district and would investigate any complaints of soil erosions stemming from either wind or water events. In the case of an industrial site, the UNWNRD would consult with the Nebraska Department of Environment and Energy to investigate the situation and make recommendations. To avoid any complaints, the UNWNRD encourages the implementation of best management practices to prevent any erosion.

See comments provided in Appendix F.

Surface Water

The parcel overlooks the northern shoreline of what once was a large waterbody know as Bronco Lake. The project area sits approximately 40 feet above the now-drained lakebed. Bronco Lake is shown on the USGS Topographic Map from 1949. It is shown as having been drained on the 1976 USGS Topographic Map. See Figures 5 and 6 below.

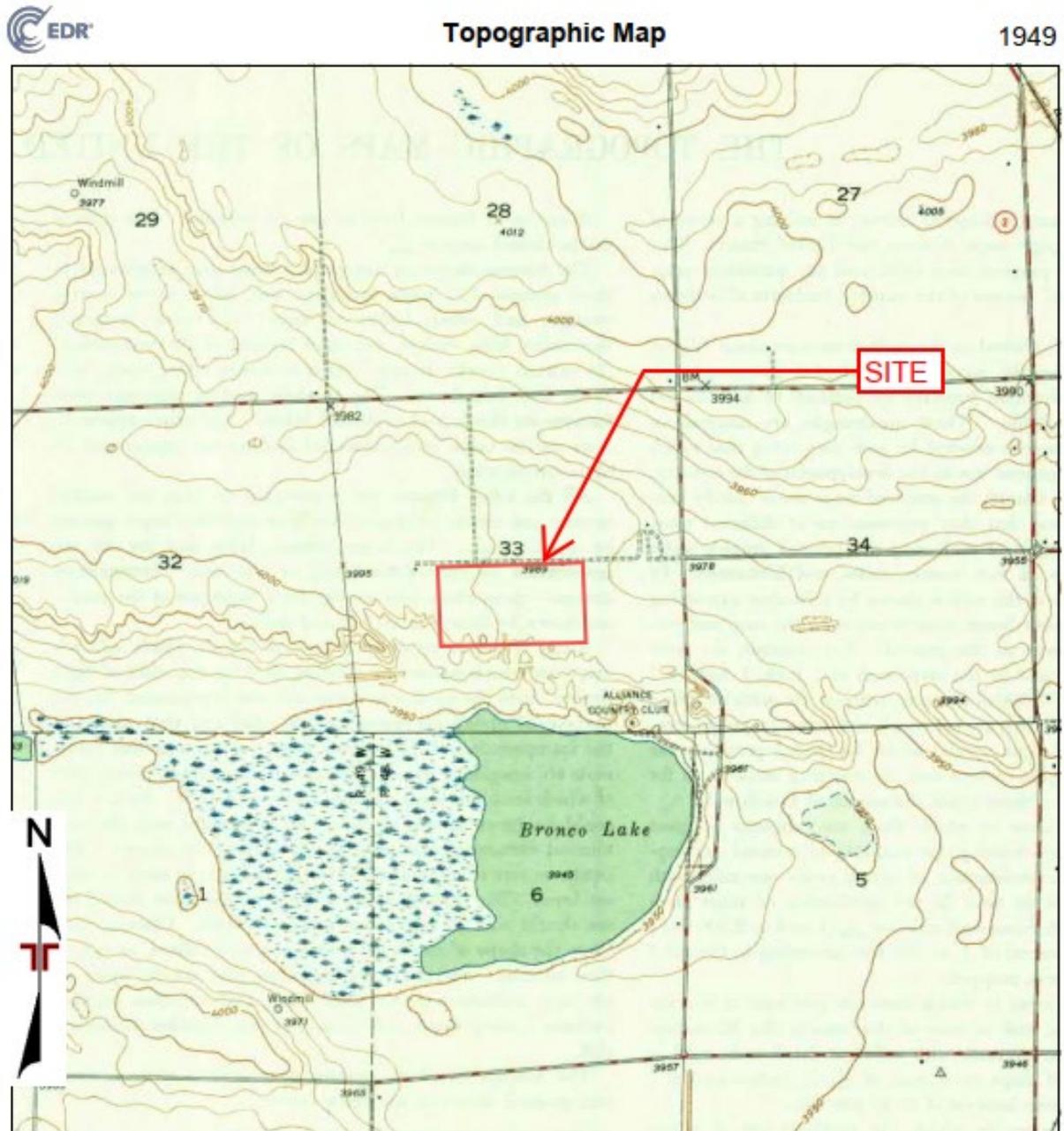


Figure 5. 1949 USGS Topographic Map (Bronco Lake, 1947, 7.5-minute)

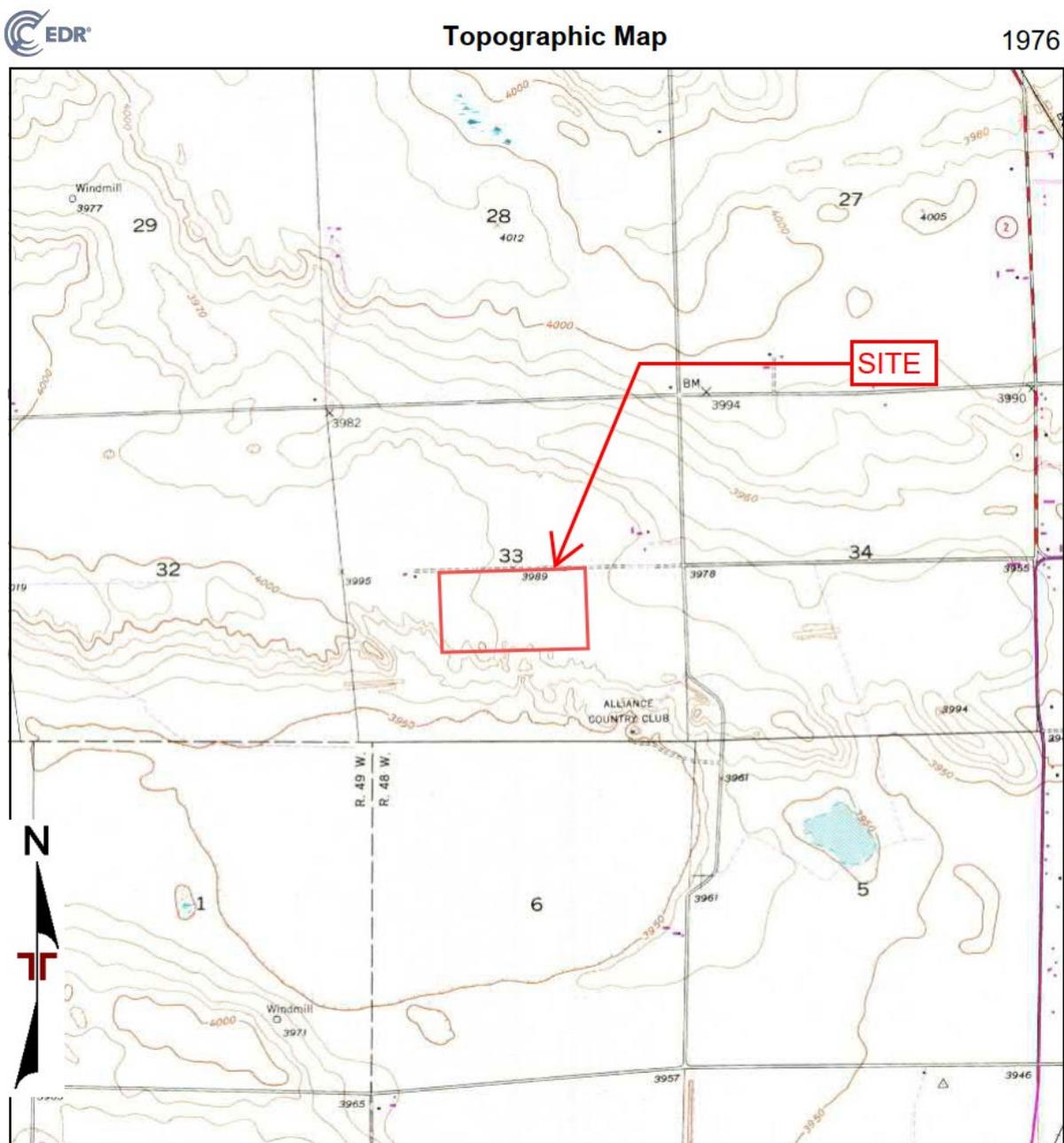


Figure 6. 1976 USGS Topographic Map (Alliance West, 1976, 7.5-minute)

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, groundwater should continue to be used for agricultural and municipal purposes; therefore, no changes in groundwater usage is expected and no impact to groundwater would occur. There are no surface waters present in the project area; therefore, no impacts to these resources would occur.

Preferred Alternative

The construction and operation of the solar facility will not generate wastewater that would potentially reach groundwater. No impacts to groundwater are anticipated by the construction or operation of the solar facility as the facility will not require the withdrawal or use of groundwater. Implementation of the Proposed Action would result in no direct impacts to surface waters associated with construction and operation of the facility, as no surface waters are present and the increase of impervious surface would be minimal. The Proposed Action would result in negligible, short-term negative indirect effects to surface water quality. During construction over ten acres of soils will be disturbed (including but not limited to inverter pads, laydown yard, office, parking, and mounting brackets), potentially increasing the opportunity for sediment to leave the construction site and enter surface waters, increasing sediment loading and decreasing water quality, although the likelihood of this occurring is very low due to the distance to surface waters and the level topography.

3.4.3 Mitigation Measures

Prior to construction, a Storm Water Pollution Prevention Plan (SWPPP) in accordance with Nebraska's Construction Storm Water General Permit Number NER210000 will be implemented that incorporates best management practices (BMPs), including but not limited to, suppressing fugitive dust generated by construction equipment. A common BMP for controlling dust is application of water to loose or exposed soil. Contractors may use water obtained from nearby municipal sources for dust suppression.

Other BMPs to protect surface waters that are downgradient and distant from the project site include controlling sediment tracking off site onto roads by equipment traffic, installing sediment barriers around soil stockpiles and promptly reseeding and mulching disturbed soils after construction is completed.

As recommended by UNWNRD, erosion and sediment control measures will be incorporated as SWPPP BMPs.

3.5 Biological Resources

3.5.1 Affected Environment

Section 7 of the Endangered Species Act (ESA) directs all Federal agencies to use their existing authorities to conserve threatened and endangered (T&E) species and, in consultation with the United States Fish and Wildlife Service (USFWS), to ensure that their actions (funded or carried out) do not jeopardize listed species or destroy or adversely modify critical habitat. Lists of T&E species are published by the USFWS. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the USFWS further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the USFWS, to make "no effect" determinations. According to the USFWS, if a "no effect" determination has

been made for a proposed project, it is not necessary to seek concurrence from the USFWS. However, if a “may affect” determination has been made for a proposed project, consultation with the USFWS will be necessary.

Federally listed threatened and endangered species are listed on the USFWS Information, Planning, and Conservation System (IPaC). Two federally protected species and one state-protected species (USFWS 2023, NG&P,2022) are potentially present within the area. No critical habitat or refuges are known to be present on or in the vicinity of the site (see Appendix D for IPaC and state information). The following sections summarize the potential for federally listed species being present on the site. Additionally, a summary of species listed by the Nebraska Game & Parks Commission (NG&P) is also provided in Appendix D. An effect finding is provided for each species based on observed habitat characteristics in relation to each species suitable habitat.

Northern Long-eared Bat (*Myotis septentrionalis*) listed as Endangered by USFWS and NG&P
The USFWS has changed the status of the northern long-eared bat (NLEB) from threatened to endangered. As of the writing of this EA, the USFWS is in the process of clarifying new procedures to accommodate this change in listing status. The effective date of the new listing status is March 31, 2023.

The NLEB is a wide-ranging, federally endangered bat species, found in 37 states and eight provinces in North America, including Nebraska. The species typically overwinters in caves or mines and spends the remainder of the year in forested habitats. As its name suggests, the NLEB is distinguished by its long ears, particularly as compared to other bats in the genus *Myotis*.

Although there are many threats to the species, the predominant threat by far is white-nose syndrome. If this disease had not emerged, it is unlikely the NLEB would be experiencing such a dramatic population decline. White-nose syndrome was the main reason for listing the species as threatened under the Endangered Species Act in 2015. Since symptoms were first observed in New York in 2006, white-nose syndrome has spread rapidly throughout the species' range in the United States. Numbers of NLEB, gathered from hibernacula counts, have declined by 97 to 100% across the species' range.

The NLEB spend winters hibernating in caves or mines where there is relatively constant temperature and humidity and no air currents. In spring, summer and fall the species utilizes cavities and crevices in live and dead trees, using forested areas for roosting, foraging, and commuting between summer and winter habitat (U.S. Fish and Wildlife Service, 2022). This species is not expected to be present on site due to the absence of suitable habitat. The USFWS has provided guidance on what is and is not suitable habitat for NLEBs.

In general, there is little habitat for listed species, including bats, within developed areas. Suitable summer habitat for Indiana bats and northern long-eared bats consists of forested

or wooded habitats where they roost, forage, and travel. Roosting habitat includes forests and woodlots containing trees that have exfoliating bark, cracks, crevices, or hollows, live trees snags > 3 inches in diameter at breast height (dbh) for northern long-eared bats. Most often trees in urban settings would not represent suitable roosting or foraging habitat for northern long-eared bats unless they included all of the following characteristics: (USFWS, March 2022)

- A tract of wooded habitat over 10 acres in size, AND
- The wooded habitat contains traditional uneven-aged forest structure with understory and trees with loose or flaking bark that can provide roosting habitat (not a park-like setting with large trees and mowed grass underneath), AND
- Wooded tract is connected by wooded corridor travel corridor to larger tract of roosting or foraging habitat.

If the treed area in your project is part of a wooded tract that meets the criteria above (it is big enough, it is close to other wooded habitat, and it is not a mowed park-like area), we recommend any tree-clearing be conducted between October 1 and March 31 when bats are not occupying their summer habitat.

Examples of unsuitable bat habitat:

- Individual trees, fence rows, or small wooded lots (less than 10 acres) that are greater than 1,000 feet from forested/wooded areas;
- Trees found in highly-developed urban areas (e.g., street trees, trees in someone yard or business); and
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees.

Piping Plover (*Charadrius melodus*) listed as Threatened by USFWS

This species of shorebird prefers gravel beaches and shorelines and is not expected to be present at the site due to the absence of suitable habitat.

Blowout Penstemon (*Penstemon haydenii*) listed as Endangered by the USFWS and NG&P

This species of flowering perennial plant is found primarily in open sand habitat on sand dunes in the Sandhills of Nebraska (NG&P, 2022). The blowout penstemon is not expected to be present at the site due to current land use (agriculture) and the absence of suitable habitat as described above. The proposed site is not sand or sand dunes. The range of the Blowout Penstemon is noted below, Figure 7. The Sandhills ecoregion is shaded green in Figure 7.

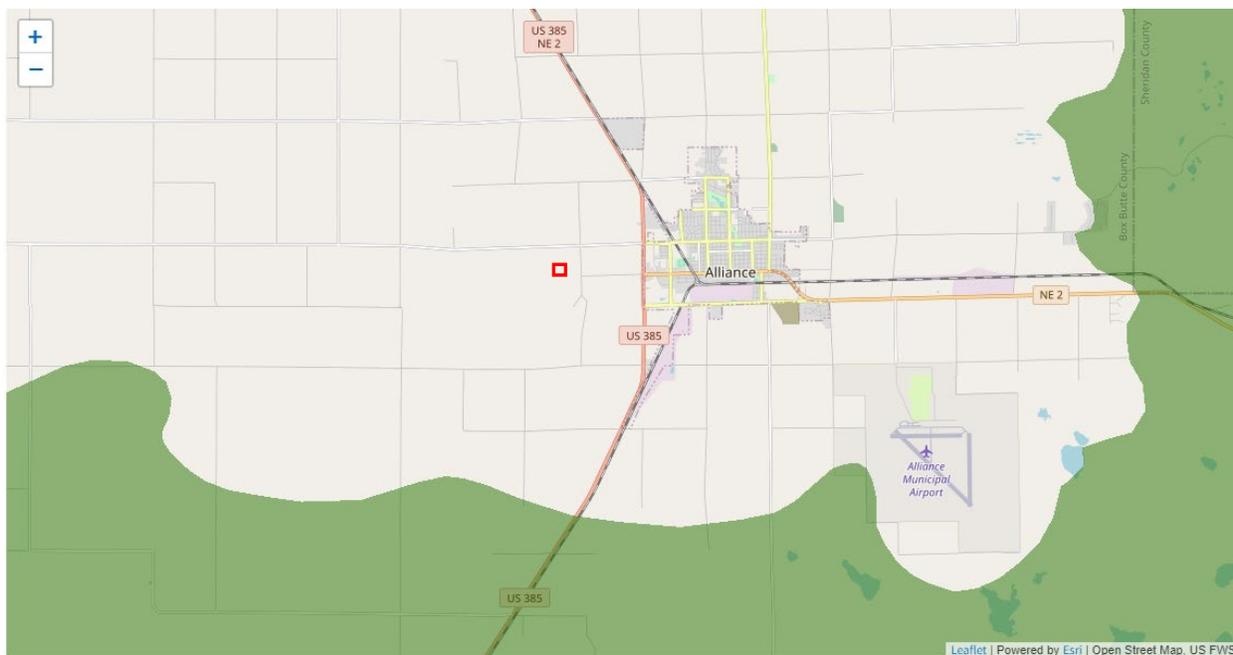


Figure 7. Range of the Blowout Penstemon highlighted in green. Project location outlined in red.

Swift Fox (*Vulpes velox*) listed as Endangered by NG&P

This species of fox requires open shortgrass prairie where there are prairie dog and badger dens to exploit for raising their young. Swift foxes prey on small mammals, birds, reptiles, amphibians, fish and insects and sometimes on carrion, berries and grasses (NG&P 2022). It is not anticipated that this species would occupy the site due to the ongoing agricultural practices and human presence associated with the existing City-owned wells.

Bald and Golden Eagles/Migratory Birds

The federal Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668c) provides for the protection of the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*). Under the Eagle Act, “take” of eagles, their parts, nests or eggs is prohibited. Disturbance resulting in injury to an eagle or a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior is a form of “take.”

Bald eagles use mature, forested riparian areas near rivers, streams, lakes, and wetlands and occur along all the major river systems in Nebraska. The bald eagle southward migration begins as early as October, and the wintering period extends from December-March. The golden eagle is found in arid open country with grassland for foraging in western Nebraska and usually near buttes or canyons which serve as nesting sites. Golden eagles are often a permanent resident in the Pine Ridge area of northwestern Nebraska. Additionally, many bald and golden eagles nest in Nebraska from mid-February through mid-July.

Under the Migratory Bird Treaty Act (MBTA), it is illegal to “take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations”.

The MBTA also protects other species of migratory birds as does the Nebraska Revised Statute §37-540, which prohibits take and destruction of nests or eggs of protected birds (as defined in Nebraska Revised Statute §37-237.01). Most migratory bird nesting activity in Nebraska occurs during the period of May 1 to July 15. However, some migratory birds are known to nest outside of the aforementioned primary nesting period.

Based on site reconnaissance in June 2022, there are no trees in the project area that would provide habitat for bird nesting or roosting. The project area produces hay, which does not provide suitable habitat for ground nesting birds.

Wildlife Resources and Vegetation

The project area falls within the short-grass prairie ecoregion of the Nebraska Panhandle. Faunal and flora species that may occur in the ecoregion include the following:

Table 2. Animals that may occur in the short-grass prairie ecoregion. Reported by Nature Serve

Scientific Name	Common Name	Nature Serve Global Status
<i>Aspidoscelis sexlineata</i>	Six-lined Racerunner	G5
<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	G4
<i>Holbrookia maculata</i>	Common Lesser Earless Lizard	G5
<i>Terrapene ornata</i>	Ornate Box Turtle	G5
<i>Vulpes velox</i>	Swift Fox	G3, SE
<i>Muhlenbergia torreyana</i>	Torrey’s Dropseed	G3

- G3 – Vulnerable
- G4 – Apparently Secure
- G5 - Secure
- SE – Considered Endangered by NG&P

Table 3. Vegetation species that may be found in the shortgrass prairie region of the Nebraska Panhandle

Scientific Name	Common Name
<i>Bouteloua dactyloides</i>	Buffalo Grass
<i>Psoralea tenuiflorum</i>	Wild Alfalfa
<i>Helianthus petiolaris</i>	Plains Sunflower
<i>Rumex venosus</i>	Wild Begonia
<i>Hesperostipa comata</i>	Needle and Thread Grass
<i>Bouteloua gracilis</i>	Blue Grama

Vegetation species within the project area boundary consist of hay grass species with planted shelterbelts of unknown shrub species partially surrounding the perimeter. Land adjacent to the project area to the north is in crops with center pivot irrigation systems in place.

Invasive Species

Executive Order (EO) 13112 (Invasive Species) was created to prevent the introduction of invasive species and to provide for their control. The Federal government cannot fund or authorize actions that may promote the introduction or spread of invasive species. In 1989, the Nebraska Legislature approved amendments to the Nebraska Noxious Weed Control Act with the passage of LB 49. The revisions made to the Noxious Weed Control Act went into effect on November 1, 1989. The Noxious Weed Control Act defines and places specific responsibilities for noxious weed control on landowners, individual counties, and the State of Nebraska. The Nebraska Department of Agriculture identifies the following species as Noxious Weeds (NDA, 2022):

- Saltcedar (*Tamarix spp.*)
- Purple Loosestrife (*Lythrum salicaria L.*)
- Phragmites (*Phragmites australis*)
- Leafy Spurge (*Euphorbia esula L.*)
- Canada Thistle (*Cirsium arvense L.*)
- Musk Thistle (*Carduus nutans L.*)
- Plumeless Thistle (*Carduus acanthoides*)
- Spotted Knapweed (*Centaurea stoebe*)
- Diffuse Knapweed (*Centaurea diffusa*)
- Japanese Knotweed (*Fallopia japonica*)

- *Sericea Lespedeza (Lespedeza cuneata)*

Field reconnaissance was conducted in June 2022. Noxious weed species were not observed during the visit. A noxious weed survey was not conducted in the project area. Although noxious weed species are not known to be present within the project area, measures to control and minimize the spread of noxious weeds should they be present, are described below in section 3.5.3.

3.5.2 Environmental Consequences

No Action

The project area would remain in its current condition and use and existing impacts to biological resources would continue under the current land use (agriculture).

Preferred Alternative

Northern Long-eared bat: **No effects** to this species are anticipated due to the absence of suitable habitat within or near the project area. No large trees are present that would provide hibernacula or roosting areas.

Piping Plover: **No effects** to this species are anticipated due to the absence of suitable habitat. No shoreline habitat is present that would support this species.

Blowout Penstemon: **No effects** to this species are anticipated due to the absence of suitable habitat (sand dunes).

Swift Fox: **No effects** to this species are anticipated due to the absence of suitable habitat and the current land use (crop production).

Bald and Golden Eagles: There are no large trees suitable for roosting or nesting within the project area. Impacts during construction are unlikely as construction noise and the presence of people will likely cause eagles to avoid the area and due to the lack of habitat. No new overhead powerlines are planned for this project. No impact is anticipated.

Migratory Birds: Avian interactions with PV facilities themselves are not well understood. The primary threats are from collisions with PV equipment and transmission lines and electrocutions from the substation and overhead distribution lines. Other collisions are less understood such as the "lake effect" theory. The lake effect theory is when birds mistake the glossy blue expanse of solar panels for bodies of water and try to land on them causing either injury or mortality (DOE 2018). The "lake effect" theory is undergoing additional research to include mortality/injury numbers associated with the effect and how birds see the panels. As such no measures are known to be effective in preventing the effect. Under the preferred alternative, there is potential for migratory birds to collide with panels or fencing (USFWS 2022). Birds can become disoriented by glare from panels. Although this is known to occur, it is not expected to have a significant impact on migratory birds in the vicinity. Since the equipment and distribution lines associated with the project will be new, the risk for interaction between birds and malfunctioning (through exposed wires) that could

electrocute the birds is de minimus. Additionally, the facility will be inspected within scheduled and regular intervals to ensure that equipment maintenance and repairs are conducted as soon practicable.

Invasive Species: Construction work and associated soil disturbance can make areas more susceptible to the spread of invasive vegetation species which could have adverse effects on existing vegetation within the proposed project site area. Weeds can crowd out native or agricultural vegetation species and create unsuitable ecosystem conditions for native species of animals, birds and insects that depend on a diverse native plant community.

3.5.3 Mitigation Measures

Bald and Golden Eagles and Other Migratory Birds: New powerlines will be buried below PV panels. There will be no new overhead lines constructed in association with the arrays or other features of the project. Construction of these lines underground reduces the potential for the birds to interact with high voltage lines.

Invasive Species: Temporary erosion control measures would be used during construction to eliminate soil erosion and spread of invasive species. Generally, soils used for site construction would be taken from the surrounding landscape where possible. Any soil brought onto the site will be from areas that are free of invasive plants. Revegetation efforts should utilize species that are endemic to the area and are suitable for the soil type that exists at the site. Reseeding efforts should also be initiated as soon as practical after construction is completed, and should include, in addition to grasses, native forbs and pollinator species to occupy the niches that invasive weeds may otherwise colonize. An increase in weed species is expected for the first one or two growing season after construction. A weed management plan will be developed by the applicant that specifies post-construction measures to be taken to identify and manage noxious weed species until the site is revegetated with the desirable species. These measures may include overseeding, controlled grazing or chemical treatments depending on the species identified and the desired measure of control.

3.6 Cultural Resources and Historic Properties

3.6.1 Affected Environment

The cultural environment includes those aspects of the physical environment that relate to human culture and society, along with the social institutions that form and maintain communities and link them to their surroundings. Section 106 of the National Historic Preservation Act (Section 106) requires federal agencies to take into account the effects of their "undertakings" on historic properties that are within the proposal's "area of potential effect" (APE) and to provide the Advisory Council on Historic Preservation (ACHP) with a reasonable opportunity to comment on such undertakings. The regulations implementing Section 106 establish the process through which federal agencies meet this statutory requirement. Notwithstanding the above statement, in most cases Agency actions will not

be reviewed by the ACHP but rather by State Historic Preservation Officers (SHPO) and Tribal Historic Preservation Officers (THPOs) on and off tribal land. Federal agencies must consider whether their activities could affect historic properties that are already listed, determined eligible, or not yet evaluated under the National Register of Historic Places (NRHP) criteria. Properties that are either listed in or eligible for listing in the NRHP are provided the same measure of consideration under Section 106.

Criteria have been established as guidance for evaluating potential entries to the NRHP. "Significance" in American history, architecture, archaeology, and culture is granted to districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that meet at least one of the following criteria:

- an association with events that have made a significant contribution to the broad patterns of history (Criterion A);
- an association with the lives of persons significant in history (Criterion B);
- embody the distinctive characteristics of a type, period, or method of construction;
- represent the work of a master; possess high artistic value; or represent a significant and distinguished entity whose components may lack individual distinction (Criterion C); or
- have yielded, or may likely yield, information important in prehistory or history (Criterion D).

In Nebraska, cultural resources are protected under the federal National Historic Preservation Act (NHPA) of 1966, as amended.

The National Historic Preservation Act of 1966, as amended (54 U.S.C. § 300101et seq.) and the Advisory Council on Historic Preservation's implementing regulations, 36 CFR Part 800, require Federal agencies to consider the effect their actions may have on historic properties prior to carrying out such actions.

In August 2022 a Phase II intensive cultural resources investigation of the Alliance project area (Archeology Laboratory of Augustana 2022) was conducted. The Area of Potential Effect (APE) consisted of the project site, 60.76 acres. The background records search indicated that no previously recorded archeological sites or documented historic structures are in the APE. During the field investigation four subsurface tests were excavated and no evidence of buried soil horizons or cultural material was observed.

The table below lists the tribes that were sent notifications regarding this EA and requested comments. One tribe responded as indicated below. The Phase II report was sent to the Crow Creek Sioux Tribe of the Crow Creek Reservation, South Dakota in August of 2022. No comments have been received.

Table 4. Tribes Consulted and Responses

Agency/Tribe	Letter Date	Response Date	Comment
Apache Tribe of Oklahoma	5/6/2022		
Cheyenne River Sioux Tribe of the Cheyenne River Reservation, South Dakota	5/6/2022		
Cheyenne and Arapaho Tribes, Oklahoma	5/6/2022		
Comanche Nation, Oklahoma	5/6/2022		
Crow Creek Sioux Tribe of the Crow Creek Reservation, South Dakota	5/6/2022	5/24/2022	No concerns with project. Notify the CCST-THPO in the event of inadvertent discoveries during construction.
Lower Brule Sioux Tribe of the Crow Creek Reservation, South Dakota	5/6/2022		
Oglala Sioux Tribe	5/6/2022		
Rosebud Sioux Tribe of the Rosebud Indian Reservation, South Dakota	5/6/2022		
Santee Sioux Nation, Nebraska	5/6/2022		
Standing Rock Sioux Tribe of North and South Dakota	5/6/2022		

3.6.2 Environmental Consequences

No Action

No impacts to cultural resources would occur under this alternative as no cultural resources are present.

Preferred Alternative

The Phase II Cultural Resources Investigation Report was submitted to the Nebraska SHPO. The report included the recommendation for no further archeological work and a determination of No Historic Properties Affected (Augustana 2022). The Nebraska SHPO provided a concurrence with the recommendation by letter to the applicant on August 24,

2022. The Nebraska SHPO acknowledges the possibility of encountering buried or obscured cultural material or human remains during ground disturbing activities associated with construction. The SHPO concurrence letter is included in Appendix F. Based upon this determination from the SHPO, no impact on cultural resources is anticipated.

To comply with tribal consultation requirements under EO 13175 the applicant sent letters requesting comments to 10 federally recognized tribes. Tribes who may have an interest in evaluating the project's effects to cultural or archeological resources were requested to participate. Dates and responses associated with Section 106 consultation are provided in Chapter 6, Table 6.

3.6.3 Mitigation Measures

No mitigation is anticipated; however, if discoveries of cultural or archeological materials are encountered during construction, the SHPO requests they be contacted for further instructions.

3.7 Aesthetics

3.7.1 Affected Environment

Visual and aesthetic resources include features of both the built and natural environment that together make the visual environment. Examples of these resources can include parks; natural areas; scenic features; open vistas; water bodies; and other landscape features. Historic or urban core districts can also be visual resources. All of these visual resources create aesthetic qualities that are valued by the public that is viewing or could view the resources. Viewers may include neighbors (who occupy land adjacent or visible to the project), travelers (who may see the Proposed Action using existing transportation), and Native Americans and other consulting parties with an interest in the project area.

The visual quality of an area may be affected by the introduction of new buildings or structures. Visually sensitive areas include regions of high scenic beauty, scenic overlooks, scenic highways, wilderness areas, integral vistas, parks, national forests, and along wild and scenic, recreational, and/or national inventory rivers. The project area is located within an approximate 168-acre tract of undeveloped land, the project area itself is an approximate 59-acre area in the northwest corner of the parcel, composed of agricultural hay crops. The project area is relatively flat with three city-owned wells, well houses with electrical components, and overhead powerlines present. Adjoining properties to the project area include agricultural land adjacent on all four sides, an existing events center to the southeast of the site, and sparse single-family residential development to the east and west of the site. Visually sensitive areas such as those mentioned above are not present on the site.



Photo 1. View of western portion of the site from the middle of the site. (M. Harbeck, Terracon Consultants, Inc.)

3.7.2 Environmental Consequences

No Action Alternative

Under the "No Action" Alternative the site will remain undeveloped, the current visual aspect of the area will remain unchanged, therefore no impact is anticipated.

Preferred Alternative

The terrain at the project area is relatively level. The highest portion of the proposed solar facility will include the arrays and inverters. The overall height of the tallest structures associated with the proposed solar development is anticipated to not exceed nine feet in height. The proposed solar panels will be lower in height than the existing well houses south of the project site.

Construction will cause minor long-term and short-term impacts to aesthetics. After the arrays are constructed, they may be visible from the neighboring two residences and from the West Side Events Center to the southeast. Since the arrays will be low on the horizon and will not obstruct view of the surrounding landscape, visual impacts are considered not significant. There are no visually sensitive areas within or near the site, therefore, no such resources will be affected by the project.

3.7.3 Mitigation Measures

No visual resource mitigation measures are anticipated at this time. The proposed solar development will have minimal impact to aesthetics; therefore, no mitigation measures are required.

3.8 Air Quality

3.8.1 Affected Environment

Air quality at the project area is regulated by the Nebraska Department of Environment and Energy (NDEE), which administers federal and state air quality standards. The United States Environmental Protection Agency (EPA) has set national ambient air quality standards (NAAQS) under the Clean Air Act (CAA) and its associated Amendments. The CAA was signed December 31, 1970 and amended August 7, 1977 and September 14, 1990. The CAA Amendments so set emission limits for certain air pollutants from specific sources, set new source performance standards based on best demonstrated technologies, and established national emission standards for hazardous air pollutants. Federal air quality standards have been established for six criteria pollutants: ozone (O₃), particulate matter (PM 2.5 and 10), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and lead (Pb). Although O₃ is considered a criteria pollutant and is measurable in the atmosphere, it is often not considered as a pollutant when reporting emissions from specific sources, because O₃ is not typically emitted directly from most emissions sources. Ozone is formed in the atmosphere from its precursors – nitrogen oxides (NO_x) and volatile organic compounds (VOCs) – that are directly emitted from various sources. Thus, emissions of NO_x and VOCs are commonly reported instead of O₃.

Table 5. National Ambient Air Quality Standards

Pollutant	Primary/Secondary	Value	Form
Carbon Monoxide 1-hr average 8-hr average	Primary	35 ppm 9 ppm	No to be exceeded more than once per year
Nitrogen Dioxide 1-hr average Annual average	Primary Primary and Secondary	100 ppb 53 ppb	Hourly - 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years Annual Average – Annual Mean
Ozone 8-hr average ^(b)	Primary and Secondary	0.070 ppm	Annual fourth highest maximum 8-hour concentration, averaged over 3 years
Lead	Primary and Secondary	0.15 µg/m ³	Rolling average
Particle Matter ₁₀ 24-hr average	Primary and Secondary	150 µg/m ³	Not to be exceeded more than one per year on average over 3 years

Pollutant	Primary/Secondary	Value	Form
Particle Matter ₅ 24-hr average Annual average Annual average	Primary and Secondary Primary Secondary	35 µg/m ³ 12.0 µg/m ³ 15.0 µg/m ³	98 th Percentile, averaged over 3 years Annual mean, averaged over 3 years Annual mean, averaged over 3 years
Sulfur Dioxide 1-hr average 3-hr average	Primary Secondary	75 ppb 0.5 ppm	99 th Percentile of 1-hr daily maximum concentrations, averaged over 3 years Not to be exceeded more than one per year

Under these standards, a geographic location with pollutant levels below air quality standards is said to be in “attainment,” while higher levels are in “non-attainment.”

The CAA Amendments requires federal actions to conform to any applicable State Implementation Plan (SIP). EPA has promulgated regulations implementing this requirement under 40 CFR Part 93. A SIP must be developed to achieve the NAAQS in non-attainment areas (i.e., areas not currently attaining the NAAQS for any pollutant) or to maintain attainment of the NAAQS in maintenance areas (i.e., areas that were non-attainment areas but are currently attaining that NAAQS). General conformity refers to federal actions other than those conducted according to specified transportation plans (which are subject to the Transportation Conformity Rule). Therefore, the General Conformity rule applies only to non-transportation actions in non-attainment or maintenance areas.

New construction and conversion activities which are located in "non-attainment" or "maintenance" areas, as determined by the EPA, may need to be modified or mitigation measures developed and implemented to conform to the SIP. The Clean Air Act (42 U.S.C. 7401 et seq.) prohibits federal assistance to projects that are not in conformance with the SIP. According to the EPA Green Book Nonattainment Areas for Criteria Pollutants, Box Butte County, Nebraska is not located within a non-attainment area or a maintenance area for criteria pollutants.

3.8.2 Environmental Consequences

No Action Alternative

Under the No Action alternative, the proposed project site would remain in its current condition; therefore, the existing air quality impacts from the operation of farming equipment would continue.

Preferred Alternative

Temporary impacts on air quality are anticipated during construction. Fugitive dust and emissions from construction vehicles, may temporarily increase levels of air pollutants during excavation and construction. Impacts to air quality are expected to be short-term and minor.

The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked on and the level of construction activity. These emissions

would produce slightly elevated short-term PM10 ambient air concentrations. The EPA estimates that the effects of fugitive dust from construction activities would be reduced significantly with an effective watering program.

Any air pollutants would be widely dispersed across the project area and short-term in nature. Air pollutants would be minimized by dust suppression (watering) and vehicle maintenance. Watering the disturbed area of the construction site twice per day with approximately 3,500 gallons per acre per day would reduce Total Suspended Particles emissions as much as 50 percent (Compilation of Air Pollutant Factors, Volume 1: Stationary Point and Area Sources (AP-42), 5th edition, United States Environmental Protection Agency, Ann Arbor, January 1995. Updated 2009). The project area is currently in attainment and therefore no additional mitigation measures are required for development. Additionally, there would be no long-term air quality effects associated with routine operation of the solar farm. Construction of a solar site could alternatively reduce air emissions, as this is a renewable energy project.

3.8.3 Mitigation Measures

Dust mitigation measures will be required during construction of the proposed solar farm. Measures may include watering of disturbed areas and sweeping or other methods to control tire track-out at intersections with construction and paved areas. Minor emissions from construction can be further reduced or mitigated through the use of BMPs. BMPs for dust control include:

- spraying water on exposed surfaces to minimize dust,
- limiting the area of uncovered soil to the minimum needed for each activity,
- siting of staging areas to minimize fugitive dust,
- using a soil stabilizer (chemical dust suppressor),
- mulching,
- using a temporary gravel cover,
- limiting the number and speed of vehicles on the site,
- and covering trucks transporting soil, sand, or other loose material off-site,
- limiting vehicle idling time,
- using low or ultra-low sulfur fuel (including biodiesel),
- conducting proper vehicle maintenance,
- and using electric-powered tools (instead of gas-powered tools).

It is anticipated that construction contractors will properly maintain their fleet of vehicles/equipment so that air emissions are kept to a minimum.

3.9 Socio-Economic Impact Assessment/Environmental Justice

3.9.1 Affected Environment

Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations", provides 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 EO makes clear that its provisions apply fully to programs involving Native Americans.

According to CEQ environmental justice guidance (CEQ, 1997a), low-income populations should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty. In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.

The CEQ guidance identifies a minority as Individual(s) who are members of the following population groups: American Indian or Alaskan Natives; Asian or Pacific Islanders; Black, not of Hispanic origin; or Hispanic. Minority populations should be identified where either the minority population of the affected area exceeds 50 percent, or 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. In identifying minority communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native American), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.

EO 12898 requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. As defined by the EPA, environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

An Environmental Justice Community of Concern (EJCOC) is defined as a neighborhood or community, composed predominantly of persons of color or a substantial proportion of persons below the poverty line, that is subjected to a disproportionate burden of

environmental hazards and/or experiences a significantly reduced quality of life relative to surrounding or comparative communities. EJCOs provide valuable opportunities to better understand environmental justice problems. EJCOs should be targeted by policymakers for environmental reparations or remedies to compensate or restore environmental quality to comparable levels and should be afforded special protection from additional adverse impacts.

Based on 2019 census data, there are 361 households residing adjacent to the project site within census block group 310139511002. The population is approximately 868 with 9 % identifying themselves as people of color and 22 % low-income. An EJCO is not present in the vicinity of the project or those who would be impacted by it (Appendix E).

EO 13166 requires agencies to examine the services they provide, identify need for services to those with Limited English Proficiency (LEP), and develop and implement a system to provide those services so that LEP persons can have meaningful access to them. The proposed project area is located in an area in which an estimated 0 percent (n=4,601) of households have limited English proficiency.

According to the 2020 Census Data, the population of Box Butte County, Nebraska was 10,842 with a median household income of \$61,904 with 12.8% of the population in poverty. The economy of Box Butte County, NE employs 5,280 people. The most common employment sectors for those who live in Box Butte County, NE, are Transportation & Warehousing (1,211 people), Health Care & Social Assistance (735 people), and Retail Trade (466 people). The highest paying industries are Finance & Insurance, & Real Estate & Rental & Leasing (\$110,677), Manufacturing (\$76,054), and Transportation & Warehousing, & Utilities (\$70,180).

Households in Box Butte County have a median annual income of \$61,904, which is less than the median annual income of \$64,994 across the entire United States. This is in comparison to a median income of \$54,004 in 2019, which represents a 14.6% annual growth.

3.9.2 Environmental Consequences

No Action Alternative

There would be no change to the current conditions, and no impact to socioeconomics or EJCOs would occur with implementation of this alternative.

Preferred Alternative

The preferred alternative could have a minor, short-term, temporary positive impact on the local economy as a result of construction activities via incidental spending by construction workers and the purchase of locally available construction materials. Temporary jobs would be created for construction workers during construction activities, as well as site maintenance and groundskeeping activities. The operation of the preferred alternative could result in a social benefit to the residents of Box Butte County by improving additional,

reliable, energy to the area which could increase business opportunities that require such energy.

An environmental justice community is not present, and no negative socioeconomic impact is anticipated. Expected impacts have the potential to be beneficial; however not significant. The area in a one-mile radius surrounding the site does not have a minority or low-income population even as compared to the total population of Alliance and the State of Nebraska. As documented in other sections of this document, the implementation of the preferred alternative would not likely lead to adverse human health or environmental effects to the general public as a whole or low income or minority populations specifically. The project will result in creating consistent energy costs for the City of Alliance over the life of the PPA.

3.9.3 Mitigation Measures

No Mitigation Measures are anticipated to be required to reduce negative impacts to less than significant levels. It is expected that the project could have short-term positive economic impacts to the community related to job creation, and long-term positive impacts resulting from consistent prices for electricity.

3.10 Miscellaneous Issues

3.10.1 Noise

3.10.1.1 Affected Environment

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. EPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals.

The City-owned parcel currently supports three wells and associated electrical transformers and overhead lines. It is not known what level of noise these existing facilities are producing. The solar project site itself does not support any wells or other structures.

The closest noise receptors to the site consist of two residences within one-quarter mile of the project site to the east and west, and the West Side Events Center located one-quarter mile southeast of the site.

3.10.1.2 Environmental Consequences

No Action Alternative

Under the no action alternative, no changes to noise levels are anticipated.

Preferred Alternative

Increases in noise levels would occur in the immediate vicinity of the proposed project site during the construction phase. However, adherence to appropriate Occupational Safety and Health Administration (OSHA) standards would protect the workforce from excessive noise (29 CFR 1926.52). Noise impacts during construction of the proposed project would be short-term in duration and limited to daytime hours. Construction would involve driving steel piles into the ground. Equipment used would include mechanical pile drivers.

Noise levels for pile driving are anticipated to be in the 95 to 115 decibel range at a distance of 50 feet (Washington State Biological Assessment Guidance, 2021). Noise levels reduce considerably based on distances from the source. Based on distance from receptors, noise is expected to be audible by the workers and by the residents during pile driving; this impact would be short-term. Electrical equipment associated with the solar farm will be located away from the adjacent homes. As such, no significant impacts from noise generating activities or sources are expected as a result of the proposed solar farm operations.

3.10.1.3 Mitigation Measures

Mitigation measures include the use of OSHA mandated hearing protection for workers during pile driving, and conducting pile driving during daylight hours only.

3.10.2 Transportation

3.10.2.1 Affected Environment

The site is accessible by Country Club Road, and County Road 62 which are both gravel-surfaced county roads.

Transportation - The project area is rural and is only accessible by passenger vehicle or uneven terrain vehicles (UTVs). No traffic information is available for the two lane (one lane per direction) roads.

3.10.2.2 Environmental Consequences

No Action Alternative

Under the no action alternative, no changes to transportation or traffic patterns would occur.

Preferred Alternative

Materials will be brought to the site by semi-trucks and staged within the site boundary. During periods of construction, there will likely be increased truck traffic on Country Club Road and County Road 62 during daylight hours as equipment, materials and personnel arrive and depart. The existing roads are not heavily used and serve sparsely populated rural areas consisting of farmland and two residences. Impacts to local traffic and utilization

of these routes are expected to be minor and temporary. Under the Proposed Action, no street closures are anticipated and areas adjacent to the proposed project will remain accessible to property owners; therefore, no impact would be anticipated to property owners along County Road 62 that runs north/south near the project site.

During construction, additional traffic is anticipated; however, since the area does not include businesses or densely populated residential areas; no short- or long-term impact to transportation is anticipated.

The site will be unstaffed during operations of the solar facility. Periodic maintenance would be performed by one or two personnel in pick-ups or sport utility vehicles; therefore, no increases in traffic on a daily basis would occur. Impacts to traffic patterns are not expected to be significant.

3.10.2.3 Mitigation Measures

No Mitigation Measures are anticipated to be required to reduce negative impacts to less than significant levels.

3.11 Human Health and Safety

3.11.1 Affected Environment

Public, media, regulatory, and scientific concern that exposure to power-frequency and electromagnetic fields (EMFs) may cause a variety of health effects has been increasing. Consequently, attempts to locate transmission lines and substations near residential areas, schools, health facilities, and other public facilities have created controversy in some areas of the United States. Health and safety considerations should be made prior to the development of new transmission lines.

Electromagnetic Fields and Interference

There is an existing overhead power line located on the northeast corner of the project area. This powerline. As current moves through the power line, it creates an EMF. The strength of the EMF is proportional to the amount of electrical current passing through the power line and decreases as you move farther away.

Environmental Risk Management

A Phase I Environmental Site Assessment was prepared in accordance with ASTM E1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process in August 2022. The Phase I Environmental Site Assessment reviewed the site and adjoining properties for the potential of contaminants of concern associated with current and historic use of the site and surrounding properties. The assessment included a site visit and review of government databases and historic images/maps. The assessment concluded that no Recognized Environmental Conditions (RECs) or Controlled

RECs (CREC) were identified in connection with the site, by activities conducted on the site or by adjacent properties/activities (Terracon 2022b).

3.11.2 Environmental Consequences

No Action Alternative

Under the no action alternative, no changes to human health and safety are anticipated.

Preferred Alternative

The proposed project site will interconnect with the City of Alliance's existing distribution grid. Consequently, the project will not add new transmission lines. A new substation will be constructed on the site. EMFs are not considered a concern for this project. The panels, transformers and other equipment will be located within a controlled access (fenced) area so the public will not have access to the electrical components.

No RECs or CRECs were documented on the site; therefore, risk to human health and safety are not anticipated.

3.11.3 Mitigation Measures

Electrical equipment installed at the site will contain appropriate clearances, security fencing and controlled access.

After decommissioning, the panels and other components should be recycled to the extent practical. Components containing materials with the potential to introduce pollutants into the environment should be recycled or disposed of in a manner that minimizes components entering the landfill (U.S. Energy Information Administration, 2022).

3.12 Climate Change/Greenhouse Gases

3.12.1 Affected Environment

Climate change refers to any significant changes in average climatic conditions (such as mean temperature, precipitation, or wind) or variability (such as seasonality, storm frequency, etc.) lasting for an extended period (decades or longer). Recent reports by the U.S. Climate Change Science Program, the National Academy of Sciences, and the United Nations Intergovernmental Panel on Climate Change (IPCC, 2014) provide evidence that climate change is occurring and may accelerate in the coming decades. Strong evidence supports global climate change being driven by human activities worldwide, primarily the burning of fossil fuels and tropical deforestation. These activities release carbon dioxide and other heat-trapping gases, commonly called "greenhouse gases," into the atmosphere (IPCC 2007, 2014).

3.12.2 Environmental Consequences

No Action Alternative

Under the no action alternative, Alliance's electricity will continue to be provided by non-renewable sources.

Preferred Alternative

Solar power generation is an important means by which climate change can be addressed. The operation of the Proposed Action has a potential to reduce the need for additional energy sources that generate greenhouse gases, allowing for a beneficial impact; however, not significant. The greenhouse gases associated with construction equipment may cause a temporary increase in local emissions during the construction phase. This impact is temporary and anticipated to be less than significant.

Local solar power generating facilities can provide educational opportunities to residents that will promote the conversion (over time) from non-renewable fossil fuels to forms of renewable energy.

Additionally, the equipment (including but not exclusive to the tracks, footers, and panels) constructed and operated within the project site will have the capacity to withstand the potentially increasing frequency and/or strength of storm events; therefore no impact on the project associated with resiliency.

3.12.3 Mitigation Measures

No Mitigation Measures are anticipated to be required to reduce impacts to less than significant levels. Implementing BMPs associated with reducing the emissions of vehicles and equipment during the construction phase of the proposed undertaking such as properly maintaining engines and limiting idle time is recommended.

4.0 CUMULATIVE IMPACTS

The consideration of cumulative impacts consists of an assessment of the total effect on a resource, ecosystem, or community from past, present and future actions that have altered the quantity, quality, or context of those resources within a broad geographic scope. The CEQ regulations define cumulative effects 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 nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR 1508.7) The cumulative effects analysis considers the aggregate effects of direct and indirect impacts from federal, nonfederal, public, and private actions on the quality or quantity of a resource.

The intent of the cumulative-effects analysis is to determine the magnitude and significance of cumulative effects, both beneficial and adverse, and to determine the contribution of the proposed action to those aggregate effects.

At the time this EA was prepared, there were no known projects in the vicinity of the proposed project area proposed for the immediate future. The Box Butte County Planning office was contacted but no response was received.

4.1 Environmental Consequences

No Action Alternative

Under the no action alternative, there would be no cumulative effects as no impacts would occur.

Preferred Alternative

With the availability of additional renewable energy sources, the potential for additional commerce could occur within the Alliance vicinity, allowing for a positive impact to the local economy while not contributing to negative environmental impacts. Overall, neither the No-Action Alternative nor Preferred Alternative would have long-term, negative cumulative effects on natural, cultural or human resources within the project area and surrounding vicinity.

Cumulative effects which the project will contribute to include conversion of farmland to other uses that do not produce food or fiber crops. These impacts are occurring in rural areas in Nebraska due to development unrelated to solar power development.

Wherever construction disturbs topsoil, the potential for colonization by noxious weeds exists. Noxious weed infestations reduce biodiversity, reduce crop yields and have an adverse effect on ecosystems in general.

4.2 Mitigation Measures

Foreseeable projects would be compatible with expanding capacities of existing industrial and commercial operations, including the construction of additional solar arrays. These expansions in combination with the proposed project should not lead to increased cumulative effects on the environment provided this and future projects include mitigation measures associated with losses of farmland, minimizing soil erosion and invasive weed management.

5.0 SUMMARY OF MITIGATION

Water Resources

A Storm Water Pollution Prevention Plan (SWPPP) will be developed that will:

- Implement BMPs to ensure that during rain events, sediment and debris do not leave the site and increase sediment loading and pollutants entering existing stormwater system. BMPs to be utilized can include:
 - Planning and conducting earthwork in a manner that minimizes the duration of exposure of unprotected soils
 - Stabilizing staging areas during construction activities
 - Maintaining temporary erosion control measures, such as berms, dikes, drains, sedimentation basins, grassing, and mulching, until permanent drainage and erosion control facilities are completed and operative
 - Mulching of disturbed areas in lieu of permanent erosion controls, such as revegetation
- Design of solar array should include stormwater management such as construction or increase of the curb and gutter system and/or construction of a retention pond.

Air Quality

- Dust mitigation measures will be required during construction of the proposed solar farm. Measures may include watering of disturbed areas and sweeping or other methods to control tire track-out at intersections with construction and paved areas.
- Implementation of BMPs for dust control may include:
 - Spraying water on exposed surfaces to minimize dust,
 - Limiting the area of uncovered soil to the minimum needed for each activity,
 - Siting of staging areas to minimize fugitive dust,
 - Using a soil stabilizer (chemical dust suppressor),
 - Mulching,
 - Using a temporary gravel cover,
 - Limiting the number and speed of vehicles on the site,
 - Covering trucks transporting soil, sand, or other loose material off-site,
 - Limiting vehicle idling time,
 - Using low or ultra-low sulfur fuel (including biodiesel),
 - Conducting proper vehicle maintenance, and
 - Using electric-powered tools (instead of gas-powered tools).
- Contractors will properly maintain their fleet of vehicles/equipment so that air emissions are kept to a minimum.

Invasive Species

Reclamation vegetation species will include pollinator-friendly grasses and forbs. Increasing pollinator habitat will provide benefits to surrounding agricultural areas and will contribute to overall ecological benefits including minimizing the potential for weed infestations.

6.0 AGENCY CORRESPONDENCE

A Request for Consultation to prepare this Draft EA was provided to the following agencies.

Table 6. Consulting Agencies

Agency/Tribe	Letter Date	Response Date	Comment
Federal			
USFWS	9/24/2022	10/6/2022	Recommendations for fencing; concerns with overhead powerlines and bird collisions.
USEPA	9/26/2022		
Tribes			
Apache Tribe of Oklahoma	5/6/2022		
Cheyenne River Sioux Tribe of the Cheyenne River Reservation, South Dakota	5/6/2022		
Cheyenne and Arapaho Tribes, Oklahoma	5/6/2022		
Comanche Nation, Oklahoma	5/6/2022		
Crow Creek Sioux Tribe of the Crow Creek Reservation, South Dakota	5/6/2022	5/24/2022	No concerns with project. Notify the CCST-THPO in the event of inadvertent discoveries during construction.
Lower Brule Sioux Tribe of the Crow Creek Reservation, South Dakota	5/6/2022		
Oglala Sioux Tribe	5/6/2022		
Rosebud Sioux Tribe of the Rosebud Indian Reservation, South Dakota	5/6/2022		
Santee Sioux Nation, Nebraska	5/6/2022		
Standing Rock Sioux Tribe of North and South Dakota	5/6/2022		
State			
NE SHPO	5/6/2022	8/24/2022	No historic properties affected. SHPO concurred.
NG&P	9/24/2022	10/25/2022	Concurred with no effect determinations.
NDEE	9/24/2022	10/21/2022	SWPPP will be required; site is within a wellhead protection area. Check with City. Use BMPs to prevent runoff.
NRD	9/26/2022	9/28/2022	No new wells greater than 50 gpm are allowed. Recommend erosion/sediment control BMPs.
Local			
Box Butte County Commissioners	9/26/2022		
Box Butte County Emergency Management	9/26/2022		
Box Butte County Planning and Zoning	9/26/2022		
Alliance City Council	9/26/2022		
Alliance Community Development	9/26/2022	10/3/2022	Conditional Use Permit will be required.
Alliance City Manager	9/26/2022	11/21/2022	Land is being used for hay and grazing. The electrical structures should be built with wildlife clearances or "raptor build" specifications. Proposed site will be off of the major road by a significant distance so the impact to aesthetics should be minimal Site should be a fenced in enclosure for safety.
Alliance Chamber of Commerce	9/26/2022		

Copies of correspondence are included in Appendix F.

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8.0 LIST OF PREPARERS

Table 7. Preparers of the Environmental Assessment

Name	Affiliation	Title	Responsibilities
Jennifer Peters	Terracon Consultants	Group Manager, Senior Associate	Senior Technical Report Review, Project Management
Jean Ramer	Terracon Consultants	Senior Scientist	Project Management, Report Preparation
Louise Brown	Terracon Consultants	Technical Editor	Quality Assurance, Technical Review
John Hall, RPA	Terracon Consultants	Senior Archaeologist	Cultural Resources Quality Assurance
Scott West	Terracon Consultants	Senior Biologist	Threatened and Endangered Species Report Review