

**Big Stone South to Hankinson to Bison
Transmission Line Project**

Facility Permit Application

Submitted to the South Dakota Public
Utilities Commission

Otter Tail Power Company
September 8, 2026



**Big Stone South
to Hankinson to Bison**

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List of Acronyms and Abbreviations

AM	Amplitude Modulated
amsl	above mean sea level
APC	adjusted production cost
APE	area of potential effects
APLIC	Avian Power Line Interaction Committee
Applicant or Otter Tail	Otter Tail Power Company
Application	Application for a Facility Permit
ARSD	South Dakota Administrative Rules
BCC	Birds of Conservation Concern
BMPs	Best Management Practices
BSSHB Project	Big Stone South to Hankinson to Bison Transmission Line Project
Centerline	the centerline for the Facility's 345 kV transmission line
Commission	Public Utilities Commission of the State of South Dakota
CPCN	Certificate of Public Convenience and Necessity
CRP	Conservation Reserve Program
CUP	conditional use permit
CWA	Clean Water Act
dB	decibel
dBA	a-weighted decibel
ELF	extremely low frequency
EMFs	electric and magnetic fields
ESA	Endangered Species Act
FAA	Federal Aviation Administration
Facility	The South Dakota portion of the BSSHB Project
FCC	Federal Communications Commission
FM	Frequency Modulated
GIS	Geographic Information System
GLO	General Land Office
GPS	Global Positioning System
GW	gigawatts
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consultation (USFWS)
JTIQ	Joint Targeted Interconnection Queue
kV	kilovolt
kV/m	kilovolt per meter
MBTA	Migratory Bird Treaty Act of 1918
mG	milliGauss
MHz	megahertz
MISO	Midcontinent Independent System Operator
MW	megawatts
NAAQS	National Ambient Air Quality Standards
ND PSC	North Dakota Public Service Commission
NERC	North American Electric Reliability Corporation
NHD	National Hydrography Dataset
NHP	Natural Heritage Program
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRI	Nationwide Rivers Inventory
NWI	National Wetland Inventory
OHGW	overhead ground wire
OPGW	optical ground wire
Otter Tail or Applicant	Otter Tail Power Company
ROW	right-of-way
SDCL	South Dakota Codified Laws
SDDANR	South Dakota Department of Agriculture and Natural Resources
SDDOT	South Dakota Department of Transportation
SDGFP	South Dakota Game, Fish, and Parks
SDGS	South Dakota Geological Survey
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SPP	Southwest Power Pool
SSURGO	Soil Survey Geographic Database
SWAP	State Wildlife Action Plan (South Dakota)
SWPPP	Stormwater Pollution Prevention Plan
TP	twisted pair
TV	television
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USDOE	U.S. Department of Energy
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WMD	Wetland Management District
WPAs	Waterfowl Production Areas
Xcel	Xcel Energy

1.0 Introduction

Otter Tail Power Company (Otter Tail or Applicant) submits to the Public Utilities Commission of the State of South Dakota (Commission) this Application for a Facility Permit (Application) for a portion of the Big Stone South to Hankinson to Bison 345 kilovolt (kV) Transmission Line Project (BSSHB Project) located within South Dakota (the Facility).

The Facility consists of an approximately 71-mile-long, 345 kV transmission line between the existing Big Stone South Substation located west of Big Stone City to the South Dakota – North Dakota border at a location northeast of New Effington, between Lien and Victor Townships¹. The Facility will be located within Grant and Roberts counties, South Dakota (Figure 1 of Appendix A). Facility components are anticipated to include:

- Single-circuit transmission structures constructed on steel, single-pole (monopole) structures;
- Installation of a single-circuit, 345 kV transmission line and associated communication lines (referred to as an optical ground wire [OPGW]); and
- Modifications to the Big Stone South Substation to accommodate new breaker positions, switches for the new single-circuit 345 kV transmission line, and relocation of the 345 kV Big Stone South to Ellendale termination into the substation (all within Otter Tail-owned property). The Big Stone South Substation will not be expanded.; and
- Temporary laydown/staging areas, pulling/tensioning sites, and access roads.

Otter Tail is an investor-owned electric utility company headquartered in Fergus Falls, Minnesota, that provides electricity and energy services to over 133,000 customers, spanning 70,000 square miles in western Minnesota, eastern North Dakota, and northeastern South Dakota. Otter Tail wholly or jointly owns approximately 6,000 miles of transmission lines and approximately 1,100 megawatts (MW) of generation capacity in these three states and is a transmission-owning member of Midcontinent Independent System Operator (MISO). Otter Tail has a well-established track record of effectively developing large-scale, high-voltage transmission projects across the region, including in South Dakota.

The Applicant submits this Application for the Facility to the Commission pursuant to South Dakota Codified Laws (SDCL) Chapter 49-41B and South Dakota Administrative Rules (ARSD) Chapter 20:10:22.

Regarding Otter Tail's existing Big Stone South Substation, the Commission issued a permit authorizing construction of the substation in its Decision and Order Approving Stipulation and Granting Permit to Construct Transmission Facilities, dated January 16, 2007 (EL06-002). Additionally, on May 10, 2013, the Commission accepted a certification submitted pursuant to SDCL 49-41B-27 for the Big Stone South Substation in its Order Granting Withdrawal; Order Approving the Joint Motion for Approval of Stipulation; Order Granting Certification (EL12-063). Recent approval for the expansion of the Big Stone South Substation was approved in the Commission-issued permit authorizing the construction of the Big Stone South to Alexandria 345 kV transmission line (EL24-015)

¹ The proposed alignment is located on the section line between Lien and Victor Townships.

2.0 BSSHB Project overview

The Facility² is part of the larger BSSHB Project, which consists of new 345 kV transmission facilities between Otter Tail's existing Big Stone South Substation near Big Stone City, South Dakota, connecting to Otter Tail's existing Hankinson Substation near Hankinson, North Dakota, connecting to Xcel Energy's (Xcel) existing Bison Substation near Mapleton, North Dakota (Figure 2 of Appendix A). The segment between the Big Stone South Substation and Hankinson Substation will be solely owned by Otter Tail. The segment between the Hankinson Substation and the Bison Substation will be jointly owned by Otter Tail and Xcel. The BSSHB Project was approved by MISO and Southwest Power Pool (SPP) (discussed further in Section 7.0 below). The BSSHB Project will enhance transmission grid reliability, reduce transmission congestion, increase grid resiliency, and increase access to low-cost energy.

Since the BSSHB Project is a key component of larger system upgrades, the following sections provide a brief overview of the BSSHB Project segments in South Dakota and North Dakota, as well as the purpose and benefits of the proposed upgrades.

Construction of the BSSHB Project, which includes the Facility, is expected to commence in 2030 and be completed in 2033.

2.1 South Dakota segment (the Facility)

The Facility originates at Otter Tail's existing Big Stone South Substation, located approximately 2 miles west of Big Stone City, South Dakota. From that substation, the Facility extends to the South Dakota – North Dakota border between Lien and Victor Townships¹ northeast of New Effington in Roberts County, South Dakota. The Facility will include 345 kV, single-circuit transmission structures. Figure 1 of Appendix A is an overview map of the Facility.

2.2 North Dakota segments

2.2.1 Big Stone South to Hankinson Segment of the BSSHB Project

In North Dakota, the Big Stone South to Hankinson segment of the BSSHB Project will extend from the South Dakota – North Dakota border to Otter Tail's existing Hankinson Substation north of Hankinson, North Dakota. The North Dakota segment would traverse Richland County in North Dakota.

2.2.2 Hankinson to Bison Segment of the BSSHB Project

The Hankinson to Bison segment of the BSSHB Project will extend between Otter Tail's existing Hankinson Substation to Xcel's existing Bison Substation near Mapleton, North Dakota. The Hankinson to Bison segment would traverse Richland and Cass counties in North Dakota.

² The Facility consists only of the South Dakota portion of the BSSHB Project.

Otter Tail and Xcel anticipate filing a joint Certificate of Public Convenience and Necessity (CPCN) in the second quarter of 2027 and a joint Certificate of Corridor Compatibility and Route Permit Application with the North Dakota Public Service Commission (ND PSC) in the second quarter of 2028 for the North Dakota portion of the BSSHB Project. An overview map of the BSSHB Project is shown in Figure 2 of Appendix A.

3.0 Facility development summary

3.1 Public, agency, and Tribal outreach

The Applicant has coordinated with Tribal, federal, state, and local agencies regarding the Facility. Throughout the outreach process, the Applicant provided opportunities for stakeholders, including potentially affected landowners, to participate in the routing process. This engagement provided the Applicant with valuable insight into landowner, public agency, and Tribal preferences regarding the Facility. Appendix B includes agency and stakeholder correspondence for the Facility to date. Appendix C includes public outreach and open house materials. This section briefly summarizes the Facility development history and agency, community, and stakeholder outreach. In addition to the outreach efforts described below, the Applicant developed a website for information regarding the BSSHB Project available to the public and any interested parties online at <https://bigstonesouthtohankinsontobison.com/>.

- In November 2025, the Applicant met with the Grant County Board of Commissioners and the Roberts County Board of Commissioners to provide an overview of the Facility and the routing process.
- On November 18, 2025, the Applicant met with representatives of the Sisseton – Wahpeton Oyate to discuss the Facility and Tribal involvement in the routing process.
- In January 2026, the Applicant began the public outreach process by collecting Geographic Information System (GIS) data from local, state, and federal agencies to help understand routing constraints and opportunities in South Dakota.
- On January 15, 2026, the Applicant mailed 11 Tribes requesting comments on the BSSHB Project, which includes the Facility.
- On January 15, 2026, the Applicant initiated an outreach campaign to federal, state, local public agencies, and Tribal contacts through notification letters. In these letters, the Applicant introduced the Facility and requested input and comments on potentially affected resources, routing opportunities and constraints, and available data. The Facility introduction letters included an overview map showing preliminary routing corridors and requested input and comment on public and natural resources that may be potentially affected by the Facility. In the letter, the Applicant also requested input from federal and state agencies with respect to the resources under their jurisdiction as well as the identification of federal and state permits and/or approvals that may be potentially required for the Facility.
- On January 30, 2026, the Applicant sent emails to the South Dakota Department of Game, Fish, and Parks (SDGFP) and the South Dakota U.S. Fish and Wildlife Service (USFWS) Field Office requesting virtual meetings to discuss the Facility and recommendations for data collection. The Applicant received email responses from the SDGFP on February 3, 2026, and February 5, 2026, and the South Dakota USFWS Field Office on February 19, 2026.

- On February 10, 2026, the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) provided a letter stating, “the Project as outlined will likely have no impact on prime or important farmland.”
- The Applicant hosted in-person, public, open houses on February 11-12, 2026. The open houses focused on the southern segment of the BSSHB Project and included open houses at the Milbank, South Dakota, Visitor Center; Wilmot, South Dakota, Community Center; and the Hankinson, North Dakota, Community Center. There were approximately 200 attendees in total. During the public open houses, the Applicant introduced the Facility and corridors, answered questions, and collected early input from landowners and stakeholders. In advance of the public open houses, the Applicant mailed approximately 2,860 invitations to the public and provided advertisements in the Richland County News Monitor (Hankinson), Grant County Review (Milbank), Milbank Valley Shopper, Ortonville Independent, Rosholt Review, and the Sisseton Courier.
- On February 11, 2026, the Applicant met with representatives of the Sisseton – Wahpeton Oyate to discuss the Facility and receive cultural training.
- On February 13, 2026, the Applicant received an email from the USFWS Waubay Wetland Management District (WMD) containing map attachments outlining USFWS interests near the Study Area.
- On February 18, 2026, the Applicant met with SDGFP to introduce the Facility, discuss route development and environmental review efforts, and review environmental considerations within the Study Area, as well as the approach for desktop reviews, field surveys, and continued SDGFP coordination.
- On February 19, 2026, the Applicant received an email from the South Dakota State Historic Preservation Office (SHPO) with preliminary recommendations.
- On February 20, 2026, the Applicant met with the South Dakota SHPO to discuss the Applicant’s proposed methodology and recommendations.
- On March 17, 2026, the Applicant met with the Roberts County Commission to provide a status update.
- On March 18, 2026, the Applicant sent an email requesting a meeting with the USFWS Waubay WMD to discuss USFWS easements, fee lands, and requirements.
- On March 24, 2026, the Applicant met with the Grant County Commission and Sisseton-Wahpeton Oyate individually to provide a status update.
- On March 26, 2026, the Applicant met with Bryant, Harmon, Hart, Lien, and Victor townships in Roberts County individually regarding the Facility.
- On April 1, 2026, the Applicant received an email from the South Dakota USFWS specifying the main point of contact moving forward.
- On April 1, 2026, the Applicant met with the USFWS Waubay WMD to introduce the Facility and discuss USFWS easements, fee lands, and requirements.

- The Applicant hosted in-person, public, open houses on April 7-8, 2026. The open houses focused on the southern segment of the BSSHB Project and included open houses at the Wilmot, South Dakota, Community Center; Milbank, South Dakota, Visitor Center; and Hankinson, North Dakota, Community Center. There were approximately 270 attendees in total. During the public open houses, the Applicant introduced the Facility preliminary routes, answered questions, and collected early input from landowners and stakeholders. In advance of the public open houses, the Applicant mailed approximately 2,920 invitations to the public and provided advertisements in the Richland County News Monitor (Hankinson), Grant County Review (Milbank), Milbank Valley Shopper, Ortonville Independent, Rosholt Review, and the Sisseton Courier.
- On April 10, 2026, the Applicant sent an email requesting a meeting with the South Dakota USFWS.
- On April 16, 2026, the Applicant sent an email to the National Park Service (NPS) requesting shapefiles. The Applicant received an email response from NPS on April 29, 2026.
- On May 4, 2026, the Applicant met with SDGFP to provide updates on Facility development and potential species and habitat considerations.
- On May 4, 2026, the Applicant met with USFWS to introduce the Facility and discuss USFWS recommendations, concerns, and future coordination.
- On May 13, 2026, the Applicant sent an email to the USFWS Waubay WMD with shapefiles of the proposed route and a request for wetland easement shapefiles. The Applicant received an email response from USFWS Waubay WMD on May 27, 2026.
- On May 27, 2026, the Applicant sent an email to SDGFP requesting further information regarding SDGFP interests within the Study Area.
- On May 28, 2026, the Applicant sent an email to the U.S. Army Corps of Engineers (USACE) requesting a meeting to introduce and discuss the Facility. The Applicant received an email response on May 28, 2026.
- On June 2, 2026, the Applicant met with the Roberts County Commission to provide a status update and discuss the proposed route and the Roberts County landfill in relation to the Facility.
- On June 4, 2026, the Applicant met with the USACE to introduce the Facility and discuss plans for aquatic resource evaluation along the proposed Route.
- On June 8, 2026, the Applicant sent an email to the Sisseton-Wahpeton Oyate to provide updates on the general Facility timeline, field survey planning, and a request for comment on any sensitivities or considerations on early alignments.
- On June 12, 2026, the Applicant received an email from SDGFP stating that no impacts to fish and wildlife resources are anticipated and providing recommendations for avoidance of SDGFP interests.

- On June 30, 2026, the Applicant sent an email to the Roberts County Zoning Administrator requesting information regarding permitting that may be required. The Applicant received an email response on July 8, 2026.
- On July 14, 2026, the Applicant sent an email to the Sisseton-Wahpeton Oyate providing the Level I Cultural Report and requested a meeting with the Tribe to begin field survey planning.
- On July 16, 2026, the Applicant sent an email to the USACE providing the Aquatic Resource Desktop Delineation Report.
- On July 16, 2026, the Applicant sent an email to SDGFP providing the State and Federally Protected Species Habitat Assessment.
- On August 11, 2026, the Applicant received an email from the South Dakota Department of Agriculture and Natural Resources (SDDANR) informing them that the January 15, 2026, request had not been received or processed by the agency and was advised to submit a new request. The Applicant responded on August 11, 2026, with a copy of the January 15, 2026 letter, and informed SDDANR that the Facility had been narrowed to a single route and that a Facility Permit Application was planned for submission in early September 2026. SDDANR responded on August 11, 2026, advising that requests for project review and comments must be submitted electronically, and informing the Applicant that they would provide a response after receipt of the electronic submission.
- On August 14, the Applicant submitted the project to SDDANR through the SD.gov portal.
- On August 28, the Applicant received a response to the request for input from SDDANR stating the Facility is unlikely to have adverse impacts to air quality or groundwater, will not have adverse impacts to drinking water, can have detrimental effects to surrounding trees, that it is not expected that any hazardous waste sites will be encountered within the vicinity of the Facility, and indicates special construction measures may have to be taken near the North Fork of the Whetstone River, the Jorgenson River, the Little Minnesota River, and the Big Slough.

The Facility route selection process described in this Application was a multifaceted approach that included identifying and following state and federal requirements and an extensive public engagement campaign. Comments or concerns were received in relation to the Facility. The Applicant has considered the information provided in developing the proposed Facility that is included in this Application.

3.2 Environmental analysis

The environmental and resource studies for the Facility are summarized in Table 3-1. The associated study reports are included in Appendix D, Appendix E, and Appendix F. Additional environmental and resource field studies will be completed, as needed, prior to construction of the Facility.

Table 3-1. Summary of studies/surveys

Resource Study	Date Conducted	Summary of Finding / Status
Aquatic Resource Desktop Delineation	May 2026	The desktop review of the National Hydrography Dataset and National Wetlands Inventory identified 217 wetlands (totaling 161.8 acres) and 31 stream segments (totaling 12.24 acres) within the Facility right-of-way (ROW). Additional aquatic resource delineations will be completed, as needed, prior to construction. See Appendix D for additional information.
Raptor Nest Survey	March 2026	A ground-based raptor nest survey was conducted from March 24-26, 2026, within 660 feet of the Facility centerline. No raptor nests were identified. The Applicant will conduct raptor nest surveys prior to Facility construction and annually each spring during construction if construction is expected to occur during raptor nesting season. The Applicant will coordinate with appropriate agencies to adjust construction timing if active bird nests are encountered during construction of the Facility. See Appendix E for additional information.
Bald Eagle Nest Survey	March 2026	A ground-based bald eagle nest survey was conducted from March 24-26, 2026, within 660 feet of the Facility centerline. No bald eagle nests were identified. The Applicant will conduct eagle nest surveys prior to Facility construction and annually each spring during construction if construction is expected to occur during raptor nesting season. The Applicant will coordinate with appropriate agencies to adjust construction timing if active bird nests are encountered during construction of the Facility. See Appendix E for additional information.

Resource Study	Date Conducted	Summary of Finding / Status
Desktop State and Federally Protected Species Habitat Assessment	July 2026	The Applicant coordinated with the USFWS and SDGFP regarding the potential for protected species and habitats to occur within or near the Facility, recommended surveys/assessments, and recommendations to minimize impacts to these species or their habitats. The Applicant also reviewed the SDGFP Natural Heritage Program database, unbroken grassland spatial data, and USFWS Information for Planning and Consultation (IPaC) System. The Applicant will conduct additional ground-based, species-specific surveys prior to construction, as needed. See Appendix E for additional information.
Desktop Level I Cultural Resources Review	May 2026	The desktop Level I records search identified 22 previous cultural resources surveys that have been conducted within 1 mile of the Facility; 14 of the previous cultural resources surveys overlap the Facility. The search also identified 12 previously recorded cultural resources within 1 mile of the Facility. One previously recorded cultural resource was identified within the Facility ROW. See Appendix F for additional information. The Level I Cultural Resources Records Search is complete.

3.3 Facility design

The results of the various coordination activities and studies listed above have been used to inform the Facility design and route. The Facility and structure locations are being designed to avoid or minimize impacts on environmental resources. Final micro-siting of the Facility will continue to occur until the design has been finalized. The following design criteria will be used to the extent practicable:

- Place structures in previously disturbed areas to avoid potential habitats associated with protected wildlife and plant species and to avoid undisturbed native grasslands.
- Use previously disturbed lands, including existing roads, where practical, to minimize wildlife habitat fragmentation.
- Avoid or minimize disturbance to wetlands and waterways; where impacts are unavoidable, comply with applicable requirements of the USACE Nationwide Permitting Program.

- Avoid placing structures within or immediately adjacent to surface water features and minimize potential impacts to floodplains in accordance with Grant County and Roberts County floodplain development permitting requirements.
- Consult with appropriate resource agencies to avoid or minimize potential impacts to sensitive species within the vicinity of the Facility.

As discussed in more detail in the sections that follow, the remaining study work is not anticipated to affect the environmental analysis set forth in this Application, nor would it prevent the Facility from meeting all applicable local, state, and federal permitting requirements.

3.4 Land acquisition

A 150-foot-wide easement (ROW) will be needed for the Facility to cross private property and will require coordination with entities and agencies where the ROW crosses or shares a ROW with other public utilities, public roads, and the railroad. The Applicant has contacted landowners beginning in January 2026 to request right of entry for surveys. Beginning in July 2026, the Applicant began contacting landowners to discuss obtaining options for easements for the proposed Route, and that process is on-going. The Applicant will coordinate with landowners throughout Facility development, construction, and operation.

4.0 Facility permit application compliance (ARSD 20:10:22:05)

In accordance with SDCL 49-41B and ARSD 20:10:22, this Application provides information on the existing environment, potential Facility impacts, and proposed avoidance, minimization, and/or mitigation measures for the following resources:

- Physical environment (geology, economic deposits, soils, seismic risks);
- Hydrology (surface water, groundwater, and wetlands);
- Terrestrial ecosystems (vegetation, wildlife, threatened and endangered species);
- Aquatic ecosystems;
- Land use (agriculture, residential, displacement, sound, aesthetics, electromagnetic interference, safety and health, real estate values);
- Water quality;
- Air quality; and
- Communities (socioeconomics, transportation and emergency response, cultural resources).

Based on the analysis completed by the Applicant, the Facility is not expected to have significant impacts on the environment.

In this Application, the Applicant has addressed each matter set forth in SDCL 49-41B and in ARSD Chapter 20:10:22 (Energy Facility Siting Rules) related to transmission facilities. Section 4.1 of this Application includes a Completeness Checklist that sets forth where in the Application each rule requirement is addressed.

Pursuant to SDCL 49-41B-22, the information presented here establishes that:

- The proposed Facility will comply with all applicable laws and rules;
- The Facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area.
- The Facility will not substantially impair the health, safety, or welfare of the inhabitants; and
- The Facility will not unduly interfere with the orderly development of the region with due consideration having been given to the views of governing bodies of affected local units of government.

Additionally, the Applicant plans to submit conditional use permit (CUP) applications to Grant County and Roberts County and will provide the Commission with a copy of the CUPs issued for the Facility.

4.1 Completeness checklist

SDCL	ARSD	Required Information	Location
49-41B-11(1-12)	20:10:22:05	Application contents: The application for a permit for a facility shall contain the applicable information specified in §§ 20:10:22:06 to 20:10:22:25, inclusive, 20:10:22:36, and 20:10:22:39. If the application is for a permit for an energy conversion facility, it shall also contain the information specified in §§ 20:10:22:26 to 20:10:22:33, inclusive. If the application is for a permit for a transmission facility as defined in SDCL subdivision 49-41B-2.1(1), it shall also contain the information in §§ 20:10:22:34, 20:10:22:35, and 20:10:22:41. If the application is for a permit for a transmission facility as defined in SDCL subdivision 49-41B-2.1(2), it shall also contain the information in §§ 20:10:22:37, 20:10:22:38, and 20:10:22:41. If the application is for a permit for a wind energy facility or a solar energy facility, it shall also contain the information in §§ 20:10:22:33.01 and 20:10:22:33.02. The application for a permit for a facility shall contain a list of each permit that is known to be required from any other governmental entity at the time of the filing. The list of permits shall be updated, if needed, to include any permit the applicant becomes aware of after filing the application. The list shall state when each permit application will be filed. The application shall also list each notification that is required to be made to any other governmental entity.	Sections 1.0-27.0
49-41B-11(1)	20:10:22:06	Names of participants required: The application shall contain the name, address, and telephone number of all persons participating in the proposed facility at the time of filing, as well as the names of any individuals authorized to receive communications relating to the application on behalf of those persons.	Section 5.0

SDCL	ARSD	Required Information	Location
49-41B-11(7)	20:10:22:07	Name of owner and manager: The application shall contain a complete description of the current and proposed rights of ownership of the proposed facility. It shall also contain the name of the project manager of the proposed facility.	Section 6.0
49-41B-11(8)	20:10:22:08	Purpose of facility: The applicant shall describe the purpose of the proposed facility.	Section 7.0
49-41B-11(12)	20:10:22:09	Estimated cost of facility: The applicant shall describe the estimated construction cost of the proposed facility.	Section 8.0
49-41B-11(9)	20:10:22:10	Demand for facility: The applicant shall provide a description of present and estimated consumer demand and estimated future energy needs of those customers to be directly served by the proposed facility. The applicant shall also provide data, data sources, assumptions, forecast methods or models, or other reasoning upon which the description is based. This statement shall also include information on the relative contribution to any power or energy distribution network or pool that the proposed facility is projected to supply and a statement on the consequences of delay or termination of the construction of the facility.	Section 7.0
49-41B-11(2)	20:10:22:11	General site description: The application shall contain a general site description of the proposed facility, including a description of the specific site and its location with respect to state, county, and other political subdivisions; a map showing prominent features such as cities, lakes, and rivers; and maps showing cemeteries, places of historical significance, transportation facilities, or other public facilities adjacent to or abutting the plant or transmission site.	Section 9.0
49-41B-11(6); 49-41B-21; 34A-9-7(4)	20:10:22:12	Alternative sites: The applicant shall present information related to its selection of the proposed site for the facility, including the following: (1) The general criteria used to select alternative sites, how these criteria were measured and weighed, and reasons for selecting these criteria; (2) An evaluation of alternative sites considered by the applicant for the facility; (3) An evaluation of the proposed plant, wind energy, or transmission site and its	Section 10.0

SDCL	ARSD	Required Information	Location
		advantages over the other alternative sites considered by the applicant, including a discussion of the extent to which reliance upon eminent domain powers could be reduced by use of an alternative site, alternative generation method, or alternative waste-handling method.	
49-41B-11(2, 11); 49-41B-21; 49-41B-22(2)	20:10:22:13	Environmental information: The applicant shall provide a description of the existing environment at the time of the submission of the application, estimates of changes in the existing environment which are anticipated to result from construction and operation of the proposed facility, and identification of irreversible changes which are anticipated to remain beyond the operating lifetime of the facility. The environmental effects shall be calculated to reveal and assess demonstrated or suspected hazards to the health and welfare of human, plant, and animal communities which may be cumulative or synergistic consequences of siting the proposed facility in combination with any operating energy conversion facilities, existing or under construction. The applicant shall provide a list of other major industrial facilities under regulation which may have an adverse effect on the environment as a result of their construction or operation in the transmission site, wind energy site, or siting area.	Sections 11.0, 12.0 – 16.0, 18.0 – 19.0, and 21.0
49-41B-11(11); 49-41B-22(2)	20:10:22:14	Effect on physical environment: The applicant shall provide information describing the effect of the proposed facility on the physical environment. The information shall include: (1) A written description of the regional land forms surrounding the proposed plant or wind energy site or through which the transmission facility will pass; (2) A topographic map of the plant, wind energy, or transmission site; (3) A written summary of the geological features of the plant, wind energy, or transmission site using the topographic map as a base showing the bedrock geology and surficial geology with sufficient cross-sections to depict the major subsurface variations in the siting area; (4) A description and location of economic deposits such as lignite, sand and gravel, scoria, and industrial and	Section 12.0

SDCL	ARSD	Required Information	Location
		ceramic quality clay existent within the plant, wind energy, or transmission site; (5) A description of the soil type at the plant, wind energy, or transmission site; (6) An analysis of potential erosion or sedimentation which may result from site clearing, construction, or operating activities and measures which will be taken for their control; (7) Information on areas of seismic risks, subsidence potential, and slope instability for the plant, wind energy, or transmission site; and (8) An analysis of any constraints that may be imposed by geological characteristics on the design, construction, or operation of the proposed facility and a description of plans to offset such constraints.	
49-41B-11(11); 49-41B-21; 49-41B-22(2)	20:10:22:15	Hydrology: The applicant shall provide information concerning the hydrology in the area of the proposed plant, wind energy, or transmission site and the effect of the proposed site on surface and groundwater. The information shall include: (1) A map drawn to scale of the plant, wind energy, or transmission site showing surface water drainage patterns before and anticipated patterns after construction of the facility; (2) Using plans filed with any local, state, or federal agencies, indication on a map drawn to scale of the current planned water uses by communities, agriculture, recreation, fish, and wildlife which may be affected by the location of the proposed facility and a summary of those effects; (3) A map drawn to scale locating any known surface or groundwater supplies within the siting area to be used as a water source or a direct water discharge site for the proposed facility and all offsite pipelines or channels required for water transmission; (4) If aquifers are to be used as a source of potable water supply or process water, specifications of the aquifers to be used and definition of their characteristics, including the capacity of the aquifer to yield water, the estimated recharge rate, and the quality of ground water; (5) A description of designs for storage, reprocessing, and cooling prior to discharge of heated water entering natural drainage systems; and	Section 13.0

SDCL	ARSD	Required Information	Location
		(6) If deep well injection is to be used for effluent disposal, a description of the reservoir storage capacity, rate of injection, and confinement characteristics and potential negative effects on any aquifers and groundwater users which may be affected.	
49-41B-11(11); 49-41B-21; 49-41B-22(2)	20:10:22:16	Effect on terrestrial ecosystems: The applicant shall provide information on the effect of the proposed facility on the terrestrial ecosystems, including existing information resulting from biological surveys conducted to identify and quantify the terrestrial fauna and flora potentially affected within the transmission site, wind energy site, or siting area; an analysis of the impact of construction and operation of the proposed facility on the terrestrial biotic environment, including breeding times and places and pathways of migration; important species; and planned measures to ameliorate negative biological impacts as a result of construction and operation of the proposed facility.	Section 14.0
49-41B-11(11); 49-41B-21; 49-41B-22(2)	20:10:22:17	Effect on aquatic ecosystems: The applicant shall provide information of the effect of the proposed facility on aquatic ecosystems, including existing information resulting from biological surveys conducted to identify and quantify the aquatic fauna and flora potentially affected within the transmission site, wind energy site, or siting area, an analysis of the impact of the construction and operation of the proposed facility on the total aquatic biotic environment and planned measures to ameliorate negative biological impacts as a result of construction and operation of the proposed facility.	Section 15.0
49-41B-11(11); 49-41B-22(2, 3)	20:10:22:18	Land use: The applicant shall provide the following information concerning present and anticipated use or condition of the land: (1) A map or maps drawn to scale of the plant, wind energy, or transmission site identifying existing land use according to the following classification system: (a) Land used primarily for row and nonrow crops in rotation; (b) Irrigated lands; (c) Pasturelands and rangelands; (d) Hayland; (e) Undisturbed native grasslands;	Section 16.0

SDCL	ARSD	Required Information	Location
		(f) Existing and potential extractive nonrenewable resources; (g) Other major industries; (h) Rural residences and farmsteads, family farms, and ranches; (i) Residential; (j) Public, commercial, and institutional use; (k) Municipal water supply and water sources for organized rural water systems; and (l) Noise sensitive land uses. (2) Identification of the number of persons and homes which will be displaced by the location of the proposed facility; (3) An analysis of the compatibility of the proposed facility with present land use of the surrounding area, with special attention paid to the effects on rural life and the business of farming; and (4) A general analysis of the effects of the proposed facility and associated facilities on land uses and the planned measures to ameliorate adverse impacts.	
49-41B-11(11); 49-41B-22(1, 2, 4); 49-41B-28	20:10:22:19	Local land use controls: The applicant shall provide a general description of local land use controls and the manner in which the proposed facility will comply with the local land use zoning or building rules, regulations, or ordinances. If the proposed facility violates local land use controls, the applicant shall provide the commission with a detailed explanation of the reasons why the proposed facility should preempt the local controls. The explanation shall include a detailed description of the restrictiveness of the local controls in view of existing technology, factors of cost, economics, needs of parties, or any additional information to aid the commission in determining whether a permit may supersede or preempt a local control pursuant to SDCL 49-41B-28.	Section 17.0
49-41B-11(11); 49-41B-22(2)	20:10:22:20	Water quality: The applicant shall provide evidence that the proposed facility will comply with all water quality standards and regulations of any federal or state agency having jurisdiction and any variances permitted.	Section 18.0

SDCL	ARSD	Required Information	Location
49-41B-11(11); 49-41B-21; 49-41B-22(2)	20:10:22:21	Air quality: The applicant shall provide evidence that the proposed facility will comply with all air quality standards and regulations of any federal or state agency having jurisdiction and any variances permitted.	Section 19.0
49-41B-11(3)	20:10:22:22	Time schedule: The applicant shall provide estimated time schedules for accomplishment of major events in the commencement and duration of construction of the proposed facility.	Section 20.0
49-41B-11(3, 4, 10); 49-41B-22(2, 3, 4)	20:10:22:23	Community impact: The applicant shall include an identification and analysis of the effects the construction, operation, and maintenance of the proposed facility will have on the anticipated affected area including the following: (1) A forecast of the impact on commercial and industrial sectors, housing, land values, labor market, health facilities, energy, sewage and water, solid waste management facilities, fire protection, law enforcement, recreational facilities, schools, transportation facilities, and other community and government facilities or services; (2) A forecast of the immediate and long-range impact of property and other taxes of the affected taxing jurisdictions; (3) A forecast of the impact on agricultural production and uses; (4) A forecast of the impact on population, income, occupational distribution, and integration and cohesion of communities; (5) A forecast of the impact on transportation facilities; (6) A forecast of the impact on landmarks and cultural resources of historic, religious, archaeological, scenic, natural, or other cultural significance. The information shall include the applicant's plans to coordinate with the local and state office of disaster services in the event of accidental release of contaminants from the proposed facility; and (7) An indication of means of ameliorating negative social impact of the facility development.	Section 21.0

SDCL	ARSD	Required Information	Location
49-41B-11(4)	20:10:22:24	Employment estimates: The application shall contain the estimated number of jobs and a description of job classifications, together with the estimated annual employment expenditures of the applicants, the contractors, and the subcontractors during the construction phase of the proposed facility. In a separate tabulation, the application shall contain the same data with respect to the operating life of the proposed facility, to be made for the first ten years of commercial operation in one-year intervals. The application shall include plans of the applicant for utilization and training of the available labor force in South Dakota by categories of special skills required. There shall also be an assessment of the adequacy of local manpower to meet temporary and permanent labor requirements during construction and operation of the proposed facility and the estimated percentage that will remain within the county and the township in which the facility is located after construction is completed.	Section 22.0
49-41B-11(5)	20:10:22:25	Future additions and modifications: The applicant shall describe any plans for future modification or expansion of the proposed facility or construction of additional facilities which the applicant may wish to be approved in the permit.	Section 23.0
49-41B-11	20:10:22:34	Transmission facility layout and construction: If a transmission facility is proposed, the applicant shall submit a policy statement concerning the route clearing, construction and landscaping operations, and a description of plans for continued right-of-way maintenance, including stabilization and weed control.	Section 24.0
49-41B-11(2, 11); 49-41B-22(3)	20:10:22:35	Information concerning transmission facilities: If a transmission facility is proposed, the applicant shall provide the following information: (1) Configuration of the towers and poles, including material, overall height, and width; (2) Conductor configuration and size, length of span between structures, and number of circuits per pole or tower; (3) The proposed transmission site and major alternatives as depicted on overhead photographs and land use culture maps;	Section 9.0 Section 24.0 Section 25.0

SDCL	ARSD	Required Information	Location
		(4) Reliability and safety; (5) Right-of-way or condemnation requirements; (6) Necessary clearing activities; and (7) If the transmission facility is placed underground, the depth of burial, distance between access points, conductor configuration and size, and number of circuits.	
49-41B-7; 49-41B-22	20:10:22:36	Additional information in application: The applicant shall also submit as part of the application any additional information necessary for the local review committees to assess the effects of the proposed facility pursuant to SDCL 49-41B-7. The applicant shall also submit as part of its application any additional information necessary to meet the burden of proof specified in SDCL 49-41B-22.	Section 27.0
49-41B-11	20:10:22:39	Testimony and exhibits: Upon the filing of an application pursuant to SDCL 49-41B-11, an applicant shall also file all data, exhibits, and related testimony which the applicant intends to submit in support of its application. The application shall specifically show the witnesses supporting the information contained in the application.	Section 27.0
49-41B-22		Applicant's burden of proof: The applicant has the burden of proof to establish by a preponderance of the evidence that: (1) The proposed facility will comply with all applicable laws and rules; (2) The facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area. An applicant for an electric transmission line, a solar energy facility, or a wind energy facility that holds a conditional use permit from the applicable local units of government is determined not to threaten the social and economic condition of inhabitants or expected inhabitants in the siting area; (3) The facility will not substantially impair the health, safety or welfare of the inhabitants; and (4) The facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government. An	Sections 1.0-27.0

SDCL	ARSD	Required Information	Location
		applicant for an electric transmission line, a solar energy facility, or a wind energy facility that holds a conditional use permit from the applicable local units of government is in compliance with this subdivision.	

5.0 Names of participants (ARSD 20:10:22:06)

The Applicant's full name, business address, and business telephone number are shown below:

Otter Tail Power Company

215 South Cascade Street
Fergus Falls, MN 56537
(218) 739-8200

The individuals authorized to receive communications relating to this Application on behalf of Otter Tail are shown below:

JoAnn Thompson
Vice President, Asset Management
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(218) 739-8594
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300 S Main Avenue
Sioux Falls, SD 57104
(605) 336-2424
jrsutton@boycelaw.com

6.0 Name of owner and manager (ARSD 20:10:22:07)

Otter Tail will own and operate the Facility. Otter Tail is the Project Manager and will be responsible for the construction, operation and maintenance and management of the Facility. Equipment and modifications required inside the Big Stone South Substation will be owned by Otter Tail.

7.0 Purpose and demand for transmission facility (ARSD 20:10:22:08; 20:10:22:10)

7.1 Purpose and benefits

In 2020, MISO and SPP prepared the Joint Targeted Interconnection Queue (JTIQ) Study to: (1) identify more comprehensive, cost-effective, and efficient network upgrades than would be identified in the current interconnection queue and affected system coordination processes where network upgrades are identified in the time sequence by either MISO or SPP; (2) identify solutions that meet the needs of interconnection customers and provide benefits to load in both MISO and SPP near the seam; and (3) identify opportunities to improve coordination between MISO and SPP planning processes and affected system coordination.

Through the JTIQ Study, a portfolio of transmission projects was identified to address significant transmission limitations restricting the ability to interconnect new generating resources along the “MISO-SPP seam” — the areas where the two regional transmission organization areas meet.³ The JTIQ Study identified more comprehensive transmission projects that result in lower overall costs to interconnections than what would be determined through individual generator interconnection queue cycles. The portfolio of projects will improve transmission capacity, reliability, and resiliency and reduce system congestion. The portfolio of transmission projects includes the BSSHB Project.

As part of this portfolio of transmission projects, the purpose and corresponding benefits of the BSSHB Project is to contribute to a cost-effective and efficient network upgrade that would allow for additional interconnection of generating resources, reduce transmission congestion, and improve transmission capacity, reliability, and resiliency.

7.2 Demand for transmission facility

The 2020 JTIQ Study assessed the demand for the BSSHB Project, including the South Dakota Segment (i.e., the Facility), as part of a portfolio of projects. MISO and SPP determined that the existing transmission system along the MISO-SPP seam was at capacity and the BSSHB Project was necessary to meet the demand for the interconnection of additional generation resources. The BSSHB Project and the other transmission projects within the portfolio were shown to resolve thermal constraints and enable up to an additional 28 gigawatts (GW) of capacity on the transmission system for interconnection of new generation resources.

The thermal constraints resolved by the BSSHB Project and other transmission projects within the portfolio include the 230 kV system that stretches from East River Electric Power Cooperative and Otter Tail’s Blair substation near Gary, South Dakota, to Otter Tail’s Wahpeton substation near Wahpeton, North Dakota, and the 345 kV and 115 kV system in the Sioux Falls, South Dakota, area, among other distributed transmission facilities on the MISO and SPP systems in North Dakota and South Dakota.

³ MISO-SPP. 2023. Joint Targeted Interconnection Queue Study. Technical Report. March 2022. September 2026

While the primary driver of the JTIQ Study was to efficiently and cost effectively resolve the major constraints along the MISO and SPP seam that inhibited the interconnection of generation resources, the BSSHB Project, and other projects within the portfolio, are expected to provide approximately \$724 million in Adjusted Production Cost (APC) savings within the MISO footprint and \$246 million in APC savings within the SPP footprint.

The BSSHB Project was approved by MISO within its 2024 MISO Transmission Expansion Plan⁴. The BSSHB Project with the other JTIQ projects will provide improved capacity, reliability, resiliency, and reduced congestion on the transmission system.

7.2.1 Consequence of delay

As the largest proposed transmission project in the JTIQ portfolio, the delay in development or termination of construction of the BSSHB Project would result in the inability to optimize the network and increase transmission capacity, allowing the efficient interconnection of new generation resources. Delay in developing or termination of construction of the Facility will delay or prevent receiving the benefits of reduced transmission congestion and improved transmission capacity, reliability, and resiliency. Delay or cancellation of the BSSHB Project could also increase costs to customers because the efficiencies created through the JTIQ process for facilitating up to 28 GW of generation would not be realized, potentially requiring alternative transmission upgrades or affected system upgrades at higher cost, which would ultimately be borne by MISO and/or SPP customers.

⁴ The 2024 MISO Transmission Expansion Plan can be found on MISO's website
<https://cdn.misoenergy.org/MTEP24720395.zip>

8.0 Estimated cost of facility (ARSD 20:10:22:09)

The estimated total construction costs for the Facility are between \$190.6 million and \$228.7 million (in 2024 dollars). The cost estimates for the transmission line portion of the Facility are based on the Applicant's experience and the actual costs incurred for constructing prior similar transmission projects. Estimated costs are based on preliminary engineering and are subject to change based on the final Facility design.

Table 8-1. Estimated total construction costs of the Facility (in 2024 dollars)

BSSHB Project Segment	Transmission Line Estimated Cost (millions)	Substation Estimated Cost (millions)	Total Estimated Cost (millions)
Big Stone South Substation to South Dakota-North Dakota Border (i.e., the Facility)	\$182.4 - \$218.9	\$8.2 - \$9.8	\$190.6 - \$228.7

9.0 General site and facility components description (ARSD 20:10:22:11; 20:10:22:35)

9.1 Site location and overview

The Facility is located entirely within Grant and Roberts counties, South Dakota. Figure 1 of Appendix A displays the Facility from the Big Stone South Substation to the South Dakota-North Dakota border. A detailed map of the Facility showing Facility components is provided in the Figure 3 series of Appendix A. The Applicant has identified a preliminary centerline for the Facility's 345 kV transmission line (centerline) and is in the process of obtaining voluntary easements for an approximately 150-foot-wide area centered on the centerline (ROW). Table 9-1 below provides the location of the Facility centerline and ROW using township, range, and section numbers. Modification to the Facility may occur following the filing of this Application as a result of final engineering, permitting, and/or ROW (easement) acquisition.

Table 9-1. Proposed location of the Facility centerline and ROW

County	Township Name	Township	Range	Sections
Grant	Big Stone	121N	47W	7,9,10,23,24,11,13,15,8,14
Grant	Melrose	121N	48W	3,10,11,12
Roberts	Geneseo	122N	49W	1,24,12,16,18,34,20,21,28,13,17,19,33
Roberts	Becker	124N	49W	20,17,18,19,33,34,30,32,7,29,31,12
Roberts	Lake	123N	49W	21,22,14,15,3,16,24,26,36,4,10,23,25,9
Roberts	Easter	125N	50W	17,29,3,20,33,35,9,8,28,32,34,4
Roberts	Grant	126N	50W	2,21,3,33,34,4,10,11,27,28,9,16
Roberts	Hart	127N	50W	1,23,24,25,26,12,14,35,13
Roberts	Lien	128N	50W	12,13,1,24,36,25,25,36
Roberts	Victor	128N	49W	6
Roberts	Victor	129N	49W	31,30

9.2 Siting flexibility

The Applicant seeks an order condition that allows for adjustments to the 150-foot-wide ROW and the structure locations within the ROW so long as: (a) both remain within the corridor field-surveyed for both cultural resources and wetlands; (b) impacts to cultural resources are avoided or mitigated in consultation with the SHPO; (c) wetland impacts are avoided or are in compliance with applicable USACE regulations; (d) the ROW and structures will not be located in potentially undisturbed native grasslands; (e) all landowners within one-half mile of the adjusted ROW already received the notice required by SDCL 44-41B-5.2; and (f) all other applicable regulations and requirements are met.

Any adjustments that do not meet the above-stated limitations are considered a “material change.” If a “material change” is proposed, the Applicant shall file a request for approval of the “material change” prior to making the adjustment pursuant to the following approval process:

- Applicant will file with the Commission and serve on the official Service List a request for approval of a material change that includes:
 - An affidavit describing the proposed adjustment(s), the reason for the adjustment(s), the reason the adjustment(s) do(es) not comply with one or more flexibility limitations set forth above, and information regarding compliance with all other applicable requirements; and
 - A map showing the approved location of the 150-foot-wide ROW and structure locations and the proposed adjusted locations (in different colors).
- Once received, the information will be reviewed by Commission staff, and Commission staff will have 10 calendar days within which to request further Commission review.
- If no further review is requested, the Applicant may proceed with the adjustment.
- If further review is requested, the Commission will issue a decision regarding the Applicants’ request at its next available regularly scheduled Commission meeting, subject to notice requirements.

9.3 Transmission ROW

The ROW for the Facility will be 150 feet wide. The transmission structures will typically be centered within the ROW. The Facility’s approximately 71-mile-long transmission line will extend from the existing Big Stone South Substation located in Section 24, Township 121N, Range 47W, and continue northwest approximately 39 miles, then north/northeast approximately 32 miles to the South Dakota-North Dakota border in Section 30, Township 129N, Range 49 W/ Section 25, Township 129N Range 50W. In addition to the permanent ROW, additional temporary workspace will be needed in certain locations during construction.

9.4 Configuration of structures and conductors

The transmission line design selected for the Facility will be a single-circuit, 345 kV transmission facility that is anticipated to be constructed on steel-monopole structures. A single-circuit, 345 kV transmission line and associated communication line, referred to as OPGW, will be installed. The circuit of the line will consist of three-phase conductors hung vertically from insulators attached to davit arms on each side of the monopole structure. Each phase will consist of two sub-conductor bundles with 18-inch vertical spacing. An example of the structure configuration is provided in Figure 4 of Appendix A.

The phase conductors are expected to be twisted pair (TP), 636 ACSR “Grosbeak.” TP conductors consist of two conductors placed side by side and twisted at a predefined

distance by the manufacturer. This type of conductor provides motion resistance to wind-induced events on transmission lines (e.g., conductor galloping or vibration). Each phase will consist of two of these TP sub-conductors to provide optimal current-carrying capacity at 345 kV.

The Facility will consist of two shield wires, including an OPGW for communication and a typical steel shield wire. The OPGW is a fiber optic cable with a designated set of fibers surrounded by steel wires that serve a dual purpose at the top of each structure: (1) to protect the phase from lightning strikes; and (2) to exchange information (i.e., communicate) between the endpoint substations and other locations on the transmission system. The secondary steel shield wire serves the same function as the OPGW, but only for added protection of the phases from lightning strikes (no communication).

The Facility is expected to require approximately 500 transmission structures with spans ranging from 700 to 1,200 feet, but this may vary depending on geological, environmental, or engineering constraints identified during micro-siting. Configuration details are provided in Table 9-2. The structures will be bolted to concrete, drilled, pier foundations embedded in the ground. Specialty structures such as H-frame or three-pole structures may be used where unique features are encountered along the Facility, such as crossing other transmission lines.

Table 9-2. Facility configuration summary

Type	Material	ROW Width	Approx. Height	Approx. Structure Base Diameter	Approx. Foundation Diameter	Typical Span
Monopole Structure w/ Davit Arms	Corten Steel	150 feet	120–160 feet	3-9 feet	6-12 feet	700-1,200 feet

9.5 Substation upgrades

The Facility will include modifications of the existing Big Stone South Substation to accommodate new breaker positions and switches and relocate the 345 kV Big Stone South to Ellendale termination into the substation. The Big Stone South Substation will not be expanded as part of the Facility.

9.6 Temporary use areas

The transmission line construction process will include the following temporary use areas that will be restored following construction, unless the landowner requests for them to remain after construction is complete:

- Pulling/tensioning sites will be required to facilitate conductor installation. These sites will require an area for equipment of approximately 200 feet x 700 feet.
- Temporary access to the structures will be required to enable foundation installation, structure assembly and erection, conductor and OPGW or overhead ground wire (OHGW) installation. Temporary access roads may be bladed, if needed, to provide a level area. To prevent rutting, and as otherwise determined necessary by the contractor, temporary mats may be installed to facilitate equipment travel to the structure sites.

- Each structure site will generally require an approximately 150-foot x 200-foot, temporary workspace to facilitate foundation construction, structure assembly, and erection.
- Temporary material sites will be needed to store materials.

The final locations of these temporary use areas are dependent upon final micro-siting of structure locations. The Applicant commits to the following with respect to the temporary use areas: (a) all necessary land rights will be secured; (b) cultural resource field surveys and wetland delineations will be conducted, if not in an area previously surveyed; (c) cultural resource impacts will be avoided or mitigated in consultation with the SHPO; (d) wetland impacts will be avoided or will be in compliance with applicable USACE regulations; and (e) all other applicable regulations and requirements will be met.

10.0 Alternative sites and siting criteria (ARSD 20:10:22:12)

The following sections discuss the Facility selection process, including the alternatives considered, and summarize the siting/routing criteria applied.

10.1 General criteria used to select alternative sites

As discussed in Section 7.0, the Facility was identified as part of the BSSHB Project, which is one of the JTIQ projects identified by MISO and SPP as needed to enhance transmission grid reliability, reduce transmission congestion, increase grid resiliency, and increased access to generation resources.

In December 2025, the Applicant began evaluating transmission line routing options in a Study Area around Otter Tail's existing Big Stone South Substation and extending north to the South Dakota-North Dakota border. The Applicant collected GIS data from local, state, and federal agencies for the Study Area. The Applicant also identified routing constraints, which include population centers; Cottonwood Slough; various lakes; and federal, Tribal, and state fee title; easement tracts; and other property interests. Using this information, the Applicant developed potential routing corridors within the Study Area, which typically followed public roadways, section or quarter section field lines, or existing transmission line corridors to minimize impacts to existing land uses and to allow for easier construction and long-term maintenance access. As more information was collected at public open house meetings and through landowner, stakeholder, and agency feedback, the potential routing corridors were narrowed down to two preliminary routes with numerous connectors. The preliminary routes were approximately 500 feet wide.

Within these preliminary routes, further analysis was conducted to identify a proposed route for the Facility. Route selection required the Applicant to balance various factors such as: (1) avoiding engineering constraints (i.e., existing high-voltage transmission lines and other infrastructure); (2) utilizing engineering opportunities (i.e., following existing utility and road ROWs); (3) avoiding or minimizing impacts to environmental resources (e.g., cultural resources, waterbodies/wetlands, potentially undisturbed grassland, public lands); and (4) minimizing impacts to landowners and existing land use in order to maximize the potential to secure voluntary easements. The result is the currently proposed centerline depicted on Figure 1 and the Figure 3 series of Appendix A.

As discussed throughout this Application, in addition to meeting the essential requirement of originating at the existing Big Stone South Substation and traveling northwest, the proposed Facility is compatible with the existing land uses, which are primarily agricultural (e.g., crop production, pastureland, hay production). Additionally, the proposed Facility minimizes overall line length while avoiding and/or minimizing potential impacts to existing infrastructure and environmental resources. The Applicant is in the process of securing rights of entry and options/easements from landowners along the proposed Facility.

10.2 Evaluation of alternative sites considered for the facility

The Applicant evaluated numerous preliminary routes through development of the Facility. Routes were rejected based on siting criteria, constraints, and public feedback. Preliminary routes were rejected to avoid:

- residences;
- municipalities;
- airports, runways, and helipads;
- landfills;
- large bodies of water;
- daycare;
- cultural resources;
- federal fee title tracts, Tribal lands, and associated Tribal trust resources;
- and environmental resources.

Length of the proposed transmission line was also considered because a longer route could result in more construction disturbance and long-term land impacts.

10.3 Evaluation of the proposed site and its advantages over alternative sites

The proposed Facility best balances environmental, engineering, and landowner factors compared to the rejected preliminary routes. Sections 12.0 – 21.0 analyze the effects of the Facility.

The Applicant is in the process of securing the ROW for the Facility through landowner negotiations. The use of an alternative site is not expected to materially reduce the potential need to exercise eminent domain authority, if necessary.

11.0 Environmental information (ARSD 20:10:22:13)

Sections 12.0 through 21.0 provide descriptions of the existing environment at the time of this Application submittal and the potential changes to the existing environment from construction and operation of the Facility, identification of the minimal amount of irreversible changes which are anticipated to remain beyond the operating lifetime of the Facility, as well as the avoidance, minimization, and mitigation measures that have been or will be taken by the Applicant for the Facility. Documentation of consultation with agencies regarding the Facility is discussed in Appendix B.

A cumulative impacts analysis that accounts for the impacts of the proposed Facility and energy conversion facilities that are operating or under construction is required (ARSD 20:10:22:13). The phrase “energy conversion facility” is defined as “any new facility, or facility expansion, designed for or capable of generation of one hundred megawatts or more of electricity, but does not include any wind or solar energy facilities” (SDCL §49-41b-2(6)). There are no operating energy conversion facilities, existing or under construction, or other major industrial facilities under regulation by the Commission within or adjacent to the Facility. The closest energy conversion facility is the Big Stone Power Plant located approximately 1.4 miles north of the Big Stone South Substation and the Facility. The Applicant is unaware of any other major industrial facilities under regulation by the Commission which may have an adverse effect on the environment as a result of their construction or operation in the siting area. Given the lack of energy conversion facilities in the vicinity of the Facility and the fact that the Facility does not include a new energy conversion facility, construction and operation of the Facility would not result in cumulative effects on resources, as addressed in ARSD 20:10:22:13.

Permanent impacts are defined as the extent of the structure foundations, assumed to be up to 12 feet in diameter. To be conservative, the Applicant has calculated temporary impacts as all areas within the ROW. Areas within the ROW are potentially subject to construction-related disturbance, all of which will be revegetated following construction completion. It is estimated that the Facility will result in 1.1 acres of permanent impact (i.e., structure foundations) and 1,286.4 acres of temporary impact (i.e., the remaining lands within the ROW). The Applicant has presented potential temporary impacts within the ROW in the following sections.

12.0 Effect on physical environment (ARSD 20:10:22:14)

The following sections describe the existing physical environment in the vicinity of the Facility, the potential effects of the proposed Facility on the physical environment, and measures that have been or will be utilized to avoid, minimize, and/or mitigate potential impacts.

12.1 Geological resources

12.1.1 Existing geological resources

12.1.1.1 Description of regional landforms

The Facility is located within the Northern Glaciated Plains Level III Ecoregion, which is characterized by flat to gently rolling topography formed by repeated glacial advances and retreats during the Pleistocene Epoch.⁵ The landscape consists predominantly of glacial drift, glacial till, outwash, and lake plain deposits.

The northern portion of the Facility, near the South Dakota/North Dakota border, is within the Tewaukon Dead Ice Moraine (Level IV Ecoregion 46e), which is characterized by hummocky glacial landforms formed by stagnating ice, semipermanent wetlands, and shallow depressions. Much of the upland landscape has been converted to cultivated agriculture, although the area retains a relatively high density of wetlands and other glacially derived features. Farther south, the Facility crosses the Minnesota River Prairie (Level IV Ecoregion 46o), which is characterized by relatively level glacial and lacustrine sediments. Historically dominated by tallgrass prairie, much of this ecoregion has been converted to cultivated cropland.

West of the Facility, the landscape rises toward the Prairie Coteau Escarpment and Prairie Coteau ecoregions, which are characterized by greater topographic variability, numerous lakes and wetlands, and thicker accumulations of glacial deposits. Although these ecoregions are not crossed by the Facility, they form a prominent regional landscape feature that influences drainage patterns throughout northeastern South Dakota.

Drainage patterns within the Facility reflect the region's glacial history and are primarily associated with the Minnesota River watershed and its tributary systems. Local drainage is characterized by low-gradient streams, wetlands, shallow drainageways, and poorly defined channels developed on glacial and alluvial sediments.

Elevations along the Facility range from approximately 1,050 feet above mean sea level (amsl) near Big Stone City, to approximately 1,250 feet amsl in central Roberts County. A Facility overview and topographic map is provided on Figure 5 of Appendix A.

⁵ Bryce, S.A., Omernik, J.M., Pater, D.A., Ulmer, M., Schaar, J., Freeouf, J., Johnson, R., Kuck, P., and Azevedo, S.H. 1996. *Ecoregions of North Dakota and South Dakota* (color poster with map, descriptive text, summary tables, and photographs). Reston, VA: U.S. Geological Survey. Scale 1:1,500,000.

12.1.1.2 Bedrock Geology

The Facility is underlain by Cretaceous-age sedimentary bedrock consisting of the Niobrara Formation (Kn), Carlile Shale (Kc), and Pierre Shale (Kp), with localized occurrences of the Greenhorn Limestone (Kg) and Graneros Shale (Kgr).^{6,7}

Carlile Shale is the dominant bedrock unit along the Facility and consists of dark gray to black silty and sandy shale with fossiliferous carbonate concretions and localized sandstone units. In Roberts County, portions of the southern half of the Facility are underlain by the Niobrara Formation and Pierre Shale, generally corresponding with areas of end moraine and glaciofluvial surficial deposits. In Grant County near the southern terminus of the Facility, the Facility overlies the Greenhorn Limestone and Graneros Shale.

The Niobrara Formation may reach thicknesses of up to approximately 150 feet and consists of white to dark-gray argillaceous chalk, marl, and shale with thin, laterally continuous bentonite beds and minor sand and concretions. Pierre Shale is a thick sequence (locally up to 1,000 feet) of blue-gray fissile to blocky shale containing bentonite beds, organic-rich intervals, and minor sandstone and conglomerate. Greenhorn Limestone consists of thinly bedded limestone and calcareous shale, and Graneros Shale consists of primarily dark gray noncalcareous shale.

Bedrock geology along the Facility is shown in Figure 6 of Appendix A.

12.1.1.3 Surficial Geology

Surficial geology within the Facility is dominated by Quaternary deposits associated with the Late Wisconsin (Late Pleistocene) glaciation and subsequent Holocene processes. These materials include glacial till, glaciofluvial sediments, glaciolacustrine deposits, and modern alluvium.⁸ The surficial geology along the Facility reflects a low-relief, glaciated landscape typical of northeastern South Dakota as shown on Figure 7 of Appendix A. In east-central Roberts County, surficial geology along the Facility consists primarily of glacial till mapped as ground moraine (Qltg), end moraine (Qlte), and stagnation moraine (Qlts), with localized occurrences of minor moraine (Qltm) deposits. The Facility also crosses alluvial (Qal) and glaciofluvial/outwash (Qlo) deposits within drainage valleys.

Within northeast Grant County, the Facility crosses a relatively even distribution of alluvial deposits (Qal) and glacial till units, including end moraine (Qlte), and ground moraine (Qltg) deposits.

⁶ South Dakota Geological Survey (SDGS). 2026. *SDGS Interactive Data Map*. Online [URL]: <https://usd.maps.arcgis.com/apps/webappviewer/index.html?id=e54c5063b19c49629560a86a7be2eb3d>. Accessed: June 2026.

⁷ Tomhave, D.W., and Schulz, L.D. 2004. *Bedrock Geologic Map Showing Configuration of the Bedrock Surface in South Dakota East of the Missouri River*. South Dakota Geological Survey, GM 9, scale 1:500,000. Online [URL]: <https://sddenr.net/pubs/pdf/G-09.pdf>. Accessed: June 2026.

⁸ Tomhave, D.W., and Schulz, L.D. 2004. *Generalized Surficial Geologic Map of South Dakota*. South Dakota Geological Survey General Map 10 (GM-10), scale 1:500,000. Available online: <https://sddenr.net/pubs/pdf/G-10.pdf>. Accessed June 2026.

Glacial till deposits consist of compact, clay-rich matrices containing sand- to boulder-sized clasts and were deposited during glacial advance and stagnation. Till thicknesses along the Facility may reach up to approximately 300 feet (90 meters).

Modern to late Quaternary alluvial and glaciofluvial deposits consist of heterogeneous mixtures of sand and gravel with minor silt and clay and may reach thicknesses up to approximately 75 feet (23 meters).

12.1.1.4 Geological features and constraints

The Facility consists primarily of glacial till, with alluvium and outwash deposits occurring in drainageways and floodplain settings. The predominance of glacial till results in relatively stable, low-relief terrain with minimal slope stability concerns. Glacial till typically exhibits moderate to high strength and variable bearing capacity. Alluvial and outwash deposits are more heterogeneous and may include localized zones of loose sand and gravel, fine-grained sediments, or organic-rich materials that can exhibit variable bearing capacity and settlement characteristics.

Bedrock formations underlying the Facility are not prone to karst development under typical conditions and do not present a substantial risk of dissolution-related subsidence. No unusual geologic hazards or constraints are anticipated along the Facility.

12.1.1.5 Economic deposits

Mining activities in the vicinity of the Facility are limited to aggregate (sand and gravel) operations typical of northeastern South Dakota. Based on the SDDANR Construction Aggregate and Mining Map⁹ and review of aerial photographs, no active or inactive gravel or sand pits are within 150 feet of the Facility centerline.

Several active and inactive aggregate mining sites are located within approximately 0.5 mile (2,640 feet) of the Facility centerline. The closest operations occur near the Big Stone South Substation, where active sand and gravel operations are present immediately west of the substation and approximately 1,300 feet northeast, including facilities operated by Consolidated Ready Mix, Inc. and others. Based on available information, none of these aggregate operations are located within the proposed ROW; therefore, construction and operation of the Facility are not anticipated to impact active mining operations. Nearby aggregate operations and oil and gas resources are shown on Figure 8 series of Appendix A.

Information from SDDANR Minerals and Mining Program and the South Dakota Geological Survey (SDGS) indicates that the nearest oil and gas well is located approximately 18.5 miles southwest of the Big Stone South Substation in the city of South Shore, Codington County, South Dakota.¹⁰

⁹ South Dakota Department of Agriculture and Natural Resources (SDDANR). 2026. *Construction Aggregate Mining Map*. Online [URL]: <https://danr.sd.gov/Press/DataAndMapping.aspx>. Accessed: June 2026.

¹⁰ South Dakota Geological Survey (SDGS). 2026. *SDGS Interactive Data Map*. Online [URL]: <https://usd.maps.arcgis.com/apps/webappviewer/index.html?id=e54c5063b19c49629560a86a7be2eb3d>. Accessed: June 2026.

12.1.1.6 Seismic risks

The potential for seismic activity in the vicinity of the Facility is low. According to the U.S. Geological Survey (USGS) National Seismic Hazard Model (2023), the probability of damaging ground shaking in the area is less than 5 percent over a 100-year period.¹¹

No known faults are mapped within or near the Facility.¹² Review of records from the USGS Earthquake Hazards Program¹³ indicates one recorded earthquake in Roberts County since 1900 and no recorded earthquakes in Grant County. The recorded event was a magnitude 3.7 earthquake that occurred approximately 8 kilometers (5 miles) south-southeast of New Effington, South Dakota, on July 15, 1995, at a depth of approximately 5 kilometers (3.1 miles). The limited seismic history and low seismic hazard ratings indicate that seismic risks to the Facility are negligible.

12.1.1.7 Subsidence potential

The potential for subsidence is considered negligible because the underlying bedrock formations (Niobrara Formation, Carlile Shale, Pierre Shale, Greenhorn Limestone, and Graneros Shale) do not exhibit widespread karst features and are not considered prone to dissolution.

No underground mining activities are known within the Facility ROW that could contribute to subsidence.

The Applicant is not aware at this time of subsidence potential or slope instability problems associated with the Facility.

12.1.2 Geological resource impacts and avoidance, minimization, and mitigation measures

The characteristics of the geologic materials in the vicinity of the Facility generally limit the risks of impacts to geological resources from the Facility. The Facility has been routed to minimize impacts to landforms, geology, and economic deposits. Available geologic data indicates that the Facility will not significantly affect geological resources. The geological conditions, including geologic formations, seismic risk, and subsidence potential, within the Facility ROW are favorable and are not anticipated to control or impact construction or operation of the Facility. Seismic activity is not anticipated to affect the performance of the transmission line structures. The Applicant is not aware of any additional constraints that may be imposed by geological characteristics on the design, construction, or operation of the Facility. Additionally, prior to construction, geotechnical soil borings would be conducted at transmission line structure locations to determine the soil suitability and inform the final design parameters of the structure foundations.

¹¹ U.S. Geological Survey (USGS). 2024. *National Seismic Hazard Model (2023) – Chance of Damaging Earthquake Shaking*. Online [URL]: <https://www.usgs.gov/media/images/national-seismic-hazard-model-2023-chance-damaging-earthquake-shaking>. Accessed: June 2026.

¹² U.S. Geological Survey (USGS). 2026. *U.S. Quaternary Faults*. Online [URL]: <https://www.usgs.gov/media/images/interactive-fault-map>. Accessed: June 2026.

¹³ U.S. Geological Survey (USGS). 2026. *Earthquake Hazards Program, Earthquake Catalog and National Seismic Hazard Model*. Available at: <https://earthquake.usgs.gov>. Accessed June 2026.

There are no gravel/sand pits or oil/gas wells within the proposed Facility ROW. Thus, construction and operation of the Facility is not anticipated to impact mining operations or oil and gas resources, and no mitigation recommendations are necessary for impacts to these resources.

12.2 Soils

12.2.1 Existing soil resources

Soils in the vicinity of the Facility ROW can be grouped by soil associations. An association is a group of individual soil series that occur together in a characteristic geographic pattern or distinctive pattern of soils, relief, and drainage. Each soil association is typically composed of one or more major soils and one or more minor soil components. Soil associations are defined by the NRCS.

Soil Survey Geographic Database (SSURGO) GIS data available from the NRCS were analyzed using ArcInfo license of ESRI® ArcMap™ 10.0 to determine the soil associations and series in the vicinity of the Facility. The soil associations identified in the vicinity of the Facility are shown on Figure 9 series of Appendix A. Descriptions and acreages of the soil associations within the Facility ROW are provided below in Table 12-1.

Erosion factor K indicates the susceptibility of soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation and the Revised Universal Soil Loss Equation to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on the percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the K value, the more susceptible the soil is to sheet and rill erosion by water. The soils (upper 12 inches) within the Facility ROW have a K factor range from 0.04 to 0.55 and are, therefore, considered moderately susceptible to erosion.¹⁴

A wind erodibility group consists of soils that have similar properties affecting their susceptibility to wind erosion. Soils assigned to Group 1 are the most susceptible to wind erosion and those assigned to Group 8 are the least susceptible. The soils within the Facility ROW have limited susceptibility to wind erosion with groups ranging from 2 to 8.¹⁴

Table 12-1. Soil associations within the Facility ROW¹⁴

Soil Association	Soils within the Facility ROW (acres)
Aastad clay loam, 1 to 3 percent slopes	6.3
Borup silt loam	11.6
Buse-Forman loams, 20 to 40 percent slopes	41.8
Cubden silty clay loam, 0 to 2 percent slopes	0.8
Dickey fine sandy loam, 0 to 2 percent slopes	0.9
Dickey fine sandy loam, 2 to 6 percent slopes	0.4

¹⁴ Natural Resources Conservation Service (NRCS). 2026. Web Soil Survey, National Cooperative Soil Survey. Online [URL]: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed: July 20, 2026.

Soil Association	Soils within the Facility ROW (acres)
Eckman silt loam, 1 to 6 percent slopes	19.7
Embden-Hamar fine sandy loams	22.1
Esmond-Heimdal-Sisseton complex, 2 to 6 percent slopes	162.1
Esmond-Sisseton-Heimdal, complex, 2 to 12 percent slopes, moderately eroded	63.3
Estelline silty clay loam	0.6
Fordville-Renshaw loams, 3 to 6 percent slopes	0.2
Fordville loam, 0 to 2 percent slopes	6.9
Forman-Aastad complex, 1 to 4 percent slopes	194.2
Forman-Aastad stony complex, 0 to 9 percent slopes	11.3
Forman-Buse complex, 12 to 20 percent slopes, moderately eroded	6.2
Forman-Buse complex, 6 to 12 percent slopes, moderately eroded	12.0
Forman-Buse complex, 9 to 40 percent slopes, extremely stony	0.0
Forman-Buse stony complex, 9 to 40 percent slopes	8.5
Gardena-Eckman loams, 0 to 2 percent slopes	10.7
Glyndon silt loam, 0 to 2 percent slopes	7.1
Glyndon silt loam, 0 to 3 percent slopes	24.0
Hamar fine sandy loam	0.0
Hamar fine sandy loam, 0 to 1 percent slopes	0.0
Hamerly-Tonka complex, 0 to 3 percent slopes	39.7
Hamerly-Vallers loams, 0 to 2 percent slopes	46.3
Hamerly-Vallers loams, 2 to 4 percent slopes	37.7
Heimdal-Svea loams, 0 to 2 percent slopes	86.3
Heimdal-Svea loams, 2 to 6 percent slopes	199.8
LaDelle silt loam	19.5
LaDelle silt loam, channeled	4.8
Lamoure silty clay loam, 0 to 2 percent slopes, frequently flooded	17.5
Lamoure silty clay loam, 0 to 2 percent slopes, occasionally flooded	6.9
Maddock loamy fine sand, 6 to 25 percent slopes	12.4
Marysland loam, occasionally ponded, 0 to 1 percent slopes	0.3
Orthents-Aquents-Urban Land, highway complex, 0 to 35 percent slopes	0.5

Soil Association	Soils within the Facility ROW (acres)
Parnell silty clay loam, frequently ponded, 0 to 1 percent slopes	24.6
Peever clay loam, 0 to 2 percent slopes	11.8
Peever clay loam, 2 to 6 percent slopes	16.8
Peever clay loam, 6 to 9 percent slopes	3.7
Playmoor silty clay loam	1.9
Poinsett-Waubay silty clay loams, 0 to 2 percent slopes	9.1
Rauville silty clay loam, 0 to 2 percent slopes, frequently flooded	1.4
Renshaw-Sioux complex, 6 to 15 percent slopes	0.6
Renshaw-Sioux complex, coteau, 6 to 9 percent slopes	1.3
Renshaw loam, 0 to 2 percent slopes	4.2
Renshaw loam, 1 to 6 percent slopes	1.6
Rentill loam, 0 to 2 percent slopes	2.5
Sioux-Renshaw complex, 15 to 40 percent slopes	0.7
Sisseton-Esmond-Heimdal, complex, 6 to 20 percent slopes, moderately eroded	18.6
Sisseton-Esmond complex, 12 to 40 percent slopes	11.8
Southam silty clay loam, 0 to 1 percent slopes	23.8
Svea loam, 1 to 3 percent slopes	1.3
Sverdrup sandy loam, 0 to 2 percent slopes	5.1
Sverdrup sandy loam, 2 to 6 percent slopes	25.0
Tonka silty clay loam, 0 to 1 percent slopes	18.0
Ulen sandy loam	3.9
Vallers-Hamerly loams, 0 to 2 percent slopes	7.9
Vallers-Parnell complex	0.1
Vallers-Tonka complex	6.7
Waubay silty clay loam, 0 to 2 percent slopes	2.6
Total¹	1,287.5

¹ Addends may not sum due to rounding.

12.2.1.1 Prime farmland

NRCS farmland classifications include “prime farmland” (land that has the best combination of physical and chemical characteristics for the production of crops), “farmland of statewide importance” (land other than prime farmland that has a good combination of physical and chemical characteristics for the production of crops), and “not prime farmland” (land that does not meet qualifications for prime farmland), among other classifications. Prime farmlands are areas that have been determined by the South

Dakota NRCS to have adequate pH, water supply, growing season length, and temperature for growing crops. Soils in prime farmlands are not excessively erodible or wet throughout the growing season. Soils that do not meet the criteria for “prime farmland” may be considered prime farmland if the limiting factor is mitigated (e.g., by draining or irrigating). Table 12-2 shows the acreage of farmland classifications within the Facility ROW.¹⁴

Table 12-2. Prime farmland classifications within the Facility ROW¹⁴

Prime farmland classification	Prime Farmland within Facility ROW (acres)
Prime farmland	782.1
Farmland of statewide importance	101.1
Prime farmland if drained	174.7
Prime farmland if irrigated	41.3
Not prime farmland	188.2
Total¹	1,287.5

¹ Addends may not sum due to rounding.

12.2.2 Soil resource impacts and avoidance, minimization, and mitigation measures

Construction of the Facility would result in up to approximately 1,286.4 acres of temporary disturbance and approximately 1.1 acres of permanent disturbance to surface soils within the Facility. The Facility will permanently impact approximately 0.75 acre of prime farmland/farmland of statewide importance. In a letter dated February 10, 2026, the NRCS determined that the Facility will have no impact on prime or important farmland under the Farmland Protection Policy Act. Therefore, Facility impacts to prime farmland/farmland of statewide importance are *de minimis*.

Surface disturbance caused by the construction of the transmission structures may result in the soil surface becoming more prone to erosion or compaction which can result from use of heavy equipment. Clearing, grading, trench excavation, and backfilling would occur during construction within the designated construction workspace, which may result in impacts on soil resources in these areas. Clearing includes the removal of cover, which exposes soil to the effects of wind and precipitation, which may increase the potential for soil erosion and movement of sediments into sensitive environmental areas. Heavy equipment and repeated traffic may compact soil, reducing porosity and percolation rates, which could result in increased runoff potential.

To reduce potential impacts to and from soils, the Applicant will develop and utilize Best Management Practices (BMPs) during construction to protect topsoil and adjacent wetland resources and minimize soil erosion. Measures to reduce impacts to soils during construction may include the use of erosion and sediment control BMPs during construction and restoration, noxious weed control, segregating topsoil from subsurface materials, reseeding of disturbed areas based on agency recommendations or landowner requests, the use of construction equipment appropriately sized to the scope and scale of the Facility, verifying access road grades fit closely with the natural terrain, proper on-site disposal of soil cuttings from foundation construction, and maintaining proper drainage. Soils disturbed during construction will be restored to preconstruction contours to the extent practicable and in accordance with landowner agreements so that all surfaces drain

naturally, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation, provide for proper drainage, and prevent erosion. Construction laydown areas and temporary travel paths will be restored per the landowner agreement.

As noted above, geotechnical soil borings would be conducted at transmission line structure locations before construction to determine the soil suitability to support the transmission line structure foundations. This information would help inform the final design parameters of the structure foundations. Contamination from the unlikely release of fuels, lubricants, and coolants from construction equipment could also impact soils. These impacts would be localized, temporary, and related to construction activities.

Construction will require coverage under the SDDANR General Permit for Storm Water Discharges Associated with Construction Activities, which requires preparation of a Stormwater Pollution Prevention Plan (SWPPP), which will identify potential sources of stormwater pollution and specify BMPs to control erosion and sedimentation and minimize negative impacts caused by stormwater discharges from the Facility. The BMPs may include use of silt fence, straw wattles, erosion control blankets, re-vegetation, or other features and methods designed to control stormwater runoff and mitigate erosion and sedimentation. The SWPPP will be prepared before the start of construction. The SWPPP would be implemented from the initiation of construction and used through site restoration efforts. Once construction has been completed, backfill graded and excavated areas would be restored to preconstruction conditions. During operation, stormwater volume, stormwater flow and erosion, and sediment impact on surface water and groundwater resources are not anticipated to change from preconstruction conditions.

13.0 Effect on hydrology (ARSD 20:10:22:15)

The following sections describe the existing hydrology in the vicinity of the Facility, the potential effects of the proposed Facility on hydrology, and measures that have been or will be used to avoid, minimize, and/or mitigate potential impacts.

13.1 Groundwater resources

13.1.1 Existing groundwater resources

There are four glacial aquifers (Veblen, Rosholt, Fairmount, and Milnor Aquifers) and two bedrock aquifers (Granite Wash and Dakota Aquifers) crossed by the Facility.¹⁶ The Veblen Aquifer is composed of brown, medium to coarse sand and fine gravel. Recharge to the Veblen Aquifer is by direct infiltration and subsequent percolation of rainfall and snowmelt. The Rosholt Aquifer is composed of sand and gravel and are separated by thin layers of lake sediments and recharge is from percolation of rainfall, snowmelt, and leakage from the Hankinson Aquifer. The Fairmount Aquifer is composed of glacial outwash and overlain by till. Recharge of the Fairmount Aquifer is by precipitation and surface water infiltration. The Milnor Aquifer is composed of surficial outwash deposited in an ice-marginal channel. Recharge of the Milnor Aquifer is mainly from percolation of rainfall and snowmelt. The Granite Wash Aquifer overlies the informally named Milbank granite in eastern Grant County.¹⁵ Water level fluctuations indicate that recharge is from snowmelt and spring rainfall. The Dakota Aquifer is a bedrock aquifer with artesian conditions in northeastern South Dakota.¹⁶

13.1.2 Groundwater resource impacts and avoidance, minimization, and mitigation measures

Construction activities such as trenching, backfilling, and dewatering that encounter shallow surficial aquifers may result in negligible to minor temporary and very localized fluctuations in groundwater levels depending on the proximity and connectivity of groundwater and extent of the excavated area. Once the construction activity has been completed, the groundwater levels typically recover quickly.

No groundwater resources will be used for construction of the Facility. During construction, the Facility will have a SWPPP outlining pollution prevention measures. The unlikely accidental release of construction-related chemicals, fuels, or hydraulic fluid into groundwater would have the potential to have an adverse effect on groundwater quality. The impacts of spills are mainly linked to fuel storage, equipment refueling, and maintenance activities.

Groundwater resources will not be needed for any operational activities associated with the Facility.

¹⁵ Hanson, S., Donald. 1994. Major Aquifers in Codington and Grant Counties, South Dakota. Online [URL]: <https://sddnr.net/pubs/PDF/IP-47.pdf>. Accessed: February 18, 2026.

¹⁶ Thompson, F., Ryan. 2001. Water Resources of the Lake Traverse Reservation, South and North Dakota, and Roberts County, South Dakota. Online [URL]: <https://pubs.usgs.gov/wri/wri01-4219/wri01-4219.pdf>. Accessed: February 18, 2026.

13.2 Surface water resources

13.2.1 Existing surface water resources

The Facility is located within the Upper Mississippi and Souris-Red-Rainy Region and within the Minnesota and Upper Red River Basin and the Upper Minnesota Subbasin (USGS Hydrologic Unit Code [HUC] 07020001) and Bois-De-Sioux Subbasin (USGS HUC09020101).¹⁷

The primary surface water features in the vicinity of the Facility are Big Stone Lake, Lake Traverse, Cottonwood Lake, and Bullhead Lake. The primary surface water features crossed by the Facility ROW are the Little Minnesota River, the Whetstone River, the Jorgenson River, the North Fork Whetstone River, Big Slough, and Jim Creek. Seasonal variations in streamflow and lake levels are directly related to seasonal variations in precipitation and evapotranspiration. Long-term, lake level fluctuations correlate with departures from normal precipitation. No Wild and Scenic Rivers are within or adjacent to the Facility.¹⁸ A detailed map of the surface waters, wetlands, and existing water drainage areas is included in Figure 10 series of Appendix A.

The Clean Water Act (CWA) requires states to biannually publish a list of streams and lakes that are not meeting their designated uses because of excess pollutants. These streams and lakes are considered impaired waters. The list, known as the 303(d) list, is based on violations of water quality standards. States establish priority rankings for waters on the 303(d) list and develop the total maximum daily load of a pollutant that the water can receive and still safely meet water quality standards. The only surface water feature crossed by the Facility that is listed under CWA 303(d) is the Little Minnesota River, which is listed due to dissolved oxygen.¹⁹

The largest lakes in the vicinity of the Facility are Big Stone Lake and Lake Traverse; located approximately 1.2 miles and 2.9 miles east of the Facility, respectively. Big Stone Lake is fed at its northern end by the Little Minnesota River and other tributaries and drains south into the Minnesota River.²⁰ Lake Traverse drains north into Mud Lake via White Rock Dam or into the Bois de Sioux River.²¹ Both waterbodies are classified by South Dakota Surface Water Quality Standards and Uses Assigned to Lakes for the following beneficial uses:

¹⁷ U.S. Geological Survey (USGS). 2025. Hydrologic Units of the United States. WBD 2025 Snapshot. Online [URL]: <https://water.usgs.gov/themes/hydrologic-units/>. Accessed: February 18, 2026.

¹⁸ U.S. Fish and Wildlife Service (USFWS). 2026. National Wild and Scenic Rivers System. Online [URL]: <https://www.fws.gov/rivers/>. Accessed: July 14, 2026.

¹⁹ South Dakota Department of Agriculture and Natural Resources (SDDANR). 2026. SDDANR 2026 303 (d) List of Impaired Waters. Online [URL]: https://danr.sd.gov/wrimage/IntegratedReport2026/PDF%20Files/2026303dList_submitted3.pdf. Accessed: July 15, 2026.

²⁰ Upper Minnesota River Watershed District. Undated. Big Stone Lake Headwaters of the Minnesota River. Online [URL]: <https://umrwd.org/big-stone-lake/>. Accessed: July 14, 2026.

²¹ U.S. Army Corps of Engineers (USACE). Undated. Lake Traverse. Online [URL]: <https://www.mvp.usace.army.mil/Missions/Recreation/Lake-Traverse/>. Accessed: July 14, 2026.

- Warmwater permanent fish life propagation waters;
- Immersion recreation waters;
- Limited contact recreation waters;
- Fish and wildlife propagation, recreation, and stock watering waters; and
- Irrigation waters.²²

The Facility crosses the Whetstone River, Little Minnesota River, Jorgenson River, North Fork Whetstone River, and Jim Creek; all of which are meeting the beneficial use classifications determined by South Dakota Surface Water Quality Standards and Uses Assigned to Lakes.²³

The NPS's Nationwide Rivers Inventory (NRI) is a listing of more than 3,200 free-flowing river segments in the United States that are believed to possess one or more "outstandingly remarkable" natural or cultural values judged to be of more than local or regional significance. The Facility crosses two NRI-listed rivers, the Nork Fork Whetstone River and the Little Minnesota River.²⁴ The North Fork Whetstone was listed in 1982 for having outstandingly remarkable fish, scenic, and wildlife values. The Little Minnesota River was listed in 1982 for having outstandingly remarkable cultural, fish, geologic, historic, recreational, scenic, and wildlife values.

A desktop review of data from the National Hydrography Dataset (NHD) and the National Wetland Inventory (NWI) was conducted to identify surface water resources, including wetlands, streams, and other surface waters in the vicinity of the Facility. NWI and NHD data can be found in Figure 10 series in Appendix A. A wetland delineation will occur prior to the start of construction, as appropriate. The results of the field verification and a discussion of Facility impacts to wetlands are discussed in Section 13.4.

Floodplains

According to Federal Emergency Management Agency floodplain data, there are a total of 64.9 acres in the 100-year mapped floodplain and 26.3 acres in the 500-year mapped floodplain crossed by the Facility. Some structures may be placed within the designated floodplain; the locations will be determined during final design.

²² South Dakota Department of Agriculture and Natural Resources (SDDANR). 2026. South Dakota's 2026 Surface Water Quality Assessment. Online [URL]: <https://storymaps.arcgis.com/stories/7b0d4ffa32e84271a3d2bfb41a2d9b52>. Accessed: July 14, 2026.

²³ South Dakota Department of Agriculture and Natural Resources (SDDANR). 2026. South Dakota Surface Water Quality Standards. Online [URL]: <https://sdgis.sd.gov/portal/apps/experiencebuilder/experience/?id=60c4f285d6c1458db0f6eac2b4f26c04>. Accessed: July 16, 2026

²⁴ National Park Service (NPS). 2026. Nationwide Rivers Inventory. Online [URL]: <https://experience.arcgis.com/experience/2b84b8786f5a4dea83c28debbe018be9>. Accessed: July 1, 2026.

13.2.2 Surface resource impacts and avoidance, minimization, and mitigation measures

Potential impacts to surface water resources from the construction of the Facility may include sedimentation, impacts to drainage patterns, and increased runoff due to the creation of impervious surfaces. The Facility has been sited to avoid or minimize impacts to surface water resources to the extent practicable. The Facility is not anticipated to result in changes to existing drainage patterns. Therefore, the Facility is not expected to cause significant changes in runoff patterns or volume of runoff, nor is it expected to have adverse impacts on existing hydrology.

During construction, there is the possibility of sediment reaching surface waters as the ground is disturbed by excavation, grading, and construction traffic. Appropriate stormwater management BMPs would be implemented during construction and operation of the Facility to control erosion and reduce the potential for sediment-laden runoff from exposed soils during precipitation events. Construction of the Facility would require coverage under the General Permit for Storm Water Discharges Associated with Construction Activities issued by the SDDANR, which includes the development and implementation of a SWPPP that would prescribe BMPs to control erosion and sedimentation. The Applicant will implement BMPs to avoid and/or minimize the potential for sediment to reach surface waters. Temporary erosion and sediment control methods will be properly placed, monitored, and maintained adjacent to water resources. Erosion and sediment control BMPs may include the use of silt fences, straw wattles, erosion control blankets, re-vegetation, or other features and methods designed to control stormwater runoff and mitigate erosion and sedimentation. Where appropriate, the Applicant will revegetate disturbed areas to mimic preconstruction conditions, in consultation with the landowner or land manager.

As described above, the proposed Facility would span five rivers/streams; the Little Minnesota River, Jorgenson River, Whetstone River, North Fork Whetstone River, and Jim Creek. The Facility has been designed to avoid surface water features whenever feasible. Structure foundations will be located outside of all streams. Given the flexibility of pole locations and a typical span distance of 700-1,200 feet, the Facility is expected to span all rivers and streams, thus, avoiding potential permanent impacts. It is anticipated that the crossing of streams and drainage ways will be avoided by the temporary access roads; if impacts occur, they will be temporary and restored in accordance with applicable requirements.

Final structure locations will be determined based on final design, and floodplains will be considered in structure placement. If it is not practicable to avoid floodplains with structures, the Applicant will coordinate with Grant County and Roberts County to review structure locations and obtain floodplain development permits, as needed. Construction would comply with applicable Grant County and Roberts County floodplain administration ordinances and permit requirements. Impacts to floodplain storage capacity will be negligible due to the long spans between transmission structures and the relatively small volume of foundation material used at the structures.

The Facility crosses two NRI-listed rivers, the North Fork Whetstone River and the Little Minnesota River (also a 303(d) listed water). The Facility will span both rivers and no construction will occur within the rivers. The Applicant will construct the Facility in accordance with the SWPPP and will use applicable BMPs; therefore, construction and operation of the Facility are not anticipated to impact these rivers.

Water use for the Facility will be restricted to dust control and foundation construction. Water used for dust control may be pumped from local surface waters following consultation with applicable resource agencies. For concrete used in the foundations, the concrete supplier is expected to use its own water source to prepare the concrete before arriving at the construction site.

13.3 Current and planned water use

13.3.1 Current and planned water use

The public water systems serving the vicinity of the Facility are the Grant-Roberts Rural Water System and the Brown-Day Marshall Rural Water System. The Grant-Roberts Rural Water System serves more than 5,050 customers an average of 893,000 gallons of water per day.²⁵ Water is sourced from groundwater produced by local wells that are located near the water treatment plant in Codington County, South Dakota. The Brown-Day-Marshall Rural Water System serves more than 5,673 customers an average of 1,436,000 gallons of water per day.²⁶ Water is sourced from the Middle-James Aquifer.

There is one private well within the Facility ROW. One of the wells is 125 feet deep and is located in the SWNW quarter section of T125N R50W Section 29.²⁷

The Facility will not discharge heated water or utilize deep well injections.

13.3.2 Effect on current and planned water use

Except for the possible use by the concrete supplier from its own water sources, no groundwater resources will be used for the construction or operation of the Facility. Water use for the Facility will be restricted to dust control and foundation construction. This water may be pumped from local surface waters following consultation with applicable resource agencies. Construction will require a SDDANR Stormwater Permit for Construction, which identifies requirements for water use and dewatering and will specify appropriate BMPs. Following construction, the Facility will not require new water uses or water rights.

The proposed Facility is not anticipated to have impacts on either public water supply systems or private wells in the vicinity of the Facility. Accordingly, impacts on current and planned water uses are not anticipated.

²⁵ Grant-Roberts Rural Water System. 2024. Drinking Water Report. Online [URL]: <https://grrws.com/wp-content/uploads/2025/07/2024-0864ccr.pdf>. Accessed: February 18, 2026

²⁶ Brown-Day-Marshall Rural Water System. 2025. Drinking Water Report. Online [URL]: <https://www.bdmruralwater.com/>. Accessed: July 14, 2026.

²⁷ South Dakota Department of Agriculture and Natural Resources (SDDANR). 1953. Driller's Final Report. Procured from: <https://danr.sd.gov/wrimage/WellCompletionReports/images30k/00019944.pdf> (accessed June 2026).

13.4 Wetlands

13.4.1 Existing wetlands

Mapped waterbodies, including ponds, lakes, streams, and rivers crossed by the Facility ROW were determined through desktop analysis of the NHD²⁸ and wetlands were determined from the NWI.²⁹ NWI maps are produced by the USFWS and provide reconnaissance-level information including the location, type, and size of these resources. NWI maps are produced by reviewing high-altitude imagery, and interpretation is variable based on the quality of aerial photographs, experience of the interpreter, and whether ground-truthing was conducted.

A desktop wetland delineation was conducted for the Facility in May 2026 in accordance with the USACE Wetlands Delineation Manual,³⁰ the Regional Supplement to the USACE Wetland Delineation Manual: Great Plains Region (Version 2.0)³¹, the USACE Revised Guidance (Effective Date: November 1, 2019),³² and the USACE Minimum Standards for Aquatic Resource Delineation Reports.³³ The desktop delineation identified 217 wetlands totaling 161.8 acres within the Study Area. The majority of identified wetlands were isolated depressional “pothole” wetlands within or adjacent to cultivated crop fields. Within the Facility ROW, there are 119.8 acres of wetlands. Classifications and acreages of the wetlands within the Facility ROW are provided in Table 13-1.

Table 13-1. Desktop NWI Wetlands within the Facility ROW

Desktop NWI Wetland Classification	Acres in Facility ROW
Freshwater Emergent Wetland	108.6
Freshwater Forested/Shrub Wetland	1.8
Freshwater Pond	4.8
Riverine	4.5
Total¹	119.8

¹ Addends may not sum due to rounding.

²⁸ U.S. Geological Survey (USGS). National Hydrography Dataset. Online [URL]: <https://www.usgs.gov/national-hydrography/national-hydrography-dataset>. Accessed: May 2026.

²⁹ U.S. Fish and Wildlife Service (USFWS). National Wetlands Inventory. Online [URL]: <http://www.fws.gov/wetlands/Data/Mapper.html>. Accessed: May 2026.

³⁰ U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1*, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS, 100 pp. and appendices.

³¹ U.S. Army Corps of Engineers (USACE). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

³² U.S. Army Corps of Engineers (USACE). 2019. Revised Guidance: Great Plains Regional Supplement to the Corps of Engineers Wetland Delineation Manual (Version 2.0; ENG 6116-5). Vicksburg, MS: U.S. Army Engineer Research and Development Center.

³³ U.S. Army Corps of Engineers (USACE). 2025. Recommended Minimum Standards for Aquatic Resource Delineation Reports. Published July 2025.

The desktop review also identified 31 surface water features within the Study Area, totaling 12.24 acres. Aquatic delineation surveys will be conducted for the Facility ROW prior to construction. NWI and NHD data can be found in Figure 10 series in Appendix A. The Aquatic Resource Desktop Delineation Report is included as Appendix D.

13.4.2 Wetland impacts and avoidance, minimization, and mitigation measures

In a letter dated June 12, 2026, SDGFP recommended avoiding siting Facility infrastructure in riparian areas adjacent to streams. In accordance with that recommendation, the Facility has been designed to avoid or minimize impacts on wetlands.

Field aquatic delineation surveys will be conducted where appropriate for the Facility ROW prior to construction. Upon completion of the field delineations, the Applicant will coordinate with USACE to assess whether aquatic resources, including wetlands, fall under federal regulatory authority pursuant to Section 404 of the CWA and/or Section 9 and 10 of the Rivers and Harbors of Act of 1899. The Applicant will also analyze structure placement during final design to determine if permanent wetland impacts can be minimized and/or avoided. Wetland impacts will be avoided where practicable; if wetland impacts occur, the Applicant will comply with CWA and USACE Nationwide Permit Program requirements.

14.0 Effect on terrestrial ecosystems (ARSD 20:10:22:16)

14.1 Vegetation

14.1.1 Existing vegetation

The Facility is within the Northern Glaciated Plains Level III Ecoregion, an area that formerly transitioned between tallgrass and shortgrass prairie communities but has been largely converted to agricultural use.³⁴ The desiccating winds and historic fire regime historically promoted the prairie ecosystems in the region.³⁵ The Facility is located on the level terrain of the Minnesota River Prairie (Ecoregion 46o) and the Tewaukon Dead Ice Moraine (Ecoregion 46e). There is a high density of wetlands in the Tewaukon Dead Ice Moraine.

Most upland areas are currently used for cultivated crops. Minnesota River Prairie wetlands are common, though there are fewer than in the neighboring stagnation moraines. Cultivated crops within the region primarily consist of corn (*Zea mays*) and soybeans (*Glycine max*).³⁶

Based on the National Land Cover Database, landcover within the Facility ROW is predominately comprised of cultivated crops (62%), followed by hay/pasture (12%) and developed land (11%).³⁷ The remaining 15 percent of land cover within the Facility consists of emergent herbaceous wetlands, herbaceous uplands, open water, barren land, deciduous forest, woody wetlands, and mixed forest. Land use is further discussed in Section 16. Additionally, the South Dakota State University Undisturbed Lands data and USDA CroplandCROS layer were used to evaluate the respective coverages of these landcover types within the Facility ROW.³⁸ Undisturbed grasslands are discussed in Section 14.1.1.1 and cropland is discussed in Section 16.1.

14.1.1.1 Potentially Undisturbed Grasslands

Based on a review of the unbroken grasslands spatial data from South Dakota State University, there are 181.0 acres of potentially undisturbed grasslands within the Facility ROW (Figure 12 series in Appendix A). The spatial data will be validated when field data is collected. Where feasible, the proposed Facility will avoid impacts to potentially

³⁴ U.S. Environmental Protection Agency (USEPA). 2013. Level III Ecoregions of the Continental United States: National Health and Environmental Effect Research Laboratory. Procured from: https://dmap-prod-oms-edc.s3.us-east-1.amazonaws.com/ORD/Ecoregions/us/Eco_Level_III_US.pdf.

³⁵ Bryce, S.A., J.M. Omernik, D.A. Pater, M. Ulmer, J. Schaar, J. Freeouf, R. Johnson, P. Kuck, and S.H. Azevedo. 1996. Ecoregions of North Dakota and South Dakota, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000). Procured from: https://store.usgs.gov/assets/MOD/StoreFiles/Ecoregion/21629_nd_sd_front.pdf.

³⁶ U.S. Department of Agriculture (USDA). 2023. CroplandCROS. Procured from: <https://croplandcros.scinet.usda.gov/>.

³⁷ U.S. Geological Survey (USGS). 2021. National Land Cover Database. Procured from: <https://www.usgs.gov/centers/eros/science/national-land-cover-database>.

³⁸ South Dakota State University. No date. SD_Public/UndisturbedLands (MapServer). Procured from: https://ert.gfp.sd.gov/arcgis/rest/services/SD_Public/UndisturbedLands/MapServer

undisturbed grasslands and no temporary use areas will be located within potentially undisturbed grasslands.

14.1.1.2 Forest and woodlands

Vegetation cover in the vicinity of the Facility is largely cultivated crops and there are very few forests/woodlands within the Facility ROW (less than 0.01% [2.2 acres]). Based on a review of recent aerial imagery conducted as part of the Desktop State and Federally Protected Species Habitat Assessment (see Appendix E), there were 57.5 acres of trees and wooded areas within the Study Area that may potentially serve as habitat for bats and other woodland species.

14.1.1.3 Noxious weeds

Noxious weeds are regulated by state (SDCL 38-22) and federal statutes and regulations designed to stop the spread of plants that are detrimental to the environment, crops, livestock, or public health. Noxious weeds are also regulated locally by the Grant County Weed and Pest Board and the Roberts County government. The SDDANR and the State Weed and Pest Control Commission maintain a list of state noxious weeds (Table 14-1).³⁹

⁴⁰

Table 14-1. Regulated Noxious Weeds in South Dakota^{32, 33}

Common Name	Scientific Name
Leafy Spurge	<i>Euphorbia esula</i>
Absinth Wormwood	<i>Artemisia absinthium</i>
Perennial Sowthistle	<i>Sonchus arvensis</i>
Canada Thistle	<i>Cirsium arvense</i>
Saltcedar	<i>Tamarix spp.</i>
Hoary Cress	<i>Cardaria draba</i>
Purple Loosestrife	<i>Lythrum salicaria</i>
Musk Thistle	<i>Carduus nutans</i>
Plumeless Thistle	<i>Carduus acanthoides</i>
Bull Thistle	<i>Cirsium vulgare</i>
Spotted Knapweed	<i>Centaurea stoebean</i>

³⁹ South Dakota Department of Agriculture and Natural Resources (SDDANR). 2026. State Noxious Weed and Pest List. Procured from: <https://danr.sd.gov/Conservation/PlantIndustry/WeedPest/WeedandPestInfo/StateNoxious/default.aspx> Accessed June 2026.

⁴⁰ Grant County Review. 2026. Notice of responsibility to control noxious weeds and declared pests. Procured from: <https://grantcountyreview.com/content/notice-responsibility-control-noxious-weeds-and-declared-pests-3>.

14.1.2 Vegetation impacts and avoidance, minimization, and mitigation measures

Temporary and permanent impacts to vegetation will occur during construction of the Facility and temporary impacts will occur during maintenance activities. The Facility was designed to minimize impacts to vegetation, to the extent practicable. It is anticipated that 1,286.4 acres of vegetation would be temporarily impacted due to construction of the Facility. Permanent impacts to vegetation would occur due to the placement of structure foundations. It is anticipated that 1.1 acres of vegetation would be permanently impacted. The Facility was sited to prioritize the placement of infrastructure in previously disturbed agricultural lands or ROWs, and most of the temporary vegetation impacts would occur on cultivated cropland. Cultivated cropland is frequently disturbed by activities associated with crop production, and as such, impacts to cultivated cropland is preferred to less frequently disturbed habitats (e.g., unbroken grasslands).

Temporary impacts to vegetation would be mitigated through the implementation of BMPs, such as employing appropriate erosion control measures and reseeded/restoring areas disturbed by construction activities unless otherwise directed by the landowner. The Applicant will use a native seed mix in grassland areas that are disturbed during Facility construction where practicable, as recommended by appropriate agencies. Areas temporarily disturbed due to construction would be revegetated with plant species matching the surrounding landscape unless otherwise directed by the landowner.

14.1.2.1 Federal and State-listed and sensitive vegetation species

Based on the USFWS IPaC, the federally threatened western prairie fringed orchid (*Platanthera praeclara*) may occur within or near the Facility (see Table 14-3) (Appendix E). The Applicant met with the USFWS on May 4, 2026. Based on communication with the USFWS, there are no recent western prairie fringed orchid records in South Dakota, and this species is unlikely to occur unless in a sub-irrigated or fen-like areas.

14.1.2.2 Potentially Undisturbed Grasslands

Based on a desktop review of potentially unbroken grasslands spatial data and aerial imagery, there are 181 acres of potentially undisturbed grasslands within the Facility (Figure 12 series in Appendix A). The Applicant will conduct preconstruction habitat and species surveys, including field verification of potentially undisturbed grasslands that may be impacted by construction of the Facility. The Applicant will attempt to avoid placing structures within potentially undisturbed grasslands to the extent practicable. If unbroken grassland habitat cannot be avoided, disturbance will be minimized to the edges of the habitat rather than disturbing large intact blocks to the extent practicable. The Applicant will use a native seed mix in grassland areas that are disturbed during Facility construction where practicable, as recommended by appropriate agencies.

14.1.2.3 Forest and woodlands

There are 57.5 acres of trees and woodland habitat within the Facility based on a desktop delineation. The trees will be removed for Facility construction and to maintain ROW safety.

14.1.2.4 Noxious weeds

Facility activities have the potential to result in the spread of noxious weed species from construction equipment introducing seeds into new areas, or erosion or sedimentation due to clearing ground in the construction areas. The spread of noxious weeds will be controlled using weed-free seed mixes and the application of herbicides, where allowed and as necessary. A noxious weed control plan will be developed to identify and establish procedures to limit the introduction and spread of noxious and invasive weeds during construction and ongoing operations.

14.1.2.5 Federal and State-listed and sensitive vegetation species

As there are no recent western prairie fringed orchid records in South Dakota and no impacts to this species are expected. If western fringed orchids are incidentally observed within the Facility, the Applicant will record the location and take representative photographs and report the observation to the USFWS and coordinate with them to determine avoidance and minimization measures.

14.2 Wildlife

The Applicant has been coordinating with the USFWS and SDGFP regarding wildlife resources that have the potential to occur in the vicinity of the Facility as part of the early due diligence efforts. Copies of the agency correspondence are provided in Appendix B. A discussion of wildlife resources that may occur within the Facility or that may be impacted by the construction and operation of the Facility is provided below.

14.2.1 Existing wildlife

A review of available information was completed to assess the potential presence of wildlife species and habitats, including listed species and other special status species. Data from the USFWS, SDGFP, South Dakota State University, eBird, and a ground-based raptor nest survey were used to evaluate which wildlife species may occur within the Facility and the potential for them to be impacted. In addition, input from meetings with the USFWS and SDGFP was considered regarding survey efforts and the siting of Facility infrastructure.

14.2.1.1 Avian Species

The Migratory Bird Treaty Act of 1918 (MBTA), as amended, provides protection for most avian species and their nests in the United States. There is nesting habitat for many bird species within the Facility (i.e., wetlands, grasslands, woodlands). Additionally, these habitats may be used as stopover areas by a variety of bird species during migration. Many of the avian species that may use or nest in habitats in the vicinity of the Facility are common throughout the Upper Great Plains. The following sections address avian species of concern that may occur in the vicinity of the Facility.

Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandated that the USFWS identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, would likely become candidates for listing under the Endangered Species Act (ESA) of 1973. The Birds of Conservation Concern (BCC) list

was created because of this mandate. The BCC status does not afford species with additional legal protections.

The Facility is located within Bird Conservation Region 11, which provides habitat for more than 200 BCC species. Based on the USFWS IPaC report, 22 BCC may occur in the vicinity of the Facility (Table 14-2) (Appendix E).

Table 14-2. Birds of Conservation Concern that may occur in the vicinity of the Facility.

Species	Habitat	Breeding Season
American Golden-Plover <i>Pluvialis dominica</i>	During migration, uses native prairies, pastures, cultivated cropland, mudflats, and shorelines.	Breeds in the arctic and sub-arctic tundra.
Bald Eagle <i>Haliaeetus leucocephalus</i>	Nests in large trees near bodies of water. Also uses residential areas and farmlands.	Breeds December 1 to August 31
Black Tern <i>Chlidonias niger surinamenis</i>	Nests in large freshwater wetlands and dense marsh edges of shallow lakes. Forages in a variety of wetlands and flooded farmlands.	Breeds May 15 to August 20
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i>	Occurs in woodlands and thickets.	Breeds May 15 to October 10
Bobolink <i>Dolichonyx oryzivorus</i>	Breeds in open areas with a preference for large fields. Known to nest in hayfields and meadows.	Breeds May 20 to July 31
California Gull <i>Larus californicus</i>	Nests on sparsely vegetated islands and levees. Forages in cultivated cropland, garbage dumps, meadows, and pastures.	Breeds March 1 to July 31
Chimney Swift <i>Chaetura pelagica</i>	Nests in urban and suburban areas. Forages over ponds, forests, and residential areas.	Breeds March 15 to August 25
Franklin's Gull <i>Leucophaeus pipixcan</i>	Nests in freshwater marshes. During migration, uses sewage ponds, lakes, wetlands, cultivated cropland, and garbage dumps.	Breeds May 1 to July 31
Golden Eagle <i>Aquila chrysaetos</i>	Forages in grasslands, shrublands, and other open habitats.	Nests in the western portion of South Dakota.
Golden-winged warbler <i>Vermivora chrysoptera</i>	Nests in shrubby areas. Uses wetlands and mature forests.	Breeds May 1 to July 20
Grasshopper Sparrow <i>Ammodramus savannarum perpallidus</i>	Nests in grasslands, prairies, hayfields, and open pastures.	Breeds June 1 to August 20
Henslow's Sparrow <i>Centronyx henslowii</i>	Nests in wet meadows, pastures, and lowland prairies.	Breeds May 1 to August 31
Hudsonian Godwit <i>Limosa haemastica</i>	During migration, uses flooded farm fields, wetlands, sewage ponds, freshwater impoundments, and wet pastures.	Breeds in the arctic.
Le Conte's Sparrow <i>Ammodramus leconteii</i>	Nests in marshy or wet meadows.	Breeds June 1 to August 15

Species	Habitat	Breeding Season
Lesser Yellowlegs <i>Tringa flavipes</i>	During migration, uses mudflats, marshes, lake and pond edges, wet meadows, sewage ponds, and flooded farm fields.	Breeds in Canada and Alaska.
Marbled Godwit <i>Limosa fedoa</i>	Nests in shortgrass prairies near wetlands.	Breeds May 1 to July 31
Northern Harrier <i>Circus hudsonius</i>	Nests in large undisturbed tracts or wetlands and grasslands. Foraging habitat includes wetlands, grasslands, cultivated cropland, pastures, old fields, and marshes.	Breeds April 1 to September 15
Pectoral Sandpiper <i>Calidris melanotos</i>	During migration, uses sewage ponds, flooded golf courses, and plowed farm fields.	Breeds in the tundra.
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	Nests in trees, typically dead or nearly dead trees. Uses roadsides, forest edges, grasslands interspersed with trees, parks, farmland, and river bottoms.	Breeds May 10 to September 10
Short-billed Dowitcher <i>Limnodromus griseus</i>	During migration, uses impoundments, sewage ponds, flooded farm fields, and the muddy shores of rivers and lakes.	Breeds in the taiga.
Western Grebe <i>Aechmophorus occidentalis</i>	Nests and forages on large freshwater lakes and marshes.	Breeds June 1 to August 31
Willet <i>Tringa semipalmata</i>	Uses beaches, marshes, and mudflats. Nests near marshes and other wetlands, prairie pothole ponds, and wet fields.	Breeds April 20 to August 5

Source: USFWS 2026.

Eagles and Raptors

The Bald and Golden Eagle Protection Act provides protection for bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*). The bald eagle and the golden eagle are also listed as BCC.

Bald eagles prefer to nest in large trees near rivers, lakes, and marshes where food resources are abundant. They are also known to nest and forage in areas dominated by cultivated cropland and suburban areas. During the winter, bald eagles congregate near open water in tall trees.⁴¹ There is suitable bald eagle foraging and nesting habitat in the vicinity of the Facility.

Golden eagles breed in western South Dakota and overwinter throughout the state. Golden eagles occur in grasslands, forested habitat, and brushlands. There is potential golden eagle foraging habitat in the vicinity of the Facility.

A ground-based raptor nest survey was completed from March 24 to 26, 2026, to identify any raptor nests, including eagles, within the Facility and within 660 feet of the Facility

⁴¹ Buehler, D.A. 2000. Bald eagle (*Haliaeetus leucocephalus*). In *The Birds of North America*, No. 506 (A. Poole and F. Gill, Editors). The Birds of North America, Inc. Philadelphia, PA, USA.

(Appendix E). No eagle nests were observed within the Facility or within 660 feet of the Facility.

Species of Greatest Conservation Need

The SDGFP developed the South Dakota State Wildlife Action Plan (SWAP), which is a comprehensive planning document that establishes the framework and information for setting conservation priorities for South Dakota. The SWAP identifies and focuses on Species of Greatest Conservation Need (SGCN) and ecosystems that require conservation strategies to avoid future ESA listing. SGCN are not afforded protections under the State's endangered species law statute. Multiple avian SGCN have the potential to occur within or near the Facility.⁴²

14.2.1.2 Bats

There are seven bat species that occur in eastern South Dakota, including the northern long-eared bat (*Myotis septentrionalis*), big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), northern hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), little brown myotis (*Myotis lucifugus*), and evening bat (*Nycticeius humeralis*).⁴³ Of these species, the northern long-eared bat is listed as federally endangered. This species is discussed further in Section 14.2.1.3. There are no state-listed bat species in South Dakota.

14.2.1.3 Federal and State-listed and Sensitive Terrestrial Species

The USFWS IPaC was completed on June 10, 2026, for the Facility to identify federally listed species that may occur in the vicinity of the Facility (see Table 14-3) (Appendix E). Based on the USFWS IPaC, six animal species and a plant species may occur within or near the Facility: endangered northern long-eared bat, threatened rufa red knot (*Calidris canutus rufa*) and Dakota skipper (*Hesperia dacotae*), proposed endangered Suckley's cuckoo bumble bee (*Bombus suckleyi*), and proposed threatened monarch butterfly and western regal fritillary (*Argynnis idalia occidentalis*). The plant species is the threatened western prairie fringed orchid (*Platanthera praeclara*). Based on a May 4, 2026, meeting with the USFWS, the Suckley's cuckoo bumble bee and western prairie fringed orchid are considered extirpated from South Dakota, and the rufa red knot is considered a rare migrant through the state. No USFWS designated critical habitats were identified within or near the Facility.

The SDGFP maintains a list of state-listed threatened and endangered species (animal and plants; SDCL Chapter 34A-8 and 34A-8A).⁴⁴ The SDGFP Natural Heritage Program (NHP) data was reviewed for records of state-listed species within or near the Facility. There was a record of the northern red-bellied snake (*Storeria occipitomaculata*) within the Facility. The northern red-bellied snake is monitored by the SDGFP but does not have a special

⁴² South Dakota Game, Fish, and Parks (SDGFP). 2025. South Dakota Wildlife Action Plan 2025 Revision. In Chapter 2. Species of Greatest Conservation Need. Procured from: https://gfp.sd.gov/UserDocs/nav/05_Chapter_2_SDWAP.pdf.

⁴³ Pendelton, M. et al. 2025. South Dakota Bat Management Plan. Pp. 1-143. Procured from: https://gfp.sd.gov/UserDocs/docs/2025_southdakota_batmanagementplan.pdf.

⁴⁴ South Dakota Game, Fish, and Parks (SDGFP). Biennial Commission Review of SD Threatened and Endangered Species List July 2022 Commission Meeting 2022. Procured from: https://gfp.sd.gov/userdocs/docs/te_draft_status_reviews_2022_revision_final.pdf. Accessed June 2026.

status. Based on a May 4, 2026 discussion with the SDGFP, there were no concerns for Facility related impacts to the northern red-bellied snake. As such, the northern red-bellied snake is not discussed further. No SDGFP NHP records of terrestrial state-listed species were identified within the Facility. Aquatic species are discussed further in Section 15.0.

Table 14-3. ESA-listed species that may occur within or near the Facility

Common Name	Scientific Name	Status ¹
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered
Rufa Red Knot ¹	<i>Calidris canutus rufa</i>	Threatened
Dakota Skipper	<i>Hesperia dacotae</i>	Threatened
Monarch Butterfly	<i>Danaus plexippus</i>	Proposed Threatened
Suckley's Cuckoo Bumble Bee ²	<i>Bombus suckleyi</i>	Proposed Endangered
Western Regal Fritillary	<i>Argynnis idalia occidentalis</i>	Proposed Threatened
Western Prairie Fringed Orchid ²	<i>Platanthera praeclara</i>	Threatened

Source: USFWS 2026.

¹ Rare migrant through South Dakota.

² Based on a May 4, 2026 meeting with the USFWS, these species are considered extirpated from South Dakota.

Northern Long-eared Bat

The northern long-eared bat was reclassified by the USFWS as endangered under the ESA on November 29, 2022, with an effective date of March 31, 2023, primarily due to population level declines resulting from white-nose syndrome.⁴⁵ With reclassification to endangered, incidental take of the species is now prohibited in all cases without an incidental take permit from USFWS.

Suitable summer habitat for northern long-eared bats includes wooded areas that contain potential roost sites and adjacent habitats where they traverse or forage (i.e., wetlands or fields). Northern long-eared bats use suitable summer habitat during their active season (i.e., April 15 to October 31). Potential roost sites include live or dead trees three inches in diameter at breast height or greater that have exfoliating bark, cracks, crevices, or cavities.⁴⁶ Individual trees with suitable characteristics that are within 1,000 feet of other wooded habitats may be considered potential roost sites. During their inactive season (i.e., November 1 to April 14, inclusive), northern long-eared bats hibernate in caves or mines. The Applicant conducted a desktop review of wooded areas within the Facility using recent aerial imagery and identified 57.5 acres of trees and wooded areas that may provide suitable tree roosting habitat within the Facility.

⁴⁵ U.S. Fish and Wildlife Service (USFWS). 2026. Northern Long-eared Bat. Procured from: <https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>. Accessed June 2026.

⁴⁶ U.S. Fish and Wildlife Service (USFWS). 2024. Range-wide Indiana bat and northern long-eared bat survey guidelines. U.S. Fish and Wildlife Service, Region 3, Bloomington, Minnesota. Pp. 1-97.

Rufa Red Knot

The rufa red knot is considered a rare migrant through South Dakota based on a May 4, 2026 meeting with the USFWS and is not considered in this Application.

Dakota Skipper

The Dakota skipper is listed as threatened under the ESA. Dakota skipper occur within two habitat types: low-lying, wet-mesic prairies with low topographic relief or upland prairies that are dry and typically occur along ridges and hillsides.⁴⁷ Larval host plants include little bluestem, big bluestem, sideoats grama (*Bouteloua curtipendula*), and prairie dropseed (*Sporobolus heterolepis*). Important floral resources for adult Dakota skippers include blazing stars, black-eyed Susan (*Rudbeckia hirta*), prairie clovers (*Dalea* spp.), and leadplant (*Amorpha canescens*).⁴⁸

The Applicant overlaid the potential Dakota skipper range with unbroken grasslands and reviewed recent aerial imagery to delineate potential Dakota skipper habitat within the Facility.^{49,50} Based on the analysis, there are 103.5 acres of potential Dakota skipper habitat within the Facility. No USFWS designated critical Dakota skipper habitat was mapped within the Facility or near the Facility.

Monarch Butterfly

The monarch butterfly was proposed for listing as a threatened species under the ESA on December 12, 2024.⁵¹ Monarch butterflies occur in prairies, grasslands, gardens, urban greenspaces, and the borders of cultivated fields.⁵² This species requires milkweed (*Asclepias* spp.) host plants for larvae and abundant floral resources for adults. Important floral resources include milkweeds, blazing stars (*Liatris* spp.), asters (*Symphyotrichum* spp.), sunflowers (*Helianthus* spp.), and thistles (*Cirsium* spp.).

There are unbroken grasslands and herbaceous upland and wetland areas within the Facility. Milkweed species, especially common milkweed (*Asclepias syriaca*) are commonly found in herbaceous upland areas. It is likely that there is suitable monarch habitat throughout the Facility.

⁴⁷ U.S. Fish and Wildlife Service (USFWS). 2024. Dakota skipper (*Hesperia dacotae*) survey protocol. Pp. 1-17.

⁴⁸ Royer, R.A. and G.M. Marrone. 1992. Conservation status of Dakota skipper (*Hesperia dacotae*) in North and South Dakota. U.S. Fish and Wildlife Service, Denver, Colorado, U.S.A. Pp. 1-44.

⁴⁹ U.S. Fish and Wildlife Service (USFWS). 2023. Dakota skipper range information. Procured from: <https://ecos.fws.gov/ecp/species/1028#rangeInfo>

⁵⁰ South Dakota State University. No date. SD_Public/UndisturbedLands (MapServer). Procured from: https://ert.gfp.sd.gov/arcgis/rest/services/SD_Public/UndisturbedLands/MapServer

⁵¹ U.S. Fish and Wildlife Service (USFWS). 2026. Monarch. Procured from: <https://www.fws.gov/species/monarch-danaus-plexippus>. Accessed June 2026.

⁵² Fallon, C., N.L. Adamson, A. Stine, S. Jepsen, S.F. Jordan, M. Vaughan, and R. Moranz. 2025. Monarch Nectar Plants: Northern Plains. No. 17-008_03. Pp. 1-3.

Suckley's Cuckoo Bumble Bee

The Suckley's cuckoo bumble bee is considered extirpated in South Dakota based on a May 4, 2026 meeting with the USFWS and is not considered in this Application.

Western Regal Fritillary

The western regal fritillary was listed as a proposed threatened species under the ESA on August 6, 2024.⁵³ Western regal fritillary occur in tallgrass prairies, damp meadows, marshes, and wet fields.⁵⁴ They require large grassland areas with abundant violet (*Viola* spp.) host plants for larvae, nectar plants for adults, and native warm-season bunch grasses for shelter.⁵⁵ Important floral resources for western regal fritillary include milkweeds, native thistles, goldenrods (*Solidago* spp.), asters, blazing stars, wild bergamot (*Monarda fistulosa*), joe-pye weeds (*Eutrochium* spp.), ironweeds (*Vernonia* spp.), and coneflowers (*Echinacea* spp.).

The Applicant overlaid the potential western regal fritillary range with unbroken grasslands and reviewed recent aerial imagery to delineate potential western regal fritillary habitat within the Facility.^{56,57} Based on the analysis, there are 76 acres of potential western regal fritillary habitat within the vicinity of the Facility.

Western Prairie Fringed Orchid

The western prairie fringed orchid is considered extirpated in South Dakota based on a May 4, 2026 meeting with the USFWS and is not considered in this Application.

14.2.1.4 Other Wildlife Species

Other wildlife species likely to occur within or near the Facility are common throughout the Upper Great Plains and include generalist species that have adapted to an agricultural landscape interspersed with grasslands, wetlands, woodlands, and riparian areas. Mammal species likely to occur in the vicinity of the Facility include the raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), eastern cottontail (*Sylvilagus floridanus*), white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), eastern gray squirrel (*Sciurus carolinensis*), muskrat (*Ondatra zibethicus*), and striped skunk (*Mephitis mephitis*). Reptile and amphibian species that may occur in the vicinity of the Facility include the snapping turtle (*Chelydra serpentina*), painted turtle (*Chrysemys picta*), plains garter snake (*Thamnophis radix*), common garter snake (*Thamnophis sirtalis*), Canadian toad (*Anaxyrus hemiophrys*), American toad (*Anaxyrus americanus*),

⁵³ U.S. Fish and Wildlife Service (USFWS). 2024. Endangered and Threatened Wildlife and Plants; Endangered Status for the Eastern Regal Fritillary, and Threatened Status With Section 4(d) Rule for the Western Regal Fritillary. Procured from: <https://www.federalregister.gov/documents/2024/08/06/2024-16982/endangered-and-threatened-wildlife-and-plants-endangered-status-for-the-eastern-regal-fritillary-and>. Accessed June 2026.

⁵⁴ U.S. Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS). 2020. Regal fritillary (*Speyeria idalia*) field guide. Pp. 1-7.

⁵⁵ Swartz, M.T., B. Ferster, K. Vulinec, and G. Paulson. 2015. Measuring regal fritillary butterfly (*Speyeria idalia*) habitat requirements in south-central Pennsylvania: Implications for the conservation of an imperiled butterfly. *Northeastern Naturalist*. 22:812-829.

⁵⁶ U.S. Fish and Wildlife Service (USFWS). 2026. Western regal fritillary range information. Procured from: <https://ecos.fws.gov/ecp/species/12017>

⁵⁷ South Dakota State University. No date. SD_Public/UndisturbedLands (MapServer). Procured from: https://ert.gfp.sd.gov/arcgis/rest/services/SD_Public/UndisturbedLands/MapServer

gray tree frog (*Hyla versicolor*), and northern leopard frog (*Lithobates pipiens*). Bird species that may occur in the vicinity of the Facility include the mallard (*Anas platyrhynchos*), ring-necked duck (*Aythya collaris*), American robin (*Turdus migratorius*), ring-necked pheasant (*Phasianus colchicus*), and horned lark (*Eremophila alpestris*).

According to the SDGFP NHP, the northern red-bellied snake (*Storeria occipitomaculata occipitomaculata*) may occur within the Facility. The northern red-bellied snake does not have a special status.

14.2.2 Wildlife impacts and avoidance, minimization, and mitigation measures

Terrestrial wildlife species may be impacted at various spatial and temporal scales during the construction and maintenance operations of the Facility. The Facility crosses rivers, wetlands, wooded areas, herbaceous uplands, and cultivated cropland that provide habitat for a variety of wildlife species. Many of these areas provide stop-over habitat for migratory birds (e.g., raptors, waterfowl). In addition to migratory movements, birds may move frequently between areas used for roosting, nesting, and foraging, and a new transmission line may increase the potential for avian collisions for some of these species.

The Facility has been sited to avoid or minimize impacts to federally or state-listed species and other special-status species. Effects on terrestrial habitats will be minimized by not altering stream channels or drainage patterns, minimizing placement of fill in wetlands, restoration of temporary disturbance areas, and replanting disturbed areas, if necessary, using a seed mix that is recommended by the appropriate agencies unless otherwise agreed to with the landowner. Based on a discussion with the USFWS on May 4, 2026, the USFWS recommended including milkweed species in the seed mix in non-agricultural areas, if practicable, to establish monarch habitat. Temporary impacts will be minimized by using erosion and sedimentation BMPs that minimize or avoid sediment from reaching adjacent waterways and protect topsoil.

The Applicant will review the SDGFP NHP database annually to review potential new information relevant to the Facility until construction is complete. Coordination will occur with SDGFP if any changes to species information is noted.

The Applicant will record and share location data with the SDGFP and USFWS if rare species are observed within the Facility incidentally.

The following sections further discuss the potential impacts and avoidance, minimization, and mitigation measures by species grouping or individual species. Aquatic species are discussed further in Section 15.0.

14.2.2.1 Avian Species

Transmission lines may result in direct mortality of birds from collisions and indirect impacts from avoidance, habitat fragmentation, and displacement of birds.

To address the potential for collisions and electrocution, USFWS recommends the Facility incorporate the Avian Power Line Interaction Committee (APLIC) considerations for

overhead powerlines.⁵⁸ The Facility will be designed in accordance with APLIC's suggested practices, to the extent practicable.⁵⁹ Additionally, the Applicant's transmission line design standards provide adequate spacing between energized and grounded components to minimize the risk of electrocution to large avian species.

Species of Greatest Conservation Need and Birds of Conservation Concern

There are multiple SGCN of different taxonomic groups (i.e., birds, bats, terrestrial mammals, reptiles, and amphibians) that may occur within or near the Facility. There are also multiple BCC that may occur within or near the Facility. SGCN and BCC statuses do not afford species legal protections. The Applicant will conduct raptor and eagle nest surveys prior to Facility construction and annually each spring during construction if construction is expected to occur during raptor nesting season. The Applicant will coordinate with appropriate agencies to adjust construction timing if active bird nests are encountered during construction of the Facility. The timing of tree removals will occur outside of the nesting season for most bird species and active season for tree roosting bat species (i.e., will occur during the winter), to the greatest extent practicable.

Eagles and Raptors

No bald eagle nests were observed within the Facility or within 660 feet of the Facility during the March 2026 ground-based survey. The Applicant will conduct raptor and eagle nest surveys prior to Facility construction and annually each spring during construction if construction is expected to occur during raptor nesting season. The Applicant will coordinate with appropriate agencies to adjust construction timing if active bird nests are encountered during construction of the Facility. In accordance with the Bald and Golden Eagle Protection Act, if a bald eagle nest is identified in the Facility or within 660 feet of the Facility before construction, the Applicant will coordinate with the USFWS and following nest take/disturbance permit guidelines.

14.2.2.2 ESA listed or proposed terrestrial species

Northern Long-eared Bat

Potential impacts to bats could occur as a result of tree removal. Tree removal will be restricted to periods outside of bat roosting and summer pup rearing periods (April 1 – October 31), in accordance with tree restrictions for the northern long-eared bat per the ESA. As a result, no bat surveys are proposed unless tree removal would need to occur within the April 1 - October 31 timeframe; if that occurs, trees greater than three inches in diameter at breast height would be surveyed for suitable habitat prior to removal. No impacts to northern long-eared bat are anticipated. These proposed mitigation measures are also applicable to other bat species that may occur within the vicinity of the Facility.

Dakota skipper

Based on a desktop delineation, there are 103.5 acres of potentially suitable Dakota skipper habitat within the Facility. The Applicant will conduct a field-based Dakota

⁵⁸ Avian Power Line Interaction Committee (APLIC) and U.S. Fish and Wildlife Service (USFWS). 2005. Avian Protection Plan (APP) Guidelines. Procured from: https://www.aplic.org/uploads/files/2634/APPguidelines_final-draft_Aprl2005.pdf.

⁵⁹ Avian Power Line Interaction Committee (APLIC). 2026. Suggested Practices for Avian Protection on Power Lines. Delaware. Pp. 1-160. Procured from: <https://www.aplic.org/documents.php>

skipper habitat assessment following the USFWS's protocol guidelines prior to construction to verify the desktop delineation.⁶⁰ If the field-based habitat assessment determines that suitable Dakota skipper habitat is available within the Facility and that it may be impacted, coordination with the USFWS is required and presence/probable absence surveys may be necessary. The Applicant will avoid or minimize siting infrastructure in potentially suitable Dakota skipper habitat to the greatest extent practicable.

Monarch butterfly

Suitable monarch butterfly habitat is likely available within the Facility. Monarch habitat is not currently afforded legal protection. The Applicant will complete a field-based monarch habitat assessment in areas that may be permanently impacted by Facility construction or maintenance and will minimize or avoid impacts where practicable. The USFWS recommended that the Applicant include milkweed species in the seed mix for reseeding or restoration purposes, where practicable.

Western Regal Fritillary

The Applicant's desktop review delineated 76 acres of potential western regal fritillary habitat within the vicinity of the Facility. The Applicant will conduct a field-based western regal fritillary habitat assessment to verify the desktop delineation prior to construction. The Applicant will avoid or minimize siting infrastructure in potentially suitable western regal fritillary habitat to the greatest extent practicable.

14.2.2.3 Other wildlife species

Other wildlife species may be impacted by direct habitat destruction or fragmentation and direct mortality may occur during the construction phase of the Facility. Permanent habitat loss due to construction of the transmission line would be minimal and localized. If direct mortalities occur, they are not anticipated to impact wildlife at the population level. Following construction, wildlife species may habituate to the presence of Facility structures and routine operational activities similar to how they have habituated to existing utilities and roads and agricultural activities.

Bats

The measures discussed in Section 14.2.1.2 for the northern long-eared bat are applicable to other tree-roosting bat species. These measures include minimizing tree clearing to the extent practicable and following timing recommendations when tree clearing is necessary to avoid impacting bat roosting periods.

⁶⁰ U.S. Fish and Wildlife Service (USFWS). 2024. 2024 Dakota skipper (*Hesperia dacotae*) survey protocol. Pp. 1-17.

15.0 Effect on aquatic ecosystems (ARSD 20:10:22:17)

The following sections describe the existing aquatic ecosystems in the vicinity of the Facility, the potential effects of the proposed Facility on aquatic ecosystems, and measures that have been or will be used to avoid, minimize, or mitigate potential impacts.

15.1 Existing aquatic ecosystems

The Facility is within the Upper Minnesota watershed in the Upper Mississippi Region and the Western Wild Rice and Bois de Sioux watersheds in the Souris-Red-Rainy Region. Many of the lakes and rivers within the vicinity of the Facility support fish populations that are important to wildlife and sportsmen. Fisheries in eastern South Dakota can be of high value and produce desirable game species such as northern pike (*Esox lucius*), walleye (*Sander vitreus*), yellow perch (*Perca flavescens*), and other game fishes.⁶¹ Based on the SDGFP, there are no developed public fishing access within the Facility.⁶² Aquatic habitats within the Facility include the Little Minnesota River, Jorgenson River, North Fork Whetstone River, Whetstone River, Jim Creek, Big Slough, and multiple wetlands, unnamed watercourses, and waterbodies. Some aquatic habitats have been altered by cultivation or channelization. These water features likely support diverse aquatic biota, including birds, mammals, reptiles, amphibians, insects, crustaceans, mollusks, and fishes.

No fully aquatic federally listed species are known to occur within or near the Facility (Appendix D). Records of two fully aquatic species were identified within the Facility based on the SDGFP NHP database. The two species include the Carmine shiner (*Notropis percobromus*) and creeper mussel (*Strophitus undulatus*) (Table 15-1). The Carmine shiner is a SGCN and the creeper mussel does not have a listing status.

Table 15-1. South Dakota Game, Fish, and Parks Natural Heritage Program records of aquatic species within the Facility

Common Name	Scientific Name	Species Group	Federal Status	State Status	SGCN
Carmine shiner	<i>Notropis percobromus</i>	Fish	Not Listed	Not Listed	Yes
Creeper mussel	<i>Strophitus undulatus</i>	Mussel	Not Listed	Not Listed	No

⁶¹ J.S. Shearer and C.R. Berry Jr. 2003. Fish Community Persistence in Eastern North and South Dakota Rivers. Great Plains Research. Vol. 13, No.1. Procured from: <https://www.jstor.org/stable/23804539>.

⁶² South Dakota Game, Fish, and Parks (SDGFP). 2026. Public Water Access. Procured from: <https://experience.arcgis.com/experience/fa1e6cd335d8425183944b9f1a03e01e/page/Shore>. Accessed July 2026.

Carmine shiner

Carmine shiners are known to occur in flowing waters less than 10 feet deep over substrates of silt, sand, gravel, cobble, boulder, and bedrock.⁶³ They may migrate to deeper pools and eddies or lakes near the mouths of streams in the winter. The Facility crosses the North Fork of the Whetstone River, Jorgenson River, Little Minnesota River, and Jim Creek, which may provide suitable Carmine shiner habitat.

Creeper mussel

Creeper mussels are known to occur in small to mid-sized streams and occasionally large rivers in mud, sand, or gravel substrates with low to moderate flow.⁶⁴ The Facility crosses the North Fork of the Whetstone River, Whetstone River, Jorgenson River, Little Minnesota River, and Jim Creek, which may provide suitable creeper mussel habitat.

15.2 Aquatic ecosystems impacts and avoidance, minimization, and mitigation measures

The Facility has been designed to avoid or minimize impacts to aquatic ecosystems to the extent practicable. Potential impacts to aquatic resources are primarily related to installation of structures within aquatic habitats or sediment deposition related to erosion and construction activities. To the extent practicable, the Facility will span aquatic ecosystems and avoid rivers, streams, other watercourses, and waterbodies and minimize disturbance to wetlands during construction, restoration, and maintenance. Construction of the Facility will require the preparation of a SWPPP. The BMPs included in the SWPPP described in Section 12.2.2 would also apply to minimizing/mitigating potential impacts to all other aquatic ecosystems. The BMPs described in Sections 13.2 and 13.4 pertaining to minimizing/mitigating potential impacts to surface waters and wetlands would also apply to minimizing/mitigating potential impacts to all other aquatic ecosystems.

Water use for the Facility will be restricted to dust control and foundation construction. Except for concrete supplier's potential use of its own water source to prepare concrete for the foundations, the water used for these tasks will be pumped from local surface waters following consultation and securing permits with applicable resource agencies, as appropriate. Erosion and sediment control BMPs will be used during Facility construction, restoration, and maintenance as applicable. No significant or long-term impacts to aquatic ecosystems from water use during Facility construction are anticipated.

It is anticipated that the Facility will span the North Fork of the Whetstone River, Jorgenson River, Little Minnesota River, Jim Creek, Big Slough, wetlands, and unnamed watercourses and waterbodies depending on geologic or engineering constraints determined in final design. No transmission line structures will be placed in named or unnamed watercourses or waterbodies. Therefore, no Facility-related permanent impacts

⁶³ Committee on the Status of Endangered Wildlife in Canada. 2018. COSEWIC assessment and status report on the Carmine shiner *Notropis percobromus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Pp. 1-42.

⁶⁴ University of Illinois Urbana-Champaign. Creeper *Strophitus undulatus* (Say, 1817) in Illinois Natural History Survey INHS Mollusk Collection.

to aquatic ecosystems are anticipated. No additional mitigation measures are proposed for aquatic resources.

16.0 Land use (ARSD 20:10:22:18)

16.1 Land use

16.1.1 Existing land use

Land use in the vicinity of the Facility is predominantly agricultural, with land cover consisting of cultivated crops and hay and pastureland, developed open space, and herbaceous emergent wetlands (Figure 8 series of Appendix A). Land classified as barren or developed (open space, low, and medium intensity) is due to the presence of local roads, U.S. Highway 12, Interstate 29, State Highway 10, State Highway 15, and State Highway 127. The Facility would be located primarily on private land that is predominantly agricultural. The most common land use within the Facility ROW is cultivated agriculture land used for planted row crops such as corn and soybeans.

The land surrounding the Facility consists of rolling hills with wooded areas, wetlands, and streams. The Minnesota River valley and associated habitat and waterbodies are located to the west of the Facility. Municipalities are located to the east of the Facility, including Big Stone City, South Dakota, and Ortonville, Minnesota, which consist of more-densely developed residential, commercial, and industrial land use. The Facility is located entirely outside of any municipal limits.

The Big Stone Power Plant is approximately 1.4 miles north of the Big Stone South Substation and the Facility. The Big Stone Power Plant is a coal-powered, 456 MW plant that began operating in 1975. The plant dominates the land use in the area immediately adjacent to it, including numerous existing high-voltage transmission lines going to and from the plant and the Big Stone South Substation, cooling ponds, and railroad tracks for transporting coal.

There are no residences or businesses within the Facility ROW. The closest residence is located approximately 302 feet away from the Facility ROW. The closest business, the American Legion, a veterans' organization, is located approximately 0.7 mile away from the Facility ROW. The closest building, the Glacial Ridge Rest Area, is located approximately 920 feet from the Facility ROW.

Figure 8 series of Appendix A is a land use map of the Facility vicinity based on the classification system specified in ARSD 20:10:22:18(1). The following land use classifications from ARSD 20:10:22:18(1) occur in the vicinity of the Facility:

- Land used primarily for row and non-row crops in rotation;
- Irrigated lands;
- Pasturelands and rangelands;
- Haylands;
- Undisturbed native grasslands;
- Existing and potential extractive nonrenewable resources;

- Rural residences and farmsteads, family farms, and ranches;
- Residential; and
- Public, commercial, and institutional use.

The following land use classifications from ARSD 20:10:22:18(1) were not identified in the vicinity of the Facility:

- Other major industries; and
- Municipal water supply and water sources for organized rural water systems.

Based on aerial imagery and a review of water rights, no center-pivot irrigation is present within the ROW or immediately adjacent to the Facility.

Land use in Grant County is comprised of approximately 68 percent cropland, 26 percent pastureland, and the remaining 6 percent as woodland and other. There are approximately 387,088 acres of farmland within Grant County, with the top-producing crops being corn, soybeans, and hay. Cattle and hogs are the dominant livestock.⁶⁵ Grant County had a value of \$328,667,000 from the total agriculture sales in 2022.⁶⁵

Land use in Roberts County is comprised of approximately 77 percent of cropland, 15 percent pastureland, and the remaining 8 percent as woodland and other. There are approximately 551,709 acres of farmland within Roberts County, with the top-producing crops being soybeans, corn, and hay. Cattle and Hogs are the dominant livestock.⁶⁶ Roberts County had a value of \$266,168,000 from the total agriculture sales in 2022.⁶⁶

Mining is present in the vicinity of the Facility outside of the ROW, including six active and reclaimed sites within 1,000 feet of the Facility.

16.1.2 Land use impacts and avoidance, minimization, and mitigation measures

Construction of the Facility will result in the conversion of a very small amount of land (<0.1 acre) from existing agricultural land use to use for a transmission line. Approximately 800 acres of agricultural land would be temporarily impacted by construction of the Facility, and 0.75 acre of agricultural land would be permanently impacted. Following construction, areas subject to temporary disturbance would be revegetated to pre-construction land uses, if necessary, using a seed mix that is recommended by the appropriate agency unless otherwise agreed to with the landowner. Agricultural impacts are discussed further in Section 21.2.

⁶⁵ U.S. Department of Agriculture (USDA). 2022. 2022 Census of Agriculture. Grant County, South Dakota. Online [URL]: https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/South_Dakota/cp46051.pdf. Accessed: June 25, 2026.

⁶⁶ U.S. Department of Agriculture (USDA). 2022. 2022 Census of Agriculture. Roberts County, South Dakota. Online [URL]: https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/South_Dakota/cp46109.pdf. Accessed: June 25, 2026.

The Facility is compatible with, and will have minimal impacts on, the existing land use in the vicinity of the Facility. Crop production on some portions of agricultural lands may be temporarily interrupted for one growing season depending on the timing and duration of construction. In cultivated cropland areas, the Applicant will attempt to conduct construction before crops are planted or following harvest, if practicable. Unless otherwise agreed upon by the landowner, the Applicant will compensate landowners for impacts on crops resulting from the construction, operation, and maintenance of the Facility, including soil compaction that might result from these activities. If there are drain tiles, the Applicant will work with landowners on identifying those systems, and, if impacted, will coordinate with the landowners on repairs. Additionally, the Applicant will continue to coordinate with landowners on final structure locations to reasonably minimize potential impacts to existing farming and other agricultural uses.

There are no occupied homes or businesses located within the ROW of the Facility; accordingly, based on the proposed Facility design, there would be no displacement of residences or businesses due to construction and operation of the Facility.

16.2 Public lands and facilities

16.2.1 Existing public lands and facilities

Publicly owned or managed lands, conservation easements, and facilities in the vicinity of the Facility are shown on Figure 12 series of Appendix A.

There are no USFWS National Wildlife Refuges, USFWS conservation easements, or NRCS flood-management easements crossed by the Facility. Additionally, no USDA Conservation Reserve Program lands have been identified within the Facility ROW. There are also no Nature Conservancy lands within the Facility.

The USFWS manages fee-owned Waterfowl Production Areas (WPAs) to protect breeding, forage, shelter, and migratory habitat for waterfowl or wading birds, such as ducks, geese, herons, and egrets. WPAs provide opportunities for viewing wildlife and intact ecosystems. There are ten USFWS WPAs within the Facility. The Facility crosses nine USFWS WPA wetland easements.

The Facility crosses the Lake Traverse Indian Reservation. There are no Tribal lands located within the Facility.

There are four SDGFP walk-in hunting area lands in the Facility. No other SDGFP properties are crossed by the Facility.

There are no other federal, state, or local lands or easements, school and public lands, landmarks, cemeteries, parks, places of worship, recreational campgrounds, boat launches, or other public or institutional land uses located within or near the Facility.

16.2.2 Public lands and facilities impacts and avoidance, minimization, and mitigation measures

The Facility has been designed to generally avoid public lands and facilities to the extent practicable. If impacts to public lands and facilities are determined to be unavoidable during final design, the Applicant will coordinate with the applicable land management agencies to identify appropriate mitigation measures. To date, no Conservation Reserve Program (CRP) lands have been identified within the Facility. CRP lands will be discussed

in consultation with landowners during the ROW easement acquisition process. If CRP lands are identified, the Applicant will coordinate with landowners and the USDA to address impacts, as needed.

16.3 Noise

16.3.1 Existing sound

Noise (sound) is measured in units of decibels (dB) on a logarithmic scale. Because human hearing is not equally sensitive to all frequencies of sound, certain frequencies are given more “weight.” The A-weighted decibel (dBA) scale corresponds to the frequency sensitivity range for human hearing. Noise levels capable of being heard by humans are measured in dBA. A noise level change of three dBA is barely perceptible to average human hearing. A five dBA change in noise level, however, is clearly noticeable. A 10 dBA change in noise level is perceived as a doubling or halving of noise loudness.

The State of South Dakota has not adopted a noise level requirement. Grant and Roberts counties do not have applicable noise level requirements.

The Facility is partially located in areas with existing linear infrastructure, such as the Sunflour Railroad, Interstate 29, local roads, and several existing transmission lines, including 115 kV, 230 kV, and 345 kV lines. The Big Stone Power Plant is located approximately 1.4 miles from the proposed Facility.

Vehicular traffic, railroad use, pockets of industrial use, and farming activities are likely the largest contributors to noise in the vicinity of the Facility. Windy conditions in the vicinity of the Facility tend to increase ambient noise levels compared to other rural areas. Additionally, higher noise levels likely exist near roads and other areas of human activity. Figure 12 series of Appendix A shows noise-sensitive land uses in the vicinity of the Facility (rural residences and farmstead, family farms, ranches). The closest sensitive land use (residence) is located 302 feet from the Facility ROW.

16.3.2 Noise level impacts and avoidance, minimization, and mitigation measures

Construction noise will be temporary with the main sources coming from heavy construction equipment operation, helicopter use, or increased vehicle traffic due to construction personnel transporting materials to and from the site. Residents living in close proximity to the Facility ROW may be temporarily affected by noise generated from construction activities. Construction noise levels will be minimized by using construction equipment that is in good working order. Construction activities will mostly occur during daytime hours.

Generally, noise levels during the operation and maintenance of transmission lines are minimal. Transmission conductors can emit a noise called corona under certain conditions. Corona noise has a crackling sound and is due to corona discharges—the small amount of electricity ionizing the moist air near the conductors. The level of noise depends on conductor conditions, voltage level, and weather conditions. During heavy rain, the background noise level of the rain is usually greater than the noise from the transmission line. As a result, people do not normally hear noise from a transmission line during heavy rain. During light rain, dense fog, snow, and other times when there is moisture in the air, noise from transmission lines (corona noise) may be more perceivable because it is not being masked by the sounds of rain, but the noise levels produced are equal to

approximately household background levels. During dry weather, noise from transmission lines is barely perceptible by humans. Several other factors, including conductor voltage, shape and diameter, and surface irregularities such as scratches, nicks, dust, or water drops can affect a conductor's electrical surface gradient and, therefore, its corona noise emission levels. The way conductors are arranged on the support poles also affects corona noise production.

Transformers, inverters, and switchgears are among the primary noise sources of a substation. Noise emissions from this equipment have a tonal character that sometimes sounds like a hum or a buzz and corresponds to the frequency of the alternating current. Transformer or shunt reactor "hum" is the dominant noise source at substations if such equipment exists. At substations without transformers or shunt reactors, only infrequent noise sources would exist such as the opening and closing of circuit breakers or the operation of an emergency generator. Typical substation design is such that noise produced by these sources does not reach beyond the substation property. Noise typical from substations blends into background noise levels with increasing distance away from the source without being too intrusive off site.

No additional mitigation measures are necessary since there will be minimal noise impacts from the operation of the Facility.

16.4 Visual resources

The visual impact of a facility is largely subjective. Generally, landscapes with a combination of variety and harmony have the greatest potential for high scenic value and may be considered important to persons living in or traveling through a region. View response is based on the sensitivity and exposure of the view to a particular viewshed. Sensitivity relates to the magnitude of the viewer's concern for the viewshed, while exposure is a function of the type, distance, perspective, and duration of the view. The discussion of visual quality and aesthetics contained in this section is based on a qualitative review of the existing landscape environment in the vicinity of the Facility.

There have been numerous modifications to the natural environment in the vicinity of the Facility, including man-made infrastructure such as residential homes, urban areas, transmission lines, highways, county roads, railroads, substations, and other industrial and commercial structures. Existing modifications include occupied residences, scattered farm buildings, state highways, existing transmission corridors, the Big Stone Power Plant, a coal-fired electric generation facility, and commercial and industrial land use. The nearest designated scenic resource to the Facility is the Native American Scenic Byway located approximately 158.2 miles to the west.

16.4.1 Visual resource impacts and avoidance, minimization, and mitigation measures

Construction of the Facility may result in temporary visual impacts, including the presence of construction equipment and temporary access roads. The Facility will create an additional, minor visual element in the vicinity, but the degree to which the transmission line will be visible will vary by location. The visual impact of the Facility could affect landowners who live along or near the Facility, or community residents traveling along nearby roads. The viewer's degree of discernible detail decreases as the physical distance from an object increases. However, the visual impact of the Facility is not anticipated to be significant given the existing linear and other infrastructure already present in the area.

Measures to reasonably minimize potential visual impacts may include the following:

- Where practicable, the location of structures and other disturbed areas will be determined by considering input from landowners or land management agencies to minimize visual impacts.
- Structure types (designs) will be uniform, to the extent practical. In general, the Applicant anticipates using monopole steel structures ranging in height from approximately 120 feet to 160 feet.
- Structures will utilize Corten steel (i.e., self-weathering steel) to have a dark brown matte finish to minimize sunlight reflections that could be visible to nearby landowners and commuters using nearby roadways.
- Care will be used to preserve the natural landscape; construction and operation will be conducted to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings. During operation of the Facility, clearing of trees and shrubs will be conducted only as necessary per the North American Electric Reliability Corporation (NERC) reliability standards and to allow safe operation and inspection of the Facility.

16.5 Satellite, cellular, radio, TV, and GPS reception

16.5.1 Existing satellite, cellular, radio, TV, and GPS reception

Existing radio, satellite, cellular, Global Positioning System (GPS), and television (TV) reception in the vicinity of the Facility were identified by reviewing publicly available information and the Federal Communications Commission (FCC) database.

16.5.1.1 Radio broadcasting stations

Amplitude modulated (AM) radio service is typically limited to a radius of 100 miles from the signal source and multiple stations may be audible in the vicinity of the Facility. Frequency Modulated (FM) radio service is typically limited by line-of-sight propagation, with reliable coverage commonly extending several tens of miles from the transmitter, depending on antenna height, power, and terrain. Four local AM/FM radio broadcasting stations are located in Sisseton, Ortonville, and Milbank and include Big Stone Radio KMSD 95.1 FM & 1510 AM, KJKQ 99.5 FM, KDIO 94.5 FM & 1350 AM, and KBWS 102.9 FM.

16.5.1.2 Satellite

Satellite communication systems serving the vicinity of the Facility transmit between ground-based antennas and orbiting satellites. Coverage areas extend well beyond the local region and are not constrained to a service radius. Communications are point-to-point or network-based and generally require specialized receiving equipment.

16.5.1.3 Cellular phone

There are no FCC-licensed cellular phone towers within 1 mile of the Facility. Cellular service providers which operate in the vicinity of the Facility include T-Mobile, Verizon, AT&T, Spectrum Mobile, Mint Mobile, and Twigby.

16.5.1.4 GPS

GPS technology is used for a range of applications including farming, construction, logistics, surveying, wireless services, and for the operation of a range of modern navigation devices. GPS is likely used throughout the vicinity of the Facility.

16.5.1.5 Television

Television stations, which broadcast over-the-air (without a cable or satellite connection), in the vicinity of the Facility are located in Florence, South Dakota, and Appleton, Minnesota, and include:

- Columbia Broadcasting System (KDLO-TV)
- Public Broadcasting System (KWCM-TV).⁶⁷

Television stations with a cable or satellite connection may be located hundreds of miles from the Facility and broadcast to cities in the vicinity of the Facility.

16.5.2 Radio, satellite, cellular, GPS, and TV reception impacts and avoidance, minimization, and mitigation measures

No significant impacts to radio, satellite, cellular, GPS, or TV reception are anticipated during normal construction or operation of the Facility.

Generally, transmission lines do not cause interference with radio, television, or other communication signals and reception. While it is rare in everyday operations, four potential sources for interference do exist, including gap discharges, corona discharges, shadowing, and reflection effects.

Gap discharge interference is the most noticed form of power line interference with radio and television signals and typically the most easily fixed. Gap discharges are usually caused by hardware defects or abnormalities on a transmission or distribution line causing small gaps to develop between mechanically connected metal parts. As sparks discharge across a gap, they create the potential for electrical noise, which can cause interference with radio and television signals in addition to audible noise. The degree of interference depends on the quality and strength of the transmitted communication signal, the quality of the receiving antenna system, and the distance between the receiver and the power line. Gap discharges are usually a maintenance issue, since they tend to occur in areas where gaps have formed due to broken or ill-fitting hardware (clamps, insulators, brackets). Because gap discharges are a hardware issue, they can be repaired relatively quickly once

⁶⁷ Federal Communications Commission (FCC). DTV Reception Maps. Online [URL]: <https://www.fcc.gov/media/engineering/dtvmaps>. Accessed: August 12, 2026.

the issue has been identified. The Facility hardware will be designed and maintained to minimize gap discharges.

Corona from transmission line conductors can also generate electromagnetic noise at the same frequencies that radio and television signals are transmitted. The air ionization caused by corona generates audible noise, radio noise, light, heat, and small amounts of ozone. The potential for radio and television signal interference due to corona discharge relates to the magnitude of the transmission line-induced radio frequency noise compared to the strength of the broadcast signals. Because radio frequency noise, like electric and magnetic fields, becomes significantly weaker with distance from the transmission line conductors, very few practical interference problems related to corona-induced radio noise occur with transmission lines. In most cases, the strength of the radio or television broadcast signal within a broadcaster's primary coverage area is great enough to prevent interference. Routine maintenance activities such as tightening loose hardware on the transmission line can help minimize corona noise. The Facility hardware will be designed and maintained to minimize gap and corona discharges.

There is the potential for AM radio interference to occur directly below transmission lines, but this effect will dissipate rapidly beyond the transmission line ROW. If radio interference from transmission line corona does occur for an AM radio station, satisfactory reception can be restored by appropriate modification of (or addition to) the receiving antenna system. The situation is unlikely, however, because AM radio frequency interference is typically localized to areas under a transmission line and within the ROW.

FM radio receivers usually do not pick up interference from transmission lines because:

- Corona-generated radio frequency noise currents decrease in magnitude with increasing frequency and are quite small in the FM broadcast band (88-108 megahertz [MHz]).
- The interference rejection properties inherent in FM radio systems make them virtually immune to amplitude-type disturbances.

Television broadcast frequencies are typically high enough that they are not affected by corona-generated noise. Digital and satellite television transmissions are not affected by corona-generated noise because they are dependent on packets of binary information or transmitted in the Ku band of radio frequencies (12,000-18,000 MHz). Digital and satellite transmissions are more likely to be affected by multipath reflections and shadowing generated by nearby towers. Television interference due to shadowing and reflection effects is rare but may occur when a large transmission structure is aligned between the receiver and a weak distant signal, creating a shadow effect. In the rare situation where a transmission line may cause interference within a station's primary coverage area, the problem can usually be corrected with the addition of an outside antenna.

Cellular phone signals and GPS signals use an ultra-high frequency, which is significantly higher than the range of electromagnetic noise generated by transmission line conductors. Because both cellular phone signals and GPS operate at frequencies outside the range of electromagnetic noise generated by transmission line conductors, the risk of interference is negligible. Additionally, utilities regularly use GPS-based surveying methods under and around transmission lines and have not experienced interference. Because significant impacts are not anticipated, no routine mitigation measures are proposed. If interference

attributable to the Facility is identified, the Applicant will investigate and implement reasonable corrective measures.

If television or radio interference is caused by or from the operation of the Facility in those areas where good reception was available prior to construction of the Facility, the Applicant will evaluate the circumstances contributing to the impacts and determine the necessary actions to restore reception to the present level. If interference attributable to the Facility is identified, the Applicant will investigate and implement reasonable corrective measures.

17.0 Local land use controls (ARSD 20:10:22:19)

Land use in Grant County is regulated by the Grant County Compiled Zoning Ordinances (3/27/2023). The current Comprehensive Land Use Plan for Grant County (Comprehensive Plan) has no provisions for high-voltage transmission lines or power lines. The Comprehensive Plan is supportive of development within Grant County, including wind and solar farms and the associated facilities (e.g., transmission lines).⁶⁸

The Facility is located in two zoning districts in Grant County: the Agricultural District and the Commercial/Industrial District. Within each district, the Facility is a conditional use, requiring a CUP. The Applicant has been coordinating with the Grant County regarding the CUP process. Closer to the time the Facility begins construction, the Applicant will also secure a building permit for the Facility.

Land use in Roberts County is regulated by the Roberts County Zoning Ordinance (4/20/2021). The Facility is located in two zoning districts in Roberts County: the Agricultural District and the Commercial/Industrial District. Public utilities, including transmission lines, can be permitted as a conditional use in the Agricultural District. The Applicant has been coordinating with the Roberts County regarding the CUP process.

Additionally, if it is not practicable for final structure placement to avoid floodplains, the Facility may also require a floodplain development permit from Grant and/or Roberts County. The Applicant has discussed the floodplain development permitting process with Grant and Roberts Counties and will obtain floodplain development permits, as needed.

Construction of the Facility will comply with applicable local ordinances and may require those permits identified in Section 26.0.

At this time, the Applicant does not expect to ask the Commission to preempt any local land use controls.

⁶⁸ Grant County Planning Commission. 2022. Grant County Comprehensive land use Plan. Online [URL]: <https://grantcounty.sd.gov/wp-content/uploads/Comprehensive-Plan.pdf>. Accessed: August 18, 2026.

18.0 Water quality (ARSD 20:10:22:20)

The following sections describe the existing water quality in the vicinity of the Facility, the potential effects of the proposed Facility on water quality, and measures that will be utilized to avoid, minimize, and/or mitigate potential impacts.

18.1 Existing water quality

Groundwater and surface water resources are discussed in Section 13.0.

18.2 Water quality impacts and avoidance, minimization, and mitigation measures

During construction, sediment could reach surface waters as the ground would be disturbed by excavation, grading, and construction traffic. This could potentially affect water quality if erosion is not controlled. However, erosion and sediment control BMPs would keep sediment on site to reduce or avoid sediment loading in receiving water.

Construction of the Facility will require coverage under the SDDANR General Permit for Storm Water Discharges Associated with Construction Activities (the state-administered National Pollutant Discharge Elimination System [NPDES] permit). On Tribal lands, the NPDES permit is administered by the U.S. Environmental Protection Agency (USEPA). The permits require preparation of a SWPPP. The SWPPP will identify potential sources of stormwater pollution and specify BMPs to control erosion and sedimentation during construction. The SWPPP will be prepared before the start of construction. The Applicant will implement BMPs during construction of the Facility to protect topsoil and adjacent water resources and minimize soil erosion. Construction practices will be completed in accordance with the NPDES permit requirements. BMPs may include:

- Containment of stockpiled material away from stream banks and shorelines.
- Stockpiling and resspreading topsoil at laydown areas and/or permitted areas.
- Reseeding and revegetating disturbed areas.
- Implementing erosion and sediment controls, such as use of silt fence, straw wattles, erosion control blankets, re-vegetation, or other features and methods designed to control stormwater runoff and mitigate erosion and sedimentation.
- Minimizing stormwater impacts generated by construction by following BMPs.

Because erosion and sediment controls would be in place for construction of the Facility and the Facility area would be reclaimed when construction is complete, impacts to water quality are expected to be negligible. Operation and maintenance of the Facility is not expected to affect water quality because there would rarely be ground-disturbing activities associated with operation and maintenance.

19.0 Air quality (ARSD 20:10:22:21)

The following sections describe the existing air quality in the vicinity of the Facility, the potential effects of the proposed Facility on air quality, and measures that will be utilized to avoid, minimize, and/or mitigate potential impacts.

19.1 Existing air quality

Under the Clean Air Act, the USEPA is required to set National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants, including particulate matter, ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead. The USEPA designates areas as meeting NAAQS (attainment) or not meeting standards (nonattainment), while states are required to develop plans to attain and maintain standards, or to design specific plans to attain standards for designated nonattainment areas (42 United States Code [USC] §7401).

South Dakota is in attainment for both national and South Dakota ambient air quality standards.⁶⁹ The nearest ambient air quality monitoring site is located in Watertown, South Dakota, which is approximately 39 miles southwest of the Facility and monitors for particulate matter and ozone.⁷⁰ The primary emission sources that exist in the vicinity of the Facility include agricultural-related equipment and vehicles traveling along roads and other industrial uses, such as the Big Stone Power Plant.

19.2 Air quality impacts and avoidance, minimization, and mitigation measures

During construction, fugitive dust emissions would temporarily increase due to equipment and vehicle traffic in the vicinity of the Facility, as well as ROW clearing activities. Additionally, there would be short-term emissions from construction vehicles and equipment on site. The concentration of pollutants during construction will be greatest near the Facility ROW but will decrease rapidly with distance from the Facility ROW. Air quality effects caused by dust or vehicle emissions would be short-term, limited to the time of construction, and would not result in any NAAQS exceedances for criteria pollutants.

General mitigation measures will include the implementation of BMPs throughout construction to suppress fugitive dust emissions. BMPs during construction may include watering unpaved roads and loose gravel areas, implementing spray-on amendments (e.g., calcium chloride, water), staging construction activities to limit soil disturbance, mulching and planting vegetation, limiting construction traffic speeds, and other applicable measures as necessary. Upon completion of construction activities, measures would be taken to revegetate disturbed areas (outside of cultivated areas) to permanently stabilize soil and prevent further production of fugitive dust emissions.

⁶⁹ U.S. Environmental Protection Agency (USEPA). 2026. Green Book, Current as of January 31, 2026. Nonattainment Counties for all Criteria Pollutants. Online [URL]: <https://www3.epa.gov/airquality/greenbook/ancl.html>. Accessed: February 19, 2026.

⁷⁰ U.S. Environmental Protection Agency (USEPA). 2026. AirData Air Quality Monitors. Online [URL]: <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5&extent=-146.2334,13.1913,-46.3896,56.5319>. Accessed: February 19, 2026.

Operation of the Facility is expected to have negligible impacts on air quality. Minimal increases in greenhouse gas emissions may result from the maintenance of the Facility, as repair technicians and personnel access portions of the transmission line. However, these impacts will be temporary and insignificant. Corona which ionizes the air within a few centimeters of a transmission line's conductors and hardware can produce small concentrations of ozone and oxides of nitrogen in the air surrounding it. However, studies examining ozone production under transmission lines have generally been unable to detect any significant increase due to the presence of transmission facilities; therefore, any production of ozone during operation of the Facility will be insignificant.⁷¹

⁷¹ Sebo, S.A., Heibel, J.T., Frydman, M. and Shih, C.H. 1976. *Examination of ozone emanating from EHV transmission line corona discharges*, in IEEE Transactions on Power Apparatus and Systems, vol.95, no. 2, pp. 693-703, March 1976.

20.0 Time schedule (ARSD 20:10:22:22)

The Applicant expects that the Facility will be placed in-service in 2034. A preliminary permitting and construction schedule for the BSSHB Project, which includes the Facility, is provided in Table 20-1 below.

This schedule is based on information known as of the date of filing and may be subject to change as further information develops because of multiple variables involved in siting new transmission lines. The Applicant will use best efforts to manage the schedule to deliver a safe and reliable Facility as soon as reasonably practicable. However, activities such as land acquisition; obtaining the necessary federal, state, or local approvals; material lead times; contractor availability; and weather conditions are just some of the variables that could cause the in-service date of the Facility to change.

Table 20-1. Estimated permitting and construction schedule for the BSSHB Project

Milestone	Estimated Start Date	Estimated End Date
Acquisition of Land Rights (South Dakota)	Q2 2026	Q2 2030
Commission Facility Permit Process ⁷²	Q3 2026	Q3 2027*
Acquisition of Land Rights (North Dakota)	Q1 2027	Q1 2029
ND PSC CPCN Process	Q2 2027	Q4 2027
ND PSC Route Permit Process	Q2 2028	Q1 2029
Acquisition of Land Rights (North Dakota)	Q1 2027	Q2 2028
Department of Energy National Environmental Policy Act Action	Q2 2028	Q3 2029
Transmission Line and Substation Design	Q3 2027	Q2 2030
Other Federal, State and Local Permits	Q2 2028	Q3 2029
Construction	Q3 2030	Q4 2033
Commissioning/Testing	Q4 2033	Q1 2034
In-Service Operations	Q1 2034	

*The Applicant intends on filing an extension request for the Commission process in order to collect more environmental field studies and to continue to negotiate with landowners for ROW easements. That extension request would push this estimated end date out.

⁷² The start date for the Commission Facility Permit Process being well ahead of the ND PSC Route Permit Process is due to the timeline set forth in SDCL §49-32-20.

21.0 Community impact (ARSD 20:10:22:23)

The following sections describe the existing community characteristics in the vicinity of the Facility; the potential impacts of the Facility with respect to socioeconomics, community resources, commercial sector, industrial sector, agricultural sector, transportation, and cultural resources; and measures that have been or will be utilized to avoid, minimize, and/or mitigate potential impacts.

21.1 Socioeconomic and community resources

21.1.1 Existing socioeconomic and community resources

The Facility is located in northeastern Grant County and eastern Roberts County on land used primarily for agricultural purposes. The U.S. Census Bureau (USCB) 2024 population estimate for Grant County was 7,563, and Roberts County was 10,221.⁷³ The closest residential area to the Facility is Peever, located approximately 1.5 miles to the west of the Facility, with an estimated 2024 population of 145.⁷⁴ Big Stone City, approximately 1.8 miles to the east of the Facility, is the next closest residential area and has an estimated 2024 population of 706.⁷⁵

In Grant County, 86.8 percent of the population is white (not Hispanic or Latino), 9.2 percent is Hispanic or Latino, 0.6 percent is Black or African American, 2.3 percent is American Indian and Alaska Native, 0.3 percent is Asian, 0.1 percent is Native Hawaiian and Other Pacific Islander, and 2.8 percent is two or more races. In Roberts County, 51.6 percent is white (not Hispanic or Latino), 3.6 percent is Hispanic or Latino, 0.4 percent is Black or African American, 39.4 percent is American Indian and Alaska Native, 0.8 percent is Asian, and 6.3 percent is two or more races. In the State of South Dakota, 78.0 percent of the State's population is white (not Hispanic or Latino), 6.1 percent is Hispanic or Latino, 2.6 percent is Black or African American, 9.0 percent is American Indian and Alaska Native, 1.9 percent is Asian, 0.1 percent is Native Hawaiian and Other Pacific Islander, and 4.2 percent is two or more races⁷⁶. Additional statistics from the USCB on population, income, demographics, poverty rates, English-speaking

⁷³ U.S. Census Bureau (USCB). 2024. American Community Survey, 2024: ACS 5-Year Estimates Data Profiles. Online [URL]: <https://data.census.gov/table?t=Populations+and+People&g=050XX00US46051,46109&y=2024> Accessed: February 19, 2026.

⁷⁴ U.S. Census Bureau (USCB). 2024. American Community Survey, Table DP05 ACS Demographic and Housing Estimates. Online [URL]: <https://data.census.gov/table?q=Peever+town,+South+Dakota&t=Populations+and+People&y=2024>. Accessed: July 6, 2026.

⁷⁵ U.S. Census Bureau (USCB). 2024. American Community Survey, Table DP05 ACS Demographic and Housing Estimates. Online [URL]: <https://data.census.gov/table?q=big+stone+city+SD&t=Populations+and+People&y=2024>. Accessed: June 29, 2026.

⁷⁶ U.S. Census Bureau (USCB). 2025. Quick Facts: Roberts County, South Dakota; Grant County, South Dakota; South Dakota. Online [URL]: <https://www.census.gov/quickfacts/fact/table/robertscountysouthdakota,grantcountysouthdakota,SD/PST045225> Accessed: February 19, 2026

ability, and unemployment rates for Grant County, Roberts County, and the State of South Dakota are provided in Table 21-1.

Table 21-1. Socioeconomic characteristics

Socioeconomic Characteristic	Grant County	Roberts County	South Dakota
2020 Population	7,556	10,280	886,667
2024 Population Estimates ⁷³	7,563	10,221	924,669
Population Change (%)	0.1	-0.6	4.3
2024 Median Household Income (\$) ⁷⁸	75,028	65,130	75,081
2024 Unemployment Rate (%) ⁷⁷	2.7	6.0	2.8
2024 Population Below Poverty Level (%) ⁷⁸	8.6	16.2	10.4
2024 Percent LEP Households (%) ⁷⁹	0.2	0.2	1.3
2024 Rental Vacancy Rate (%) ⁸⁰	< 1.0	10.5	7.1
Employment Rate (%)	98.2	97.6	97.9

LEP: Limited English Population, defined as anyone age 5 or older or reported speaking English less than “very well.”

In Grant County, the top industries in terms of employment for individuals over the age of 16 in 2024 were: educational services and health care and social assistance (21%); manufacturing (12.2%); retail trade (11.5%); agriculture, forestry, fishing and hunting, and mining (9.7%); and construction (9.2%). In Roberts County, the top industries in terms of employment for individuals over the age of 16 in 2024 were: educational services, and health care and social assistance (24.6%); agriculture, forestry, fishing and hunting, and mining (13.3%); manufacturing (10.1%), arts, entertainment, and recreation, and accommodation and food services (9.5%); and retail trade (9.0%)⁸¹. In 2024, the

⁷⁷ U.S. Census Bureau (USCB). 2024. 2024. American Community Service. DP03 Selected Economic Characteristics Online [URL]: <https://data.census.gov/table?q=Employment&g=050XX00US46051,46109&y=2024> Accessed: July 6, 2026.

⁷⁸ U.S. Census Bureau (USCB). 2024. QuickFacts: South Dakota; Grant and Roberts County, South Dakota. Online [URL]: <https://www.census.gov/quickfacts/fact/table/robertscountysouthdakota,grantcountysouthdakota,SD/PST045225>. Accessed: July 6, 2026.

⁷⁹ U.S. Census Bureau (USCB). 2024. S1602 Limited English Speaking Households. Online [URL]: <https://data.census.gov/table?q=S1602&g=050XX00US46051>. Accessed: July 6, 2026.

⁸⁰ U.S. Census Bureau (USCB). 2024. CP04 Comparative Housing Characteristics. Online [URL]: <https://data.census.gov/table?q=rental+vacany+rate&g=050XX00US46051,46109>. Accessed: July 6, 2026.

⁸¹ U.S. Census Bureau (USCB). 2024. American Community Survey, Table S2405, Industry by Occupation for the Civilian Employed Population 16 Years and Over: Grant and Roberts County, South Dakota. Online [URL]: <https://data.census.gov/table/ACSST5Y2024.S2405?q=industry&g=050XX00US46051,46109>. Accessed: February 19, 2026.

unemployment rate in Grant County was 3.8 percent and in Roberts County it was 4.2 percent.⁸²

21.1.2 Socioeconomic and community resource impacts and avoidance, minimization, and mitigation measures

As discussed in Sections 2.0 and 7.0, the proposed Facility, which is part of the larger BSSHB Project, will provide significant benefits in the region by providing additional transmission capacity, increasing access for new generation, improving electric system reliability, reducing transmission congestion, and increasing access to low-cost energy.

The Facility is expected to create both short- and long-term positive impacts to the local economy. Impacts to social and economic resources from construction activities would be short-term during the construction phase. Local businesses, such as restaurants, grocery stores, hotels, and gas stations, may see increased business during this phase from construction-related workers. Local industrial businesses, including aggregate and cement suppliers, may also benefit from construction of the Facility. See Section 23.0 for a breakdown of the typical construction and operation jobs and the estimated labor-hours to support Facility construction.

Construction and operation of the Facility would not directly result in a change in the population size or demographics of Grant or Roberts County. The influx of construction personnel to the area may result in a temporary increase in the need for temporary housing, but any increase would be spread out over the length of the Facility construction phase and would not be expected to affect the availability of rental housing or temporary lodging (e.g., hotels, motels, campgrounds) in any one location. The construction and operation of the Facility is not anticipated to create or remove jobs in the area over the long term or result in the permanent relocation of individuals to or from the area. Construction and operation of the Facility is not anticipated to affect the local distribution of jobs or occupations in the community due to the specific skills required for the construction of a high-voltage transmission line, requiring trained professionals to be temporarily relocated to the vicinity of the Facility.

No impacts to property values are anticipated from the Facility. Prior studies have found that transmission lines do not substantially affect the value of adjoining or abutting property. Based on the studies reviewed, while having some inconsistencies in their detailed results, there were generally small or no effect on sales price due to the presence of electric transmission lines. Where an effect was detected, it generally dissipated with time and distance. While this study indicates that a small reduction in property value is possible, significant impacts to property values are not anticipated.⁸³

Long-term beneficial impacts from the Facility will include benefits to the local tax base in the form of revenues from property taxes paid by the Applicant. The amount of property taxes generated from the Facility will be based on the cost of the Facility. Based on

⁸² South Dakota Department of Labor and Regulation. 2025. Labor Market Information Center- Overview of the Current Labor Market, December 2025. Online [URL]: <https://dlr.sd.gov/lmic/overview.aspx>. Accessed: February 19, 2026

⁸³ Jackson, T, & Pitts, J. 2010. The Effects of Electric Transmission Lines on Property Values: A Literature Review. *Journal of Real Estate Literature*, 18(2), 239-259. Online [URL]: <https://doi.org/10.1080/10835547.2010.12090275>.

preliminary analyses, Otter Tail anticipates over the next 10 years that the Facility is expected to generate:

- Approximately \$1 million in total property tax;
- State and local sales and use taxes are currently estimated to be more than \$1 million.

Overall, the Applicant anticipates that the Facility would be socioeconomically beneficial to the local population and would not impact long-term population trends, income, housing, occupation distribution, or integration or cohesion of communities. Therefore, no mitigation measures are anticipated to be required.

21.2 Commercial, industrial, and agricultural sectors

21.2.1 Commercial and industrial sectors

21.2.1.1 Existing commercial and industrial sectors

Other than agriculture, the top industries in Grant and Roberts County include educational services, health care, social assistance, manufacturing, and retail trade. There are limited commercial and industrial businesses in the vicinity of the Facility. Local commercial businesses in the vicinity of the Facility include restaurants, grocery stores, hotels, and gas stations. Local industrial businesses in the vicinity of the Facility include aggregate and cement suppliers.

21.2.1.2 Commercial and industrial sector impacts and avoidance, minimization, and mitigation measures

The Facility is anticipated to have economic benefits to various commercial and industrial sectors during construction and operation. Local businesses, such as restaurants, grocery stores, hotels, and gas stations, may see increased business during the construction of the Facility from an increase of construction-related workers to the area. Some construction materials and supplies may be purchased from local businesses. Industrial businesses in the region may also benefit from construction of the Facility. No displacement of residences or businesses will occur as a result of the Facility. No commercial or industrial businesses will be negatively impacted by the Facility; therefore, no mitigation measures are proposed.

21.2.2 Agricultural industry

21.2.2.1 Existing agricultural industry

Land use in Grant and Roberts County is predominantly agricultural, with approximately 62 percent of the land in Grant County and approximately 49 percent of the land in Roberts County being used for agricultural purposes in 2026.⁸⁴ In 2022, there were a total of 574 active farms in Grant County and 757 active farms in Roberts County, with the

⁸⁴ U.S. Department of Agriculture (USDA). 2026. National Agricultural Statistics Service National Land Cover Database, National Agricultural Statistics Service Cropland CROS. Online [URL]: <https://croplandcros.scinet.usda.gov/>. Accessed: March 18, 2026.

majority of farms over 1,000 acres in size.⁸⁵ In 2022, total agriculture sales in Grant County were \$328,667,000 and were \$266,168,000 in Roberts County.⁸⁶ Corn and soybeans made up most crop sales, while hogs and pigs comprised the majority of livestock sales in 2022. Commodity sales were similar between farms supplying crops and livestock, with 48.1 percent of sales from crops and 51.9 percent of sales from livestock. Out of the 66 South Dakota counties, Grant County ranked 12 in total value of agricultural products sold and Roberts County ranked 19.⁸⁵

21.2.2.2 Agricultural industry impacts and avoidance, minimization, and mitigation measures

Facility construction activities will temporarily use cropland and grassland/pasture within the Facility and adjacent areas to facilitate equipment movement (construction access roads) and structure laydown pads. These activities would remove land from productivity during the duration of construction, displace livestock (if present), or result in a delay or loss of crop production.

Minimal existing agricultural land would be taken out of production by the proposed Facility, primarily the area where transmission structures are located. It is estimated that approximately 0.75 acre⁸⁷ of agricultural land would be permanently impacted due to the placement of structure foundations and approximately 800 acres of agricultural land is located within the proposed ROW and may be temporarily impacted by the Facility. However, this is a conservative estimate that assumes the entire Facility ROW is needed for temporary disturbances.

Landowners will be compensated for any crop damage that occurs during construction. The Applicant will also work with landowners once a route is finalized to coordinate the need for early crop harvest and compensate landowners for any crop losses. If livestock are present in proposed construction areas, fencing or cattle guards will be placed where necessary to prevent livestock from entering active construction areas. Once construction is completed, agricultural activities will be allowed to resume within the proposed Facility ROW between structures.

Drain tile lines may be present within the Facility ROW. The Applicant will work with the landowners to identify and mark drain tile lines and will try to avoid damage during construction. Where locations are known, temporary travel paths will avoid drain tiles where they can and when they are unavoidable, matting may be required. If drain tile lines are damaged by construction, the Applicant will coordinate with the landowner to repair the tile lines in accordance with landowner agreements.

Land topography disturbed during construction will be repaired and restored to preconstruction contours to the extent practicable so that surfaces drain naturally, blend

⁸⁵ U.S. Department of Agriculture (USDA). 2022. 2022 Census of Agriculture, 2022 Census Volume 1, Chapter 2: County Level Data. Online [URL]: https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_2_County_Level/South_Dakota/st46_2_001_001.pdf. Accessed: March 18, 2026.

⁸⁶ U.S. Department of Agriculture (USDA). 2022. National Agricultural Statistics Service-2022 Commodity Totals, Sales, Measured in US Dollars Per County for South Dakota. Online [URL]: <https://quickstats.nass.usda.gov/results/CE07E294-E19D-38F2-95FC-7ACCC815300D>. Accessed: March 18, 2026.

⁸⁷ Natural Resources Conservation Service. 2026. Web Soil Survey, National Cooperative Soil Survey. Online [URL]: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed: July 20, 2026.

with the natural terrain, and are left in a condition that will facilitate natural re-vegetation (outside of cultivated areas, provide for proper drainage, and prevent erosion). Construction laydown areas and temporary transmission line travel paths will be restored per the landowner agreement. The Applicant will use a re-vegetation seed mix that is recommended by the appropriate agencies unless otherwise agreed to with the landowner.

21.3 Community facilities and services

21.3.1 Existing community facilities and services

There are numerous existing community facilities and services within 10 miles of the Facility, including hospitals, law enforcement, fire and ambulance services, schools, nursing homes, and churches. Table 21-2 identifies these facilities in relation to the Facility. There are 49 churches and 26 schools within 10 miles of the Facility. Churches and schools closest to the Facility (i.e., those located within 5 miles) are listed in Table 21-2. The Facility is located within the Grant-Roberts Rural Water System. Electrical service in the vicinity is primarily provided by Whetstone Valley Electric Cooperative, Otter Tail Power Company, and Traverse Electric Cooperative.⁸⁸

Table 21-2. Community services and facilities in the vicinity of the Facility

Community Facility	Name	Location	Distance from Facility (miles)
Schools ⁸⁹	Browns Valley Elementary	Browns Valley, MN	2.15
	Browns Valley Middle School	Browns Valley, MN	2.15
	Big Stone City Elementary	Big Stone City, SD	2.25
	Big Stone City Middle School	Big Stone City, SD	2.25
	Ortonville Secondary	Ortonville, MN	3.70
	Knoll Elementary	Ortonville, MN	3.70
	Wilmot K-12	Wilmot, SD	4.37
Churches	Concordia Pioneer Church	Sisseton, SD	0.51
	Walla Church	New Effington, SD	1.19
	Peever Lutheran Church	Peever, SD	1.93
	United Methodist Presbyterian Church	Browns Valley, MN	2.10
	St. Anthony's Catholic Church	Browns Valley, MN	2.20

⁸⁸ South Dakota Public Utilities Commission (Commission). Undated. Electric Service Territories. Online [URL]: <https://sdbit.maps.arcgis.com/apps/webappviewer/index.html?id=c21dde7770aa4e01bcfdd923222ce01d>. Accessed: February 29, 2026.

⁸⁹ National Center for Education Statistics (NCES). National Education Demographic and Geographic Estimates Program (EDGE). 2025. Public School Locations-Current. Online [URL]: <https://www.arcgis.com/home/item.html?id=4c5425750a334373921cd87560c276d5#overview>. Accessed: July 2, 2026.

Community Facility	Name	Location	Distance from Facility (miles)
	Zion Lutheran Church	Browns Valley, MN	2.25
	Faith Lutheran Church	New Effington, SD	2.57
	Trinity Lutheran Church	Corona, SD	2.59
	Holden Lutheran Church	Beardsley, MN	2.92
	Episcopal Church	Sisseton, SD	1.92
	Kingdom Hall	Sisseton, SD	4.55
	Trinity Lutheran Church	Ortonville, MN	3.92
	Zion Community Church	Wilmot, SD	4.02
	New Life Community Baptist Church INC	Ortonville, MN	4.06
	Lake Traverse Presbyterian Church	Sisseton, SD	3.65
	First Presbyterian Church	Wilmot, SD	4.27
	Our Savior Lutheran Church	Wilmot, SD	4.33
	Living World Lutheran Church	Milbank, SD	4.97
Nursing Homes ⁹⁰	St. Williams Care Center	Milbank, SD	5.73
	Wilmot Care Center INC	Wilmot, SD	4.17
	Wilmot Care Center ALC 2	Wilmot, SD	4.19
	Countryside Inn Assisted Living & Memory Care	Rosholt, SD	6.58
	Fairway View Assisted Living	Ortonville, MN	3.94
	Fairway View Neighborhoods	Ortonville, MN	3.93
	Browns Valley Health Center	Browns Valley, MN	2.32
	Tekakwitha Living Center	Sisseton, SD	5.79
	Edgewood Greenleaf Sisseton LLC	Sisseton, SD	5.25
	Koch Senior Living	Milbank, SD	6.41
	St. Gerard's Community of Care	Hankinson, ND	9.39
	Wellshire Park Place	Milbank, SD	6.55

⁹⁰ Homeland Infrastructure Foundation Level Data (HIFLD). 2025. Nursing Homes. Accessed: July 2, 2026.

Community Facility	Name	Location	Distance from Facility (miles)
Hospitals ⁹¹	Milbank Area Hospital/Avera Health	Milbank, SD	5.80
	Coteau Health Care System Hospital	Sisseton, SD	5.41
	Ortonville Area Health Services	Big Stone City, SD	3.62
Ambulance Services ⁹¹	Browns Valley Ambulance	Browns Valley, MN	2.20
	Grant -Roberts Sisseton Ambulance Service	Sisseton, SD	5.49
	Ortonville Ambulance Service	Ortonville, MN	3.39
	Northeast Ambulance Service	Rosholt, SD	6.49
	Grant-Roberts Milbank Ambulance Service	Milbank, SD	5.70
Fire Departments ⁹¹	Milbank Fire Department	Milbank, SD	5.91
	Ortonville Fire and Rescue Department	Ortonville, MN	3.38
	Browns Valley Fire Department	Browns Valley, MN	2.20
	Big Stone City Fire Department	Big Stone City, SD	2.35
	Beardsley Fire Department	Beardsley, MN	5.51
	Rosholt Fire Department	Rosholt, SD	6.49
	Peever Volunteer Fire Department	Peever, SD	1.86
	Wilmot Fire Department	Wilmot, SD	4.28
	New Effington Fire Department	New Effington, SD	2.57
	Corona Volunteer Fire Department	Corona, SD	2.67
	Sisseton Fire Department	Sisseton, SD	5.73
	Sisseton-Wahpeton-Oyate Wildland Firefighters	Sisseton, SD	5.72
Law Enforcement ⁹¹	Grant County Sheriff's Office	Milbank, SD	6.02
	Big Stone City Police Department	Big Stone City	2.34

⁹¹ ESRI U.S. Federal Datasets. 2025. Medical Emergency Response Structures. Online [URL]: <https://gisnation-sdi.hub.arcgis.com/maps/2c36dbb008844081b017da6fd3d0d28b/about>. Accessed: July 2, 2026.

Community Facility	Name	Location	Distance from Facility (miles)
	Milbank City Police Department	Milbank, SD	5.85
	Big Stone County Sheriff's Office	Ortonville, MN	3.47
	Roberts County Sheriff's Office	Sisseton, SD	5.83
	Sisseton Police Department	Sisseton, SD	5.70
	Sisseton-Wahpeton Sioux Tribal Police Department	Sisseton, SD	5.93
	Ortonville Police Department	Ortonville, MN	3.47

21.3.2 Community facilities and services impacts and avoidance, minimization, and mitigation measures

The addition of workers to the region during construction of the proposed Facility could temporarily increase demand on some of the existing community facilities and services. However, this demand would be temporary, and it is anticipated that the existing facilities would have sufficient capacity to meet the demand.

The Facility would have no significant impact on the security or safety of the local communities and the surrounding area during construction or operation. There could be some risk of worker or public injury during the construction phase, as it would for any large construction project. The Facility will not significantly impact the safety or livelihood of surrounding communities, and existing emergency services in the vicinity of the Facility are expected to be sufficient to support construction personnel. The Applicant will develop a workplan and an emergency response plan and support workforce and community safety during construction. The Applicant's general contractor will identify and secure all active construction areas to prevent public access to potentially hazardous areas and will require workers to follow safety standards. In the event an incident does occur, the Applicant's emergency response plan will be implemented, and local emergency services will be contacted, as needed.

Neither the Facility nor the construction workforce is anticipated to impact the local government, utilities, or community services. The Facility is also not anticipated to impact existing water systems, sewage, or electrical services. Appropriate safety measures would be implemented before structure foundation excavation begins, including coordinating with utility companies to determine utility locations and complying with South Dakota One-Call system to verify existing utilities are properly marked, as needed. The Facility is also not expected to impact solid waste management facilities or local recreation facilities.

21.4 Transportation

The existing transportation resources in the vicinity of the Facility are described below, followed by a discussion of the potential effects of the proposed Facility to transportation and avoidance, minimization, and mitigation measures.

21.4.1 Existing transportation

The Facility ROW is readily accessible from existing roads. Most local roads in the vicinity of the Facility are unpaved and surfaced with gravel. The transportation network that will be used during construction and for maintenance during operation of the Facility is comprised largely of federal and state highways paved with asphalt concrete including: Interstate 29 (I-29), U.S. Highway 12 (intersects the Facility), State Highway 10 (intersects the Facility), State Highway 15 (intersects the Facility) and State Highway 127 (intersects the Facility). The Facility will cross many Grant and Roberts County roadways as well.

The 2025 Average Daily Traffic volume on roads near the Facility is shown in Table 21-3.

Table 21-3. Average daily traffic near the Facility

Roadway	Total traffic volume	Truck traffic volume
US Highway 12 southwest of Big Stone City	3,215	364
472nd Avenue east of Bullhead Lake	25	n/a
Interstate 29 directly south of the North Dakota border	2,800	787
State Highway 10 east of I-29	1,694	149
State Highway 15 north of Milbank	1,386	164
State Highway 127 west of Rosholt	774	130

Source: South Dakota Department of Transportation.⁹²

The Facility ROW crosses the Sunflour Railroad north of State Highway 127. The Sunflour Railroad is primarily used as railcar storage for other railroads. There are no other railroads present within the Facility ROW.

The closest commercial airport, the Sisseton Municipal Airport, is approximately 2.5 miles from the Facility. The closest private airport is the Ortonville Hospital Heliport, located approximately 3.7 miles away. The nearest private airstrip is located approximately 9.3 miles away. The nearest U.S. air military installation is Grand Forks Air Force Base, located approximately 142.3 miles from the Facility near Grand Forks, North Dakota. The nearest National Guard installation is Ray S Miller Field Air National Guard, located approximately 118 miles away at Camp Ripley, Minnesota.

21.4.2 Transportation impacts and avoidance, minimization, and mitigation measures

The area in the vicinity of the Facility contains major highways and local roads. There may be temporary impacts on local roads during construction of the Facility. Construction vehicles and construction personnel private vehicles would travel to and from the site. The movement of equipment, materials, and personnel to the site would cause a relatively short-term increase in traffic on area roads. These effects are expected to be minor and

⁹² South Dakota Department of Transportation (SDDOT). 2025. Traffic Data. Online [URL]: https://experience.arcgis.com/experience/cb089bc673df486a8708f2d22b1e740b#data_s=id%3AdataSource_1-189990be46b-layer-15%3A88459%2Cid%3AdataSource_1-189990be46a-layer-14%3A103128. Accessed: March 26, 2026.

temporary as relatively low numbers of workers and equipment will be accessing any one location along the Facility ROW at any given time and will cease after completion of construction. Facility construction is not anticipated to significantly impact existing traffic patterns or capacity. Operation and maintenance visits to the Facility will have negligible impact on area traffic once the Facility is operating, as vehicle use to access the Facility would be limited.

The Facility is expected to have a minimal effect on existing road infrastructure and will comply with all applicable federal, state, and local requirements. All highway crossings will meet or exceed National Electrical Safety Code requirements. The Applicant will coordinate with South Dakota Department of Transportation (SDDOT), Grant and Roberts counties, and townships regarding permits, road use, and restoration needs, as required.

The Applicant used the Federal Aviation Administration (FAA) Notice Criteria Tool to analyze potential impacts from the Facility on airspace for preliminary structure locations and heights. Some of the structure locations were identified as needing further study and/or coordination with FAA. The Applicant does not anticipate the Facility centerline would need to be modified based on the preliminary analysis via the Notice Criteria Tool. The Applicant will continue to coordinate with the FAA for any required lighting or marking. The Applicant will obtain FAA Determinations of No Hazard (Form 7460-1, Notices of Proposed Construction or Alteration) prior to construction of the structures, as needed. The Applicant will also comply with any applicable requirements for pre- and post-construction FAA submittals (Form 7460-2).

21.5 Cultural resources

The following sections provide information on the cultural resources potentially affected by the construction, operation, and maintenance of the Facility and how potential impacts to these resources would be avoided, minimized, and/or mitigated.

21.5.1 Existing cultural resources

21.5.1.1 Regulatory Framework

SDCL §1-19A-11.1 requires that state agencies or political subdivisions of the state, or any instrumentality thereof (i.e., county, municipality) may not undertake any project that will encroach upon, damage, or destroy any historic property included in National Register of Historic Places (NRHP) or state registers until the South Dakota SHPO has been given notice and an opportunity to investigate and comment on the proposed project. Any permits required by the state, county, or municipalities, including a Commission Facility Permit, will invoke this law.

ARSD 20:10:22:23 states that an application for a Facility Permit shall include a forecast of the impact on landmarks and cultural resources of historic, religious, archaeological, scenic, natural, or other cultural significance.

The Applicant is in the process of completing cultural resource investigations for the Facility, as described in the following sections, in accordance with SDCL §1-19A-11.1 and ARSD 20:10:22:23, to enable forecasting of potential impacts and to develop impact avoidance or minimization measures.

All work was, and will be, conducted to professional standards and guidelines in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-44742), the Secretary's Standard for Identification (48 FR 44720-44723), and the 2023 South Dakota Guidelines for Complying with Federal and State Preservation Laws, and SDCL §1-19A-11.

21.5.1.2 Level I Records Search

A Level I cultural resource records search was completed on June 26, 2026, in accordance with SHPO guidelines to provide an inventory of previously recorded cultural resources. The Level I records search was conducted for the Facility located in Grant and Roberts counties (included as Appendix F), consisting of a 1-mile buffer (2-mile corridor) off the centerline of the proposed Facility (Cultural Resources Study Area). An amendment to the Level I Cultural Resources Report, to review an adjustment to the route made after June 26, 2026, is included in Appendix F and coordination with SHPO is ongoing.

The Level I records search identified 37 previous cultural resources surveys that have been conducted within the Cultural Resources Study Area. Eighteen of the previous surveys intersect the Facility (Table 21-4).

Table 21-4. Previous cultural resource surveys intersecting the Facility.

Report No.	Year	Report Name	Author(s)	Type
AGT-0006	1984	South Dakota Department of Transportation Materials Pit Survey for Phil Mueller, T121N, R48W, Section 12, Grant County, South Dakota	Thomas Messerli	Level III
AGT-0026	1994	An Intensive Cultural Resources Survey of the Proposed Corn Processing Facilities near Milbank, Grant County, South Dakota. CIS No. 958	James Donohue, Roger Williams	Level III
AGT-0031	1996	Reconnaissance Cultural Resource Survey of Proposed Lines for Whetstone Valley Electrical Cooperative, Grant County, South Dakota.	Patricia Downing	Level III
AGT-0066	2007	Level I and III Cultural Resources Survey for the Big Stone II Project, Grant County, South Dakota. Plant Project	Mark Doperalski, Andrew Bielakowski, Betsy Bradley, Katherine Guidi, Adam C. Holven, William Stark, Jennifer Tworzyanski, and Holly Wright	Level III
AGT-0071	2009	A Cultural Resources Reconnaissance Survey for Proposed Shelterbelts at T121N, R48W, Section 12, in Grant County, South Dakota	Patricia Downing	Level III

Report No.	Year	Report Name	Author(s)	Type
AGT-0075	2009	A Level III Cultural Resources Survey for the Construction of Electrical Distribution Facilities by Whetstone Valley Electric Cooperative (Letter 1609h05020) in Grant County, South Dakota	Patricia Downing	Level III
ARO-0093	2005	An Intensive Cultural Resource Inventory of SD 10 Highway for SDDOT Project No. P0010(38)362, PCEMS3732, & the NRHP Evaluation of sites 39RO10 & 39RO117, Roberts County, South Dakota	Thomas Messerli and James Donahue	Level III
ARO-0120	2008	A Level III Cultural Resources Survey for Construction of Electrical Distribution Facilities by Traverse Electric Cooperative in Roberts County, South Dakota	Patricia Downing	Level III
ARO-0130	2009	A Level III Cultural Resources Survey for Construction of Electrical Distribution Facilities by Whetstone Valley Electric in Roberts County, South Dakota	Patricia Downing	Level III
ARO-0133/ ESD-0464	2010	An Archaeological Survey of Mortuary Features in Roberts County, South Dakota. CIS No. 2425	Terri Bruce, Jason M. Kruse, Austin A. Buhta, and Renee M. Boen	Mortuary Survey
ARO-0142	2013	An Intensive Cultural Resources Survey of the 2011 and 2012 State Infrastructure Bank Emergency Project Proposed Wetlands Mitigation SDDOT ER 0010(98), PCN 0451, Roberts County, South Dakota	Daniel Byrne	Level III
ARO-0150	2000	Level III Archaeological Reconnaissance Survey of Rural Waterline Land Corridors in Parts of Roberts County, South Dakota	Cliff Stemper	Level III
ASD-0045	2018	A Visual Survey of the South Dakota Interstate Corridors for the South Dakota Department of Transportation. CIS No. 3138	David T. Williams and Terri Bruce	Level I
ESD-0170	1995	A Reconnaissance Cultural Resource Survey of Proposed Lines for Whetstone Valley Electrical Cooperative, Project 950612003F in Grant and Roberts County, South Dakota	Patricia Downing	Level III
ESD-0383	2006	A Cultural Resources Reconnaissance Survey of Proposed Electrical Distribution Facilities by Whetstone Valley Electric in Grant and Roberts Counties, South Dakota	Patricia Downing	Level III

Report No.	Year	Report Name	Author(s)	Type
ESD-0457	2008	Class III Archaeological Inventory for the Big Stone II Transmission Line Project, Deuel and Grant Counties, South Dakota	Laura Kennedy, Michael Justin, and Michael Madson	Level III
ESD-0573	2016	Level III Intensive Archaeological and Traditional Cultural Property Resources Inventory for the Big Stone to Ellendale 345kV Transmission Line Project, Brown, Day, and Grant Counties, South Dakota. Volume I of IV	Stephen Sabatke and Alan Stanfill	Level III
ESD-0781	2015	Big Stone South to Ellendale 345kV Transmission Line Project, Intensive Historic Building Inventory and Evaluation, North Dakota/South Dakota Border to the Big Stone South Substation Segment	Stephen Sabatke and Alan Stanfill	Level III

The Level I records search identified 22 previously recorded archaeological sites within the Cultural Resources Study Area. Of these, the two railroad sites 39GT2007 and 39GT2042 are listed as eligible for the NRHP and two unevaluated archaeological sites, 39RO0012 (Moorehead Mounds) and 39RO0133 (No Name), intersect the proposed Facility.

In addition to the records search, General Land Office (GLO) survey plats, historical USGS topographic maps, and historical aerial images to identify areas of Prehistoric and Historic archaeological potential within the Facility were reviewed. The review of GLO survey plats dating from 1865 to 1883 identified five houses plotted within or immediately adjacent to the Facility. USGS topographic maps and quadrangles from 1916 to 1972 depicted 12 farmsteads, a segment of the MStP&SSM, and one school within the Facility. Finally, an analysis of historical aerial photographs from 1951 to 1972 identified nine farmsteads, three probable buildings or structures, and an unidentified earthen feature within the Facility. Research suggests that a reported mound site, historically documented by T.H. Lewis in 1894, may also intersect the Facility. In 2010, the location of this reported mound site was part of *An Archaeological Survey of Mortuary Features in Roberts County, South Dakota. CIS No. 2425* (Report No. ARO-0133/ ESD-0464, see Table 21-4), but no mortuary sites are identified in data available from the South Dakota Archaeological Research Center's Archaeological Resource Management System. This information is informing the plan for Level II cultural resources surveys planned for later 2026 and 2027.

An Area of Potential Effects (APE) is the geographic area or areas within which a project may directly or indirectly cause alterations in the character or use of Historic Properties (properties listed in or eligible for listing in the NRHP), if any such properties exist. An APE for architectural properties accounts for any physical, auditory, atmospheric, or visual impacts to Historic Properties from the undertaking. To inform the Level I research, based on the scope of the Facility, potential direct physical, auditory, or atmospheric effects are limited to the Facility. Due to the vertical scale of the monopole steel structures (typical heights ranging from 120-160 feet), direct visual effects from the Facility have the potential to affect the greatest geographic area. The Nationwide Programmatic Agreement Regarding the Section 106 Process that was approved by the Federal Communications

Commission was consulted when considering visual effects. This Agreement considered visual effects within a half mile from a project component if the project component is 200 feet or less in overall height. Therefore, to fully account for potential visual effects, an Architectural Properties APE of one-half mile on either side of the Facility is used for analysis.

A review of CRGRID identified 21 previously inventoried architectural properties within the recommended Architectural Properties APE. Two of these properties are listed in the NRHP, including the Hart School #3 at 465th Avenue in the vicinity of Sisseton and the New Effington Rest Stop Tipi at mile post 250.8 along Interstate 29. There are also two NRHP-eligible properties within the recommended APE, including Bridge 55-230-391 near Corona in Roberts County and a Gambrel Barn – Nissen Farm on 11th Street in New Effington. The remaining properties within the APE include nine that have been previously determined as Not Eligible for listing in the NRHP, and eight that have been inventoried but are unevaluated for NRHP status.

21.5.1.3 Level II sample survey

Consultation with the South Dakota SHPO on an appropriate inventory strategy is in progress. Level II sample surveys are commonly conducted for linear projects that exceed 100 miles in length. A Level II sample survey of portions of the Facility is planned for later 2026 and 2027 after coordination with the South Dakota SHPO and as access to parcels becomes available. The Level II sample survey will be filed with the Commission as supplemental information as it becomes available.

21.5.1.4 Tribal cultural resources

The Applicant has engaged in ongoing voluntary coordination with Tribes to seek input on Tribal cultural resources. The Applicant has reached out to 11 Tribes who have interest in projects in South Dakota.

Of the 11 Tribes, one has expressed interest in the Facility: Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, South Dakota. The Applicant and Tribes are planning cultural resource surveys of the proposed Facility later in 2026 and 2027.

21.5.2 Cultural resources impacts and avoidance, minimization, and mitigation measures

Cultural resources within the Facility ROW may potentially be subject to direct and/or indirect impacts. Direct impacts would result primarily from ground disturbance associated with the construction and maintenance of the Facility, including transmission structures, access roads, and pulling/tensioning areas. Indirect effects to cultural resources may result from activities that occur near but not physically affecting cultural resources. Indirect visual impacts, for example, may occur to some types of cultural resources when modern structures (e.g., transmission towers) are introduced into the viewsheds of these resources.

The review of Archaeological Resources Management System records identified two previously reported cultural resources within the Facility. One resource, 39RO0012 (Moorhead Mound Group), consists of Woodland era mortuary mounds first documented in the early twentieth century. The resource has not since been surveyed or evaluated for NRHP eligibility, and it is unknown if 39RO0012 remains intact; however, given the potential to encounter human remains, the Facility will avoid the resource. The other

resource, 39RO0133 (No Name), is a historical archaeological site consisting of a structure foundation associated with the nearby Jensen farm site (39RO0132), which does not intersect the Facility. The resource has not been evaluated for NRHP eligibility, and it is unknown if 39RO0133 remains intact. However, the Facility will avoid the resource.

Pursuant to SDCL §1-19A-11.1, the “state or any political subdivision of the state, or any instrumentality thereof, may not undertake any project which will encroach upon, damage or destroy any Historic Property included in the NRHP or the State Register of Historic Places until the South Dakota State Historic Society has been given notice and an opportunity to investigate and comment on the proposed project.” There are two NRHP-listed properties within the recommended Architectural Properties APE that would be subject to SDCL §1-19A-11.1, the Hart School #3 at 465th Avenue in the vicinity of Sisseton and the New Effington Rest Stop Tipi at mile post 250.8 along Interstate 29. An analysis of the potential effects from the Facility on the two NRHP-listed properties within the recommended APE is provided in the following sections.

Facility infrastructure will be sited to avoid direct impacts to NRHP-eligible, NRHP-listed, or unevaluated eligible historic and cultural resources. The proposed Facility would be designed to span sites that may be located within the Facility. The visual setting of a portion of the Facility already includes modern infrastructure such as transmission lines and highways, and the proposed transmission line would partially follow the alignment of existing transmission lines and highways. Therefore, the Facility will not introduce significant new visual effects and is not anticipated to negatively affect the visual setting of existing historic architectural resources.

The Facility is not anticipated to adversely affect the two NRHP-listed properties within the recommended Architectural Properties APE. The New Effington Rest Stop Tipi is located to the west of three rest stop structures and mature deciduous trees, sited within a mowed grassy area. The object is 0.2 mile from the Facility, which is located on the opposite side of Interstate 29. Due to this distance, there will be no direct physical, auditory, or atmospheric effects from the Facility, however, there will be visual effects. The area between the historic property and the Facility is flat terrain, with native grass and agricultural fields that do not provide a visual barrier. However, there are tall, mature, deciduous trees directly east of the tipi that provide a visual barrier during leaf-on conditions. During leaf-off conditions there will be a visual effect that will minimally affect the historic property’s integrity of setting. The integrity of design, materials, workmanship, association, feeling, and location will not be affected. Therefore, this visual effect will have no adverse effect on this property. The other NRHP-listed property, the Hart School #3, is located in a rural area surrounded by relatively flat agricultural land. The historic property is 0.47 mile west of the Facility. Due to this distance, there will be no direct physical, auditory, or atmospheric effects from the Facility. Visual effects will be diminished at this distance and will also be partially obscured by a mature grove of trees that are sited between the historic property and the Facility. The Facility may be minimally visible to the northeast where there are no trees, although the existing transmission line that runs parallel and adjacent to the Facility is not distinguishable on the horizon and, as such, there will be no visual effects to this historic property. Therefore, there will be no adverse effect from the Facility on the Hart School #3.

The Facility plans to avoid Tribal resources if they are identified during the Tribal cultural resource surveys. However, if avoidance is not practicable, the Applicant will consult with the participating tribes to mitigate impacts.

Additionally, the Applicant will develop an unanticipated discovery plan, which will be followed during construction in the event that potential cultural resources or human remains are encountered. An unanticipated discoveries plan will be developed prior to construction and when completed, a copy of the unanticipated discoveries plan will be provided to South Dakota SHPO.

22.0 Employment estimates (ARSD 20:10:22:24)

Construction for the BSSHB Project, which includes the Facility, is estimated to last between 2 to 4 years. While employment estimates specific to the Facility are not available, it is anticipated that construction of the BSSHB Project, which includes the Facility, will employ approximately 100 to 150 construction workers. The majority of positions needed during construction of the Facility will be contracted and are expected to include, but are not limited to, project management, project assistant, safety, structure hauling, structure framing and setting, linemen, civil foundation drilling and installation, quality assurance/quality control, construction project management, inspections, design, concrete truck drivers, and an environmental manager for the 345 kV line portion of the BSSHB Project. Additional positions expected to be involved in the construction related to the upgrades of the Big Stone South Substation are anticipated to be more of a balanced blend of Applicants' employees and contracted positions that include, but are not limited to, project management, electrical technicians, relay technicians, inspections, construction, design, construction management, and safety.

While the majority of the positions will require specialized skills and expertise, some positions (skilled or unskilled) may be filled by qualified individuals from South Dakota. Specialized labor may need to come from other areas of the State or from other states, as the relatively short duration of construction makes special training of local or regional labor impracticable. The contractor, who will be responsible for determining employment needs for the construction, may develop plans for utilizing and training the existing South Dakota labor market for the specialized positions and the adequacy of the local manpower to meet the temporary labor positions arising from construction of the Facility.

The estimated number of construction jobs by classification and annual employment expenditures during construction are included below in Table 22-1 and Table 22-2. It is not anticipated that the construction of the Facility will create new permanent jobs, but construction will create temporary construction jobs that will provide an influx of income to the area.

Table 22-1. Anticipated construction jobs and employment expenditures for the 345 kV line portion of BSSHB Project

Job Classification	Number of Employees	Estimated Annual Salary
Applicants		
Project Manager	1	\$137,917
Project Assistant	1	\$66,950
GIS Manager	1	\$97,850
Access Manager	1	\$113,300
Contracted		
Construction Project Manager	5	\$133,900
Safety Project Manager	1	\$118,450
Safety Professional	3	\$113,300
Hauling Structure Workers	4	\$113,300
Frame Structure Workers	6	\$113,300

Job Classification	Number of Employees	Estimated Annual Salary
Structure Setting Workers	6	\$118,450
Linemen/Wire Workers	18	\$128,750
Civil Foundations Workers	24	\$123,600
On site Civil Workers	6	\$108,150
Off Site Roadway Workers	4	\$97,850
QA/QC Manager	1	\$128,750
QA/QC Inspector	6	\$123,600
Project Assistant	2	\$66,950
Crane Operators	8	\$123,600
Construction Manager	1	\$133,900
Testing/Inspection	2	\$97,850
Line Design Engineers	2	\$139,050
Concrete Truck Drivers	10	\$82,400
Environmental Manager	1	\$113,300

Table 22-2. Anticipated construction jobs and employment expenditures for the Big Stone South Substation

Job Classification	Number of Employees	Estimated Annual Salary
Applicant		
Project Managers	1	\$133,900
Electrical Technician I & II	4	\$117,420
Relay Technician	2	\$125,660
Substation Design Engineer	1	\$100,00
Electrical Design Engineer	1	\$115,000
Electrical Installation Crew	4	\$115,000
Building Crew	5	\$115,000
Electronic Technician	1	\$115,000
Telecom Engineer	1	\$100,000
Contracted		
Senior Lead Construction	1	\$127,720
Lead Construction	1	\$120,510
Electrical Crew Forman	1	\$127,720
Construction Workers	3	\$111,240
Design Engineers / Construction Managers	1	\$98,880
Safety Training / Inspection	1	\$87,550

The estimated number of jobs by classification and annual employment expenditures during operations are included in Table 22-3 and Table 22-4. Annual employment expenditure is anticipated to be the same for each of the first 10 years of commercial operation. It is anticipated that the Applicant will use contractors for most of the 345 kV line portion of the BSSHB Project but perform most of the operations activities at the Big Stone South Substation with its own employees. It is not anticipated that operations of the Facility will create new permanent jobs. As shown in the tables below, operations of the BSSHB Project and the Big Stone South Substation is not expected to require new full-time positions for the Applicant once these facilities are in operation; rather, they will utilize existing employees within their organization and contracted positions shared with other projects.

Table 22-3. Anticipated operations jobs and employment expenditures for the 345 kV line portion of BSSHB Project

Job Classification	Number of Employees	Estimated Annual Duration of Work	Estimated Annual Salary
Applicants			
Line Design Engineer	1	3 weeks	\$139,050
Maintenance Specialist	1	3 weeks	\$103,000
Contracted			
Vegetation Management Workers	3	3 weeks	\$100,940
Line Patrol Workers / Inspectors	2	1 week	\$90,640
Lineman	4	2 weeks	\$128,750

Table 22-4. Anticipated operations jobs and employment expenditures for the Big Stone South Substation

Job Classification	Number of Employees	Estimated Annual Duration of Work	Estimated Annual Salary
Applicants			
Electrical Technicians I & II	1	3 weeks	\$117,420
Relay Technician	1	3 weeks	\$125,660
Contracted			
Herbicide Specialist (spraying)	1	1 week	\$108,150

23.0 Future additions and modifications (ARSD 20:10:22:25)

The Applicant is not aware at this time of any future additions, modifications, or expansions of the Facility.

24.0 Transmission facility layout and construction (ARSD 20:10:22:34)

24.1 Route clearing

During the land rights process, individual property owners will be advised as to the construction schedule, needed access to the Facility ROW, and any vegetation clearing required for the Facility. To maintain compliance with NERC reliability standards, the Facility ROW will be cleared of vegetation as necessary to construct, operate, and maintain the Facility. Clear cutting (the removal of all trees, brush, and other low-growing vegetation) will occur within the Facility ROW, along temporary construction access roads, and at structure erection sites. Trees that could present a danger to the safe operation of the Facility will also be removed or pruned to ensure safety and maximize reliability, including trees outside of the Facility ROW that could hit the transmission line should they fall. Disposal of timber, treetops, limbs, and slash will comply with state and local ordinances. Wood from the clearing operation will be offered to the landowner or removed from the site.

24.2 Construction and operations

24.2.1 Transmission construction procedures

Construction will begin after necessary federal, state, and local permits and approvals are obtained and land rights are acquired for the areas where construction will take place. Construction timing will depend on permit conditions, environmental timing restrictions, material deliveries, weather conditions, and available workforce. If temporary removal or relocation of fences is necessary, installation of temporary or permanent gates or fences will be coordinated with the landowner. The Applicant will work with landowners to minimize disruptions during construction to the extent practicable.

Transmission line structure sites are typically selected in areas that require minimal grading. Therefore, structure sites would typically not be graded or leveled, unless it is necessary to provide a reasonably level area for construction access and activities. Some sites may require grading or fill to develop a suitable work area. Following construction, the site would be re-graded as close as practicable to its original condition; all imported fill, including temporary culverts and road approaches, would be removed from the site; and disturbed areas would be returned to pre-disturbance conditions to the extent practicable.

Typical construction equipment consists of tree removal equipment, mowers, cranes, backhoes, digger-derrick line trucks, track-mounted drill rigs, dump trucks, front end loaders, bucket trucks, bulldozers, flatbed trucks, pickup trucks, concrete trucks, helicopters, and various construction trailers. Many types of excavation equipment are set on wheel or track-driven vehicles. Structures are transported on tractor-trailer trucks, usually in three sections before they are assembled at each structure location.

The Applicant will employ standard construction and mitigation practices that have been developed from experience as well as use industry-specific BMPs.

For the structure foundations, concrete will be delivered to the site by truck. Foundations are typically allowed to cure for approximately four weeks prior to erecting the structures. Soil spoils will be hauled off site to an approved area. A SWPPP will be prepared to identify potential sources of stormwater pollution and specify BMPs to control erosion and sedimentation and minimize negative impacts caused by stormwater discharges from the Facility (see Section 12.2.2).

From the construction staging areas, the steel structures and associated components will be transported to the structure assembly areas by truck. The structure assembly areas are typically located within the Facility ROW immediately adjacent to the structure site. At each structure assembly area, the steel structure sections will be assembled, the davit arms attached, and insulators and other hardware will be assembled onto the structure. The fully assembled structure is then set on top of the concrete foundation by use of a crane. Sufficient rights to use temporary laydown areas that are outside of the Facility ROW and needed for construction will be secured from affected landowners through lease and/or easement agreements.

After the structures have been erected, conductors will be installed by establishing pulling/tensioning setup areas. Conductor stringing operations require access to each structure to secure the conductor to the insulators or OPGW or shield wire clamps to OPGW or OHGW once final sag is established. Temporary guard or clearance structures are installed as needed over existing distribution or communication lines, roads and highways, railways, or other obstructions to ensure that construction operations do not obstruct traffic, prevent the conductors from contacting existing energized conductors or other cables, and ensure public safety.

24.2.2 BMPs during construction

The Applicant will employ standard construction and mitigation practices that have been developed from experience with past projects as well as industry-specific BMPs. These BMPs address ROW clearing, foundation drilling and installation, erecting transmission line structures, stringing transmission lines, and minimizing environmental impacts. BMPs for each specific construction task are based on permit requirements, environmental constraints, terrain and land use characteristics, maintenance guidelines, inspection procedures, and other practices. Resource-specific avoidance, minimization, and mitigation measures and BMPs are discussed further in Sections 12.0 to 21.0. A noxious weed control plan will be developed to identify and establish procedures to limit the introduction and spread of noxious and invasive weeds during construction and ongoing operations.

24.2.3 Restoration procedures

During construction, ground disturbance at the structure sites and structure assembly areas will occur. Following the completion of construction, disturbed areas, including staging areas, structure assembly areas, and pulling/tensioning areas will be restored according to the agreement negotiated with the landowner and applicable permitting requirements.

All construction materials and debris will be removed from the site once construction is complete. Post-construction reclamation activities also include dismantling all temporary facilities (including staging areas), employing appropriate erosion control measures, and reseeding areas disturbed by construction activities unless otherwise directed by the landowner. The Applicant will use a seed mix that is recommended by the appropriate

agencies unless otherwise agreed to with the landowner. The Applicant will work to ensure that restoration activities are completed in accordance with easement agreements and applicable permitting requirements. The Applicant has and will continue to coordinate with Grant and Roberts counties regarding road use. The Applicant has met with the townships and will coordinate with applicable road authorities regarding the use and restoration of local roads, as needed.

24.2.4 Operations and maintenance procedures

Once the Facility is operational, access to the Facility ROW will be required periodically to perform inspections, conduct maintenance, and repair damage. Regular maintenance and inspections will be performed during the life of the Facility to ensure it continues to provide safe and reliable performance. The Applicant will perform maintenance of the Facility in compliance with the applicable reliability standards established by the NERC. Generally, the Applicant will inspect the transmission lines at least once per year. Inspections are typically limited to the immediate Facility ROW and pre-determined access points. If concerns or problems are found during inspections, repairs will be performed and the landowners and agencies will be notified, as needed.

The Facility ROW will be managed to remove trees and vegetation that interfere with the safe and reliable operation of the transmission line. ROW clearing practices include a combination of mechanical and hand clearing, and may include application of herbicides, where allowed, to remove or control vegetation and weed growth. A noxious weed control plan will be developed to identify and establish the procedures to limit the introduction and spread of noxious and invasive weeds during construction and ongoing operations. The Applicant does not anticipate maintenance will impact the stability of the Facility or the land adjacent to the Facility.

The Big Stone South Substation will be visually inspected monthly to verify that the physical equipment and fence have not been damaged, the gravel is free of weeds and washouts, and the premises is free from trash. Equipment testing will also be done in accordance with the NERC reliability standards. If any damage or concerns are identified during inspections or testing, repairs or equipment replacements will be performed, as needed.

25.0 Information regarding transmission facilities (ARSD 20:10:22:35)

25.1 Configuration of towers and poles

The transmission line design selected for the Facility will be a single-circuit, 345 kV transmission facility that is anticipated to be constructed on steel-monopole structures. See Section 9.4 for additional details regarding the configuration of towers and poles.

25.2 Conductor confirmation and size

As described in Section 9.4, the phase conductors are expected to be TP, 636 ACSR “Grosbeak.” TP conductors consist of two conductors placed side by side and twisted at a predefined distance by the manufacturer. This type of conductor provides motion resistance to wind-induced events on transmission lines (e.g., conductor galloping or vibration). Each phase will consist of two of these TP conductors to provide optimal current carrying capacity at 345 kV.

The Facility will consist of two shield wires, including an OPGW for communication and a typical steel shield wire. The OPGW is a fiber optic cable with a designated set of fibers surrounded by steel wires that serve a dual purpose at the top of each structure: (1) to protect the phase from lightning strikes; and (2) to exchange information (i.e., communicate) between the endpoint substations and other locations on the transmission system. The secondary steel shield wire serves the same function as the OPGW, but only for added protection of the phases from lightning strikes (no communication).

Other than structure foundations, none of the Facility will be placed underground.

25.3 Reliability and safety

25.3.1 Reliability

Transmission lines and substations are designed to operate for decades and require only moderate maintenance, particularly in the first years of operation. Transmission infrastructure has very few mechanical elements, which results in reliability. It is built to withstand weather extremes that are normally encountered, with the exception of outages due to severe weather such as tornadoes and heavy ice storms.

Transmission lines are automatically taken out of service by the operation of protective relaying equipment when a fault is detected on the system. Such interruptions are usually only momentary. Scheduled maintenance outages are also infrequent on high-voltage transmission lines. As a result, the average annual availability of transmission infrastructure is very high, in excess of 99 percent.

25.3.2 Safety

The Facility will be designed according to local, state, and industry codes, including the NESC, ASCE-48 and -74, ACI-318, and other NERC/MISO reliability requirements as applicable. The NESC will predominantly control design requirements for ground

clearance, crossing utilities clearance, building clearance, strength of materials, and ROW widths. Construction crews and/or contract crews will comply with local, state, and industry best practices regarding facility installation and standard construction practices. The Applicant's established industry safety-compliant procedures will be followed during and after installation of the transmission line, including clear signage during all construction activities.

The proposed transmission line will be equipped with protective devices (circuit breakers and relays located in substations where transmission lines terminate) to safeguard the public in the event of an accident, or if the structure or conductor falls to the ground. The protective equipment will de-energize the transmission line should such an event occur. In addition, the substation facilities will be properly fenced, have proper signage, and will be accessible only by authorized personnel.

25.3.3 Electric and magnetic fields

Electric and magnetic fields (EMFs) are invisible areas of energy associated with the use of electrical power. For the lower frequencies associated with power lines (referred to as extremely low frequency [ELF]), EMF should be considered separately—electric fields and magnetic fields, measured in kilovolt per meter (kV/m) and milliGauss (mG), respectively. Electric fields are dependent on the voltage and orientation of a transmission line, and magnetic fields are dependent on the current carried by a transmission line. The strength of the electric field is proportional to the voltage of the line, and the intensity of the magnetic field is proportional to the current flow through the conductors. Transmission lines operate at a power frequency of 60 Hertz (cycles per second).

25.3.3.1 Electric fields

There is no federal standard for transmission line electric fields. The strength of electric fields diminishes rapidly as the distance from the conductor increases. At a code-required ground clearance, the transmission line electric fields measured at the edge of the ROW are comparable or lower than those encountered with many common household appliances.

25.3.3.2 Magnetic fields

There are no South Dakota regulations pertaining to magnetic field exposure. Magnetic field levels decrease rapidly as the distance from the conductors increases (proportional to the inverse square of the distance from source). In addition, since the magnetic field produced by the transmission line is dependent on the current flow, the actual magnetic fields when the Facility is placed in service will vary as the current flow on the line changes throughout the day and time of year.

25.3.3.3 EMF Research

Considerable research has been conducted since the 1970s to determine whether exposure to power-frequency (60 hertz) magnetic fields causes biological responses and health effects. Public health professionals have also investigated the possible impact of exposure to EMF on human health for the past several decades. While the general consensus is that electric fields pose no risk to humans, the question of whether exposure to magnetic fields can cause biological responses or health effects continues to be debated.

Since the 1970s, a large amount of scientific research has been conducted on EMF and health. This large body of research has been reviewed by many leading public health

agencies such as the U.S. National Cancer Institute, the U.S. National Institute of Environmental Health Sciences, and the World Health Organization, among others. These reviews show that exposure to electric power EMF neither causes nor contributes to adverse health effects.

For example, in 2016, the U.S. National Cancer Institute (2016) summarized the research as follows:

Numerous epidemiologic studies and comprehensive reviews of the scientific literature have evaluated possible associations between exposure to non-ionizing EMFs and risk of cancer in children (13–15). (Magnetic fields are the component of non-ionizing EMFs that are usually studied in relation to their possible health effects.) Most of the research has focused on leukemia and brain tumors, the two most common cancers in children. Studies have examined associations of these cancers with living near power lines, with magnetic fields in the home, and with exposure of parents to high levels of magnetic fields in the workplace. No consistent evidence for an association between any source of non-ionizing EMF and cancer has been found.

Other agencies have also found that there is insufficient evidence to demonstrate a causal relationship between EMF exposure and any adverse human health effects.⁹³

25.3.4 Stray voltage

“Stray voltage” is a condition that can potentially occur on a property or on the electric service entrances to buildings from distribution lines serving these buildings— not transmission lines as proposed here. The term generally describes a current of electricity between two objects where no voltage difference should exist. More precisely, stray voltage is an electrical current that exists between the neutral wire of either the service entrance or of premise wiring and grounded objects in buildings such as barns and milking parlors.

Transmission lines do not, by themselves, create stray voltage because they do not connect directly to businesses or residences. Transmission lines, however, can induce voltage on a distribution circuit that is parallel and immediately under the transmission line. If the proposed transmission lines run parallel to or cross distribution lines, appropriate mitigation measures can be taken to address any induced voltages.

25.3.5 Farming operations, vehicle use, and metal buildings near power

The Facility is located within a predominantly agricultural region characterized by row crop production and associated farming activities. The Applicant has designed and will

⁹³ See, e.g., The Minnesota State IntraAgency Working Group on EMF Issues, *A White Paper on Electric and Magnetic Fields Policy and Mitigation Options* (Sept. 2002); *In the Matter of the Application of Xcel Energy for a Route Permit for the Lake Yankton to Marshall Transmission Line Project in Lyon County*, MPUC Docket No. E002/TL-07-1407, Findings of Fact, Conclusions of Law and Order Issuing a Route Permit to Xcel Energy for the Lake Yankton to Marshall Transmission Project at 7-8 (Aug. 29, 2008); *In the Matter of the Application for a HVTL Route Permit for the Tower Transmission Line Project*, Docket No. ET2, E015/TL-06-1624, Findings of Fact, Conclusions of Law and Order Issuing a Route Permit to Minnesota Power and Great River Energy for the Tower Transmission Line Project and Associated Facilities at 23 (Aug. 1, 2007).

construct the 345 kV transmission line to maintain compatibility with existing and future agricultural operations while enhancing electric system reliability and safety.

The line was routed and sited to:

- Minimize placement of structures within actively cultivated areas to the extent practicable.
- Utilize field edges, section lines, and property boundaries where feasible.
- Limit the overall permanent footprint of structures within agricultural fields.

Temporary impacts during construction may include soil disturbance, compaction, and localized disruption of farming activities. These impacts will be mitigated through implementation of standard and project-specific measures, including:

- Topsoil segregation and replacement.
- Repair of agricultural drainage systems (including subsurface tile).
- Restoration of affected areas to pre-construction productivity.

Following construction, the majority of the ROW will remain available for continued agricultural use, including cultivation and grazing.

The Applicant will coordinate with landowners to avoid or minimize construction during critical planting and harvesting periods where practicable.

The Facility has been designed to accommodate the safe operation of modern agricultural equipment, including combines, sprayers, grain carts, and large transport vehicles.

The 345 kV transmission line will be designed in accordance with NESC and applicable industry standards. Minimum conductor clearance above ground will be sufficient to safely accommodate large agricultural equipment under both normal and sag conditions.

Structure locations will be selected to minimize interference with field operations, including turning movements and equipment passes. Existing access routes and field entrances will be maintained to the extent practicable. Temporary access roads constructed for the Facility will be removed and restored to pre-construction conditions following construction unless otherwise requested by the landowner.

Construction will result in temporary increases in traffic, including delivery of materials and equipment. Post-construction activity will be limited to periodic inspection and maintenance, resulting in minimal long-term traffic increases.

The Facility is not expected to result in permanent restrictions on vehicular or agricultural equipment movement within or across the ROW.

The Applicant recognizes that agricultural properties commonly include metal buildings, machine sheds, grain bins, and other conductive structures, and has incorporated design features and operational practices for safety and compatibility. The transmission line will meet or exceed all NESC clearance requirements for structures located near energized

facilities. The Applicant will maintain appropriate setbacks to reduce the potential for electrical hazards and to ensure safe operation of adjacent buildings and facilities.

25.3.6 ROW condemnation requirements

The Applicant is in the process of securing a ROW for the Facility and will work collaboratively with landowners to obtain necessary rights through voluntary agreements, address site-specific concerns, and identify practical solutions and will exercise eminent domain only when all other avenues have been reasonably exhausted.

25.3.7 Necessary clearing activities

During the land rights process, individual property owners will be advised as to the construction schedule, needed access to the Facility ROW, and any vegetation clearing required for the Facility. To maintain compliance with NERC reliability standards, the Facility ROW will be cleared of vegetation as necessary to construct, operate, and maintain the Facility. Clear cutting (the removal of all trees, brush, and other low-growing vegetation) will occur within the Facility ROW, along temporary construction access roads, and at structure erection sites. Trees that could present a danger to the safe operation of the Facility will also be removed or pruned to ensure safety and maximize reliability, including trees outside of the Facility ROW that could hit the transmission line should they fall. Disposal of timber, treetops, limbs, and slash will comply with state and local ordinances. Wood from the clearing operation will be offered to the landowner or removed from the site.

26.0 List of potential permits and approvals (ARSD 20:10:22:05)

The Applicant must comply with applicable federal, state, and local laws and regulations and obtain permits/approvals from a variety of federal, state, and local agencies for the Facility. Table 26-1 identifies permits and approvals that may be needed for the Facility. This list of permits/approvals is subject to change as Facility development continues.

Table 26-1. List of potentially applicable permits and approvals.

Agency	Type of permit or approval	Trigger	Status
Federal			
Federal Aviation Administration (FAA)	Notice of Proposed Construction and Actual Construction or Alteration (FAA Form 7460) (Determinations of No Hazard)	Required for construction or alteration of structures higher than 200 feet above ground level, structures near airports, or siting within line of sight of radar of an air defense facility.	To be obtained, as needed.
U.S. Army Corps of Engineers (USACE)	Clean Water Act, Section 404 Permit	Required for dredging or filling of waters of the United States.	To be obtained, as needed.
U.S. Fish and Wildlife Service (USFWS)	Migratory Bird Treaty Act	May be required if the Facility would result in the take of migratory birds.	Ongoing.
	Bald and Golden Eagle Protection Act	May be required if the Facility would result in the take of bald or golden eagles.	Ongoing.
	Endangered Species Act, Section 7 consultation	Required as a result of federal funding and potential impacts to listed species or designated critical habitat.	Ongoing.
U.S. Environmental Protection Agency (USEPA)	Spill Prevention, Control, and Countermeasure (SPCC) Plan	Required for aboveground oil storage with 1,320 gallons or more capacity or belowground oil storage with 42,000 gallons or more capacity.	May be required for temporary storage of oil.
U.S. Department of Energy (USDOE)	National Environmental Policy Act	Required for federal grant funding.	Will proceed after Facility permit is issued.
State of South Dakota			
South Dakota Public Utilities Commission (Commission)	Facility Permit	Required for the construction of a transmission facility.	In progress.
SHPO / South Dakota State Historical Society	National Historic Preservation Act, Section 106	Required in connection with other agency permitting requirements, such as the Commission and the USDOE grant.	Level I survey has been completed for the majority of the Facility, with the Level III survey to be completed in 2026 and 2027. The Level III Cultural Resource Survey Report will be

Agency	Type of permit or approval	Trigger	Status
			submitted to the SHPO for review when complete.
South Dakota Department of Agriculture and Natural Resources	Clean Water Act, Section 401 Water Quality Certification	Required in conjunction with Section 404 permit for filling jurisdictional waters of the United States.	Incorporated into USACE Section 404 permit.
	National Pollutant Discharge Elimination System (NPDES) Permit – Construction Stormwater Permit (includes Stormwater Pollution Prevention Plan [SWPPP])	Required for land disturbance from construction activities that disturb 1.0 acre or more of land. Must prepare a SWPPP.	To be obtained, as needed.
	Temporary Discharge Permit(s)	Required to discharge water to surface waters of the state for one year or less.	To be obtained, as needed.
	Water Right Permit(s) for Non-irrigation Uses	Required for appropriation of water for all water uses in South Dakota except for certain domestic uses of water.	To be obtained, as needed.
	Temporary Water Use Permit	May be required for the use of public water for construction, testing, or drilling purposes.	To be obtained, as needed.
South Dakota Aeronautics Commission	Submit FAA Determinations of No Hazard, if obtained	If the FAA Determination of No Hazard is obtained, the final Determination of No Hazard must be filed with the South Dakota Aeronautics Commission.	To be submitted, as needed.
South Dakota Department of Transportation	Highway Access Permit(s)	Required for any access road abutting a state road.	To be obtained, as needed.
	Oversize/Overweight Permit(s)	Required for transport of oversized/overweight loads on state roads.	To be obtained, as needed.
	Permit(s) To Occupy ROW	Required to occupy a state road ROW.	To be obtained, as needed.
	Utility Crossing Permit(s)	Required to install electrical lines (transmission line) across/within state road ROW.	To be obtained, as needed.
South Dakota Game, Fish and Parks	State-listed Threatened/Endangered Species Review	Required coordination regarding effects on state-listed species.	Ongoing.
Local County or Township			
Grant County	Conditional Use Permit	Required for a transmission line.	To be obtained, as needed.
Grant County	Building Permit	Required for the installation of the Facility.	To be obtained, as needed.

Agency	Type of permit or approval	Trigger	Status
Grant County	Floodplain Development Permit(s)	May be required for installation of structures within a floodplain.	To be obtained, as needed.
Grant County	Utility Permit(s)	Required for the installation of transmission line facilities on, over, across, or adjacent to Grant County ROW.	To be obtained prior to activity subject to permit, if required.
Grant County	Road Approach Permit(s)	Required for the installation of approaches/driveways abutting road ROWs over which Grant County has asserted road jurisdiction.	To be obtained prior to activity subject to permit, if required.
Grant County	Haul Road Agreement	May be required for construction or transportation activities affecting roads under Grant County jurisdiction.	To be obtained, as needed.
Grant County	Oversize/Overweight Permit(s)	May be required to transport oversize/overweight loads on roads under Grant County jurisdiction.	To be obtained prior to use of local roads for construction, if required.
Grant County	Temporary Approach, Road/ROW Modification, Improvement, and/or Utility Crossing Permit(s)	May be required for temporary facilities/modifications affecting roads under Grant County jurisdiction.	To be obtained prior to activity subject to permit, if required.
Grant County Weed Board	Weed Board Approval	May be required for noxious weed management plan.	To be obtained prior to implementation of noxious weed plan, if required.
Roberts County	Conditional Use Permit	Required for a transmission line.	To be obtained, as needed.
Roberts County	Building Permit	Required for the installation of the Facility.	To be obtained, as needed.
Roberts County	Floodplain Development Permit(s)	May be required for installation of structures within a floodplain.	To be obtained, as needed.
Roberts County	Road Approach Permit(s)	Required for the installation of approaches/driveways abutting road ROWs over which Roberts County has asserted road jurisdiction.	To be obtained prior to activity subject to permit, if required.
Roberts County	Right to Occupy Permit	Required for any structures placed within Roberts County right of way.	To be obtained, as needed.
Roberts County	Haul Road Agreement	May be required for construction or transportation activities affecting roads under Roberts County jurisdiction.	To be obtained, as needed.

Agency	Type of permit or approval	Trigger	Status
Roberts County	Highway Use Permit	May be required to transport oversize/overweight loads on roads under Roberts County jurisdiction.	To be obtained prior to use of local roads for construction, if required.
Organized Township(s)	Haul Road Agreement(s)	May be required for construction or transportation activities affecting township roadways.	To be obtained prior to use of local roads for construction, if required.
Organized Township(s)	Utility Permit(s)	May be required for the installation of transmission line facilities on, over, across, or adjacent to township ROWs.	To be obtained prior to activity subject to permit, if required.
Organized Township(s)	Road Approach Permit(s)	Required for the installation of approaches/driveways abutting road ROWs over which township has asserted road jurisdiction.	To be obtained prior to activity subject to permit, if required.
Organized Township(s)	Oversize/Overweight Permit(s)	May be required to transport oversize/overweight loads on roads over which township has asserted road jurisdiction.	To be obtained prior to activity subject to permit, if required.
Organized Township(s)	Temporary Approach, Road/ROW Modification, Improvement, and/or Utility Crossing Permit(s)	May be required for temporary facilities/modifications affecting roads over which township has asserted road jurisdiction.	To be obtained prior to activity subject to permit, if required.
Sunflour Railroad	Sunflour Railroad ROW Crossing Agreement; may include a Construction and Maintenance Agreement or a Temporary Occupancy Permit (TOP)	May be required to cross or use Sunflour Railroad ROW, property, or facilities.	To be obtained, as needed.
Existing Infrastructure Owner(s)	Crossing Agreements/Licenses/Permits	May be required to cross existing easements (e.g., pipelines, drainage easements, electric lines, telecommunications cables, oil and gas gathering lines).	If needed, to be obtained prior to crossing existing infrastructure and easements.

27.0 Additional information in the Application (ARSD 20:10:22:36; 20:10:22:39)

The Applicant believes that this Application, including appendices, contains all the information required to meet Applicant's burden of proof specified in SDCL §49-41B-22.

27.1 Agency coordination

The Applicant has provided correspondence pertinent to the Facility in Appendix B, which outlines the coordination efforts taken with federal and state agencies to date.

27.2 Testimony and exhibits

The Applicant is submitting testimony in support of this Application. Nicholas Olson, Otter Tail Power Company Senior Project Manager, is providing testimony in support of the Application and the Applicant reserves the right to provide supplemental and/or rebuttal testimony, as needed, to further support this Application.

27.3 Applicant verification

JoAnn Thompson, being duly sworn, deposes, and states that she is the Authorized Representative of Otter Tail Power Company and is authorized to sign this Application on behalf of the Facility Owner/Applicant, Otter Tail Power Company.

She further states that she does not have personal knowledge of all the facts recited in the Application and Exhibits and Attachments attached hereto, but the information has been gathered from employees and agents of the Owner/Applicant, and the information is verified by her as being true and correct on behalf of the Owner/Applicant.

Dated this 8th day of September, 2026.

JoAnn Thompson – Vice President, Asset Management, Otter Tail Power Company