

Appendix A

Scoping Report

Big Bend to Witten 230-kV Transmission Project

Environmental Assessment

Scoping Report



The collage features four photographs and a large map. The top-left photo shows a group of people gathered around a table at a community meeting. The top-right photo shows a wide river valley with a winding river. The bottom-left photo shows a rustic wooden barn in a field. The bottom-right photo shows people at another community meeting. The large map on the right, titled "BIG BEND TO WITTEN TRANSMISSION PROJECT", shows the proposed transmission route between Witten Substation and Lymer Brule Substation, passing through Lyman County, Tripp County, and Gregory County. The map includes a legend with categories: Project Features (Power Line Area, Federal Reservation Area, Interstate Road), Utility System (Existing Substation, Proposed Substation), Transportation (Interstate, US Highway, State Road, Other Road, Railroad, Airport), and Boundaries (County Boundary, Township Boundary). It also includes logos for the project sponsor, Basin Electric Power Cooperative, and the engineering firm, AZCOM.

List of Acronyms

Basin Electric	Basin Electric Power Cooperative
CFR	Code of Federal Regulations
DOS	Department of State
EA	Environmental Assessment
kV	kilovolt
KXL	Keystone XL
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
Project	Big Bend to Witten 230-kV Transmission Project
ROW	right-of-way
RUS	Rural Utilities Service
SDGFP	South Dakota Game, Fish, and Parks
SDNHP	South Dakota Natural Heritage Program
USFWS	U.S. Fish and Wildlife Service
Western	Western Area Power Administration

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1.0 Introduction

Two primary principles of the National Environmental Policy Act (NEPA) are full disclosure of potential environmental effects and open public participation throughout the decision-making process. Rural Utilities Service (RUS) is preparing an Environmental Assessment (EA) for the proposed Big Bend to Witten 230-kilovolt (kV) Transmission Project (Project) in south-central South Dakota. RUS is the lead agency and Western Area Power Administration (Western) is participating as the cooperating agency. The Scoping Report provides an overview of the public scoping process and a summary of the scoping comments and the issues and concerns identified during the scoping process.

1.1 Project Background and Project Description

The U.S. Department of Agriculture's RUS is currently considering whether to provide Project financing for the proposed 70-mile-long, 230-kV Project. Western is considering whether to provide interconnection of the proposed 70-mile-long, 230-kV single-circuit transmission line to its transmission system. The Project also would include a new Lower Brule Substation, additions to the existing Witten Substation, and 2 miles of 230-kV double-circuit transmission line between Big Bend Dam and the new Lower Brule Substation.

Basin Electric Power Cooperative (Basin Electric) has applied to RUS for financing and proposes to construct and operate the Project to meet existing and future electric power requirements in south-central South Dakota. Basin Electric would interconnect the new transmission line to the existing Western transmission system. The proposed Project would be located in south-central South Dakota, in Lyman and Tripp counties. Approximately 6 miles of the single-circuit transmission line and all of the double-circuit transmission line, as well as Western's Lower Brule Substation, would be constructed on the Lower Brule Indian Reservation.

The proposed Project would transfer power from Western's transmission system near Big Bend Dam to Rosebud Electric Cooperative's Witten Substation, near Witten, South Dakota. It is anticipated that some communication facility additions or enhancements may be necessary for the Project, including communication towers and buildings at the Lower Brule Substation, Witten Substation, and other intermediate sites.

Under RUS regulations for implementation of NEPA, an EA with scoping is being prepared to assess potential impacts of the proposed action on the human and natural environment. RUS is responsible for NEPA compliance and related statutes for the proposed Project. Since the Project would be constructed partly on the Lower Brule Indian Reservation, other cooperating agencies may be identified.

1.2 Purpose of Scoping

Scoping is the process of actively soliciting input from the public and other interested federal, state, tribal, and local agencies. Information gained during scoping assists RUS in identifying potential environmental issues, alternatives, and mitigation measures associated with development of the proposed Project. The process provides a mechanism for determining the scope and significant issues (40 Code of Federal Regulations [CFR] 1501.7 and CFR 1508.25) so that the EA can focus the analyses on areas of interest and concern. Therefore, public participation during the scoping period is a vital component to preparing a comprehensive and sound NEPA document. Scoping provides the public, tribes, and agencies opportunities for meaningful public involvement in the decision-making process.

The agencies' overriding scoping goal is to engage a diverse group of public and agency participants to solicit relevant input and provide timely information throughout the review process. Five specific goals were established in the Project's Public Participation Plan, including:

- Increase public awareness and understanding about the NEPA process through meaningful stakeholder participation;
- Identify the public's concerns so they can be addressed in the EA;
- Obtain public, federal, state, and local agency, and tribal comment and input;
- Effectively communicate, cooperate, and consult with the tribes, federal and state agencies, and local elected and appointed officials; and
- Evaluate the success of the communications and public participation activities.

2.0 Summary of the Scoping Process

2.1 Pre-Scoping Activities

2.1.1 Lower Brule and Rosebud Sioux Tribes

Prior to RUS' publication of the Notice of Intent (NOI), several meetings were held with the Lower Brule Sioux Tribe regarding potential corridors and routes for the Lower Brule to Witten transmission line. The first meeting was arranged and held by the LBST on February 25, 2010. Western, Basin Electric, the LBST Chairman, members of the LBST Tribal Council, members of the LBST Elder Advisory Committee, the staff of the LBST Cultural Resource Office, representatives from the Rosebud Sioux Tribe Tribal Historic Preservation Office, and personnel from ENTRIX (at the time the Department of State [DoS] NEPA consultant for the proposed KXL pipeline project) were present at the meeting. The purpose of the meeting was to respond to the LBST's request for a Project description and clarification of the need(s) for the proposed Project. Concerns were raised regarding the purpose of the proposed transmission line and regarding the proposed corridors being too close to cultural sensitive areas and wetland areas in several places.

On March 15, 2010, Basin Electric and Western personnel met with LBST cultural resources office staff and Rosebud Sioux Tribal Historic Preservation Office staff at Lower Brule Tribal Administrative Building to modify the route options in response to Tribal concerns. As a result of these meetings, route options along State Highway (SH) 47 were eliminated and three options that extended south from the proposed Lower Brule Switchyard were added. Basin Electric also shifted the corridor northeast of Winner, to avoid an area with a high potential for cultural resource sites.

On January 10, 2011, Basin Electric personnel met with Tribal representatives at Lower Brule Tribal Headquarters. The purpose of the meeting was to provide a project update and to discuss the NEPA process, alternative corridor placement, and the process and requirements for Tribal permitting and easements.

2.1.2 County Commissioners' Meetings

Basin Electric environmental, engineering, and ROW representatives met with Tripp and Lyman County Commissions during their normally scheduled meetings on April 5, 2011. Commissioners were provided PowerPoint® slide handouts about the Project; the slides provided the basis for discussion at each meeting. The handouts provided information about Basin Electric, the proposed Project, permitting requirements, and Project timelines.

Commissioners were asked if they had any questions, comments, or concerns about the Project or if they were aware of any local permits that would be required. Both counties were supportive of the Project and indicated there were no county zoning or permitting requirements. Lyman County raised the issue of a recent ordinance aimed at meteorological towers, with the thought that it also may apply to transmission structures. Upon further review with the Lyman County Commission, it appeared the ordinance did not apply.

2.2 Notification

The initial step in the NEPA process is to notify the public, other government agencies, and tribes of RUS' intent to prepare an EA with scoping and hold public scoping meetings by publishing the NOI in the Federal Register. The NOI for the Project was published in the Federal Register on April 12, 2011. Additionally, legal notices and display advertisements were published in the local newspapers, twice, at least 10 days prior to the first public scoping meeting. **Table 2-1** provides a summary of the legal notices and display advertisements. Copies of the NOI, publications and affidavits are provided in **Appendix A - Notification**.

Table 2-1 Newspaper Notification

Newspaper	Display Advertisement	Legal Notice
Capital Journal	April 15 and April 22, 2011	April 15 and April 22, 2011
Lyman County Herald	April 13 and April 20, 2011	April 13 and April 20, 2011
Winner Advocate	April 20, 2011	April 13 and April 20, 2011

2.3 Consultation and Coordination with Federal, State, and Local Governments

Specific regulations require RUS to coordinate and consult with federal, state, and local agencies about the potential of the proposed Project and alternatives to affect sensitive resources. The coordination and consultation must occur in a timely manner and are required before any final decisions are made. Issues related to agency consultation may include biological resources, cultural resources, socioeconomics, and land and water management. For example, biological resource consultations apply to the potential for Project activities to disturb sensitive species or habitats. Cultural resource consultations would apply to the potential for impacts to important cultural or archaeological sites. RUS distributed letters to the following agencies requesting biological information:

- U.S. Fish and Wildlife Service (USFWS);
- South Dakota Natural Heritage Program (SDNHP); and
- South Dakota Game, Fish, and Parks (SDGFP).

2.4 Tribal Government-to-Government Consultation

Under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, RUS is required to establish regular and meaningful consultation and collaboration with Native American tribal governments on development of regulatory policies and issuance of permits that could significantly or uniquely affect their communities. RUS distributed letters to the following tribes notifying them about the Project:

- Lower Brule Sioux Tribe;
- Rosebud Sioux Tribe of Indians;
- Standing Rock Sioux Tribe;
- Ponca Tribe of Oklahoma;
- Ponca Tribe of Nebraska;
- Oglala Sioux Tribe of the Pine Ridge Reservation;
- Crow Creek Sioux Tribe;
- Santee Sioux Nation; and
- Cheyenne River Sioux Tribe.

Consultation with the tribes will continue throughout the Project as stipulated under Section 106 of the National Historic Preservation Act (NHPA), as amended.

2.5 Scoping Meetings

Public scoping meetings offer an opportunity for public involvement during the scoping period. The meetings are designed to promote information exchange about the proposed Project and to gather public

input on issues of concern that may need to be considered in the EA. RUS hosted two public scoping meetings: one in Reliance, South Dakota and one in Winner, South Dakota. The dates, locations, and number of public attendees at the scoping meetings are presented in **Table 2-2**.

Table 2-2 Scoping Meetings

Meeting Location	Meeting Date/Time	Number of Attendees that Signed In
Reliance, South Dakota American Legion Post 179	Tuesday, April 26, 2011 4-7 p.m.	35
Winner, South Dakota Holiday Inn Express and Suites	Wednesday, April 27, 2011 4-7 p.m.	48

The public scoping meetings were conducted in open house format to allow for an open exchange of information and to enable attendees to ask agency personnel and Basin Electric representatives questions about the Project. Display boards showing the project location and the NEPA process were presented to facilitate conversation. Large maps were spread on tables so that landowners could identify their property and areas of concern. Informational materials about the Project, NEPA process, transmission line siting, and right-of-way (ROW) were available as handouts. Attendees also were provided comment forms to complete and submit at the meeting or mail to RUS at a later date.

Appendix B includes the materials that were available at the public scoping meetings.

3.0 Summary of Key Scoping Comments

The 45-day public scoping period ended on May 27, 2011. RUS received a total of 18 comment submittals (e.g., letters, comment forms) containing 43 individual comments during the public scoping period. Most of the comments RUS received were from potentially affected landowners.

Following the close of the public scoping period, comments were compiled and analyzed to identify issues and concerns. A majority of the comments were related to:

- Impacts associated with routing the proposed transmission line across private property;
- Visual impacts to residents;
- Potential effects to agricultural activities; and
- Transmission line routing preferences.

A comprehensive list of the scoping comments are provided in **Appendix C** and sorted by topic.

4.0 Activities Following Scoping

The NEPA process provides additional opportunities for public input. Following the scoping period, the transmission line route refinement process will continue and a Draft EA will be prepared, incorporating information received from the public during the scoping period. Once the Draft EA is prepared, the public will be notified of its availability for review. During a 45-day review period, the public can comment on key issues and the adequacy of the environmental analyses. **Figure 4-1** identifies additional opportunities and the anticipated schedule for the public to provide comments and participate in the EA process.



Figure 4-1 EA NEPA Process

Appendix A

Notification

between 8 a.m. and 8 p.m., Eastern Standard Time, Monday through Friday.

SUPPLEMENTARY INFORMATION: The meeting is open to the public. More information will be posted on the Mt. Baker-Snoqualmie National Forest Web site at <http://www.fs.fed.us/r6/mbs/projects/rac.shtml>.

Comments may be sent via e-mail to pforbes@fs.fed.us or via facsimile to (360) 436-1309. All comments, including names and addresses when provided, are placed in the record and are available for public inspection and copying. The public may inspect comments received at the Darrington Ranger District office at 1405 Emens Avenue, Darrington, Washington, during regular office hours (Monday through Friday 8 a.m.–4:30 p.m.).

Dated: April 5, 2011.

Renee Bodine,

Acting Forest Supervisor.

[FR Doc. 2011-8647 Filed 4-11-11; 8:45 am]

BILLING CODE 3410-11-P

DEPARTMENT OF AGRICULTURE

Rural Utilities Service

Basin Electric Power Cooperative: Notice of Intent To Hold Public Scoping Meetings and Prepare an Environmental Assessment

AGENCY: Rural Utilities Service, USDA.

ACTION: Notice of Intent to hold public scoping meetings and prepare an Environmental Assessment (EA).

SUMMARY: The Rural Utilities Service (RUS) intends to hold public scoping meetings and prepare an Environmental Assessment with Scoping (EA) to meet its responsibilities under the National Environmental Policy Act (NEPA) and 7 CFR part 1794 in connection with potential impacts related to a proposed project by Basin Electric Power Cooperative (Basin Electric). The proposed Big Bend to Witten Transmission Line Project (proposed action) consists of an approximately 70-mile long 230-kV single-circuit transmission line, a new Western Area Power Administration (Western) substation called Lower Brule Substation, an addition to the existing Witten Substation, and approximately two miles of 230-kV double-circuit transmission line between Big Bend Dam and the new Lower Brule Substation. It is anticipated that some communication facility additions or enhancements may be necessary for the project including radio towers and buildings at Lower Brule Substation, Witten Substation, and one or two

intermediate sites. Basin Electric is requesting RUS financial assistance for the proposed action.

DATES: RUS will conduct public scoping meetings in an open house format to provide information and solicit comments for the preparation of the EA. The scoping meetings will be held on the following dates: The American Legion Post 179, 109 North 5th Avenue, Reliance, SD, on Tuesday April 26, 2011, 4–7 p.m.; The Holiday Inn Express and Suites, 1360 East Highway 44, Winner, SD, on Wednesday April 27, 2011, 4–7 p.m.

ADDRESSES: To send comments or request additional information, contact: Mr. Richard Fristik, Senior Environmental Protection Specialist, USDA, Rural Utilities Service, 1400 Independence Avenue, SW., Stop 1571, Washington, DC 20250-1571. *Telephone:* (202) 720-5093 or *e-mail:* richard.fristik@wdc.usda.gov.

A Macro Corridor and Alternative Evaluation Study has been prepared for the proposed project. The document is available for public review prior to and during the public scoping meetings. The report is available at the RUS address provided in this notice and on the agency's Web site at: <http://www.usda.gov/rus/water/ees/ea.htm>, the offices of Basin Electric and the following repositories:

Kennebec Public Library, 203 S Main, Kennebec, SD 57544
Tripp County Library—Grossenburg Memorial, 442 Monroe Street, Winner, SD 57580

SUPPLEMENTARY INFORMATION: The network transmission system in South Dakota is not able to accommodate projected load growth by 2014. The major impact is the addition of the pumping station loads associated with the proposed Keystone XL pipeline. Seven pumping stations are proposed to be located in South Dakota. The two pumping stations to be connected to the Witten Substation and Gregory Substation would have a large impact on the network transmission system. These substations are located in a relatively remote area from a network transmission perspective and therefore do not have a strong redundant transmission connection. The existing Western 115-kV line between the Mission Substation and the Fort Randall Substation is not able to reliably accommodate the ultimate pump station build-out load level. An outage of the Fort Randall to Gregory 115-kV line would result in operating voltage criteria violations in the areas of Mission and Gregory, SD. The addition of the Big Bend to Witten 230-kV

transmission line would provide an increase in the load serving capacity such that the delivery needs of the projected network load can be met in a reliable manner.

The proposed action consists of an approximately 70-mile long 230-kV single circuit transmission line, a new Western Substation called Lower Brule Substation, an addition to the existing Witten Substation, and approximately two miles of 230-kV double-circuit transmission line between Big Bend Dam and the new Lower Brule Substation. Lower Brule Substation would be a new facility, to be built by Western, near Big Bend Dam on the Missouri River. Western would also construct, own, and operate approximately two miles of double circuit transmission line between Big Bend Dam and the new Lower Brule Substation. The Witten Substation is owned by Rosebud Electric Cooperative and is near the town of Witten, SD. Basin Electric would build and own the addition to the Witten Substation. It is anticipated that some communication facility additions or enhancements may be necessary for the project including radio towers and buildings at Lower Brule Substation, Witten Substation, and one or two intermediate sites.

Basin Electric is seeking financing from RUS for its ownership of the proposed project. Before making a decision to provide financing, RUS is required to conduct an environmental review under NEPA in accordance with RUS's Environmental Policies and Procedures (7 CFR Part 1794). Western has agreed to be a cooperating agency in preparation of the EA. Government agencies, private organizations, and the public are invited to participate in the planning and analysis of the proposed action. Representatives from RUS, Western and Basin Electric will be available at the scoping meetings to discuss the environmental review process, describe the proposed action, discuss the scope of environmental issues to be considered, answer questions, and accept comments. Comments regarding the proposed action may be submitted (orally or in writing) at the public scoping meetings or in writing by May 27, 2011, at the Rural Utilities Service address provided in this notice. From information provided in the Macro Corridor and Alternatives Evaluation Study Report, from government agencies, private organizations, and the public, Basin Electric Power Cooperative will prepare an environmental analysis to be submitted to RUS for review. RUS will review the environmental analysis and determine the significance of the

impacts of the proposal. If accepted, the document will be adopted as the environmental assessment (EA) for the proposal. RUS's EA would be available for review and comment for 45 days. Should RUS determine, based on the EA for the proposal, that impacts associated with the construction and operation of the proposal would not have a significant environmental impact, it will prepare a finding of no significant impact (FONSI). Public notification of a FONSI would be published in the **Federal Register** and in newspapers with circulation in the proposal area.

If at any point in the preparation of an EA, RUS determines that the proposed action will have a significant effect on the quality of the human environment, the preparation of an Environmental Impact Statement will be required. Any final action by RUS related to the proposed action will be subject to, and contingent upon, compliance with all relevant Federal, State, and local environmental laws and regulations and completion of the environmental review requirements as prescribed in RUS's Environmental Policies and Procedures.

Dated: April 5, 2011.

Mark S. Plank,

Director, Engineering and Environmental, Staff, Rural Utilities Service.

[FR Doc. 2011-8719 Filed 4-11-11; 8:45 am]

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DEPARTMENT OF COMMERCE

International Trade Administration

[A-403-801, C-403-802]

Fresh and Chilled Atlantic Salmon From Norway: Extension of Time Limits for Preliminary and Final Results of Full Third Antidumping and Countervailing Duty Sunset Reviews

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

DATES: *Effective Date:* April 12, 2011.

FOR FURTHER INFORMATION CONTACT: Kristen Johnson for (CVD) at 202-482-4793 and Eric Greynolds for (AD) at 202-482-6071, AD/CVD Operations, Office 3, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230.

Background

On January 3, 2011, the Department of Commerce (the Department) initiated the third sunset reviews of the antidumping (AD) and countervailing duty (CVD) orders on fresh and chilled

Atlantic salmon from Norway, pursuant to section 751(c) of the Tariff Act of 1930, as amended (the Act). See *Initiation of Five-Year ("Sunset") Review*, 76 FR 89 (January 3, 2011). Within the deadline specified in 19 CFR 351.218(d)(1)(i), the Department received a notice of intent to participate, in both the AD and CVD sunset reviews, on behalf of Phoenix Salmon U.S., Inc. (Phoenix Salmon), a domestic interested party. Phoenix Salmon claimed interested party status under section 771(9)(C) of the Act, as a producer of subject merchandise.

The Department received timely substantive responses from Phoenix Salmon and the following respondent interested parties: the Government of Norway, Norwegian Seafood Federation (NSF), and the Aquaculture Division of the Norwegian Seafood Association (ADNSA). The domestic and respondent interested parties also submitted to the Department timely rebuttal comments.

On April 6, 2011, after analyzing the submissions from the interested parties and finding that NSF and ADNSA have standing as foreign interested parties and that the substantive responses submitted by all of the interested parties are adequate, the Department determined to conduct full sunset reviews of the AD and CVD orders on fresh and chilled Atlantic salmon from Norway. See Memorandum to Gary Taverman, Acting Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations, from Melissa Skinner, Director, Antidumping and Countervailing Duty Operations, Office 3, regarding "Adequacy Determination: Third Sunset Reviews of the Antidumping and Countervailing Duty Orders on Fresh and Chilled Atlantic Salmon From Norway," (April 6, 2011).

Extension of Time Limits

In accordance with section 751(c)(5)(B) of the Act, the Department may extend the period of time for making its determination by not more than 90 days, if it determines that the review is extraordinarily complicated. We determine that the AD and CVD sunset reviews are extraordinarily complicated, pursuant to section 751(c)(5)(C) of the Act, because of a large number of complex issues in each review that the Department must analyze.

The preliminary results of the full sunset reviews of the AD and CVD orders on fresh and chilled Atlantic salmon from Norway are scheduled for April 23, 2011, and the final results of these reviews are scheduled for August 31, 2011. The Department is extending

the deadlines for both the preliminary and final results of the full sunset reviews.

As a result, the Department intends to issue the preliminary results of the full sunset reviews of the AD and CVD orders on fresh and chilled Atlantic salmon from Norway on July 22, 2011, and the final results of the reviews on November 29, 2011. These dates are 90 days from the original scheduled dates of the preliminary and final results of these full sunset reviews.

This notice is issued in accordance with sections 751(c)(5)(B) and (C)(v) of the Act.

Dated: April 6, 2011.

Gary Taverman,

Acting Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations.

[FR Doc. 2011-8735 Filed 4-11-11; 8:45 am]

BILLING CODE 3510-DS-P

DEPARTMENT OF COMMERCE

International Trade Administration

[A-489-805]

Certain Pasta From Turkey: Extension of Time Limit for the Preliminary Results of Antidumping Duty Administrative Review

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

FOR FURTHER INFORMATION CONTACT: Stephanie Moore, AD/CVD Operations, Office 3, Import Administration, U.S. Department of Commerce, 14th Street and Constitution Ave., NW., Washington, DC 20230; (202) 482-3692.

Background

On July 24, 1996, the Department published in the Federal Register the antidumping duty order on certain pasta from Turkey. See Notice of Antidumping Duty Order and Amended Final Determination of Sales at Less Than Fair Value: Certain Pasta From Turkey, 61 FR 38545 (July 24, 1996). On July 1, 2010, we published in the **Federal Register** the notice of "Opportunity to Request Administrative Review" of this order for the period July 1, 2009, through June 30, 2010. See Antidumping or Countervailing Duty Order, Finding, or Suspended Investigation; Opportunity To Request Administrative Review, 75 FR 38074 (July 1, 2010). On July 30, 2010, we received a request from petitioners¹ to

¹New World Pasta Company, American Italian Pasta Company, and Dakota Growers Pasta Company (collectively, petitioners).



Capital Journal

AFFIDAVIT OF PUBLICATION

State of South Dakota, County of Hughes

Ona Arnold of said county, being, first duly sworn, on oath, says: That he~~she~~ is the publisher or an employee of the publisher of the Capital Journal, a daily newspaper published in the City of Pierre in said County of Hughes and State of South Dakota; that he~~she~~ has full and personal knowledge of the facts herein stated, that said newspaper is a legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4 inclusive, that said newspaper has been published within the said County of Hughes and State of South Dakota, for at least one year next prior to the first publication of the attached public notice, and that the ~~legal~~/display advertisement headed Applicant Notice of Public Scoping Meetings + Environmental Assessment Basin Power Electric Power a printed copy of which, taken from the paper in which the same was published, and which is here-to attached and made a part of this affidavit, was published in said newspaper for two successive week(s) to wit:

<u>April 15</u>	<u>20 11</u>	<u>20</u>
<u>April 22</u>	<u>20 11</u>	<u>20</u>
	<u>20</u>	<u>20</u>
	<u>20</u>	<u>20</u>
	<u>20</u>	<u>20</u>

That the full amount of the fee charged for the publication of the attached public notice inures to the sole benefit of the publisher or publishers; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are: \$ 146.86.

Signed: 

subscribed and sworn to before me this 26 day of April 2011



Notary Public in and for the County of Hughes, South Dakota.
My Commission expires 2-19, 2015.

Public Notice

substations are located in a relatively remote area. The project will be a 115-kV transmission line from the West-ern Basin Electric to the Fort Randall Substation. The project will be a 115-kV transmission line from the West-ern Basin Electric to the Fort Randall Substation. The project will be a 115-kV transmission line from the West-ern Basin Electric to the Fort Randall Substation.

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Public Notice

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224-0009

ROOFING

ADAM'S ROOFING

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Capital Journal

AFFIDAVIT OF PUBLICATION

State of South Dakota, County of Hughes

Ina Arnold of said county, being, first duly sworn, on oath, says: That she is the publisher or an employee of the publisher of the Capital Journal, a daily newspaper published in the City of Pierre in said County of Hughes and State of South Dakota; that she has full and personal knowledge of the facts herein stated, that said newspaper is a legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4 inclusive, that said newspaper has been published within the said County of Hughes and State of South Dakota, for at least one year next prior to the first publication of the attached public notice, and that the legal display advertisement headed You Are Invited! Public Scoping Meetings

a printed copy of which, taken from the paper in which the same was published, and which is here-to attached and made a part of this affidavit, was published in said newspaper for two successive week(s) to wit:

<u>April 15</u>	<u>20 11</u>	_____	_____
<u>April 22</u>	<u>20 11</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

That the full amount of the fee charged for the publication of the attached public notice inures to the sole benefit of the publisher or publishers; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are: \$ 327.42.

Signed: [Signature]

subscribed and sworn to before me this 5 day of May 2011

[Signature]

Notary Public in and for the County of Hughes, South Dakota.
My Commission expires 2-19, 2015.

WHAT'S HAPPENING

BOYS & GIRLS CLUB DANCE:
The Boys and Girls Club, 120 S. Roe St., will have a dance from 7-10 p.m. today. Cost is \$5. Call Becky at 605-224-8811 ext. 4100 for more information.

PARENT/SENIOR PARTY:
The Riggs High School Parent/Senior party will be from 7-11 p.m. on Saturday at Riggs Gym. All Riggs seniors and their parents are invited.

CRAFT SHOW:
The Zonta Spring Craft Show will be from 9 a.m.-5 p.m. on Saturday and from 10 a.m.-4 p.m. on Sunday at the Pierre Mall.

Pierre native travels to Haiti for dentistry work

Recruited to be part of a dental mission team into the heart of the island nation of Haiti, Pierre native and future dentist Pat Anderson found his week to be "an unforgettable experience" and a reminder of the blessings in his own life back home.

Anderson, a 2003 graduate of Riggs High School, comes by his dental heritage naturally. His father and mother, Dr. Chuck and Kathy Anderson, are both dentists. Pat, after earning his bachelor's degree from Mount Mary College with a major in biology and a minor in chemistry, is now in the third of four years at the University of Nebraska Medical Center's school of dentistry in Lincoln and will graduate in May 2012. Then he plans to apply for a one-year oral surgery fellowship there.

But in the meantime, how about some on-the-job experience, the likes of which could not possibly be duplicated in the United States?

A phone call from Lincoln dentist Mary Killen was Pat's link to the Haiti trip. Five years ago Killen's father, Don, a Lincoln businessman, made a trip to a Catholic mission in Kobonal, Haiti, a place discovered through his local church. Noting the dire need for proper

dental care in Haiti, the elder Killen enlisted two of his sons, Marty and dental student Addison, to organize and recruit for a dental mission trip. It has become an annual mission.

"Each year the group is a mix of dentists, oral surgeons and eager students like me," Pat said after returning home. "The idea is to get the best care possible to those most in need of it."

He said most of the work done in Haiti is tooth extractions along with simple fillings, but because most of the people there have abscessed teeth and are in pain, oral surgery skills are a must. That is a field in which Pat has a deep interest, so he jumped at the chance to join this year's team, sponsored by the congregation of St. Joseph's Catholic Church of Lincoln.

Don Killen, five dentists/oral surgeons, five students, one physician and one midwife left March 13 and by the end of the next day were in the city of Hinche, located in the middle of Haiti's central plateau.

"Imagine my surprise," Pat said, "when I saw that our land-



PARKER KNOX

ing strip was a glorified dirt road!" A 20-mile truck ride from the airport took the team members to the Hinche suburb of Kobonal and to the mission itself.

"As we rode through town, we saw many Haitians leading or riding their carts, goats or donkeys on the side of the road," he said.

"As we drove through Hinche, I felt as if we were on parade," Pat said, "not that the people were hostile by any means, but I doubt they see white people very often. The people were very nice and grateful for the service we were providing."

The days were long, starting at 6 a.m. Monday through Saturday and continuing to sunset or until all patients had been seen.

"Patients would line up early in the morning and wait to see us," Pat said. "Some days there were mostly kids from the mission schools; other days mostly adults from the surrounding areas."

As soon as the team members treated one patient, another was on his way in.

"We were kept very busy, but it was worth it," Pat added. "Not only were we helping people but also gaining invaluable experience at the same time. Needless to say, we students learned quickly."

Supper at the main house on the mission grounds was a welcome respite from the day's labors and a chance to relax and share stories from the day. The team slept in small guesthouses on cots protected with mosquito nets at the mission, but that was more than most of the nation has.

The head priest at the mission prepared traditional Haitian meals for the visitors from Nebraska, including one night of authentic Cajun gumbo from his native Louisiana.

"Although we were certainly roughing it at the mission, we certainly did not want for good food," Pat said.

"I loved every minute of the trip and would do it again in a second," Pat said, "but it was a sobering experience. It was hard to see the amount of poverty and destitution these people endure every day. It also gave me a new appreciation for everything I have."

Pat and his wife and high school classmate, the former Fern Tillman, are expecting their first child this summer during the time Pat will be off for his summer break from dental school.

"I was so glad I could use my talents in a way to really help those people who so desperately needed it," Pat said, "and I can't wait for next year!"

BLUNT NEWS

BY LOUISE KOEHL

The Blunt senior citizens met April 4 for their regular monthly business meeting. Meeting was called to order by Pres. Thelma King with its members present.

The scholarships were discussed. They had limited electricity but were turned in to Thelma King on April 11, on the deadlines designated. The senior members will be looking at them on April 18, or if the weather prevents on April 25.

Membership dues are due for the year. Discussion was held on the possibility of raising the dues from \$5 to \$12. After discussion it was decided to leave them at \$5.

The next business meeting will be July 11. Members are encouraged to come and bring a dish to share.

The CPWC Blunt Study Club hosted their 10th annual staid luncheon at the Blunt Senior Center. Some 80 ladies were in attendance. This year's theme was Caps and Saucers, telling the history of a number of them.

Louise Koehl was asked to tell about some of the accomplishments of the club and the many causes they contribute to. The club, which was organized in 1902, became federated with the General Federation of Women's Clubs in 1903.

WEEKLY MEETINGS

- | | | | | | |
|---|--|---|--|--|---|
| <p>ALCOHOLICS
ANONYMOUS: 325 S. Garfield Ave. Noon, open; 9 p.m., closed.</p> <p>PIERRE DUPLICATE BRIDGE CLUB: Pierre Senior Citizens Center, 3 p.m.</p> <p>CAPITAL CITY AL-ANON: 223 1/2 S. Adams</p> | <p>ALCOHOLICS
ANONYMOUS: 325 S. Garfield Ave. Noon, open; 9 p.m., closed.</p> <p>PIERRE DUPLICATE BRIDGE CLUB: Pierre Senior Citizens Center, 3 p.m.</p> <p>WINE TASTING: ChristaMart Vineyards and Winery, 2914 S.</p> | <p>ALCOHOLICS
ANONYMOUS: 325 S. Garfield Ave. 9 p.m., closed.</p> <p>NONDENOMINATIONAL BIBLE MEETINGS: Osho Family YMCA, 2:30 p.m.</p> <p>ALCOHOLICS</p> | <p>ANONYMOUS: 325 S. Garfield Ave. 9 p.m., open.</p> <p>BOROMBY</p> <p>HUGHES COUNTY COMMISSION: Hughes County Courthouse, 8:30 p.m.</p> <p>GERMANS FROM RUSSIA HERITAGE SOCIETY: United Congregational Church of Christ, 122 N.</p> | <p>HIGHLAND AVE. 8:18 p.m.</p> <p>RIGGS FINE ARTS BOOSTER CLUB: Riggs High Band Room, 7 p.m.</p> <p>STREET MASTERS CAR CLUB: Budget Host Inn, 840 N. Euclid Ave. 7:30 p.m.</p> <p>FORT PIERRE CITY COUNCIL: Stanley County Courthouse.</p> | <p>7:30 p.m.</p> <p>To submit an event:</p> <ul style="list-style-type: none"> • E-mail information to Jamie Anderson, Capital Journal community editor, at events@capjournal.com at least one week in advance. Include title of event, location, days and times, cost and contact information. |
|---|--|---|--|--|---|

PUBLIC BOOPING SERVICES
The U.S. Department of Agriculture Rural Utilities Service is having two public meetings to find out how Rural Electrification Administration is proposing to construct an approximately 10-mile-long 220-kilovolt (KV) single phase transmission line located in south-central South Dakota. The Big Bend Witten Transmission project also would include installation of a 2-mile-long 33-KV double-phase transmission line between Big Bend Court and the new Leaning Tower. The line would be about 7 miles of double-phase transmission line south to the new transmission tower.

The public meeting requests are being held to obtain your input to help the agency provide all necessary and public participation in the Federal Environmental Planning Act meeting process. We are interested in hearing your views on the project and other public meeting information. We will be glad to provide you with the project and provide your comments.

Additional information about the project can be found in the legal notice section of this newspaper.

PLEASE JOIN US!
April 20, 2011
American Legion Room 119
402 South 5th Avenue
Hemlock, South Dakota
9:30am - 1:00pm

April 27, 2011
Hemlock High School
1200 S. Highway of
Hemlock, South Dakota
9:30am - 1:00pm

QUESTIONS INFORMATION:
Ron Fries
Rural Utilities Service
1400 Independence Ave. SW
Mail Stop 4917
Washington D.C. 20260
(202) 726-2929

QUESTIONS INFORMATION:
Heidi Baker
Great Northern Power Corporation
1117 East Independence Avenue
Sioux Falls, South Dakota
605-332-2222
(701) 587-6400

LSO
LAWSON SOUTHERN OPERATIONS

Big Bend - Witten Project Area

Come Join The Pierre Recreation Department & The OAHF Family YMCA For:

Underwater Easter Egg Hunt 2011

Pierre Aquatic Center
Sunday April, 17 2011
1:00-2:00pm
Cost: Pool Admission
Ages 3-12

(Under 6 Must Be Accompanied by An Adult)

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Clinic Dates:
April 20, 2011

Call the Aberdeen Office at 1-800-762-4776 to make your appointment.

Publisher's Affidavit of Publication

STATE OF SOUTH DAKOTA)
)SS
COUNTY OF LYMAN)

Connie Penny, of said county and state being duly sworn on her oath says: The Lyman County Herald is a weekly newspaper of general circulation and published in Presho, Lyman County, and State of South Dakota; and has been such newspaper during the times hereinafter mentioned; That said newspaper is a legal weekly, that it has a bonafide circulation of more than 200 copies weekly, that it has been published within said County of Lyman more than fifty-two successive weeks next prior to publication of the notice hereinafter mentioned and maintained at the place of publication; That I, the undersigned am editor of said newspaper, in charge of the advertising department thereof, and have personal knowledge of all the facts stated in this affidavit; that the advertisement headed:

Applicant Notice of Public Scoping Meeting
244 Lines

a printed copy of which is hereto attached and published in the said newspaper for 2 consecutive week(s).

The first publication of said notice in said newspaper aforesaid was on Wednesday, the 13 day of April, A.D., 2011 and that the succeeding publications were severally
Wednesday, the 20 day of April, A.D., 2011
Wednesday, the _____ day of _____, A.D., 2011

and the last publication on Wednesday, the 20 day of April, 2011, that the full sum of fees charged for publishing the same, to-wit; the sum of \$ 131.00 insures solely to the editor of The Lyman County Herald. That no agreement or understanding for any division thereof had been made with any other person, and that no part thereof has been agreed to be paid to any person whatsoever.

Connie Penny

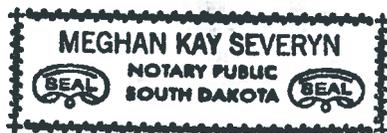
[Signature]

Notary Public

Subscribed and sworn to before me this 21 day of April, 2011

My Commission expires _____, 20____

Meghan Kay Severyn
My Commission Expires
March 12, 2015



Applicant Notice of Public Scoping Meetings and Environmental Assessment Basin Electric Power Cooperative: Big Bend to Witten 230-kV Transmission Line Project

SUMMARY: The Rural Utilities Service (RUS) intends to hold public scoping meetings and prepare an Environmental Assessment with Scoping (EA) to meet its responsibilities under the National Environmental Policy Act (NEPA) and 7 CFR part 1794 in connection with potential impacts related to a proposed project by Basin Electric Power Cooperative (Basin Electric). The proposed Big Bend to Witten Transmission Line Project (proposed action) consists of an approximately 70-mile long 230-kV single-circuit transmission line, a new Western Area Power Administration (Western) substation called Lower Brule Substation, an addition to the existing Witten Substation, and approximately two miles of 230-kV double-circuit transmission line between Big Bend Dam and the new Lower Brule Substation. It is anticipated that some communication facility additions or enhancements may be necessary for the project including radio towers and buildings at Lower Brule Substation, Witten Substation, and one or two intermediate sites. Basin Electric is requesting RUS financial assistance for the proposed action.

DATES: RUS will conduct public scoping meetings in an open house format to provide information and solicit comments for the preparation of the EA. Scoping meetings will be held on the following dates: Reliance, South Dakota, American Legion Post 179, 109 North 5th Avenue, Tuesday April 26, 2011, 4-7 p.m.; Winner, South Dakota, Holiday Inn Express and Suites, 1360 East Highway 44, Wednesday April 27, 2011, 4-7 p.m. **ADDRESSES:** To send comments or request additional information, contact:

Mr. Richard Fristik, Senior Environmental Protection Specialist

USDA, Rural Utilities Service
1400 Independence Avenue, SW., Stop 1571
Washington, DC 20250-1571
Telephone: (202) 720-5093
or e-mail: trichard.fristik@wdc.usda.gov

Mr. Kevin Solie, Senior Environmental Analyst
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564
Telephone: (701) 557-5495
or e-mail: ksolie@becp.com

A Macro Corridor and Alternative Evaluation Study has

for public review prior to and during the public scoping meetings. The report is available at the RUS address provided in this notice and on the agency's Web site at: <http://www.usda.gov/rus/water/eas/ea.htm>, the offices of Basin Electric, the Applicant's website at: http://www.basinelectric.com/Projects/South_Dakota_Transmission/index.html and the following repositories:

Kennebec Public Library
203 S Main
Kennebec, SD 57544

Tripp County Library-
Grossenburg Memorial
442 Monroe Street
Winner, SD 57580

SUPPLEMENTARY INFORMATION: The network transmission system in South Dakota is not able to accommodate projected load growth by 2014. The major impact is the addition of the pumping station loads associated with the proposed Keystone XL pipeline. Seven pumping stations are proposed to be located in South Dakota. The two pumping stations to be connected to the Witten Substation and Gregory Substation would have a large impact on the network transmission system. These substations are located in a relatively remote area from a network transmission perspective and therefore do not have a strong redundant transmission connection. The existing Western 115-kV line between the Mission Substation and the Fort Randall Substation is not able to reliably accommodate the ultimate pump station build-out load level. An outage of the Fort Randall to Gregory 115-kV line would result in operating voltage criteria violations in the Mission and Gregory South Dakota area. The addition of the Big Bend to Witten 230-kV transmission line would provide an increase in the load serving capacity such that the delivery needs of the projected network load can be met in a reliable manner. Basin Electric is seeking financing from RUS for its ownership of the proposed project. Before making a decision to provide financing, RUS is required to conduct an environmental review under NEPA in accordance with RUS's Environmental Policies and Procedures (7 CFR Part 1794). Western has agreed to be a cooperating agency in preparation of the EA. Government agencies, private organizations, and the public are invited to participate in the planning and analysis of the proposed action. Representatives from RUS, Western and Basin

environmental review process describe the proposed action, discuss the scope of environmental issues to be considered, answer questions and accept comments. Comments regarding the proposed action may be submitted (orally or in writing) at the public scoping meetings or in writing by May 27, 2011 at the Rural Utilities Service address provided in this notice. From information provided in the Macro Corridor and Alternatives Evaluation Study Report, from government agencies, private organizations, and the public Basin Electric Power Cooperative will prepare an environmental analysis to be submitted to RUS for review. RUS will review the environmental analysis and determine the significance of the impacts of the proposal. If accepted the document will be adopted as the environmental assessment (EA) for the proposal. RUS's EA would be available for review and comment for 45 days. Should RUS determine, based on the EA for the proposal, that impacts associated with the construction and operation of the proposal would not have a significant environmental impact it will prepare a finding of no significant impact (FONSI). Public notification of a FONSI would be published in the Federal Register and in newspapers with circulation in the proposal area.

If at any point in the preparation of an EA, RUS determines that the proposed action will have a significant effect on the quality of the human environment, the preparation of an Environmental Impact Statement will be required. Any final action by RUS related to the proposed action will be subject to, and contingent upon, compliance with all relevant Federal, State, and local environmental laws and regulations and completion of the environmental review requirements as prescribed in RUS's Environmental Policies and Procedures.

04/13 & 04/20

Published twice at the approximate cost of \$131.07.

STATE OF SOUTH DAKOTA)
)SS
COUNTY OF LYMAN)

Connie Penny, of said county and state being duly sworn on her oath says: The Lyman County Herald is a weekly newspaper of general circulation and published in Presho, Lyman County, and State of South Dakota; and has been such newspaper during the times hereinafter mentioned; That said newspaper is a legal weekly, that it has a bonafide circulation of more than 200 copies weekly, that it has been published within said County of Lyman more than fifty-two successive weeks next prior to publication of the notice hereinafter mentioned and maintained at the place of publication; That I, the undersigned am editor of said newspaper, in charge of the advertising department thereof, and have personal knowledge of all the facts stated in this affidavit; that the advertisement headed:

Basin Electric Public Meeting
2x9

a printed copy of which is hereto attached and published in the said newspaper for 2 consecutive week(s).

The first publication of said notice in said newspaper aforesaid was on Wednesday, the 13 day of April A.D., 2011 and that the succeeding publications were severally
Wednesday, the 20 day of April A.D., 2011
Wednesday, the _____ day of _____ A.D., 2011

and the last publication on Wednesday, the 20 day of April, 2011, that the full sum of fees charged for publishing the same, to-wit; the sum of \$ 162.00 insures solely to the editor of The Lyman County Herald. That no agreement or understanding for any division thereof had been made with any other person, and that no part thereof has been agreed to be paid to any person whatsoever.

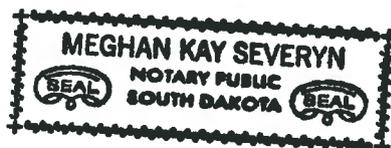
Connie Penny

[Signature]
Notary Public

Subscribed and sworn to before me this 21 day of April, 2011

My Commission expires _____, 20____

Meghan Kay Severyn
My Commission Expires
March 12, 2015



You Are Invited!

PUBLIC SCOPING MEETINGS

The U.S. Department of Agriculture Rural Utilities Service is hosting two public meetings in your area. Basin Electric Power Cooperative is proposing to construct an approximately 70-mile-long 230-kilovolt (kV) single-circuit transmission line located in south-central South Dakota. The Big Bend to Witten Transmission Project also would include construction of a 2-mile-long 230-kV double-circuit transmission line between Big Bend Dam and the new Lower Brule Substation. The new substation and 2 miles of double-circuit transmission line would be constructed by Western Area Power Administration.

The public scoping meetings are being held to obtain your input as well as to fulfill the primary principle of full disclosure and public participation in the National Environmental Policy Act scoping process. You are encouraged to attend either public meeting to learn more about the proposed project and provide your comments.

Additional information about the project can be found in the legal notices section of this newspaper.

PLEASE JOIN US!

April 26, 2011
American Legion Post 179
109 North 5th Avenue
Reliance, South Dakota
57569
4 pm - 7 pm

April 27, 2011
Holiday Inn Express
1360 E. Highway 44
Winner, South Dakota
57580
4 pm - 7 pm

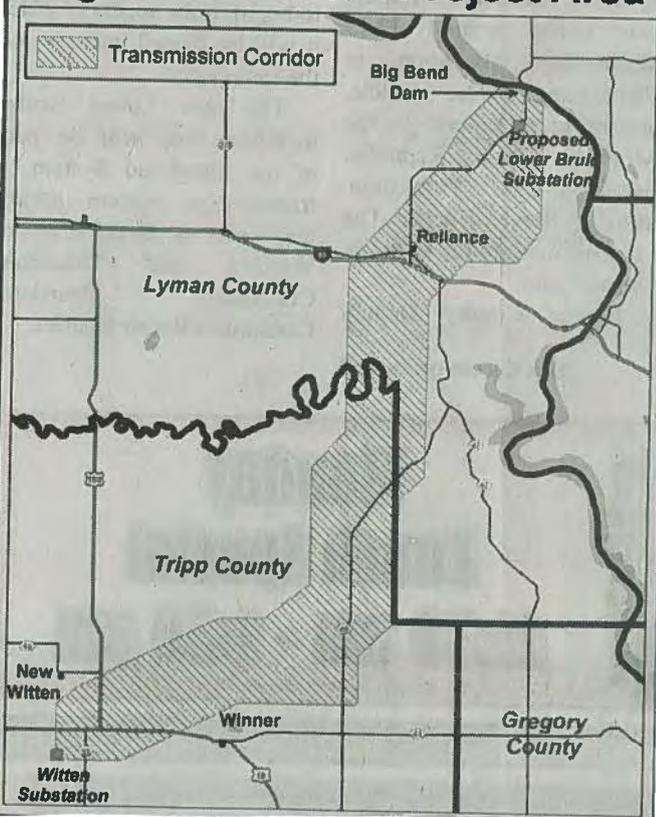
NEED MORE INFORMATION?

Rich Fristik
Rural Utilities Service
1400 Independence Ave. SW
Mall Stop 1571
Washington, D.C. 20250
(202) 720-5093

Kevin Solle
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota
58503-0564
(701) 557-5495



Big Bend - Witten Project Area



AFFIDAVIT OF PUBLICATION

State of South Dakota, county of Tripp-ss.

Dan Bechtold

of said county being first duly sworn, on oath says that he is the Editor of

WINNER ADVOCATE

a weekly newspaper printed and published at Winner, ss county of Tripp, and has full and personal knowledge of the facts herein stated that said newspaper is a legal newspaper and has a bona fide circulation of a least three hundred copies weekly and has been published within said County for fifty-two successive weeks prior to the publication of the notice herein mentioned, and was printed wholly or in part in a office maintained at said place of publication; that the

178 lines @ 1 Column rate x 80%

11" legal display map @ \$7.00 p.c.i.

Applicant Notice

Basin Electric

a printed copy of which, taken from the paper in which the same was published, is attached to this sheet, and is made a part of this affidavit, was published in said newspaper least one in each week for 2 weeks, on the day of each week on which said newspaper was regularly published to wit:

04/13/11
04/20/11

That the full amount of the fees for the publication of the annexed notice is \$ 274.15

Dan Bechtold

Subscribed and sworn to before me this 20th day of April, 2011

Patricia Arvin

Notary Public

County of Tripp, South Dakota

My Commission Expires November 4, 2015

SEAL
Patricia Arvin
Notary Public
SOUTH DAKOTA

APPLICANT NOTICE OF PUBLIC SCOPING MEETINGS AND ENVIRONMENTAL ASSESSMENT BASIN ELECTRIC POWER COOPERATIVE: BIG BEND TO WITTEN 230-KV TRANSMISSION LINE PROJECT

SUMMARY: The Rural Utilities Service (RUS) intends to hold public scoping meetings and prepare an Environmental

Assessment with Scoping (EA) to meet its responsibilities under the National Environmental Policy Act (NEPA) and 7 CFR part 1794 in connection with potential impacts related to a proposed project by Basin Electric Power Cooperative (Basin Electric). The proposed Big Bend to Witten Transmission Line Project (proposed action) consists of an approximately 70-mile long 230-kV single-circuit transmission line, a new Western Area Power Administration (Western) substation called Lower Brule Substation, an addition to the existing Witten Substation, and approximately two miles of 230-kV double-circuit transmission line between Big Bend Dam and the new Lower Brule Substation. The Big Bend to Witten Project Area and transmission corridor are depicted in the map accompanying this notice. It is anticipated that some communication facility additions or enhancements may be necessary for the project including radio towers and buildings at Lower Brule Substation, Witten Substation, and one or two intermediate sites. Basin Electric is requesting RUS financial assistance for the proposed action.

DATES: RUS will conduct public scoping meetings in an open house format to provide information and solicit comments for the preparation of the EA. Scoping meetings will be held on the following dates: Reliance, South Dakota, American Legion Post 179, 109 North 5th Avenue, Tuesday April 26, 2011, 4-7 p.m.; Winner, South Dakota, Holiday Inn Express and Suites, 1360 East Highway 44, Wednesday April 27, 2011, 4-7 p.m.

ADDRESSES: To send comments or request additional information, contact:

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USDA, Rural Utilities Service
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Washington, DC 20250-1571
Telephone: (202) 720-5093
or e-mail: rfristik@wdc.usda.gov

or
Mr. Kevin Solie, Senior Environmental Analyst

Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564
Telephone: (701) 557-5495
or e-mail: ksolie@bepc.com

A Macro Corridor and Alternative Evaluation Study has been prepared for the proposed project. The document is available for public review prior to and during the public scoping meetings. The report is available at the RUS address provided in this notice and on the agency's Web site at: <http://www.usda.gov/rus/water/eas/ea.htm>, the offices of Basin Electric, the Applicant's website at: http://www.basinelectric.com/Projects/South_Dakota_Transmission/index.html and the following repositories:

Kennebec Public Library
203 S Main
Kennebec, SD 57544
Tripp County Library - Grossenburg Memorial
442 Monroe Street
Winner, SD 57580

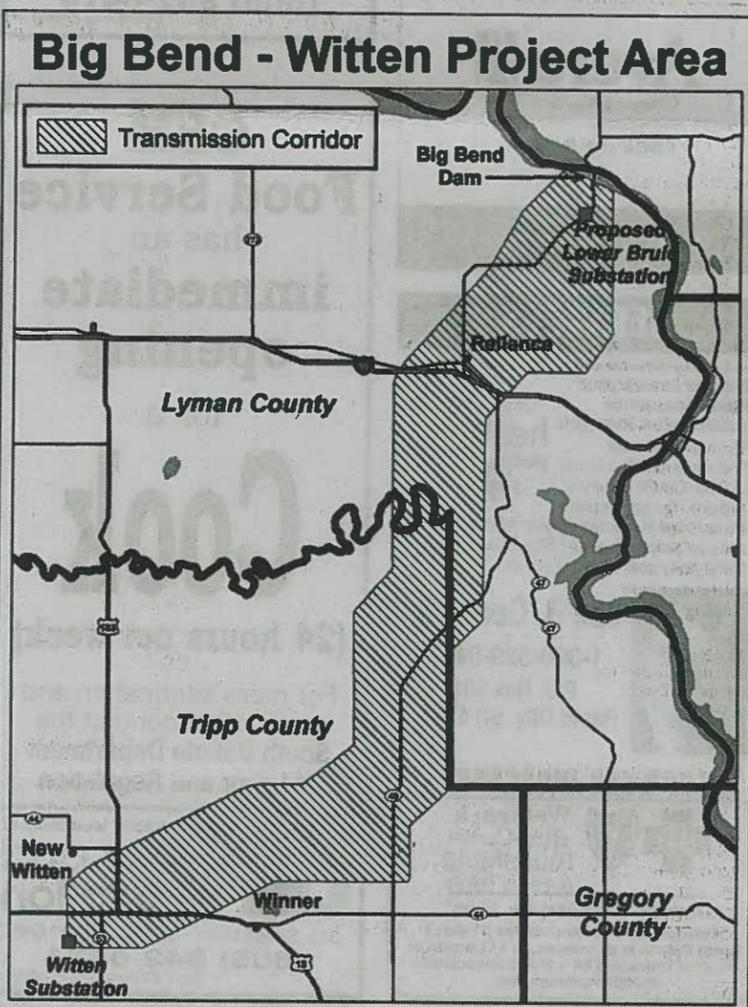
SUPPLEMENTARY INFORMATION:

The network transmission system in South Dakota is not able to accommodate projected load growth by 2014. The major impact is the addition of the pumping station loads associated with the proposed Keystone XL pipeline. Seven pumping stations are proposed to be located in South Dakota. The two pumping stations to be connected to the Witten Substation and Gregory Substation would have a large impact on the network transmission system. These substations are located in a relatively remote area from a network transmission perspective and therefore do not have a strong redundant transmission connection. The existing Western 115-kV line between the Mission Substation and the Fort Randall Substation is not able to reliably accommodate the ultimate pump station build-out load level. An outage of the Fort Randall to Gregory 115-kV line would result in operating voltage criteria violations in the Mission and Gregory South Dakota area. The addition of the Big Bend to Witten 230-kV transmission line would provide an increase in the load serving capacity such that the delivery needs of the projected network load can be met in a reliable manner.

Basin Electric is seeking financing from RUS for its ownership of the proposed project. Before making a decision to provide financing, RUS is required to conduct an environmental review under NEPA in accordance with RUS's Environmental Policies and Procedures (7 CFR Part 1794). Western has agreed to be a co-operating agency in preparation of the EA. Government agencies, private organizations, and the public are invited to participate in the planning and analysis of the proposed action. Representatives from RUS, Western and Basin Electric will be available at the scoping meetings to discuss the environmental review process, describe the proposed action, discuss the scope of environmental issues to be considered, answer questions, and accept comments. Comments regarding the proposed action may be submitted (orally or in writing) at the public scoping meetings or in writing by May 27, 2011 at the Rural Utilities Service address provided in this notice. From information provided in the Macro Corridor and Alternatives Evaluation Study Report, from government agencies, private organizations, and the public, Basin Electric Power Cooperative will prepare an environmental analysis to be submitted to RUS for review. RUS will review the environmental analysis and determine the significance of the impacts of the proposal. If accepted, the document will be adopted as the environmental assessment (EA) for the proposal. RUS's EA would be available for review and comment for 45 days. Should RUS determine, based on the EA for the proposal, that impacts associated with the construction and operation of the proposal would not have a significant environmental impact, it will prepare a finding of no significant impact (FONSI). Public notification of a FONSI would be published in the Federal Register and in newspapers with circulation in the proposal area.

If at any point in the preparation of an EA, RUS determines that the proposed action will have a significant effect on the quality of the human environment, the preparation of an Environmental Impact Statement will be required. Any final action by RUS related to the proposed action will be subject to, and contingent upon, compliance with all relevant Federal, State, and local environmental laws and regulations and completion of the environmental review requirements as prescribed in RUS's Environmental Policies and Procedures.

(15-16)



AFFIDAVIT OF PUBLICATION

State of South Dakota, county of Tripp-ss.

Dan Bechtold

of said county being first duly sworn, on oath says that he is the Editor of

WINNER ADVOCATE

a weekly newspaper printed and published at Winner, said county of Tripp, and has full and personal knowledge of all the facts herein stated that said newspaper is a legal newspaper and has a bona fide circulation of a least two hundred copies weekly and has been published within said County for fifty-two successive weeks prior to the publication of the notice herein mentioned, and was printed wholly or in part in a office maintained at said place of publication; that the

10.5" display ad @ \$7.00 p.c.i.

Applicant meeting

Curt Pearson, Basin Electric

a printed copy of which, taken from the paper in which the same was published, is attached to this sheet, and is made a part of this affidavit, was published in said newspaper at least one in each week for 1 weeks, on the day of each week on which said newspaper was regularly published to wit:

4/20/11

That the full amount of the fees for the publication of the *annexed notice is \$ 73.50

Subscribed and sworn to before me this 20th day of June, 2011

Notary Public

County of Tripp, South Dakota

My Commission Expires November 4, 2015

You Are Invited!

PUBLIC SCOPING MEETINGS

The U.S. Department of Agriculture Rural Utilities Service is hosting two public meetings in your area. Basin Electric Power Cooperative is proposing to construct an approximately 70-mile-long 230-kilovolt (kV) single-circuit transmission line located in south-central South Dakota. The Big Bend to Witten Transmission Project also would include construction of a 2-mile-long 230-kV double-circuit transmission line between Big Bend Dam and the new Lower Brule Substation. The new substation and 2 miles of double-circuit transmission line would be constructed by Western Area Power Administration.

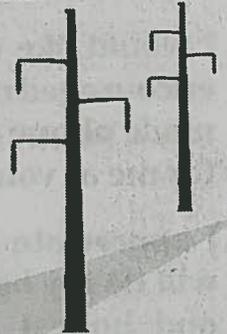
The public scoping meetings are being held to obtain your input as well as to fulfill the primary principle of full disclosure and public participation in the National Environmental Policy Act scoping process. You are encouraged to attend either public meeting to learn more about the proposed project and provide your comments.

Additional information about the project can be found in the legal notices section of this newspaper.

PLEASE JOIN US!

April 26, 2011
American Legion Post 179
109 North 5th Avenue
Reliance, South Dakota
57569
4 pm - 7 pm

April 27, 2011
Holiday Inn Express
1360 E. Highway 44
Winner, South Dakota
57580
4 pm - 7 pm



NEED MORE INFORMATION?

Rich Fristik
Rural Utilities Service
1400 Independence Ave. SW
Mail Stop 1571
Washington, D.C. 20250
(202) 720-5093

Kevin Solie
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota
58503-0564
(701) 557-5495



SEAL
Patricia Arvin
Notary Public
SOUTH DAKOTA

Appendix B

Meeting Materials

WELCOME

Big Bend to Witten Transmission Project

Environmental Assessment

Public Scoping Meeting



**BASIN ELECTRIC
POWER COOPERATIVE**

A Touchstone Energy® Cooperative



Fold 2

Affix
Stamp

Rich Fristik
U.S. Department of Agriculture
Rural Development
1400 Independence Ave., SW
Mail Stop 1571
Washington, D.C. 20250

Fold 1

Big Bend to Witten Transmission Project mailing list

To have your name added or removed from our mailing list for this project, please check the appropriate box. Be sure to fill out the contact information on the reverse side. If you do not ask us to remove your name from our mailing list, we will send you future EA-related announcements.

Yes, add my name to the mailing list to receive future information

No, please remove my name from your mailing list

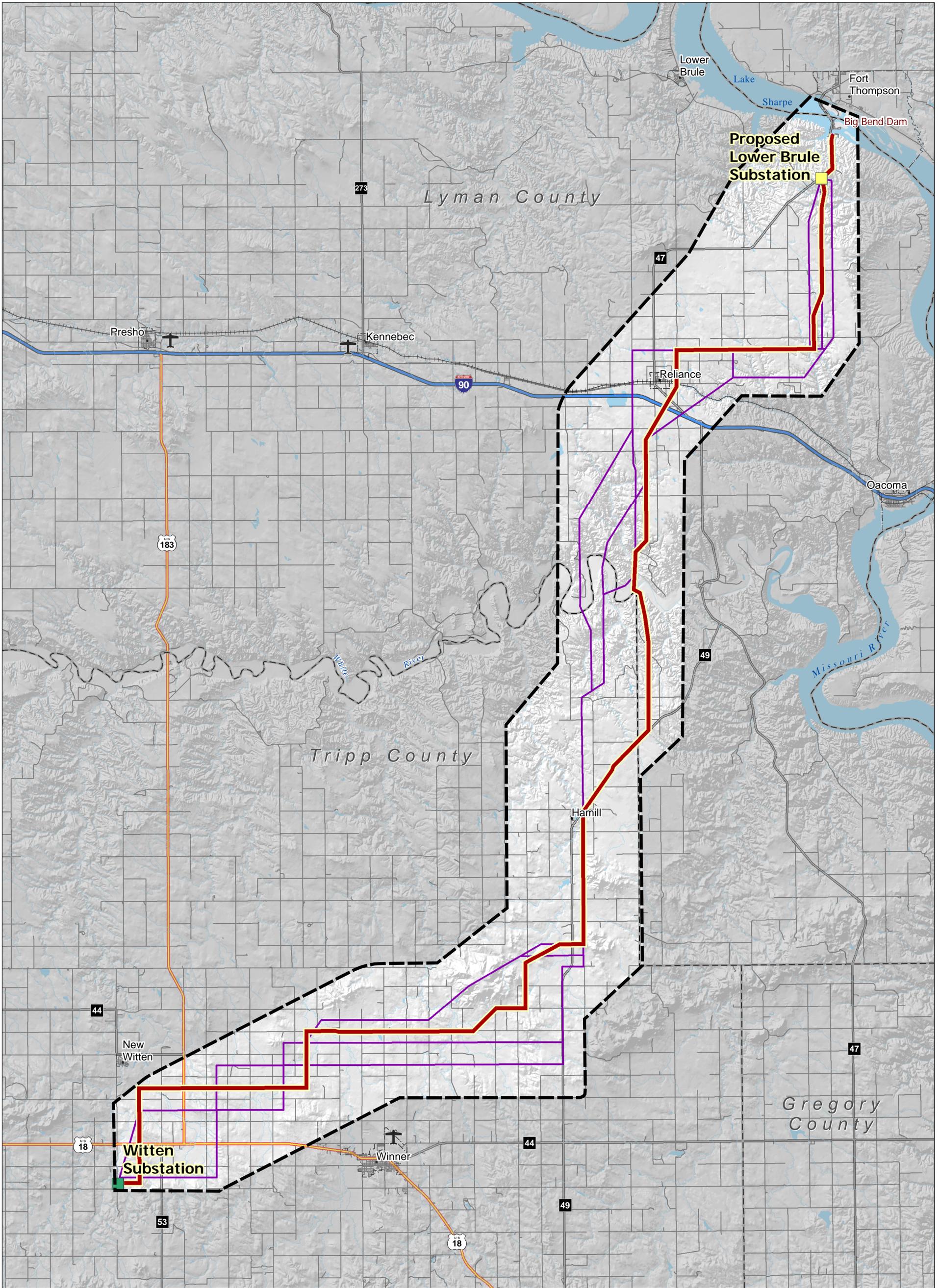
Sign up to receive the Draft EA

To receive the Draft EA check the appropriate box.

Send me the Draft EA in the following format:

CD-rom

Executive Summary only (about 25 pages)



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Utility System	Transportation	Boundaries
Project Study Area	Existing Substation	Interstate	County Boundary
Preferred Transmission Route	Proposed Substation	US Highway	Municipal Boundary
Alternative Route		State Highway	
		Other Road	
		Railroad	
		Airport	



PROJECT MACRO-CORRIDOR

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

AECOM
717 17th Street Suite 2600
Denver, CO 80202

File: P:\2011\11180015.01\Basin_LB2W\06GIS\6.3\Layout\Resource_Maps\110222_MacroCorridor.mxd
Date Modified: March 10, 2011
Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, NSBP

Environmental Assessment NEPA Process



 Opportunities
for Public Input

Big Bend to Witten Transmission Project



NEPA Process

An Environmental Assessment (EA) is being prepared under the direction of the U.S. Department of Agriculture, Rural Utilities Service (RUS) for the proposed Big Bend to Witten Transmission Project (Project). The EA will be developed in accordance with National Environmental Policy Act (NEPA) requirements and RUS NEPA implementing regulations. NEPA requires that environmental information be made available to the public and public officials before decisions are made.

Public participation is required as part of the NEPA environmental review process. The public participation effort for this Project focuses on gathering input from the public and providing project information. The NEPA process provides several opportunities for the public to participate in the decision-making process as shown on the figure to the right.

How you can participate

Attend the public meetings scheduled for your area to learn more about the Project. The meetings also provide you with an opportunity to ask questions, express concerns, and submit comments to help define the scope of the EA. Comments or questions can also be submitted at any time during the NEPA process.

April 26, 2011

American Legion Post 179
109 North 5th Avenue - Reliance, SD

4:00 – 7:00 p.m.

April 27, 2011

Holiday Inn Express
1360 E. Highway 44 - Winner, SD

4:00 – 7:00 p.m.



Environmental Assessment NEPA Process



Throughout the NEPA process, if you have questions or concerns, you can contact:

Rich Fristik

Rural Utilities Service
1400 Independence Ave. SW
Mail Stop 1571
Washington, D.C. 20250

(202) 720-5093

e-mail: richard.fristik@wdc.usda.gov

Project Description

Basin Electric Power Cooperative (Basin Electric) is proposing to construct an approximately 70-mile-long 230-kilovolt (kV) single-circuit transmission line and an addition to the existing Witten Substation located in south-central South Dakota. Basin Electric also would own the addition to the Witten Substation. Western Area Power Administration (Western) would construct, own, and operate approximately 2 miles of double-circuit 230-kV transmission line between Big Bend Dam and the new Lower Brule Substation. It is anticipated that some communication facility additions or enhancements may be necessary for the Project including radio towers and buildings at Lower Brule Substation, Witten Substation, and one or two intermediate sites.

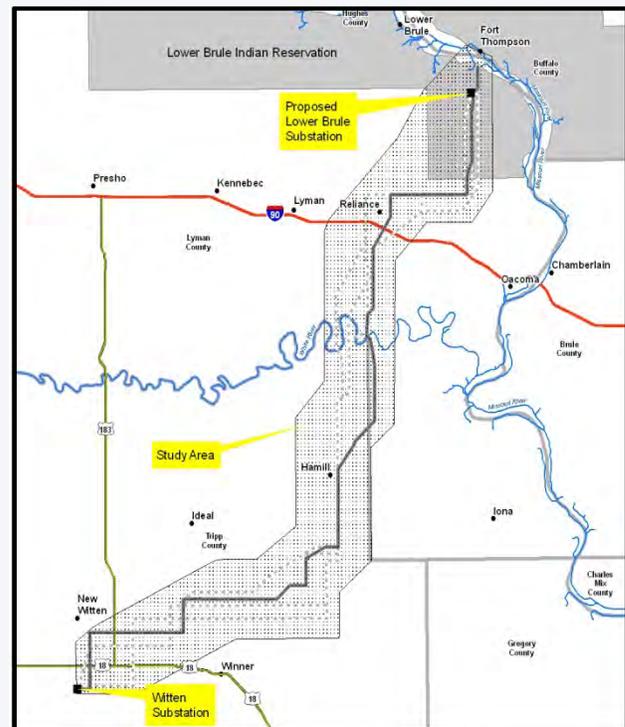
Project Purpose and Need

The network transmission system in South Dakota is not able to accommodate projected load growth by 2014. The major impact is the addition of the pumping station loads associated with the proposed Keystone XL pipeline. Seven pumping stations are proposed to be located in South Dakota. Each station would have electrical load that would increase from approximately 12 megawatts (MWs) initially in 2012 to 22 MWs at ultimate build-out, which is expected in 2014. The addition of the Big Bend to Witten 230-kV transmission line would provide an

Project Participants

Participant	Project Title and Role
Basin Electric	Project Applicant – owner and operator of the Project.
Rural Utilities Service	Lead Agency – oversight of the NEPA process and preparation of the EA.
Western Area Power Administration	Cooperating Agency - NEPA process; construction of the 2-mile-long double-circuit 230-kV transmission line from Big Bend to the new Lower Brule Substation. Western also will construct the new Lower Brule Substation.
AECOM	Project Environmental Contractor – preparation of the EA.

Project Location Map



increase in the load serving capacity such that the delivery needs of the projected network load can be met in a reliable manner.

Need for Agency Action

The RUS is considering whether to provide financing for the Project and is the Lead Agency with oversight for preparing the Environmental Assessment. Western is considering whether to provide interconnection of the Project to its transmission system and is serving as a Cooperating Agency in the NEPA process.



Big Bend to Witten Transmission Project



Siting and Environmental

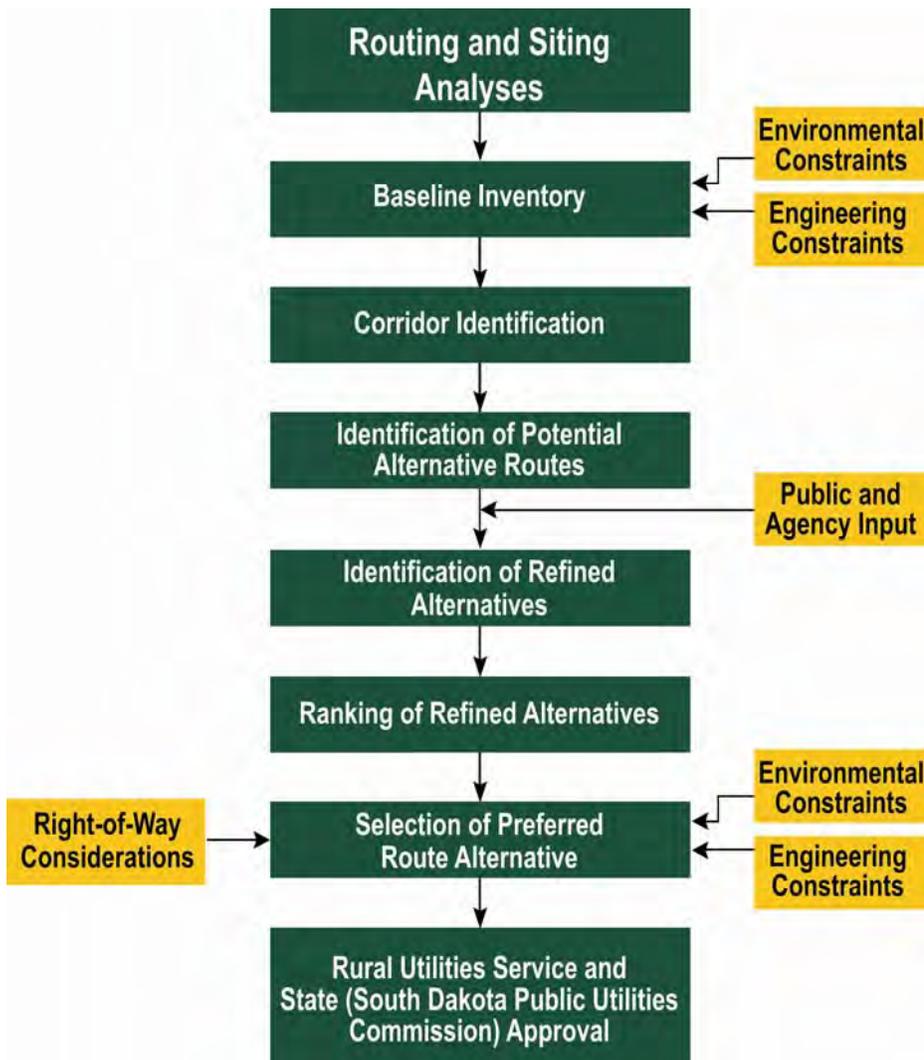
Siting transmission lines requires input from a variety of sources, including the public. It also requires consideration of criteria specifically for this Project.

This routing approach ensures that all factors are evaluated to reduce the potential of



impact resulting from siting and construction of the Project. Transmission line routing criteria and the process used for this Project are shown below.

Routing and Siting Process



Conditions favorable for routing:

- Maximize use of linear features
- Maximize use of routes along (undeveloped) section line trails when practicable
- Routing through remote rangeland areas

Conditions to avoid include:

- Population centers and habitable structures
- Airports and landing strips
- Disruption to agricultural activities
- Prime or important farmland
- Extreme topographic areas
- Sensitive biological habitat resources
- Special status plant and animal species
- Wetlands and riparian areas

Right-of-Way

Basin Electric Power Cooperative (Basin Electric) needs to acquire long-term easements for a new transmission line. An easement is a right to use a particular parcel of land for the purpose of constructing, operating, and maintaining utilities.

Access by the landowner within the easement is not restricted, and normal agricultural activities can still occur. The only activities that are typically not permitted in transmission line easements are those that reduce the ground to line clearance or those that jeopardize the integrity of the support structures. Landowners would need to exercise caution when operating tall equipment and moving irrigation pipes within the easement area.

Survey permission

Basin Electric would meet with each landowner, to ask for survey permission and would answer any questions. Various surveys (e.g., biological, cultural) would be needed throughout the Project. Survey information is used to identify the preferred route.

Compensation

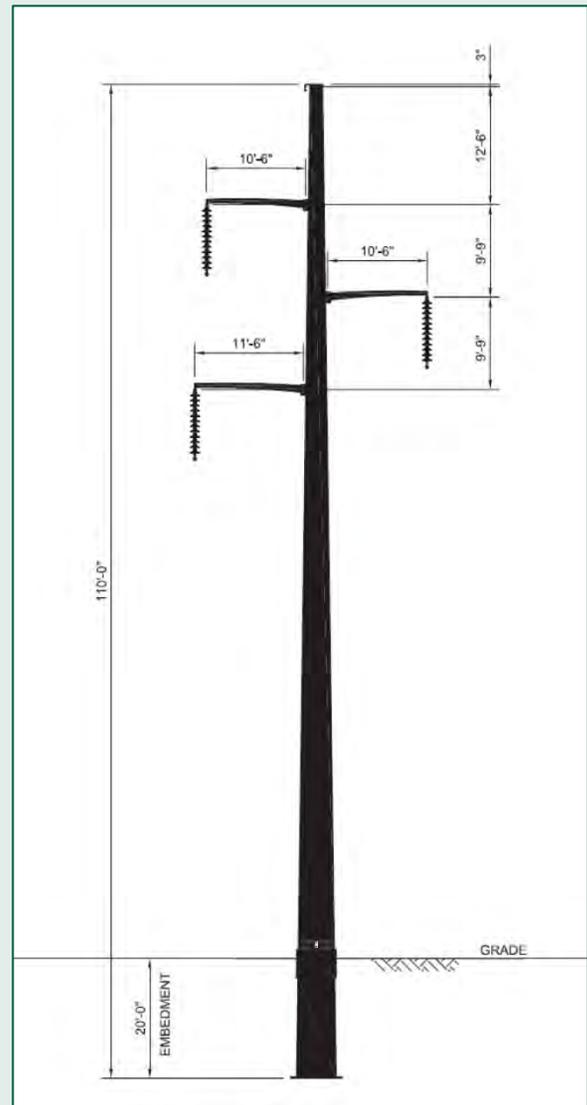
Basin Electric would use market data from recent sales of similar properties to determine fair and appropriate compensation. Basin Electric would make every effort to reach a fair and reasonable settlement with each affected landowner.

Construction and Operation

Following construction, Basin Electric would reclaim the property to as good or better condition than prior to construction. In addition to the easement agreement, Basin Electric would provide compensation for damages to crops, pasture land, or other property affected during construction or resulting from maintenance of the transmission line. A Basin Electric inspector would monitor construction activities and a right-of-way agent would be available if there are any questions, concerns or problems during and after construction.

Engineering

- 230-kV single-circuit transmission line
- Average span - 800 feet
- Right-of-Way width – 125 feet
- Single pole structure



Appendix C

Summary of Comments

Comprehensive List of Scoping Comments

Note: *Some of the comments may appear more than once since they relate to several topics.*

Agriculture

- An environmental study should be conducted and projects developed in the area should not impact farming, ranching, and natural resources.
- The transmission line should be sited on the section lines instead of the ½-section lines to avoid impacts to farmland.
- The transmission line should be routed along the section line to avoid impacts to agricultural activities and to provide easier access for transmission line construction and maintenance.
- The transmission lines should be sited on pasture land rather than farmland.

Wildlife

- Potential impacts to prairie chickens and sharp-tailed grouse on their property from project construction and operation.

Construction/Maintenance

- All garbage should be removed during construction.
- Construction noise impacts and closing gates on their property.
- A stipulation is needed in agreements that concrete footings would be removed at the end of the 99-year lease.
- If project does not extend to the full 99-year lease, project components should be removed with no pro-rata rent payments returned to Basin Electric.
- The transmission line should be routed along the section line to avoid impacts to agricultural activities and to provide easier access for transmission line construction and maintenance.

Grazing

- An environmental study should be conducted and projects developed in the area should not impact farming, ranching, and natural resources.

Lands/Realty

- Landowner prefers to be paid a fair annual payment if the proposed project is located on his land.
- Landowner should be paid 10 to 25 percent annual rent from gross profits made from the pipeline company, because transmission lines and pipelines devalue private land.
- If the project does not extend to the full 99-year lease, project components should be removed with no pro-rata rent payments returned to Basin Electric.
- The transmission line should be sited on the section lines instead of the ½-section lines because it impacts farmland.
- Commenter prefers annual payments from usage of electricity on landowner's property.

- The transmission line should be sited along the section line to the west mile marker instead of the ½-section line (104073 Block 13 SE and NW).
- The transmission line should be sited along the section line between the Schindler property on the north (105073 SE Block 14).
- Landowner already has power lines on the west side and does not want additional transmission lines on his/her property (Sections 1 and 3).
- Transmission line routes cross Indian lands in Sections 3 and 10.
- The transmission line should be realigned so it traverses between Sections 11 and 12 (105073) on the section line.
- Payment for right-of-way (ROW) easement is inadequate and does not account for land values for project life.
- Transmission line Segment 460 is located close to a residence and would impact property.
- The proposed transmission line crosses 7 quarter-sections of land (Sections 14, 15, and 16) owned by one farmer/rancher in Reliance Township.
- Payment for a ROW easement is 80 percent of the assessed land value and is inappropriate.
- Landowner approves of the project being constructed on his land (Segment 570 - East ½ Section 30-99-77).
- Landowner prefers the transmission line be built on the west end of his land as discussed on May 17, 2011.

Opinion

- Opposed to the project and does not feel additional electric power is needed.
- An environmental study should be conducted and projects developed in the area should not impact farming, ranching, and natural resources.
- In favor of the project because it would benefit the residents of Lyman County and West-Central Electric Cooperative.
- In favor of the project because it would benefit the Reliance community.
- In favor of the project because it would benefit the county.
- Opposed to construction of the transmission line on his property.
- In favor of the transmission line and potential for wind farm development.
- In favor of the transmission line because it will strengthen the Rosebud Electric power grid.
- In favor of the proposed transmission line.
- Potential visual impacts and opposition to the transmission line being constructed on his property or any adjacent property.
- Opposed to construction of the project on his land.

Out-of-Scope

- Wind farms would likely be built in the area near the proposed transmission line.

Public Health and Safety

- Public health and safety may be affected by working and living close to transmission lines.

Public Participation

- The public scoping meeting was very informational.

Reclamation

- Reclamation should be conducted immediately after construction and ruts created in the soil from large construction equipment should be repaired.

Routing

- Segment 159 of the transmission line is located too close to a residence.
- The transmission line should be sited along the section line to the west mile marker instead of the ½-section line (104073 Block 13 SE and NW).
- The transmission line should be sited along the section line between the Schindler property on the north (105073 SE Block 14).
- Landowner already has power lines on the west side and does not want additional lines (Sections 1 and 3).
- Transmission line route would cross Indian lands in Sections 10 and 3.
- The transmission line should be realigned to go between Sections 11 and 12 (105073) on the section line.
- Strongly opposed to the transmission line being sited on Segment 460 because it impacts property and is located very close to a residence.
- In favor of the project being constructed on his land (Segment 570 - East 1/2 Section 30-99-77).
- The proposed transmission line crosses 7 quarter- sections of land (Sections 14, 15, and 16) owned by one farmer/rancher in Reliance Township.
- The transmission line should be sited on the section lines instead of the ½-section lines because it impacts farmland.

Socioeconomics

- Potential impacts to property values.
- Payment for ROW easement is inadequate and does not account for land values for project life.

Transportation

- Additional traffic from construction vehicles.

Visual Resources

- Visual impacts to a resident that lives at 32124 271st Street at the base on Brad Leyon Buttes looking over Pleasant Valley.
- Visual impacts and opposition to the transmission line being constructed on his property or any adjacent property.
- Place the transmission structures lower on the side hills to reduce visibility.

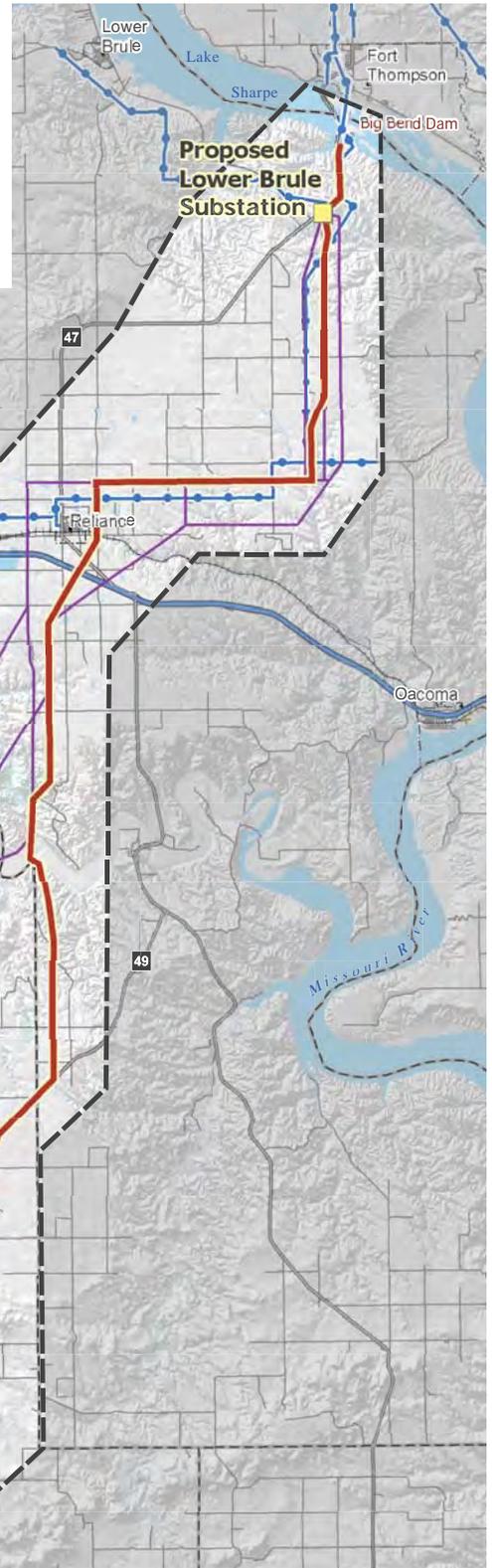
Appendix B

Alternative Evaluation and Macro-Corridor Study

Big Bend to Witten 230-kV Transmission Project
Lyman and Tripp Counties, South Dakota

ALTERNATIVE EVALUATION AND MACRO-CORRIDOR STUDY

April 2011



Submitted to:

Submitted by:

 **BASIN ELECTRIC
POWER COOPERATIVE**
A Touchstone Energy® Cooperative 

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1.0 Introduction

1.1 Background

Basin Electric Power Cooperative (Basin Electric) is proposing to construct a 230-kilovolt (kV) transmission line that would connect a proposed Lower Brule Substation located on the Lower Brule Indian Reservation in Lyman County, South Dakota with the existing Witten Substation located in Tripp County, South Dakota. As part of this project, Western Area Power Administration (Western) is also proposing to convert an existing single-circuit 230-kV transmission line turning structure, located on the south side of the Big Bend Dam, to a double-circuit structure and construct a 2.1-mile double-circuit 230-kV transmission line from this point to the proposed Lower Brule Substation. Collectively, this project is referred to as the Big Bend to Witten 230-kV Transmission Project (Project).

1.2 Project Description

The Project involves constructing a 70-mile single-circuit 230-kV transmission line that would connect the proposed Lower Brule Substation with the existing Witten Substation. As part of this Project, Western would also construct a 2.1-mile double-circuit 230-kV transmission line from a new double-circuit transmission structure located on the Big Bend to Fort Thompson No. 2 transmission line to the proposed Lower Brule Substation. The total length of these transmission lines, depending on the final route selected, is expected to be approximately 72 miles. The macro-corridor developed for this Project is shown on Figure 1-1.

1.2.1 Right-of-Way Considerations

The new transmission line is proposed to be constructed within a 125-foot-wide right-of-way (ROW). Basin Electric representatives would work with the landowners along the selected route to obtain the necessary land rights to allow for access, construction, operation, and maintenance of the transmission line.

1.2.2 Proposed Transmission Line Characteristics

Table 1-1 provides the typical physical design characteristics for the proposed single-circuit 230-kV transmission line. The design specifications for Western's proposed 2-mile double-circuit transmission line were not available at the time this Macro-Corridor Study was published; however, they are anticipated to be similar to the single-circuit 230-kV transmission line characteristics presented in Table 1-1. Figure 1-2 illustrates the proposed single-circuit 230-kV transmission structures to be used for the Project.

**Table 1-1:
Transmission Line Characteristics**

Description of Design Component	Values
Voltage (kV)	230
Conductor Size (inches)	1.345
Right-of-Way Width (feet)	125
Typical Minimum and Maximum Span Distances Between Structures (feet)	650 - 950
Average Span (feet)	800
Minimum and Maximum Structure Height (feet)	70 - 115
Average Height of Structures (feet)	95
Average Number of Structures (per mile)	6.6
Temporary Disturbance per Structure (square feet) (approximately 125-foot x 100-foot area)	12,500
Permanent Disturbance per Structure (acre) (approximately 3-foot diameter per structure leg)	<0.0002
Minimum Conductor-to-Ground Clearance to Agricultural Land at 100 degrees Celsius (°C) (feet)	26
Minimum Conductor-to-Ground Clearance to Rural Roads at 100°C (feet)	28
Minimum Conductor-to-Ground Clearance to Paved Highways at 100°C (feet)	31
Circuit Configuration	Vertical

The steel single-pole transmission line structures would range in height from approximately 70 feet to 115 feet and average 95 feet, depending on the required span distances between structures and area topography. The span between structures would typically range from 650 feet to 950 feet and average approximately 800 feet, depending on topography; taller structures could be used for crossing existing distribution and transmission lines or where unusual terrain exists. The single-pole structures would be designed to support three conductors and an overhead optical ground wire (OPGW). The OPGW would provide lightning suppression and fiber optic communications between the Lower Brule and Witten substations for systems control. Tangent structures would be freestanding and directly embedded into the soil. Angle structures (used where the transmission line changes direction) and dead-end structures (used to provide longitudinal stability along the length of the line) would be constructed with concrete foundations. Guy wires would not be used.

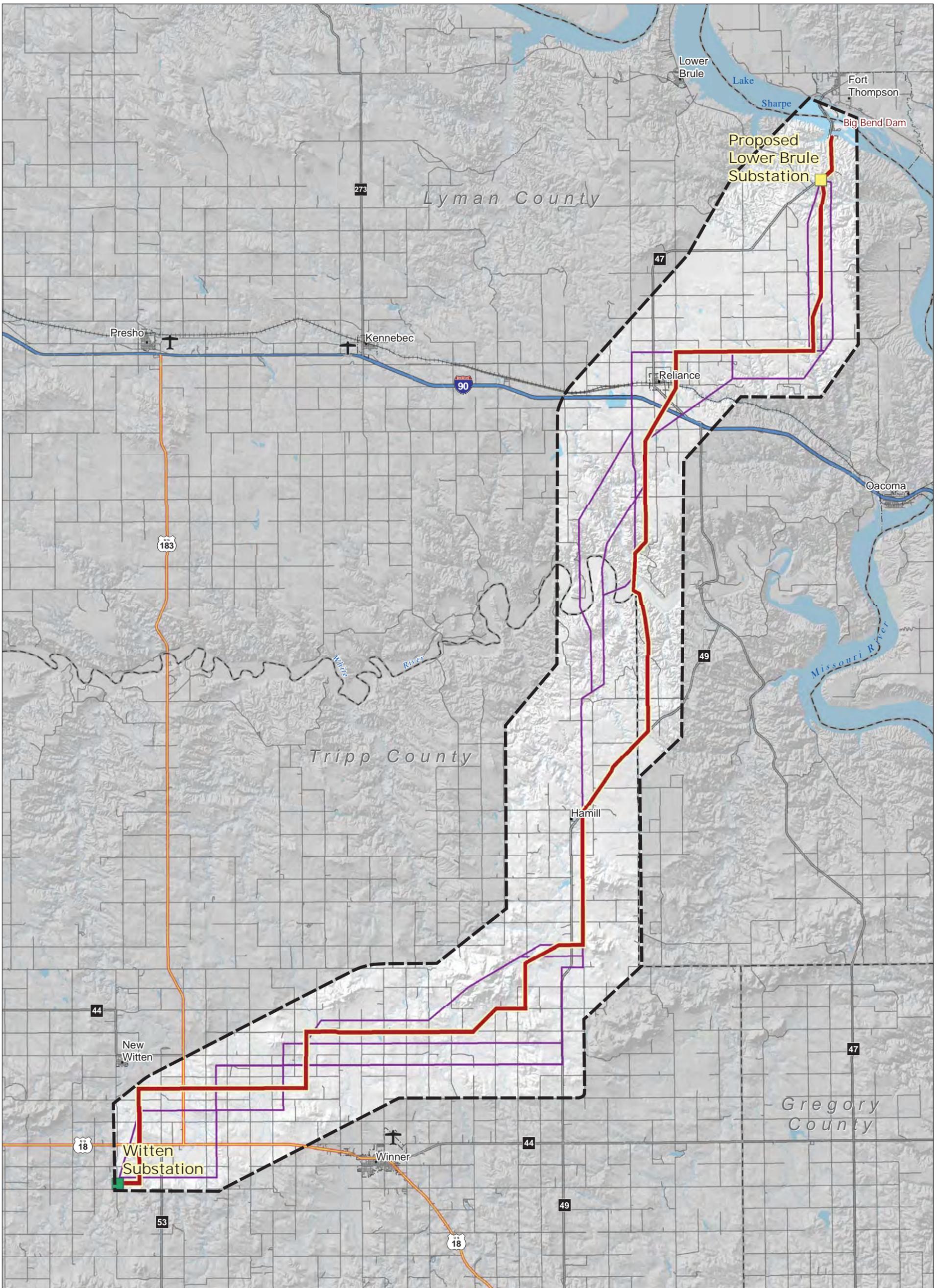
Project construction and design would meet the requirements of the National Electrical Safety Code (NESC) for the Heavy Loading District, Basin Electric and USDA-RUS design criteria, and other applicable local or national building codes. The Heavy Loading District refers to those areas (including South Dakota) that are subject to severe ice and wind loading. Minimum conductor clearance is measured at the point of greatest conductor sag and closest proximity to the ground. The proposed transmission line would be constructed with clearances that exceed standards set by NESC. Minimum conductor height would be 26 feet over agricultural land, 28 feet over rural roads, and 31 feet over paved highways.

1.3 Purpose of the Alternative Evaluation and Macro-Corridor Study

The U.S. Department of Agriculture's Rural Utilities Service (RUS) electric program provides capital loans to electric cooperatives for the upgrade, expansion, maintenance, and replacement of the electric infrastructure in rural areas. Basin Electric is pursuing financing from RUS for the new 230-kV transmission line in Lyman and Tripp counties. As part of this Project, Western is also proposing to convert an existing 230-kV transmission line turning structure, located on the south side of the Big Bend Dam, to a double-circuit structure and construct a 2.1-mile double-circuit 230-kV transmission line from this point to the proposed Lower Brule Substation.

RUS is required to evaluate environmental impacts of their actions under the National Environmental Policy Act (NEPA) and Council on Environmental Quality NEPA implementing regulations (40 Code of Federal Regulations 1500–1508). RUS will prepare an Environmental Assessment with Western as a cooperating agency. RUS guidance regarding NEPA implementation (RUS Bulletin 1794A-603) requires that a Macro-Corridor Study (MCS) and an Alternative Evaluation Study (AES) be prepared and accepted by RUS prior to the start of the official NEPA process. Basin Electric has prepared this document to evaluate the system alternatives that best meet the purpose and need of the Project, as well as to identify potential alternative routes for the transmission line.

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BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Utility System	Transportation	Boundaries
Project Study Area	Existing Substation	Interstate	County Boundary
Preferred Transmission Route	Proposed Substation	US Highway	Municipal Boundary
Alternative Route		State Highway	
		Other Road	
		Railroad	
		Airport	



PROJECT MACRO-CORRIDOR



BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy Cooperative



AECOM
717 17th Street Suite 2600
Denver, CO 80202



0 2 4
Miles

File: P:\2011\11180015.01\Basin_LB2W06GIS\6.3\Layout\Resource_Maps\110222_MacroCorridor.mxd
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Data Sources: ESRI, BTS, US Census, Basin, USGS, NSBP

Figure 1-1

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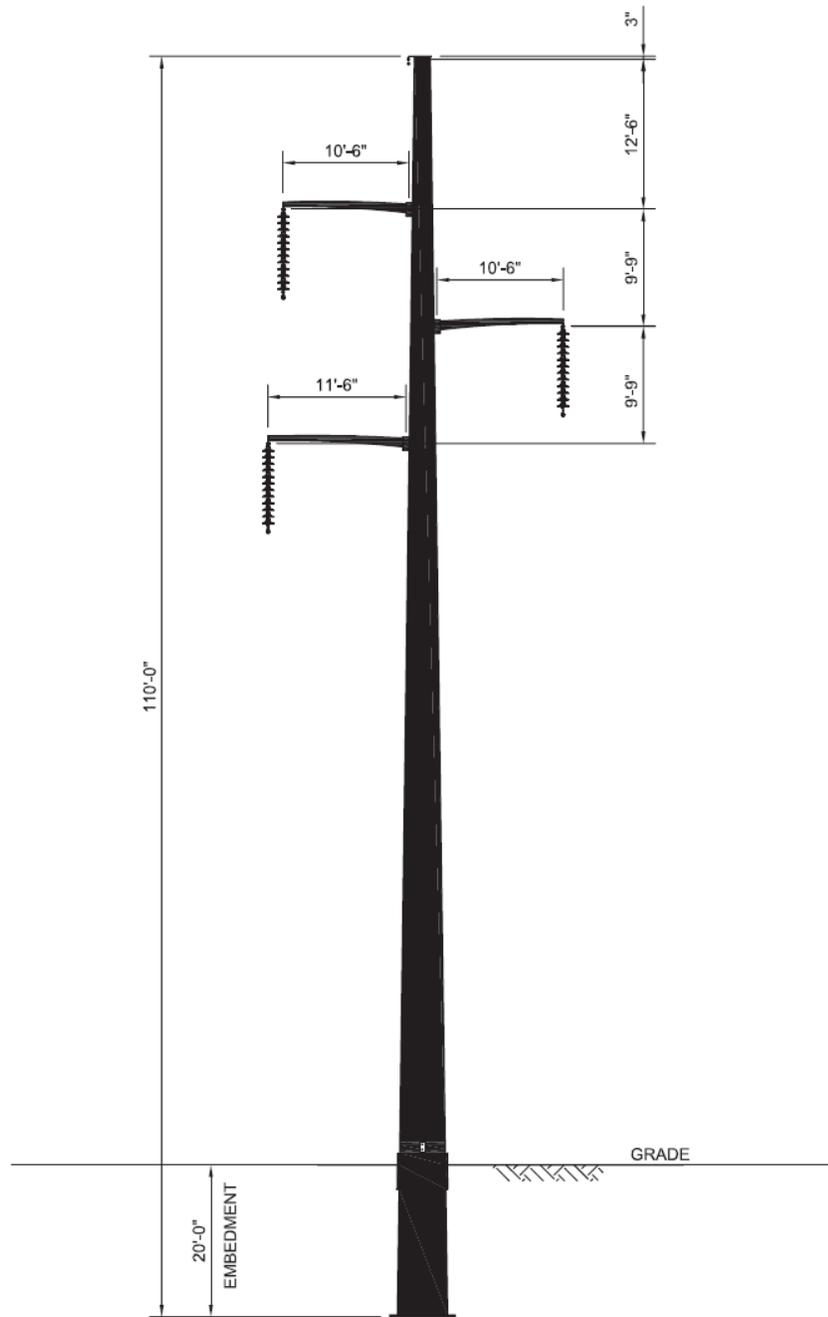


Figure 1-2: Typical Single-Circuit Single-pole Structure

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2.0 Purpose and Need

2.1 Overview of Basin Electric's Transmission System

Basin Electric, established in 1961 and headquartered in Bismarck, North Dakota, is one of the largest electric generation and transmission cooperatives in the United States. Basin Electric's core business is generating and transmitting wholesale bulk electric power to customers, which primarily consist of 135 member cooperatives located in nine states. Basin Electric's service territory spans 540,000 square miles in the central United States from the Canadian border to Mexico, including parts of Colorado, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, South Dakota, and Wyoming. Basin Electric's member cooperatives distribute electricity to about 2.8 million consumers.

Basin Electric owns 2,093 miles and maintains 2,178 miles of high-voltage transmission lines and owns and maintains equipment in 66 switchyards and 116 telecommunications sites.

No transmission lines (115-kV or greater) are present within the macro-corridor, except in the extreme northern and southern portions of the macro-corridor. Western's 230-kV Big Bend to Fort Thompson transmission line is located in the northern portion of the macro-corridor near Big Bend Dam. The Witten substation is on Western's 115-kV Fort Randall to Mission transmission line, located in the southern portion of the macro-corridor.

2.2 Existing Big Bend Switchyard

The existing Big Bend Switchyard contains eight generation interconnections (59 megawatts [MWs] each) and four step-up transformers. The 230-kV bus is split at disconnect switch 7089, providing two separate 230-kV buses. A 230-kV line connects each 230-kV bus radially to Fort Thompson Substation, which is 7 miles away. There are no 230-kV circuit breakers at Big Bend Switchyard. Replacement of switch 7089 with a 230-kV breaker was considered to allow the 230-kV buses to be connected through a breaker and add some operational flexibility. However, field investigation by Western indicated there is insufficient space to accommodate a 230-kV circuit breaker at that position.

2.3 Regional Transmission System Studies and Analyses

2.3.1 Basin Electric Transmission Studies

The Big Bend to Witten 230-kV transmission line is required to serve proposed load growth on the 115-kV system between Mission and Fort Randall substations. Much of the short-term load growth in this area is associated with provision of electrical service to pump stations for the proposed TransCanada Keystone XL pipeline. In addition to short-term load growth, the need for an additional source at the Witten Substation has been identified to improve regional system reliability and voltage stability.

2.3.2 Western Transmission System Studies

After receipt of information on the power requirements for the proposed pump stations in South Dakota associated with the TransCanada Keystone XL pipeline, Western conducted a

joint system engineering study to determine system reliability under the proposed loads at maximum electrical energy consumption. The joint system engineering studies determined that a 230-kV transmission line originating at the Fort Thompson/Big Bend area and extending south to the existing Witten Substation would be required to support voltage requirements for pump stations 20 and 21 in the Witten area when the pipeline is operating at maximum capacity.

To address this requirement, Western proposes to convert the existing Big Bend to Fort Thompson No. 2, 230-kV transmission line turning structure, located on the south side of the dam, to a double-circuit structure. Western would then construct approximately 2.1 miles of new double-circuit transmission line south to a new substation, (i.e., Lower Brule Substation), which would also be constructed by Western. The new switchyard/substation would be a 3-breaker ring bus configuration, expandable to a breaker and a half configuration. The new 2.1-mile-long double-circuit 230-kV transmission line would be owned, constructed, and operated by Western. After construction, ownership of the Lower Brule Substation would be transferred to Basin Electric, which would then own and operate it. Western would complete design of the new substation and double-circuit transmission line in 2012 and would begin construction in the spring of 2013.

2.3.3 West Central Electric Cooperative Request

West Central Electric Cooperative (West Central) has requested a 230-kV/69-kV interconnection to the proposed transmission line approximately 10 miles southwest of Big Bend Switchyard. The requested delivery point is near the town of Reliance; however, the specific location of the delivery point had not been determined as of March 2011.

2.4 Conclusion of Purpose and Need

As a result of the regional transmission studies and the need to provide additional electric power to the Witten Substation to meet anticipated increased demand, Basin Electric and Western determined that the best way to meet that need and ensure continued system reliability would be to convert the existing Big Bend to Fort Thompson No. 2, 230-kV transmission line turning structure to a double-circuit structure and to construct a new double-circuit 230-kV transmission line from this point to the new Lower Brule Substation. In addition, a new single-circuit 230-kV transmission line would be constructed from the Lower Brule Substation to the Witten Substation. Basin Electric has identified a preferred route and several alternative routes to the Witten Substation and this MCS provides an evaluation of the feasibility of the preferred and alternative routes. The potential environmental impacts of the routes will be evaluated in a separate Environmental Assessment to be prepared following public scoping.

3.0 System Alternatives Evaluated

Two major system alternatives were evaluated to meet the purpose and need of the Project. A 230-kV transmission line alternative from Lake Platte Substation to Witten Substation was considered as an electrically viable alternative to the Project. The Lake Platte alternative was eliminated from further consideration because of the technical and environmental issues associated with crossing the Missouri River.

Western determined that the Big Bend Substation, located at the Big Bend Dam, would not accommodate an expansion of two 230-kV circuit breakers that would be required for the Project. Therefore, four alternative configurations were identified and reviewed for the northern terminal. The alternatives were identified with consideration of a request from West Central Electric Cooperative to provide delivery into their 69-kV system approximately 10 miles southwest of Big Bend. The Witten Substation would serve as the southern terminal to the Project. The alternative configurations for the northern terminal are briefly described in the following sections.

3.1 Alternative Configuration 1

Alternative Configuration 1 would tap into the existing Big Bend to Fort Thompson 230-kV transmission line adjacent to the Big Bend Substation. Two options to this Alternative Configuration were identified. Option 1A would add an interconnection for the West Central Delivery at the Reliance tap; however, this option would increase the potential for a loss of the proposed transmission line. Option 1B would add a breaker at the interconnection point; this option would reduce exposure of tripping generation and potential line outage.

3.2 Alternative Configuration 2

Alternative Configuration 2 would tap into the existing Big Bend to Fort Thompson 230-kV transmission line, and a new substation would be constructed approximately 2 miles south of the Big Bend Substation. The newly constructed substation, the Lower Brule Substation with the West Central Delivery, would increase the Big Bend to Fort Thompson 230-kV transmission line reliability over Alternative Configuration 1.

3.3 Alternative Configuration 3

Alternative Configuration 3 would radially feed one double-circuit from the Big Bend to Fort Thompson 230-kV transmission line to the newly-constructed Lower Brule Substation. Should an outage occur on the Lower Brule to Fort Thompson 230-kV transmission line, then power generated from Big Bend could be transmitted on the remaining 230-kV double-circuit transmission line. Option 3A adds breakers at the Lower Brule Substation for the West Central Delivery. Option 3B would add a tap interconnection for the West Central Delivery at the Reliance Substation. Alternative 3 (Option 3B) is the proposed Alternative Configuration for this Project.

3.4 Alternative Configuration 4

Alternative Configuration 4 would loop both 230-kV double-circuits from the Big Bend to Fort Thompson 230-kV transmission line to the Lower Brule Substation with additional circuit breakers. This would provide additional reliability for the proposed transmission line, but would be the most expensive of the proposed alternatives.

4.0 Macro-Corridor Study

The purpose of the MCS was to evaluate potential alternative transmission line routes within an approximately 6-mile-wide macro-corridor between the Big Bend Dam located on the Lower Brule Indian Reservation in Lyman County and the existing Witten Substation located in Tripp County, South Dakota. This wide macro-corridor will provide flexibility to identify a preferred and at least one alternative route for the transmission line while minimizing impacts to important resources identified within the macro-corridor.

For this Project, three distinct phases for identifying and evaluating routes were undertaken as follows:

- Phase 1—Definition of the Macro-Corridor/Project Study Area
- Phase 2—Resource Data Collection and Evaluation
- Phase 3—Opportunities and Constraints Analysis

Each of these phases is described in more detail in the following sections. The final section of the document describes additional inputs to routing, which include public scoping, field reconnaissance, route refinement, and permitting.

4.1 Definition of the Macro-Corridor/Project Study Area

4.1.1 *Early Project Planning*

Two alternative corridors for the proposed transmission line were identified during early stages of Project planning and are discussed in detail in the Keystone XL project Draft Environmental Impact Statement (DEIS). Initially, a 6-mile-wide corridor was identified by Western and Basin Electric between an existing substation on the transmission grid (Witten Substation) and Big Bend Dam. Several route alternatives were identified within this initial corridor. Later, a second corridor, which is also six miles in width, was developed by Western and Basin Electric with input from the Lower Brule Reservation. This corridor followed a similar path from the existing Witten Substation to Big Bend Dam but with deviations in the southeast near Winner and the northeast near Reliance. The second corridor allowed for more direct north-south route options on the Lower Brule Reservation and is the basis for the macro-corridor identified in this study.

4.1.2 *Macro-Corridor Study Planning*

The first phase of the MCS process involved identifying the study area within which the Project would be located. The extent of a study area for a transmission line project is primarily determined by the project endpoints, the purpose and need, and the electric system requirements and components that best meet the purpose and need. As described in the Alternative Evaluation (Section 3.0), studies by Basin Electric's System Planning Group and Western determined that a new double-circuit 230-kV transmission line from the Big Bend Dam to the proposed Lower Brule Substation, and a single-circuit 230-kV transmission line

from the Lower Brule Substation to the Witten Substation offered the best way to meet the purpose and need for the Project.

Given the project endpoints (new double-circuit structure located on the south side of the Big Bend Dam in the north and Witten Substation in the south), West Central's request for interconnection in the Reliance area, and the limited number of reasonable crossing locations of the White River, the Project study area was defined as an approximately 6-mile-wide macro-corridor generally running north-south through Lyman County and into Tripp County south of the unincorporated town of Hamill. At a point approximately 6 miles south of Hamill, the macro-corridor turns southwest to the Witten Substation. The defined macro-corridor within which preliminary routes have been identified is shown in Figure 4-1. The macro-corridor encompasses approximately 250,350 acres or 391.2 square miles.

4.2 Resource Data Collection and Evaluation

The second phase of the MCS involved collecting resource data within the study area from resource management agencies, state and local governments, utility companies, and other publicly available sources. Resource data obtained from municipalities, counties, state and federal agencies, and utilities were used to prepare Geographic Information System (GIS) resource maps and included the following resource categories:

- Existing Linear Transportation and Utility Corridors;
- Land Use and Jurisdiction;
- Cultural Resources;
- Wetlands and Water Resources;
- Geologic Hazards; and
- Biological Resources.

All data collected reflect existing data readily available from the resource and local, state, and federal agencies. No new field data were collected within the macro-corridor to support the opportunities and constraints analysis.

The resource data were mapped in GIS format and combined with aerial photography to validate the identified preferred and alternative routes for the proposed transmission line within the macro-corridor. As described below, each environmental resource was categorized as an opportunity (suitable area), an avoidance area, or an exclusion area in the GIS opportunity and constraint model. The following sections describe in more detail each set of resource data that was collected as part of this analysis. Resource maps referenced in this section have been included in Appendix A.

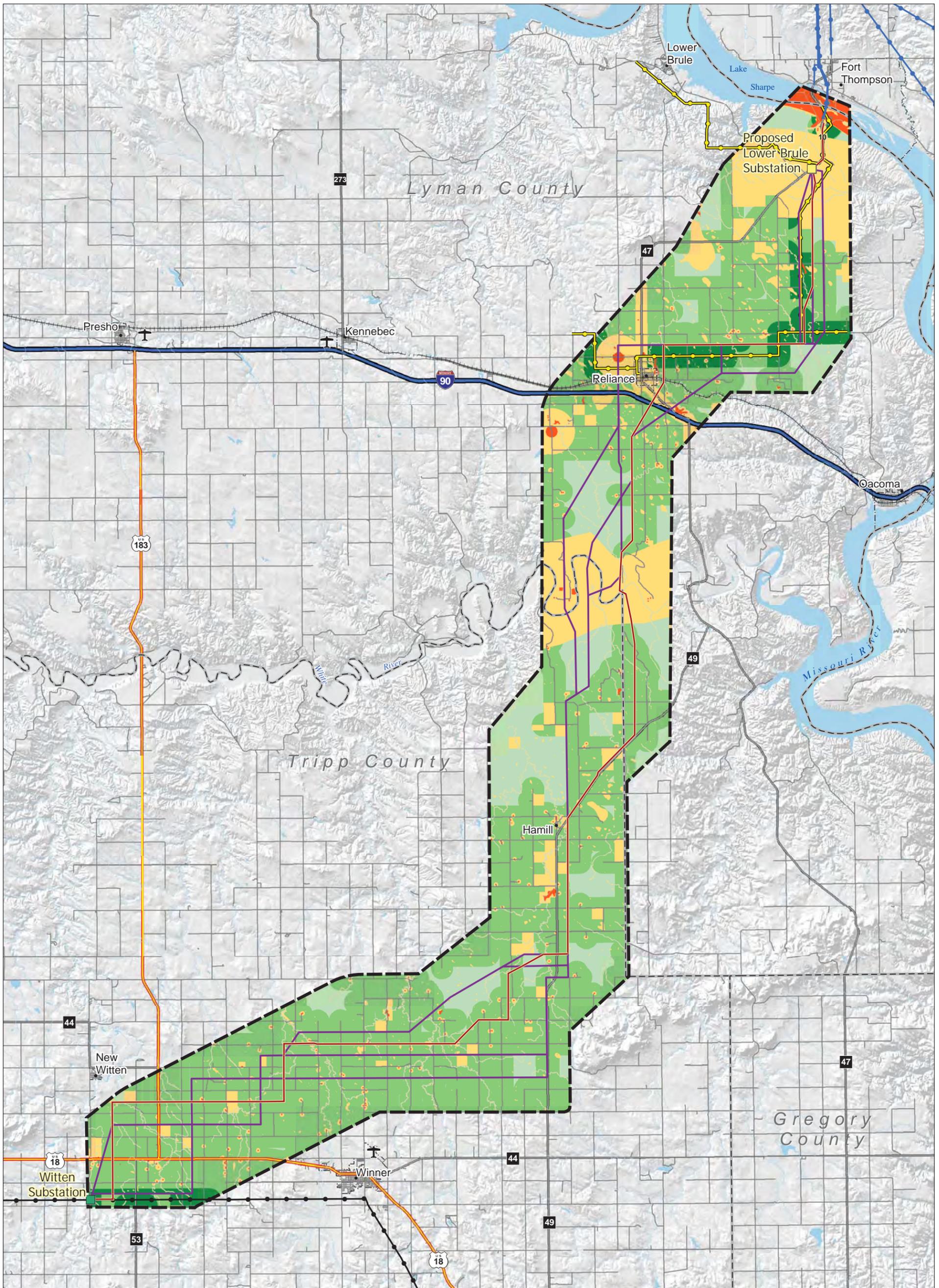
4.3 Opportunities and Constraints Analysis

The final phase of the MCS involved conducting an opportunity and constraints analysis. Project opportunity and constraint criteria were developed based on resources and characteristics of the macro-corridor that provided favorable or unfavorable attributes for

locating the proposed transmission line. The criteria classifications include opportunity, avoidance, and exclusion areas associated with each selected resource. Table 4-1 lists the opportunity and constraint criteria that were developed for the Project.

To assist in the evaluation of the preliminary routes, the GIS data for each resource were categorized as an opportunity or a constraint and a GIS-based model was developed to map the areas of opportunity and constraint. The degree of opportunity and constraint is based on the character of the resource (i.e., linear or site specific, natural or human, native or disturbed, and the proximity of the transmission line to the resource). In some cases, the opportunity and constraint mapping may show routes crossing areas of avoidance or exclusion; however, sensitive features or land uses will be taken into account during the route refinement process. In some instances, a route may be moved to avoid a sensitive area, or a sensitive feature (e.g., wetland) may be spanned. In either case, potential impacts to a sensitive resource can be avoided.

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BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features

- Project Study Area
- Preferred Transmission Route
- Alternative Route
- Boundaries**
- County Boundary
- Municipal Boundary

Opportunities & Constraints

- Opportunities
- Less Opportunity
- More Opportunity
- Avoidance
- Exclusion

Utility System

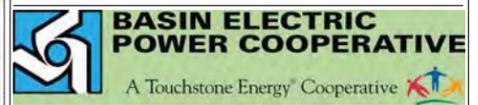
- Existing Substation
- Proposed Substation
- 230 kV & Above Transmission Line
- 115 kV Transmission Line
- 69 kV Distribution Line

Transportation

- Interstate
- US Highway
- State Highway
- Other Road
- Railroad
- Airport



OPPORTUNITIES AND CONSTRAINTS COMPOSITE MAP



Path: P:\2011\11180015_01\Basin_LB2W06GIS\6_3\Layout\OppsCons
 File: 110216_OppsCons.mxd
 Date Modified: March 30, 2011
 Projection: NAD 1983 State Plane, South Dakota South, Feet
 Data Sources: ESRI, BTS, US Census, Basin, USGS

Figure 4-1

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**Table 4-1:
Project Opportunity and Constraint Criteria**

Resource	Opportunity Area (Optimize Use for Routing)	Avoidance Area (Minimize Use for Routing)	Exclusion Area (Exclude for Routing When Possible)
<i>Existing Linear Transportation and Utility Corridors</i>			
Roads (interstate, state, county)	Within 0.5 mile of existing road	Within 0.25 mile of scenic byway (except when parallel to an existing transmission line)	—
Railroads	Within 0.25 mile of railroad	—	—
Power Lines	Within 0.50 mile of existing power lines (69-kV or greater)	—	—
<i>Land Use and Jurisdiction</i>			
Land Use/Land Cover	Cropland and Pasture Herbaceous Rangeland Mixed Rangeland Shrub & Brush Rangeland	Beaches Commercial and Services Deciduous Forest Land Mixed Urban or Built-Up Non-forested Wetland Other Agricultural Land Other Urban or Built-Up Residential Transportation, Communication, Utility	Reservoirs Strip Mines
Center-pivot Irrigation	—	—	Center-pivot irrigated fields
Jurisdiction - Municipal or Town Boundaries	—	Within municipal or town boundaries	—
Jurisdiction – State- or Corps of Engineers-owned Lands	—	Within boundary of state- or USACE-lands	—
Jurisdiction – Indian Trust Lands	—	Within boundary of Indian Trust Lands	—
Residential Areas	—	Within 500 feet of an occupied residence	Within 150 feet of an occupied residence
Schools, Parks, Recreation Areas, and other Census Landmarks	—	Within 500 feet of schools; educational facilities; cemeteries; parks; designated recreational areas; and apartments.	Within 150 feet of schools; educational facilities; cemeteries; parks; designated recreational areas; and apartments.
Communication and Radio Towers (FCC Structures)	—	Within 150 feet of FCC structure	Within 50 feet of FCC structure
<i>Cultural Resources</i>			
Class I Survey Data	—	Within 0.125 mile of Class I site	Within 100 feet of Class I site

Resource	Opportunity Area (Optimize Use for Routing)	Avoidance Area (Minimize Use for Routing)	Exclusion Area (Exclude for Routing When Possible)
<i>Wetlands and Water Resources</i>			
Wetlands	—	Within wetland boundary	—
Surface Water	—	Within 100 feet of lakes and perennial streams	—
<i>Geologic Hazards</i>			
Geologic Hazards	—	Within areas classified as moderate or high hazard	—
<i>Biological Resources</i>			
Designated Wildlife Areas	—	Federal (USFWS Jurisdiction) and State Wildlife Refuges, State Wildlife Areas, Walk-in Hunting Areas; Game and Waterfowl Production Areas	—
Sharp-tailed grouse leks	—	Within 1.0 mile of active lek	Within 0.25 mile of active lek

Avoidance areas included sensitive areas that were likely to incur environmental impacts or result in land use conflicts if directly affected by the Project. It is preferable to avoid these areas if opportunity areas are available elsewhere for locating the proposed transmission line. If a sensitive area cannot be completely avoided, impacts can be minimized through route refinement, careful placement of the transmission structures and access roads, spanning of the sensitive resource, seasonal restrictions on construction activities, and other mitigation measures.

Exclusion areas include locations with the highest level of sensitivity, including those areas with regulatory or legislative designations or extreme physical constraints not compatible with transmission line construction and/or operation. In general, locating a transmission line in these areas is not recommended and could result in increased environmental impacts, significantly higher costs, and/or additional regulatory approvals.

Figure 4-1 illustrates those areas identified as opportunities, avoidance areas, and exclusion areas based on the opportunities and constraints criteria and resource data gathered. Based on this analysis, all of the identified routes appear to provide reasonable alternatives for the proposed transmission line which avoid the majority of avoidance and exclusion areas within the macro-corridor. Although some of the routes cross areas that have been identified as avoidance and exclusion areas, routing in these areas appears feasible from an engineering perspective. Avoidance areas crossed by one or more route segments include buffers associated with potentially sensitive land uses including some residential parcels, wetland areas, areas along the White River associated with moderate landslide potential, and one sharp-tailed grouse lek. Exclusion areas crossed include buffers associated with a reservoir, a census landmark (Fletcher Landing Field), and one sharp-tailed grouse lek. During the

route refinement process, sensitive areas will be avoided or spanned to the extent feasible. The following sections describe each of the opportunity and constraint criteria in greater detail.

4.3.1 Existing Linear Transportation and Utility Corridors

Existing linear facilities and ROWs can provide suitable opportunities for routing transmission lines. For this Project, roads, railroads, and transmission lines were identified and mapped as possible opportunities (see Figure A-1). Data on the locations of roads and railroads within the macro-corridor were obtained from the South Dakota Department of Transportation (SDDOT) and U.S. Census Bureau TIGER database (2010).

Locating a transmission line along these linear features may result in fewer environmental impacts because of the existing disturbance and relatively easy access to the ROW. A general description of these transportation features is presented in the following sections.

4.3.1.1 Major Roads and Scenic Byways

There are a number of opportunities for routing the proposed transmission line along existing roadways within the macro-corridor. As shown in Figure A-1, most of the macro-corridor has a fairly extensive roadway network that includes local roads, state highways, U.S. highways, and one interstate highway. The main highways in the Lyman County portion of the macro-corridor include BIA Highway 5, South Dakota (SD) Highway 47 (SD 47), and Interstate 90 (I-90). The main highways in the Tripp County portion of the macro-corridor include SD 44, SD 49, SD 53, U.S. Highway 18 (US 18), and US 183. In order to maximize the areas of opportunity within the macro-corridor, particularly through areas in agricultural production, areas within 0.5 mile of a roadway were designated as opportunity areas.

The Native American Scenic Byway was designated as a national scenic byway on September 22, 2005. The byway traverses the Lower Brule Indian Reservation from west to east and enters the macro-corridor on BIA Highway 5. At the intersection of BIA Highway 5 and SD 47, the byway turns north and follows SD 47 north across the Big Bend Dam.

The Lewis and Clark National Historic Trail (NHT) Auto Tour Route enters the macro-corridor on SD 47 north of Reliance and continues south through Reliance on SD 47. The auto tour route leaves the macro-corridor southeast of Reliance and south of I-90. Areas within 0.25 mile of these scenic byways will be avoided to the extent feasible, unless an existing transmission line parallels the roadway. The preferred route will cross the Lewis and Clark NHT Auto Tour Route southeast of Reliance.

4.3.1.2 Railroad Rights-of-Way

The South Dakota State Railroad (formerly Dakota Southern Railroad) runs east-west across the macro-corridor through the town of Reliance immediately north of I-90. The SDDOT Office of Railroads manages the railroad ROW and utility leases. Due to the east-west orientation of the railroad, this linear feature does not provide a significant opportunity for

routing the proposed transmission line. Coordination with the Office of Railroads will be necessary since a utility lease or crossing permit would be required where the proposed transmission line crosses the railroad ROW near Reliance.

4.3.1.3 Power Lines

Existing power lines may provide opportunities for routing the proposed transmission line within or adjacent to an existing ROW. Using or paralleling the ROWs of existing power lines could potentially reduce impacts associated with construction, operation, and maintenance of the proposed transmission line. However, it may not be possible to parallel certain existing transmission lines (115-kV or greater) for reasons of system reliability. Specific assessment should be conducted to determine whether the reliability of the electric system would be jeopardized by placing the proposed transmission line in close proximity to an existing transmission line. The potential risk is that both transmission lines could be taken out of service by an accident or severe weather.

Existing transmission and distribution lines within the macro-corridor are shown in Figure A-2. In the northern part of the macro-corridor in Lyman County, the preferred route and several of the alternative routes parallel existing power lines. There are very few existing transmission lines in the central and southern portions of the macro-corridor. The only known existing transmission line in the Tripp County portion of the macro-corridor is a Western transmission line that serves the Witten Substation. One of the alternative routes parallels this transmission line along the southern boundary of the macro-corridor. Existing distribution lines that serve rural residences could provide additional opportunities for routing.

4.3.2 Land Use and Jurisdiction

4.3.2.1 Land Use and Land Cover

Land use and land cover data were obtained from the U.S. Geological Survey (USGS) National Land Cover Dataset (NLCD) (2001). Land cover describes the general categories of land uses within the macro-corridor. Figure A-3 shows the distribution of land cover types in the macro-corridor. As can be seen from the figure, the categories cropland and pasture, herbaceous rangeland, and shrub and brush rangeland constitute the majority of the land cover within the macro-corridor. These general categories of land cover types typically provide good opportunities for routing transmission lines.

4.3.2.2 Center-pivot Irrigation

Center-pivot irrigation is limited within the macro-corridor and only one parcel using this type of irrigation system has been identified near the White River. The westernmost alternative route avoids this parcel. Parcels with center-pivot irrigation systems were designated as exclusion areas, although transmission lines may be routed along the edges of these fields.

4.3.2.3 Jurisdiction

Jurisdiction and land ownership within the macro-corridor is shown in Figure A-4. Reliance is the only incorporated town within the macro-corridor; Hamill is unincorporated. Preliminary

routes are located outside of the incorporated boundary of Reliance and avoid residences near Hamill.

Data on land ownership were obtained from the South Dakota Geographic Information System (GIS). Land ownership and jurisdiction within the macro-corridor include the Bureau of Indian Affairs (BIA), Indian Trust Land, State of South Dakota, U.S. Army Corps of Engineers (USACE), and private land. An estimated 80 percent of the land in the macro-corridor is privately owned. There is one walk-in hunting area located northeast of Reliance on the Lower Brule Indian Reservation (shown as state land on Figure A-4); however, none of the routes are located near this parcel. Areas within town boundaries, state-owned, USACE-owned, and Indian Trust Lands were designated as avoidance areas.

4.3.2.4 Residences and Residential Areas

Individual residences and other structures within the macro-corridor have been digitized to aid in the routing of the transmission line. As can be seen in Figure A-5, residences are located throughout the macro-corridor. Preliminary routes for the transmission line were selected to avoid residences. For the opportunity and constraints analysis, areas within 150 feet of an occupied residence were designated as exclusion areas and areas within 500 feet of an occupied residence will be avoided during routing whenever possible.

4.3.2.5 Schools, Parks, Recreation Areas, and Census Landmarks

Data on the locations of schools, parks, recreation areas, cemeteries, and other census-identified landmarks were obtained from the U.S. Census Bureau (2010). As can be seen from Figure A-6, there are only a few census landmarks within the macro-corridor. For the opportunity and constraints analysis, areas within 150 feet of census landmarks were designated as exclusion areas and areas within 500 feet of these features were designated as avoidance areas.

There are two known recreation areas within the macro-corridor, which are located on the Lower Brule Indian Reservation. The Good Soldier Creek Recreation Area is located on the right bank of Lake Sharpe adjacent to Big Bend Dam in Lyman County. Access is from State Highway 47 to a gravel circulation road. The recreation area is primarily a day use area that covers approximately 17 acres of land, 9 acres of which are developed. Facilities include picnic sites, campsites, group picnic shelters, grills, a vault toilet, a playground, horseshoe pits, a handicap-accessible fishing dock, large parking areas, a non-operating water treatment plant, and a two-lane boat ramp with a dock.

The Right Tailrace Recreation Area is located immediately downstream and adjacent to Big Bend Dam in Lyman County. The recreation area is accessible from State Highway 47. The area consists of approximately 148 acres with roughly one-third of the area developed. Facilities include picnic sites, a group picnic area, a primitive campground, handicap accessible fishing pier, a playground, a comfort station with shower, potable water, a fish-cleaning table, a fixed dock for pedestrian visitors, and a one-lane boat ramp with a courtesy dock. The Right Tailrace Recreation Area affords year-round use. The main uses of the area

include both water-oriented and land-based recreation activities including boating, fishing, camping, picnicking, hiking, and wildlife viewing.

There are three known cemeteries within the macro-corridor. The Saint Mary's Cemetery is located north of Reliance and the Trinity Cemetery is located southwest of Reliance on the south side of I-90. A third cemetery is located near Hamill. None of these cemeteries are located within 500 feet of the preferred or an alternative route.

4.3.2.6 Communication and Radio Towers

The locations of communication facilities within the macro-corridor were obtained from the Federal Communications Commission (FCC). Communication facilities include television transmission towers, microwave towers, and cellular telephone towers (FCC 2009). There are approximately 22 communications facilities within the macro-corridor. These facilities are generally scattered throughout the macro-corridor as shown in Figure A-7.

The Project will follow all FCC regulations for siting transmission lines and structures near communication facilities. For the opportunity and constraints analysis, areas within 50 feet of a communications facility were designated as exclusion areas and areas within 150 feet of a communications facility were designated as avoidance areas.

4.3.2.7 Airports

Data on airports within and near the macro-corridor were obtained from the Bureau of Transportation Statistics (BTS) airport data (2006) and the U.S. Census Bureau (2010). The Fletcher Landing Field is the only known airstrip within the macro-corridor. The alternative transmission route southeast of Reliance crosses a portion of the parcel that contains the identified landing strip. Based on a telephone conversation between Basin Electric and a representative from the town of Reliance regarding this parcel, the landing strip has had no known use in several years, and does not appear to be active. Therefore, this landing strip would not be considered an avoidance area during the route refinement process.

There are no known public airports within the macro-corridor. The nearest public airport (Winner Regional Airport or Bob Wiley Field) is approximately 3 miles from the nearest alternative segment, and the proposed transmission structures should not pose a hazard to aircraft arriving at or departing from the airport. Airports near the macro-corridor are shown in Figure A-1.

4.3.3 Cultural and Historic Resources

There are no known National Register of Historic Places (NRHP) listed sites within the macro-corridor. Previously collected Class I cultural resources survey data were included in the opportunity and constraints analysis. Areas within 100 feet of Class I sites were designated as exclusion areas and areas within 0.125 mile of Class I sites were designated as avoidance areas.

The main Class I cultural resources that could potentially be affected by the Project are several bridges more than 50 years old, which are located throughout the macro-corridor. These bridges were previously determined to be ineligible for inclusion on the NRHP; however, they have been retained in the MCS since they may have local significance. Bridges identified in the Class I inventory near the preferred route include bridges over Red Butte, Black Dog, Thunder, and Dog Ear creeks, and a branch of Thunder Creek. A second bridge over Dog Ear Creek is located in close proximity to one of the alternative routes.

Five previously identified potentially historic structures over 50 years old are located within the macro-corridor. None of these structures is located within 0.125 mile of either the preferred route or an alternative route. The general locations of structures and bridges identified in the Class I inventory are shown in Figure A-8. Due to the sensitive nature of cultural resource data, other Class I cultural resource sites are not shown on the figure; however, the locations of these sites will be taken into account during the route refinement phase of the Project.

4.3.4 Wetlands and Water Resources

4.3.4.1 Wetlands

Wetlands and surface water features within the macro-corridor are shown in Figure A-9. Data on the locations of wetlands in the macro-corridor were obtained from the National Wetlands Inventory (NWI). Areas of wetlands are scattered throughout the macro-corridor, with a large concentration of wetlands north of I-90. The preliminary routes generally avoid areas with large numbers of wetlands. Impacts to wetlands can typically be avoided through careful placement of transmission structures and by spanning the transmission line across wetland areas. The maximum distance that can be spanned is approximately 950 feet.

As part of the opportunity and constraints analysis, areas within mapped wetland boundaries were designated as avoidance areas. Wetlands surveys will be conducted prior to final design and construction so that the transmission line can be routed to minimize impacts to these resources.

4.3.4.2 Surface Water

River and stream data were obtained from the USGS National Hydrological Dataset (NHD). The Project would cross the White River as well as a number of named creeks and their tributaries within the macro-corridor. In Lyman County, Short, North Fork American Crow, and Red Butte creeks and tributaries would be crossed by the proposed transmission line. In Tripp County, the Project would cross Black Dog, No Moccasin, Thunder, Dog Ear, Hollow, and East Cottonwood creeks and a number of smaller tributaries. West Cottonwood Creek also enters the far western portion of the macro-corridor north of the Witten Substation; however, it does not appear that West Cottonwood Creek would be crossed by any of the proposed alignments. Areas within 100 feet of surface waters were designated as avoidance areas. All of the surface waters within the macro-corridor, including the White River, can be

spanned by the proposed transmission line and it is unlikely that the Project would result in impacts to these surface waters.

4.3.5 Geologic Hazards

The principal geologic hazards identified within the macro-corridor are landslide hazards. Steeper slopes along the White River have been classified as moderate hazard areas, while slopes along the Missouri River have been classified as high hazard areas. For the opportunity and constraints analysis, areas of both moderate and high landslide hazards have been classified as avoidance areas since transmission line routing in these areas appears feasible from an engineering perspective. Landslide hazards are shown in Figure A-10.

4.3.6 Biological Resources

4.3.6.1 Vegetation and Wildlife

Vegetation

The land cover types present within the macro-corridor are shown in Figure A-3. The dominant land cover types include agricultural cropland and mixed grass prairie communities (i.e., rangeland), with some areas of shrub and brush rangeland present near the White River. Several nonforested wetlands are also located within the macro-corridor. Preliminary routes for the proposed transmission line were selected to avoid these larger wetland complexes. Smaller wetlands can be spanned to minimize potential impacts.

Wildlife

The macro-corridor contains mixed grass prairie, which provides habitat for resident and migrant songbirds such as the Brewer's sparrow, horned lark, lark bunting, and several species of sparrows. Wetlands and prairie potholes support species of waterfowl and shorebirds, and provide forage and stopover habitat for migrating species in the spring and fall. Mammals in the area would likely include fox, coyote, prairie dog, gopher, badger, and rodent species. Common wildlife species observed during site visits will be documented; however, habitat areas for these species were not included in the opportunity and constraints analysis.

4.3.6.2 Threatened, Endangered and Special Status Species

Federal Species of Concern

Federally threatened species are those species, subspecies, or varieties likely to become endangered within the foreseeable future throughout all or a significant portion of their range. Federally endangered species are those species, subspecies, or varieties already in danger of extinction throughout all or a significant portion of their range. Federal candidate species are those species being considered for listing as endangered or threatened, but for which a proposed regulation has not yet been published in the *Federal Register*. Species listed as threatened and endangered that may occur within Lyman and Tripp counties are shown in Table 4-2.

Table 4-2:
Federally Threatened and Endangered Species in Lyman and Tripp Counties

Common Name	Scientific Name	County	Group	Status	Avoidance
Whooping crane	<i>Grus americana</i>	Lyman, Tripp	Bird	FE	Avoidance of wetlands/surface waters
Least tern	<i>Sterna antillarum athalassos</i>	Lyman	Bird	FE	Avoidance of waters/shorelines
Piping plover	<i>Charadrius melodus</i>	Lyman	Bird	FT	Avoidance of waters/shorelines
Black-footed ferret	<i>Mustela nigripes</i>	Lyman, Tripp	Mammal	FE	Avoidance of prairie dog colonies
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Lyman	Fish	FE	Avoidance of Missouri River
American burying beetle	<i>Nicrophorus americanus</i>	Tripp	Insect	FE	No avoidance measures proposed at this time due to the variety of habitats including, forests, grasslands, wetlands.

Electronic resource data for the other threatened and endangered species were not available at the time this MCS was completed. Habitat and occurrences of these additional species will be assessed in greater detail during the route refinement process based on additional data received from the agencies. Basin Electric and the agencies will work with South Dakota Game, Fish and Parks (SDGFP) and U.S. Fish and Wildlife Service (USFWS) throughout the routing process to minimize impacts on threatened and endangered species and their habitats.

Other Species of Concern

Bald Eagle

The bald eagle was de-listed from the Endangered Species Act on June 28, 2007, but is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The bald eagle commonly inhabits suitable nesting and foraging habitats near reservoirs and rivers. Bald eagle habitat within the macro-corridor has been identified by the South Dakota Natural Heritage Program (SDNHP) and will also be documented during biological site visits. This information will be used during the route refinement process to avoid bald eagle habitat to the extent feasible, and any known nest locations would be avoided.

Migratory Birds

Migratory birds are protected under the Migratory Bird Treaty Act. During the route refinement phase of the Project, data from SDNHP and biological site visits will be used to avoid important migratory bird habitats such as wetlands. SDGFP and USFWS will be consulted to determine appropriate measures to avoid impacts to migratory birds.

Initial agency consultation letters were sent to USFWS and SDGFP on February 23, 2011. In addition, a request for species occurrence data was submitted to SDNHP. Species information obtained during initial consultation with the agencies will be incorporated into the route refinement process.

4.3.7 Data Considered, But Not Used in Macro-Corridor Analysis

4.3.7.1 Soils

Soil data for the macro-corridor were obtained from the Natural Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) database. For the preliminary analysis of routing opportunities, data on the erosion potential of soils by water and wind were mapped, but were not included in the opportunities and constraints model because highly erodible soils are present throughout the macro-corridor and these data were not useful in discriminating among the various routes.

4.3.7.2 Slope

Slope was identified and mapped using the USGS National Elevation Dataset 30-meter Digital Elevation Model and the Spatial Analyst extension in ArcGIS 9.1. As shown in Figure A-11, the majority of the macro-corridor consists of slopes of less than 30 percent. Areas of steeper slope are generally concentrated near the Missouri River, north and south of the White River, and are associated with various landforms that occur throughout the macro-corridor.

Slope may be classified as either an opportunity or a constraint depending on its degree and orientation. Opportunities associated with slope exist where landforms provide visual screening of the transmission line. In contrast, steep terrain is typically avoided or excluded during routing because constructing a transmission line and access roads on steep slopes could require complex engineering and may result in potential environmental impacts. Given the generally low slope within the macro-corridor and the ability to avoid steeper terrain during final routing, slope should not be a significant factor for routing the Project. Consequently, slope data were mapped, but were not included in the opportunities and constraints model.

4.3.7.3 Agriculture

Agricultural land uses, including cultivated cropland, pasture, and herbaceous rangeland, are present throughout the macro-corridor and collectively represent more than 90 percent of land use within the macro-corridor.

Data regarding regions of important farmland were obtained from the SSURGO database. The three main categories of important farmland within the macro-corridor are "prime farmland," "farmland of statewide importance," and "prime farmland if irrigated." As shown in Figure A-12, areas categorized as important farmland are present throughout the macro-corridor. The acreage and percentage of important farmland in the macro-corridor is presented in Table 4-3.

Table 4-3:
Important Farmland in the Macro-Corridor

SSURGO Farmland Category	Acres	Square Miles	Percent of Total Land Area
All Areas are Prime Farmland	3,121	4.9	1%
Farmland of Statewide Importance	60,505	94.5	24%
Prime Farmland, If Irrigated	74,146	115.9	30%
TOTALS	137,772	215.3	55%

Approximately 55 percent of the area of the macro-corridor is classified as important farmland. Due to its widespread distribution throughout the macro-corridor, areas of important farmland were not specifically categorized as avoidance areas at this stage. Given the nature of the Project, it is unlikely there would be actual conversion of important farmland, but coordination with the USDA NRCS will assist in this determination. The proposed transmission line will be routed along the edges of cultivated fields whenever possible, and Basin Electric will work with landowners to avoid impacts to farming operations.

4.3.7.4 Oil and Gas Wells

Based on data available from the South Dakota Geological Survey, there is no current oil or gas production in Lyman or Tripp counties, and the four oil and gas wells within the macro-corridor were dry holes that have been plugged and abandoned. Consequently, the presence of these former wells should not be a factor in the routing of the transmission line.

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5.0 Additional Inputs to Routing and Alternatives

As discussed in Section 4.0, the opportunities and constraints analysis was used to validate the preliminary route options that have been identified within the macro-corridor. The route validation and refinement process continues through public scoping and field reconnaissance. Issues raised by the public and landowners, and additional constraints identified in the field can play a significant role in route refinement. By including these additional inputs, a preferred route and one or more alternative routes will be identified for analysis in the Environmental Assessment (EA) and presented to the South Dakota Public Utilities Commission (PUC) and local agencies for permitting. These additional inputs are discussed in the following sections.

5.1 Public Scoping and Stakeholder Involvement

Public and stakeholder involvement and Project communications will be integral to the evaluation of the preliminary routes within the macro-corridor and the selection of a preferred and an alternative route for detailed environmental analysis.

The public involvement process will include public scoping meetings that will occur at the beginning of the formal NEPA process. At these meetings, hosted by the agencies, Basin Electric will present the macro-corridor and preliminary routes to the public and solicit input regarding issues of concern. This input will assist in refining the alternative routes as well as determining the level of analysis necessary to address the relevant issues. Public input will continue to be a part of the Project through the NEPA process and the development of the EA for the Project.

Stakeholders are those people and organizations that may be affected or have some interest in the Project. Potential stakeholders for this Project identified to date include the following entities:

- Businesses, residents, and property owners along the identified routes;
- Towns of Reliance, Hamill, Winner, and New Witten;
- State and local elected officials;
- SDGFP;
- SDDOT;
- Native American tribes;
- Bureau of Indian Affairs;
- USACE;
- USFWS; and
- National Park Service.

Public scoping meetings for this project are scheduled in the towns of Reliance and Winner for the week of April 25, 2011. Notification of public meetings will be sent to stakeholders and will be posted in local news media prior to the meetings.

5.2 Field Reconnaissance and Identification of Route-Specific Constraints

Field reconnaissance within the macro-corridor is planned for the week of April 25, 2011. The field reconnaissance will be used to ground-truth data that have already been collected and identify additional route-specific constraints. Field observations may include determining the extent of floodplains and wetlands and identifying other visible constraints that could influence routing decisions. These items are discussed in the following sections.

5.2.1 Floodplains

The 100-year floodplain delineation is typically used to define floodplain hazard areas. Local and state governments, as well as the Federal Emergency Management Agency (FEMA), strongly discourage development within floodplains. Floodplains can generally be spanned or avoided through careful pole placement. The floodplain of the White River at the proposed crossing locations will be observed during the field reconnaissance to determine if the floodplain will pose a challenge for routing. Once an alignment and alternatives are chosen, hardcopy FEMA floodplain maps, if available, would be included in the analysis.

5.3 Route Refinement and Comparative Analysis

Through a process that includes resource impact assessment and landowner, public, and agency involvement, specific alternative routes will be identified (Phase 5 of the siting process). This allows for the quantification of Project-related impacts associated with each route alternative. Potential routes that are identified would need to meet the Project objectives, which require that the routes:

- Connect both substations;
- Maximize opportunities and minimize constraints and avoidance areas through more detailed analysis; and
- Are cost-effective.

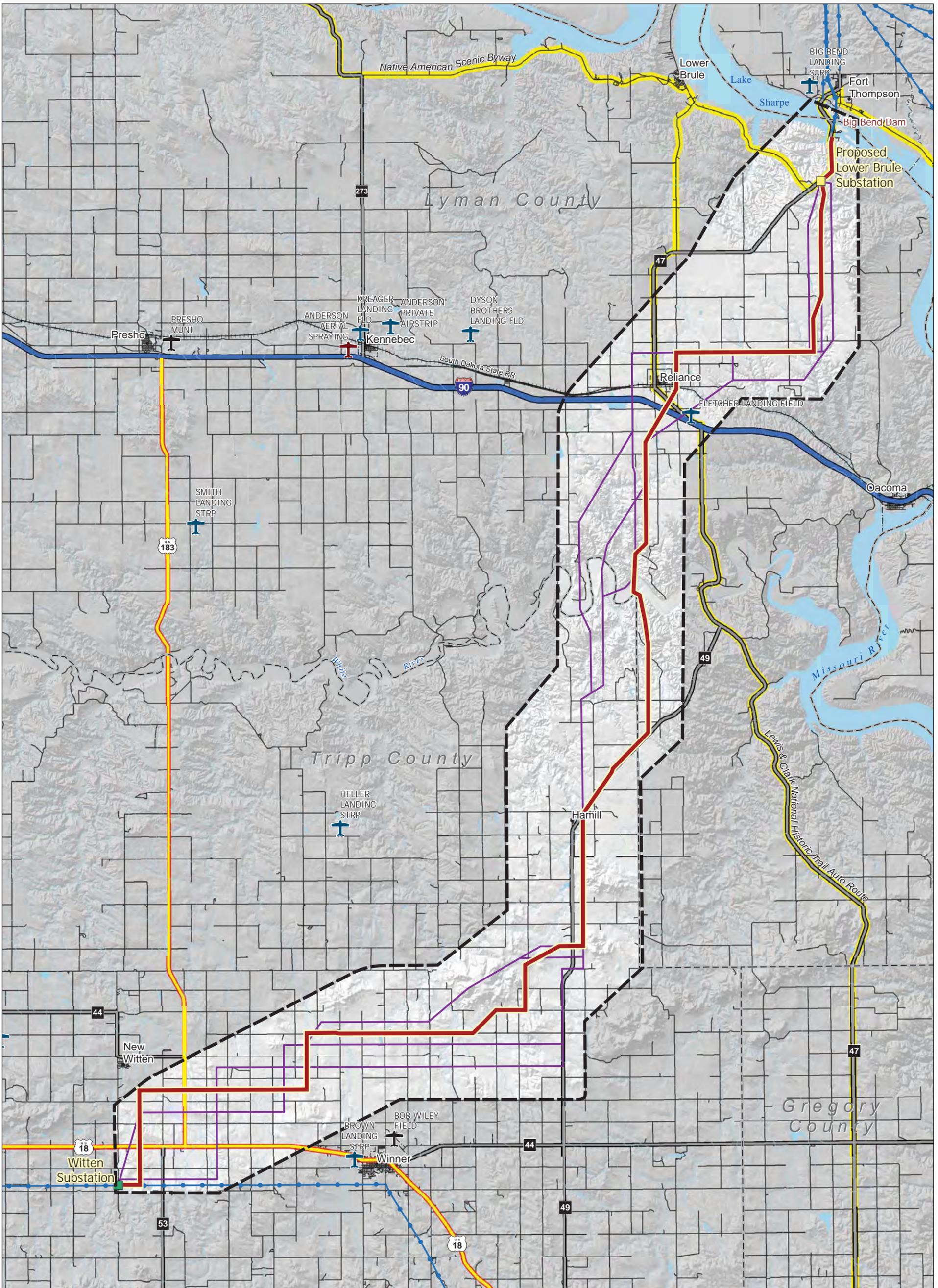
The route refinement process will involve assessing the environmental consequences that are expected as a result of implementation of the Project. Potential routes will be analyzed on a segment-by-segment basis using routing criteria developed through the public/agency consultation process. These criteria will expand upon the opportunity and constraints criteria used in the MCS. For each of the routing criteria, segment impacts will be quantified to allow for easy comparison. Impact values associated with each of the route alternatives will then be summed and a rank will be assigned to each route alternative, with 1 representing the least impact and a higher number (depending on the number of alternatives considered) representing the most impact. An alternative's ranking will reflect the relative impact that a given route alternative has on resources compared to the impacts of the other alternatives.

6.0 References Cited

- BTS (U.S. Department of Transportation, Bureau of Transportation Statistics), 2006. Data on the locations of airports. Available online at:
http://www.bts.gov/programs/geographic_information_services/
- FCC (Federal Communications Commission), 2009. Data on the locations of communications facilities. Available online at:
http://wireless.fcc.gov/geographic/index.htm?job=licensing_database_extracts
- NPS (National Park Service), 2008. Data on the location of properties listed on the National Register of Historic Places. Available online at: <http://www.nps.gov/nr/research/>
- NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service), 2011. Data on soils and soil type. Available online at: <http://soildatamart.nrcs.usda.gov/>
- SDGIS (South Dakota Geographic Information System), 2011. Data on land ownership and jurisdiction. Available online at: <http://arcgis.sd.gov/server/sdGIS/Data.aspx>
- TransCanada, 2009. Final Report, Keystone XL Pipeline, Integrated System Eastern Interconnection Transmission Impacts, Integrated System Network Load Study, May 15.
- USACE (U.S. Army Corps of Engineers), 2003. Big Bend Dam/Lake Sharpe Master Plan, Missouri River, South Dakota, Update of Design Memorandum MB-90. October.
- U.S. Census Bureau, 2010. Data on roads, railroads, and census landmarks from TIGER database. Available online at:
<http://www.census.gov/geo/www/tiger/tgrshp2010/tgrshp2010.html>
- USFWS (U.S. Fish and Wildlife Service), 2010. Data on the location of wetlands in the National Wetlands Inventory. Available online at:
<http://www.fws.gov/wetlands/Data/DataDownload.html>
- USGS (U.S. Geological Survey), 1999. National Hydrography Dataset. Data on the locations of streams, rivers, lakes and other water features. Available online at:
<http://nhd.usgs.gov/>
- USGS (U.S. Geological Survey), 2001. National Land Cover Dataset. Available online at:
<http://seamless.usgs.gov/index.php>

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Appendix A—Resource Maps



BIG BEND TO WITTEN TRANSMISSION PROJECT

- | | | | |
|------------------------------|-----------------------|-------------------------|-----------------------|
| Project Features | Transportation | Airport (BTS) | Boundaries |
| Project Study Area | Interstate | Private | County Boundary |
| Preferred Transmission Route | US Highway | Public | Municipal Boundary |
| Alternative Route | State Highway | Census Landmarks | Utility System |
| | Other Road | Airport or Airfield | Existing Substation |
| | Scenic Byway | | Proposed Substation |
| | Railroad | | Transmission Line |



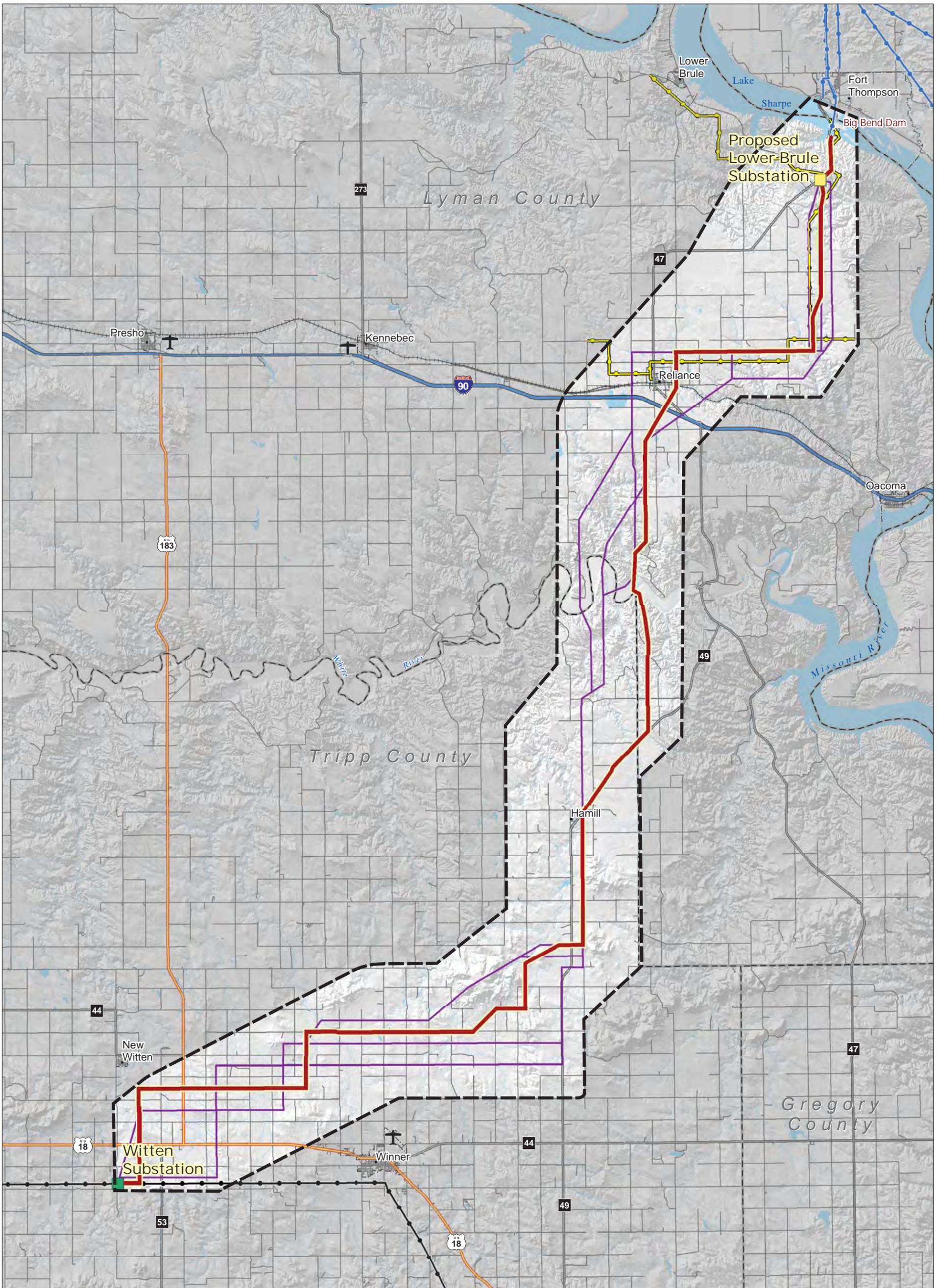
TRANSPORTATION

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Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, NSBP

Figure A-1



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Utility System	Transportation	Boundaries
Project Study Area	Existing Substation	Interstate	County Boundary
Preferred Transmission Route	Proposed Substation	US Highway	Municipal Boundary
Alternative Route	230 kV & Above Transmission Line	State Highway	
	115 kV Transmission Line	Other Road	
	69 kV Distribution Line	Railroad	
		Airport	



UTILITIES

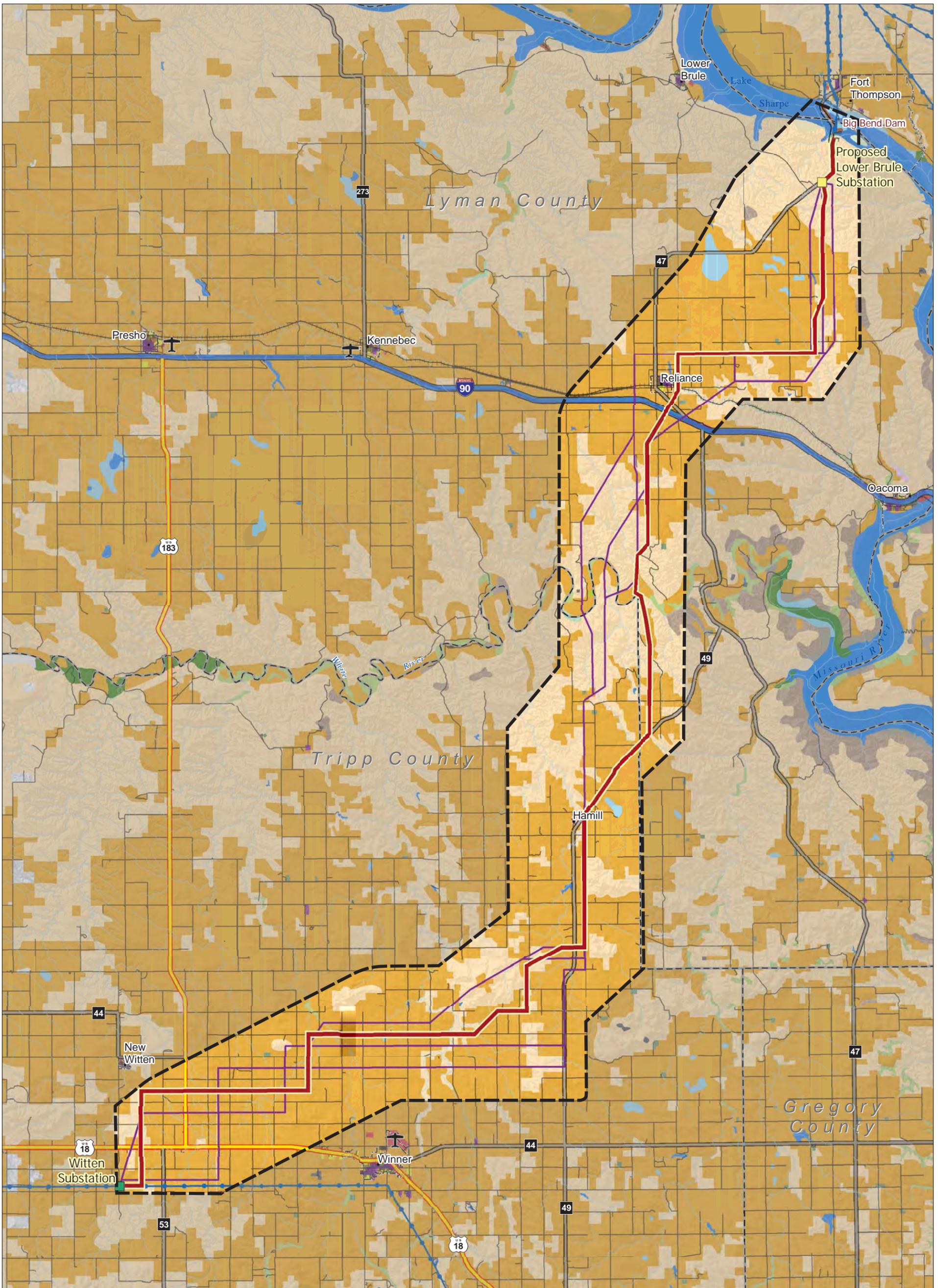
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Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, NSBP

Figure A-2



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features		Land Cover		Transportation		Utility System	
	Project Study Area		Deciduous Forest Land		Lake/Reservoir		Existing Substation
	Preferred Transmission Route		Herbaceous Rangeland		Residential		Proposed Substation
	Alternative Route		Mixed Rangeland		Forested Wetland		Transmission Line
	Beaches		Mixed Urban Or Built-up		Shrub & Brush Rangeland		Industrial
	Commercial And Services		Nonforested Wetland		Strip Mines		County Boundary
	Cropland And Pasture		Other Agricultural Land		Transportation/Communication/Utility		Municipal Boundary
			Other Urban Or Built-up		Center Pivot Irrigation		Other Road
					Railroad		Airport



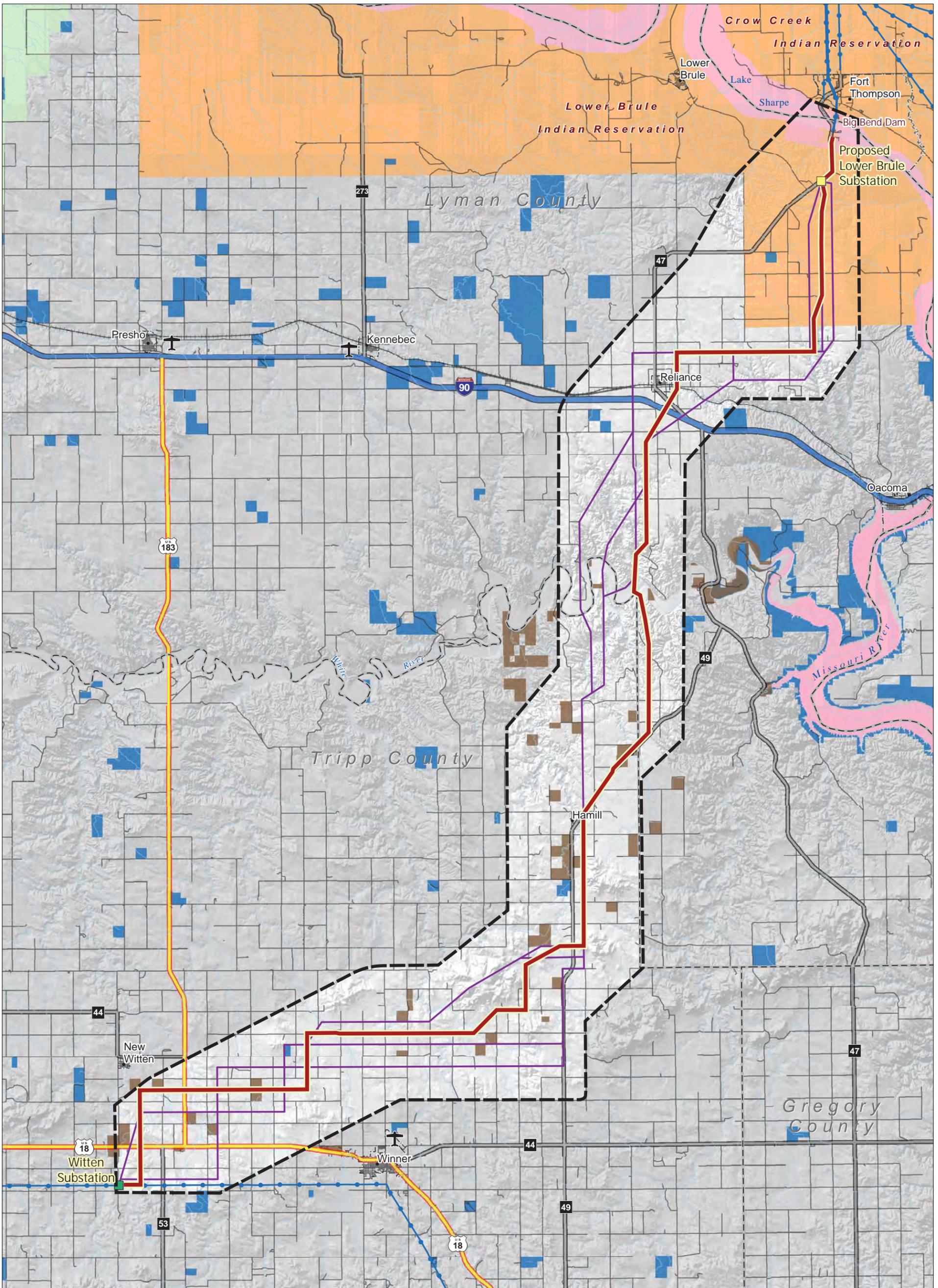
LAND COVER

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Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, NSBP

Figure A-3



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Jurisdiction	Transportation	Boundaries
Project Study Area	Municipal	Interstate	County Boundary
Preferred Transmission Route	DOD - Army Corps of Engineers	US Highway	Existing Substation
Alternative Route	BIA - Indian Reservation	State Highway	Proposed Substation
	USFS - National Grassland	Other Road	Transmission Line
	State of South Dakota	Railroad	
	Indian Trust Land	Airport	



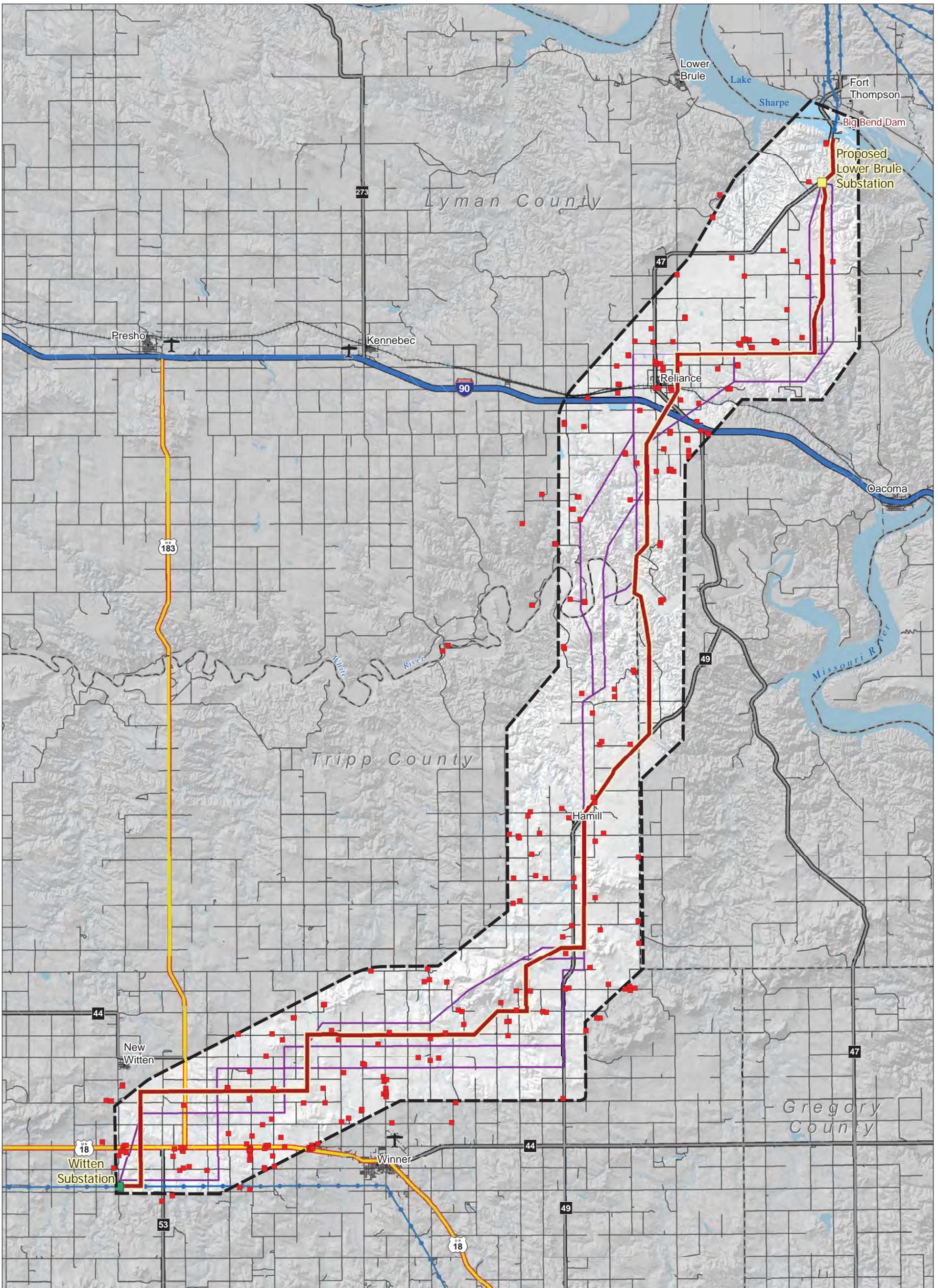
JURISDICTION

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Figure A-4

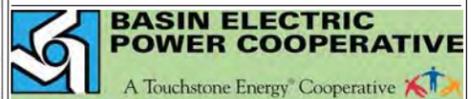


BIG BEND TO WITTEN TRANSMISSION PROJECT

- | | | |
|------------------------------|-----------------------|-----------------------|
| Project Features | Transportation | Boundaries |
| Project Study Area | Interstate | County Boundary |
| Preferred Transmission Route | US Highway | Municipal Boundary |
| Alternative Route | State Highway | Utility System |
| Digitized Residence | Other Road | Existing Substation |
| | Railroad | Proposed Substation |
| | Airport | Transmission Line |



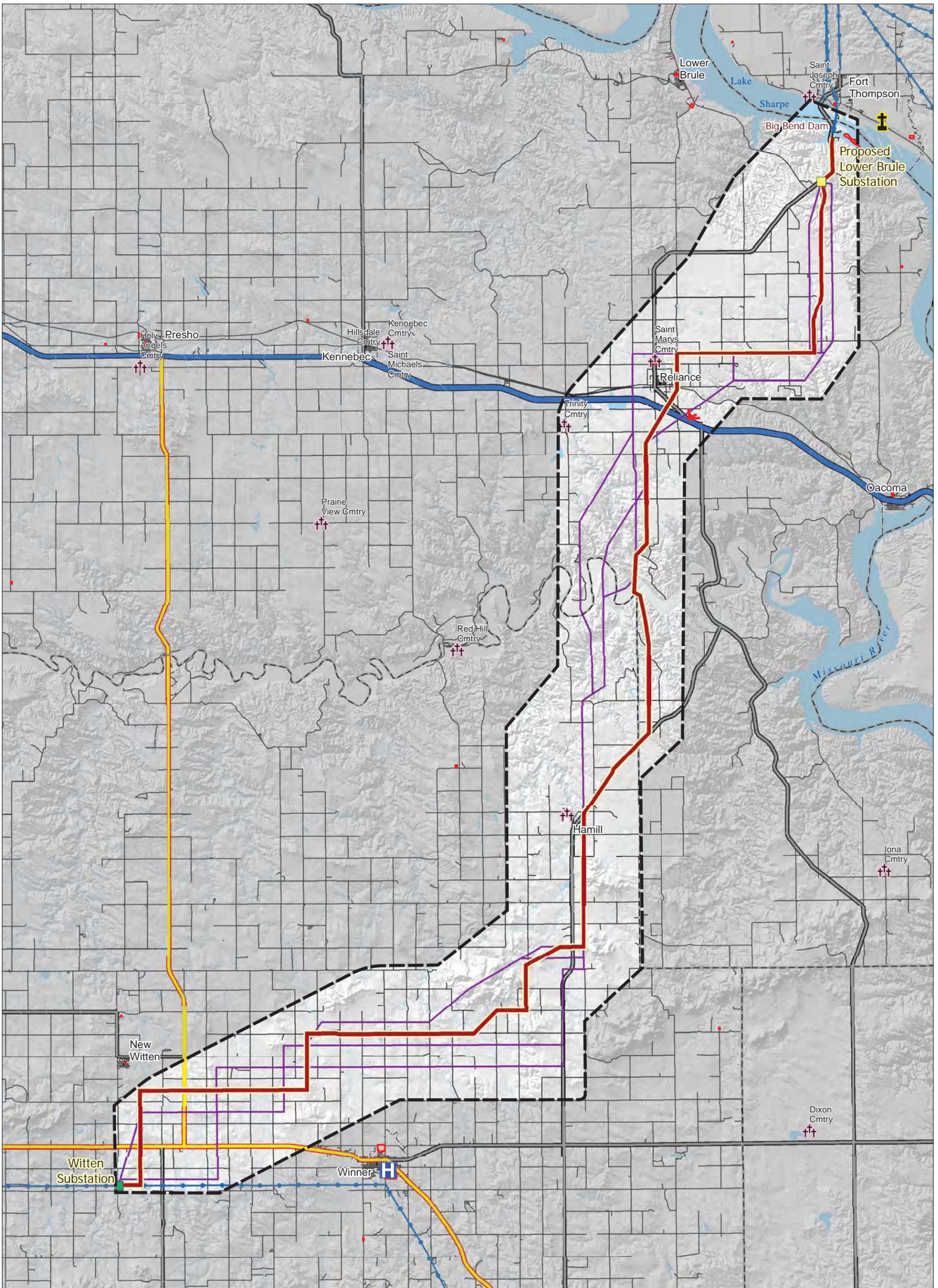
RESIDENCES



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Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, NSBP

Figure A-5



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Transportation	Boundaries	Census Landmarks
Project Study Area	Interstate	County Boundary	Cemetery
Preferred Transmission Route	US Highway	Municipal Boundary	Hospital/Hospice
Alternative Route	State Highway	Existing Substation	Local Jail
	Other Road	Proposed Substation	Place of Worship
	Railroad	Transmission Line	School or Academy
			Landmark Area



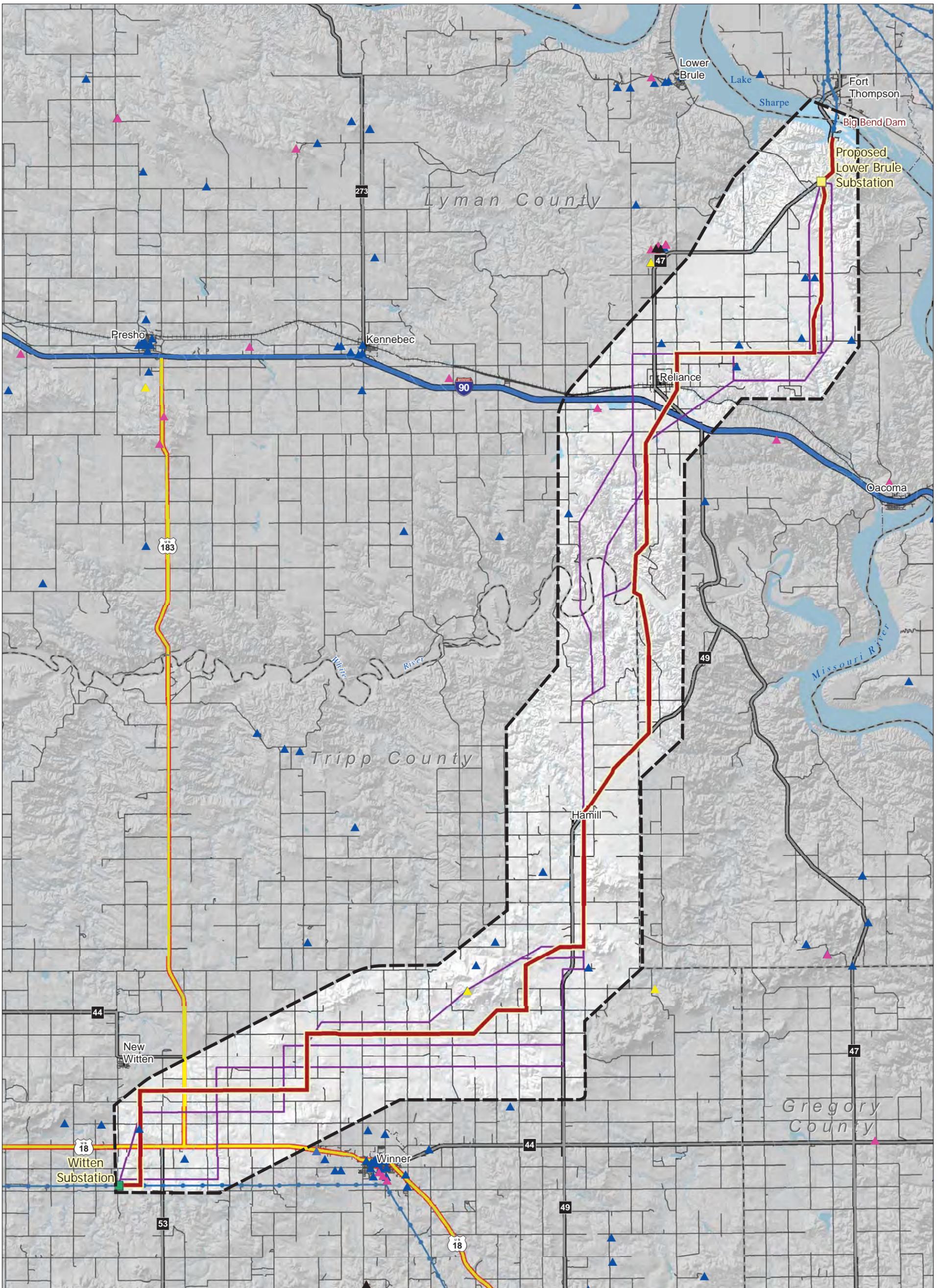
CENSUS LANDMARKS

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Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS

Figure A-6



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Transportation	Utility System	Communication Structures
Project Study Area	Interstate	Existing Substation	ASR
Preferred Transmission Route	US Highway	Proposed Substation	BRS EBS
Alternative Route	State Highway	Transmission Line	Cellular
County Boundary	Other Road	AM	LM BCAST
Municipal Boundary	Railroad	FM	LM COMM
			Microwave
			Paging
			TV Digital
			TV NTSC
			LM Private
			MDS ITFS



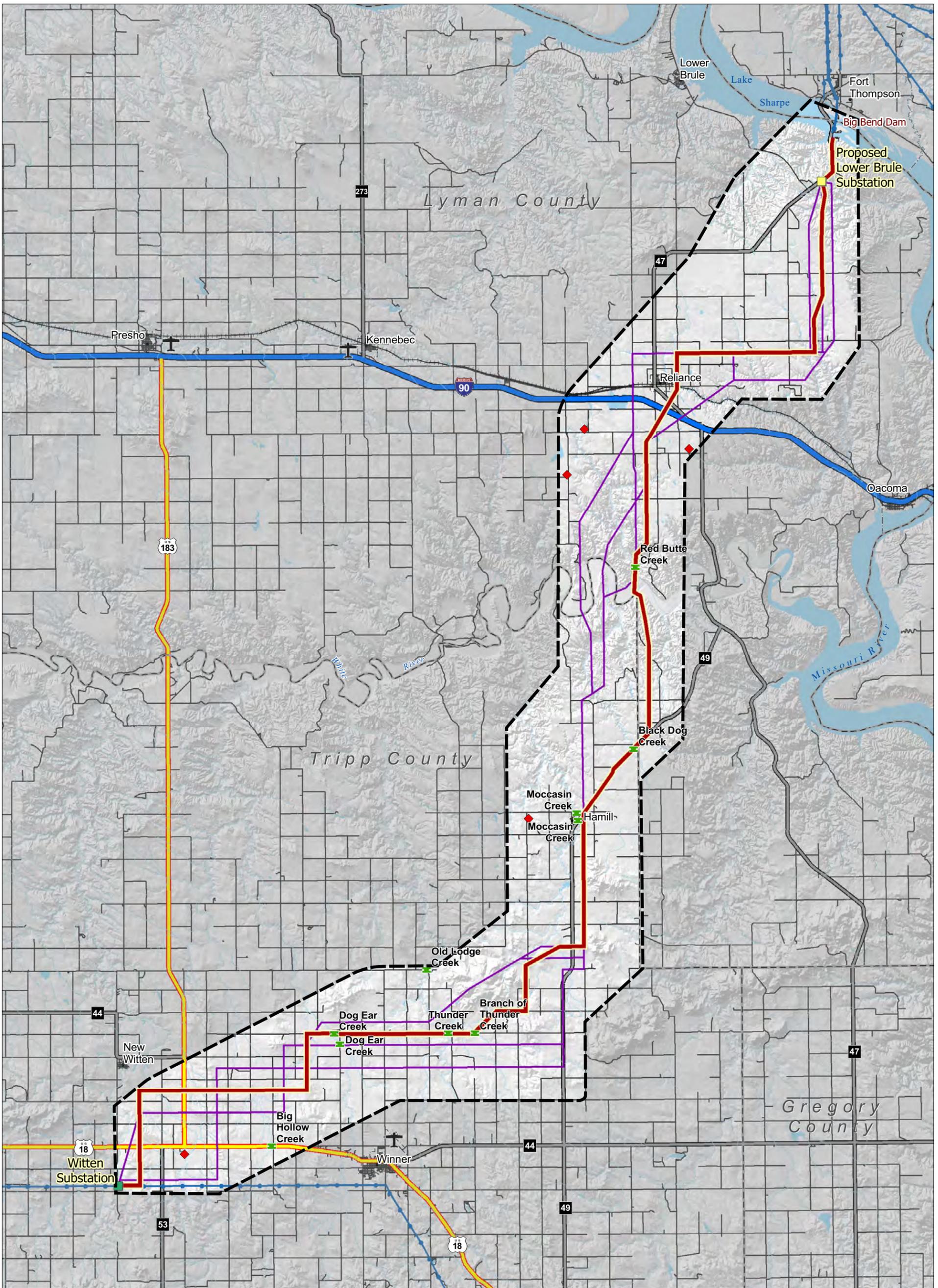
COMMUNICATION FACILITIES

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Data Sources: ESRI, BTS, US Census, Basin, USGS, FCC

Figure A-7



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Class I Cultural Resources	Transportation	Boundaries
Project Study Area	Bridge	Interstate	County Boundary
Preferred Transmission Route	Structure	US Highway	Municipal Boundary
Alternative Route		State Highway	Utility System
		Other Road	Existing Substation
		Railroad	Proposed Substation
		Airport	Transmission Line



CULTURAL RESOURCES

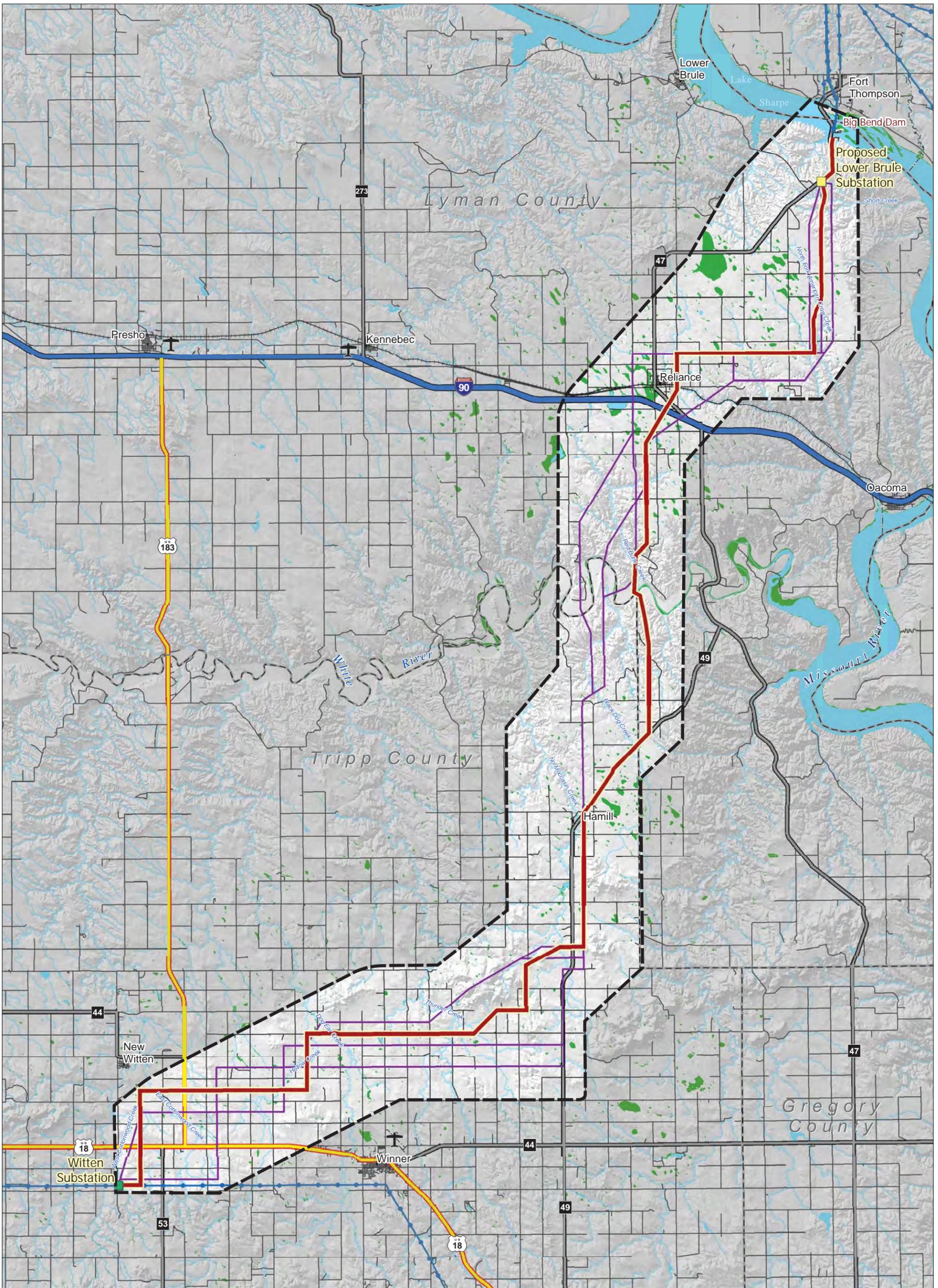
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Scale: 0, 2, 4 Miles

Figure A-8

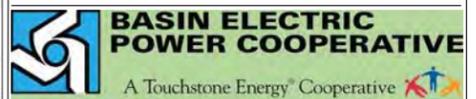


BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Hydrology & Wetlands	Transportation	Boundaries
Project Study Area	Water Body	Interstate	County Boundary
Preferred Transmission Route	Stream/River/Canal	US Highway	Municipal Boundary
Alternative Route	NWI Wetland	State Highway	Utility System
		Other Road	Existing Substation
		Railroad	Proposed Substation
		Airport	Transmission Line



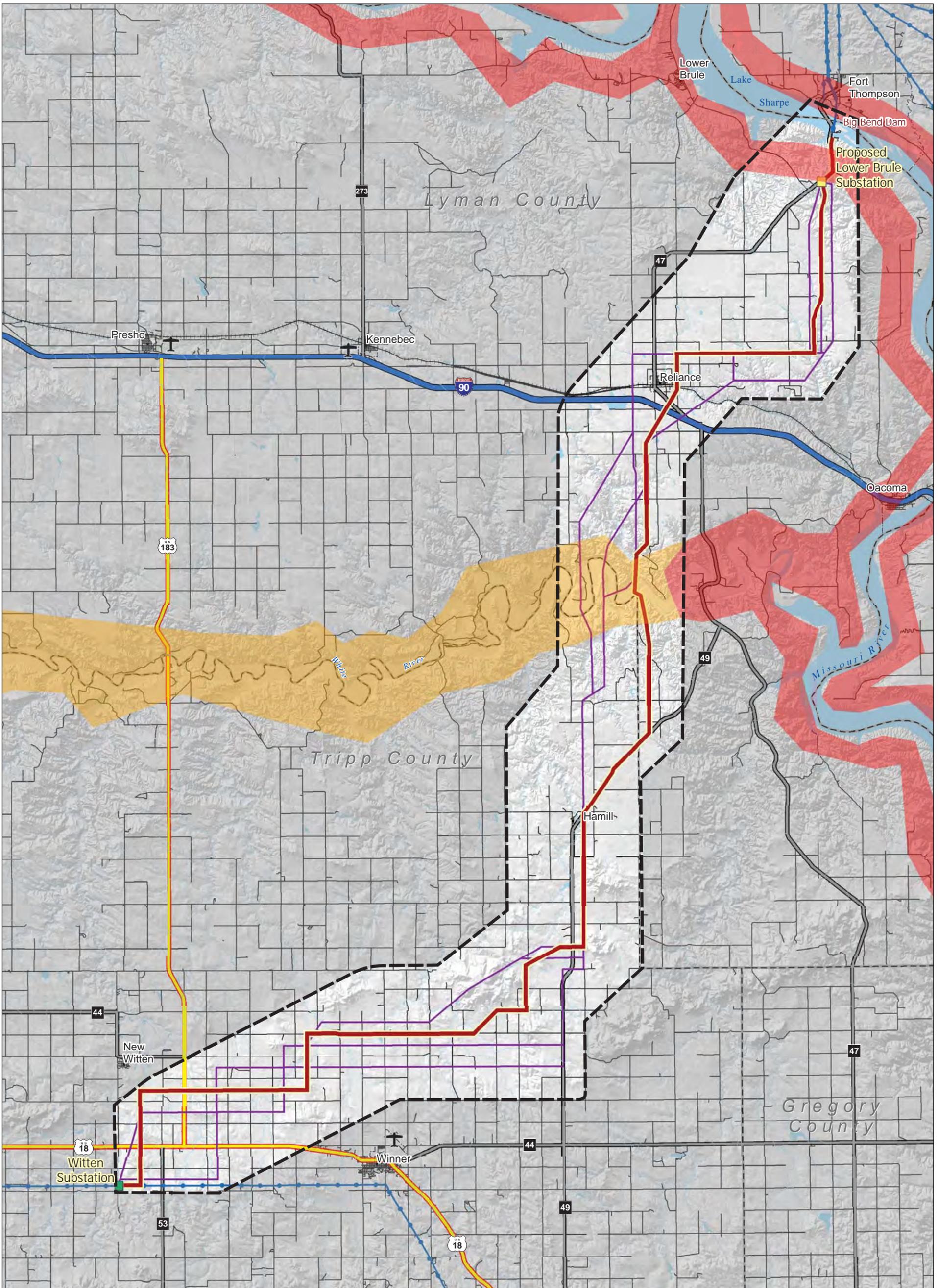
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Figure A-9

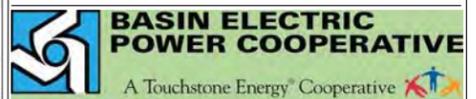


BIG BEND TO WITTEN TRANSMISSION PROJECT

- | | | |
|------------------------------|-----------------------|-----------------------|
| Project Features | Transportation | Boundaries |
| Project Study Area | Interstate | County Boundary |
| Preferred Transmission Route | US Highway | Municipal Boundary |
| Alternative Route | State Highway | Utility System |
| Landslide Hazard | Other Road | Existing Substation |
| High | Railroad | Proposed Substation |
| Moderate | Airport | Transmission Line |



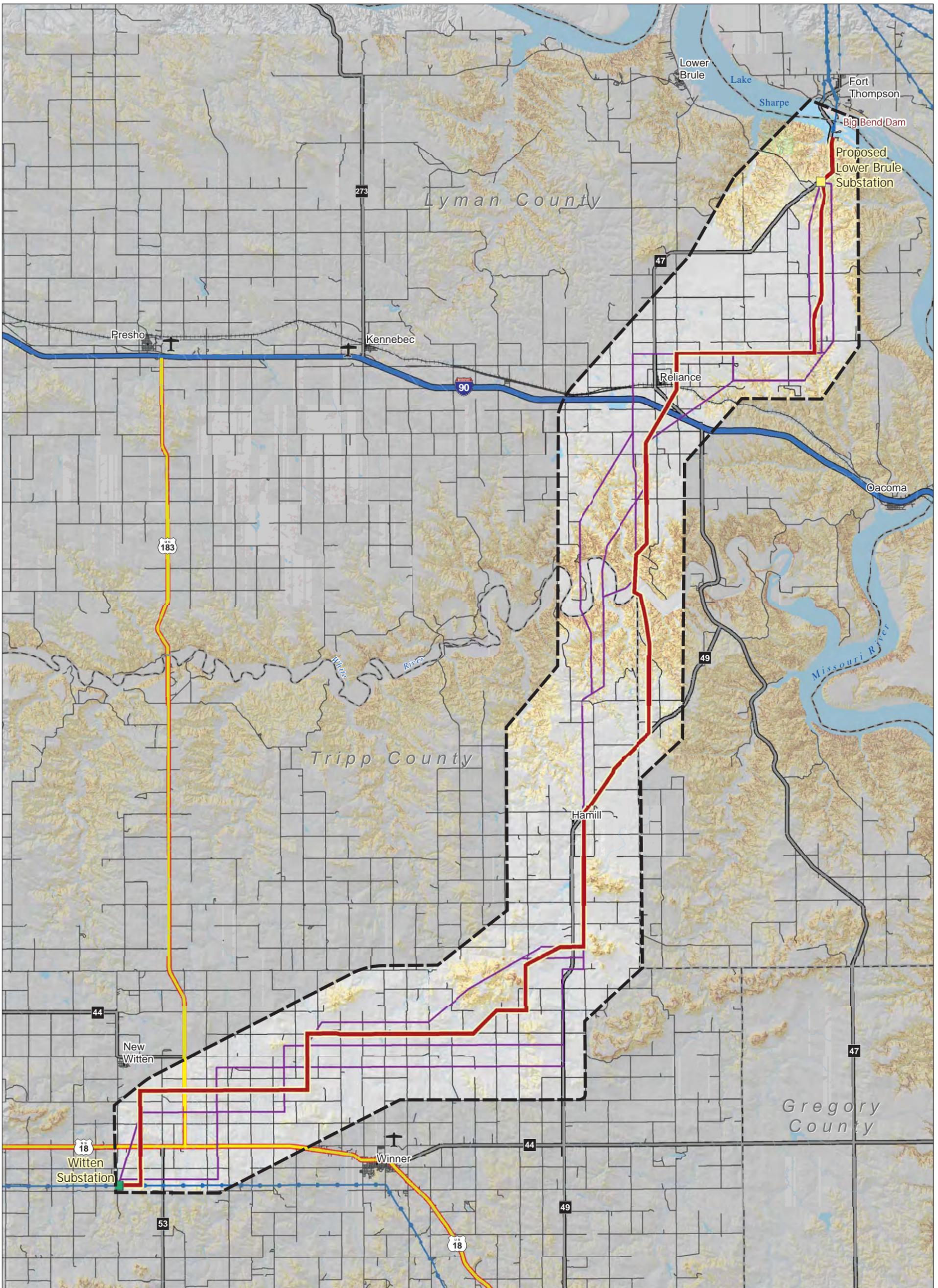
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Data Sources: ESRI, BTS, US Census, Basin, USGS, National Atlas

Figure A-10

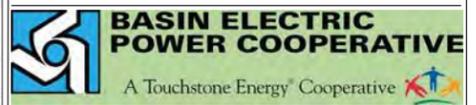


BIG BEND TO WITTEN TRANSMISSION PROJECT

- | | | | |
|------------------------------|-----------------------|-----------------------|----------------------|
| Project Features | Transportation | Boundaries | Percent Slope |
| Project Study Area | Interstate | County Boundary | 0 - 10% |
| Preferred Transmission Route | US Highway | Municipal Boundary | 10 - 20% |
| Alternative Route | State Highway | Utility System | 20 - 30% |
| | Other Road | Existing Substation | >30% |
| | Railroad | Proposed Substation | |
| | Airport | Transmission Line | |

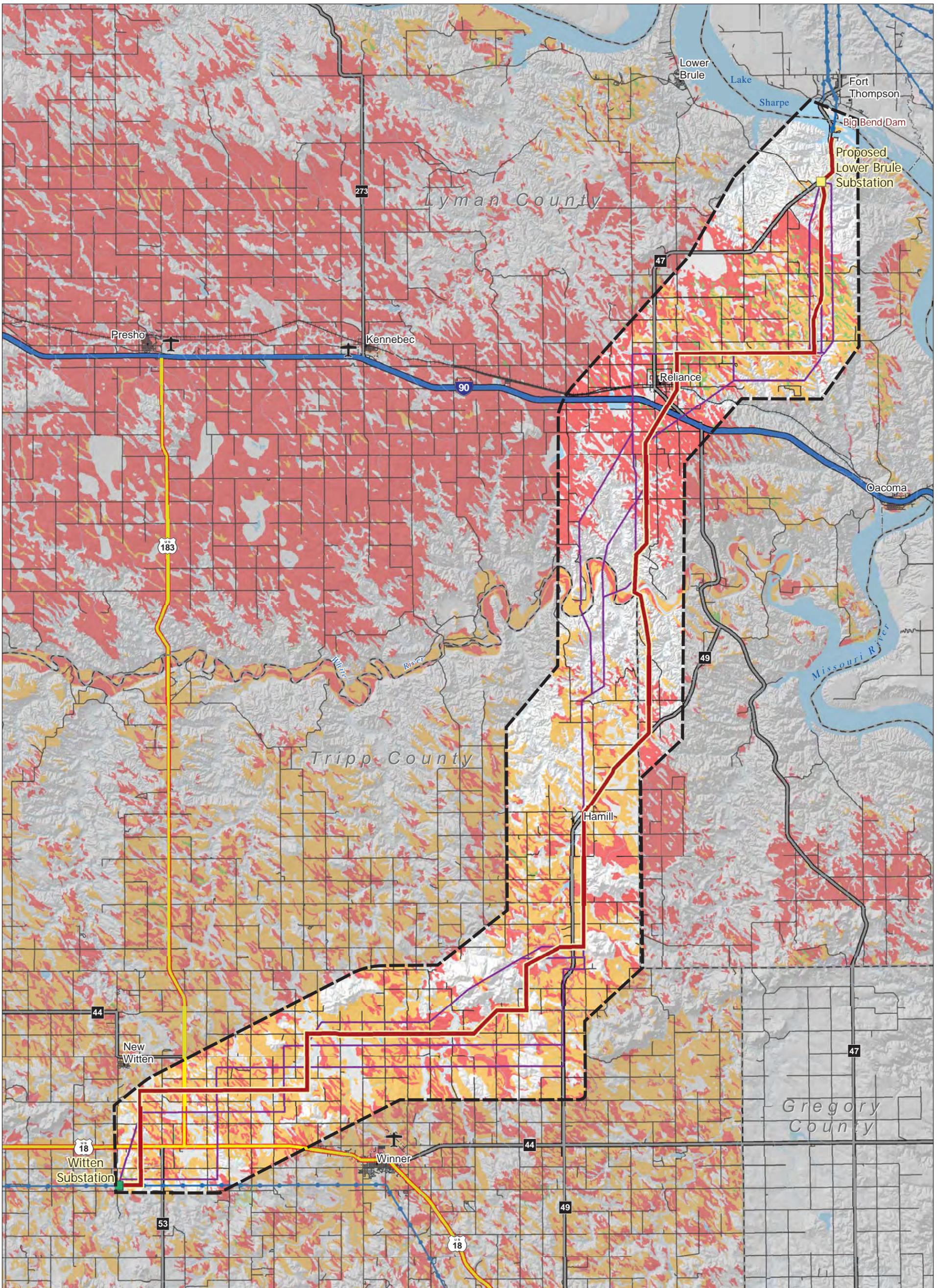


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Figure A-11

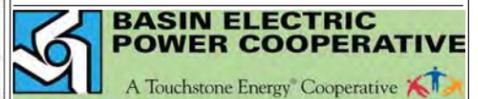


BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Important Farmland	Transportation	Boundaries
Project Study Area	Prime farmland	Interstate	County Boundary
Preferred Transmission Route	Farmland of Statewide Importance	US Highway	Municipal Boundary
Alternative Route	Prime Farmland if Irrigated	State Highway	Utility System
		Other Road	Existing Substation
		Railroad	Proposed Substation
		Airport	Transmission Line



IMPORTANT FARMLAND



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Date Modified: March 1, 2011
Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, NRCS

Figure A-12

Appendix C
Routing Study

Basin Electric Power Cooperative

**Big Bend Dam to Witten Substation
230-kV Transmission Project
Lyman and Tripp Counties, South Dakota**

FINAL

ROUTING REPORT

December 29, 2011

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1.0 INTRODUCTION

1.1 Project Description and Need

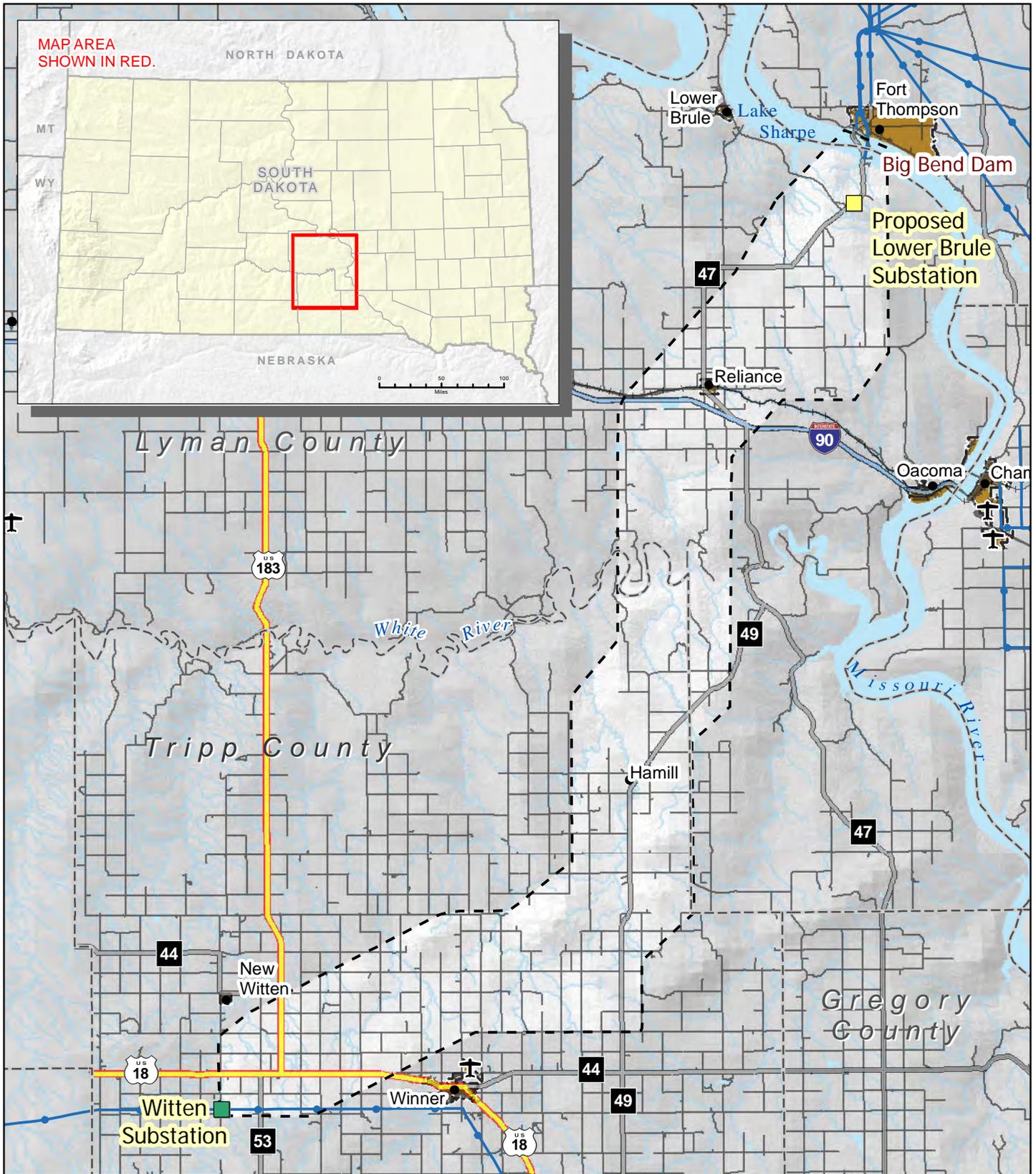
Basin Electric Power Cooperative (Basin Electric) is proposing to construct and operate a new single-circuit 230-kilovolt (kV) transmission line in south-central South Dakota that would extend from a new substation (Lower Brule Substation) south of the Big Bend Dam on Lake Sharpe approximately 74 miles south-southwest to the existing Witten Substation located south of U.S. Highway 18. In addition to the new 230-kV transmission line, Western Area Power Administration (Western) is proposing to convert an existing single-circuit 230-kV transmission line structure, located on the south side of the Big Bend Dam, to a double-circuit structure and construct approximately 2.2 miles of double-circuit 230-kV transmission line from the new structure to the new Lower Brule Substation. The approximate 76-mile Big Bend to Witten 230-kV Transmission Project (Project) consists of the aforementioned elements. The Project is located within Lyman and Tripp counties in south-central South Dakota. Figure 1-1 illustrates the Project study area.

The design characteristics for the proposed line between the new Lower Brule Substation and existing Witten Substation, including right-of-way (ROW) requirements, structure spacing and height, and assumed disturbance and clearance assumptions, are summarized in Table 1-1. These assumptions were used in the routing analysis and also were used during the initial Macro-Corridor Study referenced below. The proposed transmission structures would be steel single-poles and would be designed to support three conductors and an overhead optical ground wire. Tangent structures would be directly embedded into the soil and angle and dead-end structures would be constructed using concrete foundations. No guy wires are proposed. The design criteria for the portion of the line between the Big Bend Dam and the Lower Brule Substation are expected to be similar.

The proposed Lower Brule Substation would be located on the Lower Brule Indian Reservation on the east side of State Highway 47 and would occupy approximately 16 acres of land (Figure 2-1). The substation location would be determined via consultation with tribal representatives. The existing Witten Substation would be expanded immediately to the northeast to accommodate the new 230-kV connection. The new part of the substation would have a separate access road and would be separated by a fence from the existing Witten Substation.

The need for the Project is driven by two key factors: 1) serve proposed short-term load growth on the 115-kV system between Basin Electric's Mission and Fort Randall Substations, including electric service demands from pump stations for the proposed TransCanada Keystone XL Pipeline; and 2) provide an additional source of power at the Witten Substation to improve regional system reliability and voltage stability.

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BIG BEND TO WITTEN TRANSMISSION PROJECT

- | | | |
|-------------------------|-------------------|-----------------------|
| Project Features | Boundaries | Transportation |
| Project Study Area | County | Interstate |
| Utility System | Municipal | U.S. Highway |
| Existing Substation | | State Highway |
| Proposed Substation | | Other Road |
| Transmission Line | | Railroad |
| | | Airport |

REGIONAL LOCATION MAP

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy Cooperative

0 3 6
Miles

AECOM
717 17th Street Suite 2800
Denver, CO 80202

File: P:\2011\1180015_01\Basin_LB2\W06\GIS\6_3L\yourResource_Map.mxd
111102_Regional_Location_Map.mxd
Date Modified: November 21, 2011
Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, SDGIS, USACE

FIGURE 1-1

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Table 1-1
Lower Brule-Witten Transmission Line Characteristics

Description of Design Component	Values
Voltage (kV)	230
Conductor Diameter (inches)	1.345
Right-of-Way Width (feet)	125
Typical Minimum and Maximum Span Distances Between Structures (feet)	650 - 950
Average Span (feet)	800
Minimum and Maximum Structure Height (feet)	70 - 115
Average Height of Structures (feet)	95
Average Number of Structures (per mile)	6.6
Temporary Disturbance per Structure (square feet) (approximately 125-foot x 100-foot area)	12,500
Permanent Disturbance per Structure (acre) (approximately 3-foot diameter per structure leg)	<0.0002
Minimum Conductor-to-Ground Clearance to Agricultural Land at 100 degrees Celsius (°C) (feet)	26
Minimum Conductor-to-Ground Clearance to Rural Roads at 100°C (feet)	28
Minimum Conductor-to-Ground Clearance to Paved Highways at 100°C (feet)	31
Circuit Configuration	Vertical

1.2 Purpose of the Routing Report

RUS guidance regarding NEPA implementation (RUS Bulletin 1794A-603) requires that a Macro-Corridor Study (MCS) and an Alternative Evaluation Study (AES) be prepared by the project proponent and accepted by RUS prior to the start of the official NEPA process. Basin Electric published the Big Bend to Witten 230-kV Transmission Project Alternative Evaluation and Macro-Corridor Study (hereinafter referred to as the AE/MCS; available at http://www.rurdev.usda.gov/UWP-BigBendToWitten_SD.html) in April 2011, to evaluate the system alternatives that best meet the purpose and need of the Project, as well as to identify corridors and preliminary routes for the transmission line. This Routing Report evaluates route alternatives in more detail, and identifies the final three routes that will be carried forward into the Environmental Assessment. The Routing Report identifies Basin Electric’s (Applicant) Preferred Route, as well as two alternative routes.

2.0 PROJECT BACKGROUND

2.1 Definition of the Study Area

The Project study area for the Routing Report is defined in the AE/MCS. The extent of a study area for a transmission line project is primarily determined by the project endpoints, the purpose and need, and the electric system requirements and components that best meet the purpose and need. As noted previously under Project Description and Need, Basin Electric and Western determined that a new double-circuit 230-kV transmission line from the Big Bend Dam to the proposed Lower Brule Substation, and a single-circuit 230-kV transmission line from the Lower Brule Substation to the Witten Substation offered the best way to meet the purpose and need for the Project. In addition to the knowing the two project endpoints, West Central Electric Cooperative (West Central) requested a 230-kV/69-kV interconnection to the proposed transmission line approximately 10 miles southwest of the Big Bend Switchyard near the town of Reliance. The limited number of reasonable crossing locations of the White River and the need to provide an interconnection with West Central ultimately helped define the Project study area boundary. The resulting 6-mile-wide macro-corridor generally trends north-south through Lyman County and into Tripp County south of the unincorporated town of Hamill. At a point approximately 6 miles south of Hamill, the macro-corridor turns southwest to the Witten Substation. The Project study area is shown in Figure 1-1 in this report. The study area encompasses approximately 391.2 square miles.

2.2 Summary of Alternative Evaluation and Macro-Corridor Study

The AE/MCS provides additional detail regarding the Project purpose and need, as well as regional transmission system studies and analyses. That study is incorporated by reference into this Routing Report. The AE/MCS defined the study area, summarized the resource data collection, and included a constraints and opportunities analysis, defining the resource attributes that would affect routing the proposed transmission line. Resource data were gathered from local municipalities, counties, and state and federal agencies, primarily consisting of existing Geographic Information System (GIS) data bases. These data included: existing linear transportation and utility corridors; land use and jurisdiction information; cultural resources; wetlands and water resources (e.g., water bodies, floodplains); geologic hazards; and biological resources. Aerial photography was also used as a base map to verify the existing conditions within the study area, and limited field reconnaissance was conducted to ground-truth some of the desktop data. Other resources considered but not used in the AE/MCS process included soils, slope, agriculture, and oil and gas wells. These resources were not used in the opportunity and constraints analysis since the resources were either determined to be absent or nearly ubiquitous across the entire study area and therefore, would not be useful in discriminating among various routes.

The opportunities and constraints analysis was based on criteria associated with the resources previously noted. Specifically, the categories of criteria included opportunity areas, avoidance areas and exclusion areas. Opportunity areas were limited primarily to areas along existing road or utility rights-of-way (ROW), as well as rural rangeland, croplands, and open space. Avoidance areas were identified for resources that should be avoided if possible, but that could be crossed by the proposed transmission line under certain conditions (limited crossing or implementation of design measures or mitigation measures would avoid adverse effects). Exclusion areas were identified as those areas that should be excluded from

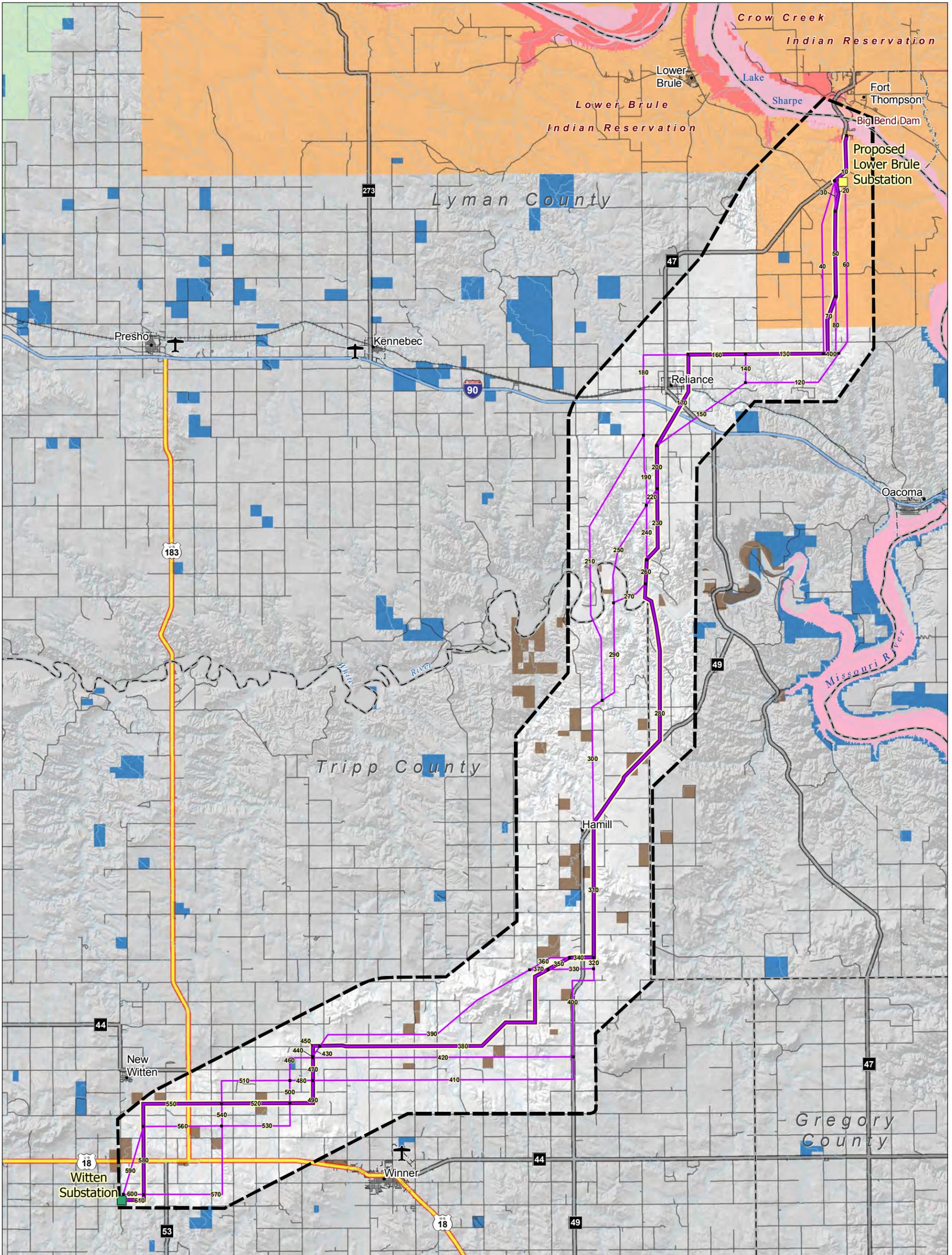
transmission line crossing and include: reservoirs; strip mines; center-pivot irrigation; areas within 150 feet of occupied residences; areas within 150 feet of schools, cemeteries, parks, and recreation areas; areas within 50 feet of a Federal Communications Commission (FCC) structure; areas within 100 feet of a documented cultural resource site; and areas within 0.25 mile of active sharp-tailed grouse leks.

Based on the GIS database information, a composite map was produced identifying the opportunities and constraints within the macro-corridor. The opportunities and constraints information was used by Basin Electric to identify alternative routes and route segments that would potentially meet the routing objectives: connect the two substations; maximize the opportunities and minimize the constraints; and be cost-effective. In addition to gathering resource data and developing an opportunities and constraints map, the early phase of routing also included public participation, which is described further in the EA and Scoping Report. Figure 2-1 illustrates the route segments presented at the public scoping meetings, as well as the initial route proposed by Basin Electric and Western (“Applicant-Preferred Route”).

2.3 Public and Agency Participation

The RUS NEPA process included pre-scoping activities, agency and tribal consultation, and public scoping meetings. The data gathered from the public and agency outreach efforts were used in the initial identification of potential routes. A detailed description of the scoping process is provided in Chapter 2 of the Big Bend to Witten 230-kV Transmission Project Environmental Assessment Scoping Report, July 2011, with a summary of scoping comments compiled in Appendix C of that document. The public scoping meetings were held within the study area on April 26 and 27, 2011. At these meetings, Basin Electric and Western provided an opportunity for the public to understand the proposed Project and the NEPA process, as well as provide their comments both verbally and in written form. A number of visual aids (e.g., poster boards) were used to graphically show the study area and the initial set of route segments developed by Basin Electric and Western. Figure 2-1 illustrates the route segments presented at the public scoping meetings, as well as the initial route proposed by Basin Electric and Western (“Applicant-Preferred Route”).

Scoping comments covered a variety of topics including: agriculture, wildlife, construction/maintenance concerns, grazing, lands/realty, public health and safety, reclamation, socioeconomics, transportation and visual resources. A number of comments were also made specific to the Project purpose and need, or to a particular route segment that crossed or was in close proximity to a landowner’s property.



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features

- Project Study Area
- Alternative Route Segment
- Proposed Route Presented At Scoping

Jurisdiction

- DOD - Army Corps of Engineers
- Recreation Areas
- BIA - Indian Reservation
- USFS - National Grassland
- State of South Dakota
- Indian Trust Land

Transportation

- Interstate
- U.S. Highway
- State Highway
- Other Road
- Railroad
- Airport

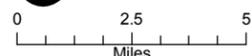
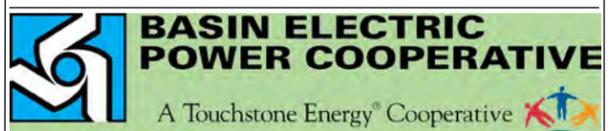
Boundaries

- County
- Municipal

Utility System

- Existing Substation
- Proposed Substation

SEGMENTS PRESENTED AT PUBLIC SCOPING



AECOM

717 17th Street Suite 2600
Denver, CO 80202

File: P:\2011\11180015.01\Basin_LB2W06GIS\6.3\Layout\Resource_Maps\111121_Public_Scoping_Segments.mxd
Date Modified: November 21, 2011

Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, SDGIS, USACE

FIGURE 2-1

2.4 Adjustments to Route Segments

Based on public comments, several route segments were eliminated from the original set presented at the scoping meetings. In addition, Basin Electric made additional refinements to the Applicant-Preferred Route based on input from landowners and member cooperatives, or to avoid other types of sensitive features.

The following five route segments were eliminated based on information gathered during preparation of the AE/MCS, field reconnaissance, and public scoping meetings:

- Segment 80: This segment had multiple crossings over the North Fork American Creek.
- Segment 380: This segment had a relatively large number of residences within 500 feet of the centerline, a greater number of Class I archaeological resource sites than other segments, substantial wetlands crossings and impacts to surface waters.
- Segment 420: The segment crossed Indian Trust land, had a number of residences within 500 feet, and crossed a large number of wetlands and surface waters.
- Segment 520: Similar to Segment 420, this segment crossed Indian Trust land, had a number of residences within 500 feet, and crossed a large number of wetlands and surface waters.
- Segment 550: This segment had the greatest impact to surface waters.

Following the public scoping meetings, Basin Electric made the following adjustments to the Applicant-Preferred Route:

- Near Reliance, the original route was located south and east of Reliance and followed Segments 170, 200, and 230. The Applicant-Preferred Route was shifted to the north and west of Reliance to accommodate West Central's request for a tap site in this location and landowner concerns regarding the location of the original route.
- South of the White River, the original route followed Segment 280. The Applicant-Preferred Route was shifted 0.5 mile west to accommodate a landowner request, and the route continued south of Highway 49 for approximately 1.25 miles to avoid crossing Indian Trust land in Section 13.
- North of Winner, the original route followed Segment 380. The Applicant-Preferred Route was moved 0.5 mile north along a portion of Segment 390 to accommodate potential future development along 272nd Street and to avoid a large wetland area.
- The last 10 miles of the original route into the Witten Substation followed Segments 490, 520, 550, 580, and 610. Routing in this area was shifted to avoid farmland and to follow ½-section lines or parallel to section lines to minimize disturbance to farming activities. In addition, the route along Segment 520 was shifted 0.5 mile north to avoid Indian Trust land.

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3.0 ALTERNATIVE ROUTE SCREENING ANALYSIS

3.1 Overview of Alternative Route Identification

The Project consists of a series of potential routes (consisting of 63 route segments) between the Big Bend Dam, proposed Lower Brule Substation, and existing Witten Substation. The potential route segments were presented at the public scoping meetings, along with an Applicant-Preferred Route proposed by Basin Electric and Western. As noted in Section 2.3, some segments were removed from further consideration.

As part of the routing study, the remaining route segments were combined into 16 potential alternative routes. The 16 potential alternative routes were identified through an iterative process that considered all of the segments presented at the public scoping meetings, as well as constraints within the Project study area identified during the AE/MCS. The vast majority of segments presented during scoping were used in at least one of the 16 potential alternative routes or the Applicant-Preferred Route.

During the AE/MCS process and before formal public scoping, Basin Electric identified a preliminary proposed route that minimized environmental and land use constraints, and minimized project costs and engineering constraints. After public scoping, the Applicant-Preferred Route was refined in response to input from the public and West Central regarding the interconnection near Reliance. These modifications are described in Section 2.3.

To identify the routes proposed for analysis in the EA, the 16 alternative routes and the Applicant-Preferred Route were narrowed down to three routes (the Applicant-Preferred Route and two alternatives) through a screening process that included both quantitative and qualitative metrics.

The quantitative metrics include output from a computerized GIS analysis that tabulates potential constraints within the Project study area and summarizes the data in matrix format. The specific quantitative metrics (criteria) that were used and evaluated in the matrix are described in more detail in Section 3.2. The comparative matrix quantifies the potential effects for each criterion, ranks each criterion (where lowest generally is best depending on the criterion), and then tallies the rankings are to represent an overall total for a relative comparison between alternative routes. To preserve an objective analysis, the criteria were not weighted, since weighting introduces a subjective element regarding the relative importance of various criteria. For this analysis, all criteria were treated equally. The ranks for each criterion were summed to create an overall total score for each route and the overall total scores for each route were ranked to determine the overall rank of each route. In addition to the qualitative metrics described below, the overall rank was used to help identify potential alternative routes for evaluation in the EA. Table 3-1 depicts the summary matrix of quantitative data by route.

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Table 3-1 Comparative Matrix – 17 Alternative Routes

CATEGORY	R O U T E S																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17 Applicant-Preferred Route
Route Length																	
Route Length (feet)	405,000	405,326	385,713	387,603	396,939	397,265	377,651	379,542	396,959	397,285	377,672	379,562	400,754	401,080	381,467	383,357	399,714
Route Length (miles)	77	77	73	73	75	75	72	72	75	75	72	72	76	76	72	73	76
RANK (LOW BEST)	5	5	2	2	3	3	1	1	3	3	1	1	4	4	1	2	4
TOTAL SCORE	5	5	2	2	3	3	1	1	3	3	1	1	4	4	1	2	4
TOTAL RANK (LOW BEST)	5	5	2	2	3	3	1	1	3	3	1	1	4	4	1	2	4
Engineering																	
Length Within 200 feet of Existing Transmission or Distribution Lines (feet)	8,952	14,057	8,952	8,952	8,918	14,022	8,918	8,918	8,952	14,057	8,952	8,952	9,718	14,822	9,718	9,718	7,825
Length Within 200 feet of Existing U.S. and State Highways (feet)	29,402	29,402	8,798	8,798	53,269	53,269	32,665	32,665	29,013	29,013	8,409	8,409	29,008	29,008	8,404	8,404	16,144
Length within 0.25 mile of Scenic Byways (feet)	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	15,000
RANK (LOW BEST)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
Length within 200 feet of County Roads (feet)	36,570	36,570	29,223	29,163	47,528	47,528	40,181	40,121	26,168	26,168	18,821	18,761	44,858	44,858	37,511	37,451	66,626
Length within 200 feet of Section Lines (feet)	78,186	79,412	64,099	54,692	99,823	101,049	85,736	76,329	69,604	70,830	55,517	46,110	98,629	99,855	84,542	75,135	133,855
Total Length Adjacent All Linear Features	153,110	159,441	111,072	101,605	209,537	215,868	167,499	158,032	133,737	140,067	91,699	82,232	182,213	188,543	140,175	130,708	224,450
Total % Adjacent to Linear Features	38%	39%	29%	26%	53%	54%	44%	42%	34%	35%	24%	22%	45%	47%	37%	34%	56%
RANK (HIGH BEST)	5	5	7	7	2	2	4	4	6	5	8	8	3	3	5	6	1
TOTAL SCORE	7	7	9	9	4	4	6	6	8	7	10	10	5	5	7	8	2
TOTAL RANK (LOW BEST)	5	5	7	7	2	2	4	4	6	5	8	8	3	3	5	6	1
Jurisdiction																	
Length Crossing Indian Trust Land (feet)	0	0	0	0	7,235	7,235	7,235	7,235	0	0	0	0	0	0	0	0	2,614
RANK (LOW BEST)	1	1	1	1	3	3	3	3	1	1	1	1	1	1	1	1	2
TOTAL SCORE	1	1	1	1	3	3	3	3	1	1	1	1	1	1	1	1	2
TOTAL RANK (LOW BEST)	1	1	1	1	3	3	3	3	1	1	1	1	1	1	1	1	2
Land Use/Land Cover																	
Length Crossing Reservoirs and Strip Mines (feet)	379	379	379	379	0	0	0	0	379	379	379	379	0	0	0	0	0
RANK (LOW BEST)	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	1	1
Communication Facilities Within 150 feet (number)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
RANK (LOW BEST)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
TOTAL SCORE	4	4	4	4	3	3	3	3	4	4	4	4	3	3	3	3	2
TOTAL RANK (LOW BEST)	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2	1
Residential																	
Number of Residences within 250 Feet of Centerline	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	0
RANK (LOW BEST)	2	2	2	2	2	2	2	2	1	1	1	1	2	2	2	2	1
Number of Residences between 251- 500 Feet of Centerline	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	2
RANK (LOW BEST)	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	2
TOTAL SCORE	3	3	3	3	4	4	4	4	2	2	2	2	3	3	3	3	3
TOTAL RANK (LOW BEST)	2	2	2	2	3	3	3	3	1	1	1	1	2	2	2	2	2
Wetlands and Water Resources																	
Number of Crossings of Perennial Streams (number)	6	6	6	6	3	3	3	3	7	7	7	7	7	7	7	7	3
RANK (LOW BEST)	2	2	2	2	1	1	1	1	3	3	3	3	3	3	3	3	1
Length within 100 ft of Perennial/Intermittent Streams (feet)	28,000	28,000	25,000	25,000	28,000	28,000	25,000	25,000	32,000	32,000	30,000	29,000	32,000	32,000	30,000	29,000	28,000
RANK (LOW BEST)	2	2	1	1	2	2	1	1	5	5	4	3	5	5	4	3	2
Length Crossing Waterbodies (feet)	1,200	1,200	1,200	1,200	1,600	1,600	1,600	1,600	1,500	1,500	1,500	1,500	1,200	1,200	1,200	1,200	1,600
RANK (LOW BEST)	1	1	1	1	3	3	3	3	2	2	2	2	1	1	1	1	3
Length Crossing NWI Wetlands (feet)	5,000	5,000	6,000	6,000	4,000	4,000	5,000	5,000	5,000	5,000	6,000	6,000	3,000	3,000	4,000	4,000	6,000
RANK (LOW BEST)	3	3	4	4	2	2	3	3	3	3	4	4	1	1	2	2	4
TOTAL SCORE	8	8	8	8	8	8	8	8	13	13	13	12	10	10	10	9	10
TOTAL RANK (LOW BEST)	1	1	1	1	1	1	1	1	5	5	5	4	3	3	3	2	3
Cultural and Historic Resources																	
Other Class I sites within 500 feet (number)	7	7	7	7	5	5	5	5	5	5	5	5	5	5	5	5	5
RANK (LOW BEST)	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL SCORE	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL RANK (LOW BEST)	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Biological Resources																	
Length within known prairie dog towns (feet)	1,628	1,628	1,628	1,628	260	260	260	260	1,445	1,445	1,445	1,445	260	260	260	260	1,097
Raptor Nests within 0.25 mile (number)	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	0
RANK (LOW BEST)	2	2	1	1	2	2	1	1	2	2	1	1	2	2	1	1	1
Sharp-tailed grouse leks within 0.25 mile (number)	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
RANK (LOW BEST)	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2
TOTAL SCORE	4	4	3	3	3	3	2	2	3	3	2	2	3	3	2	2	3
TOTAL RANK (LOW BEST)	3	3	2	2	2	2	1	1	2	2	1	1	2	2	1	1	2
Totals																	
OVERALL TOTAL SCORE	34	34	32	32	29	29	28	28	35	34	34	33	30	30	28	29	27
TOTAL RANK (LOW BEST)	7	7	5	5	3	3	2	2	8	7	7	6	4	4	2	3	1

In addition to the quantitative metrics depicted in Table 3-1, the following qualitative metrics were applied during selection of the three routes from the field of 17 potential alternative routes:

One of the three routes will represent the Applicant-Preferred Route.

The alternative routes should use segments that are not duplicative of segments used by the Applicant-Preferred Route to the greatest extent possible.

The alternative routes should follow direct paths between the Project endpoints and meet the Applicant's purpose and need.

- 1) To the extent feasible, alternative routes should avoid major constraints including residences, Indian Trust land, cultural and historical resources, and known sensitive biological resources.

3.2 Criteria Used to Evaluate Potential Routes

The following criteria were used to develop quantitative metrics to evaluate the 16 alternative routes and the Applicant-Preferred Route in a GIS-based model and output matrix. During the analysis process, some of these criteria were subsequently removed from the comparative ranking matrix if the data were equal for all routes (no discernable difference), or if the criteria no longer applied. Criteria removed are summarized in Section 3.3.

Route Length

Route length is a key criterion that is commonly used to compare transmission line routes. Longer transmission line routes are typically (but not always) more costly to construct and may have greater impacts when compared with shorter routes.

Percent of Route Adjacent to Existing Linear Features

Routing transmission lines along existing linear features such as roads and transmission lines can reduce the potential impact when compared with constructing a "greenfield" transmission line. In many instances, existing roadways or other types of ROW can provide access to the new transmission line for both construction and maintenance purposes. For the purposes of the routing study, the following criteria were included in the linear features category:

- Transmission and distribution lines;
- U.S. and State highways;
- County roads; and
- Section lines.

The length within 200 feet of each of these features was added together and divided by the total length of the route to create a percentage adjacent to linear features.

Length Crossing Indian Trust Land

Indian Trust lands often have multiple owners, which can greatly complicate the process for obtaining easements. Consequently, parcels of Indian Trust land were identified as avoidance areas for this routing study.

Length Crossing Reservoirs and Strip Mines

Due to their typical size and breadth, or operational constraints, transmission lines are typically routed around these types of facilities. In some cases, reservoirs can be spanned if necessary.

Communication Facilities within 150 Feet

Transmission line routing must meet the requirements of the Federal Communications Commission (FCC) to avoid potential interference with AM radio, FM radio and telecommunications facilities.

Residences within 500 Feet

Land use compatibility issues must be considered when routing a transmission line in proximity to residences. A typical transmission line routing criterion looks at residences within the proposed ROW and within an additional reasonable buffer zone outside the ROW. The proposed ROW is 125 feet (62.5 feet on either side of the transmission line centerline) and no residences were found within the proposed ROW. The number of residences within 500 feet of each route was included in the matrix.

Number of Crossings of Perennial Streams

All of the streams within the Project study area can be spanned, but limiting the number of stream crossings can reduce direct and indirect effects to water quality and associated stream habitat, and, depending on the length of the stream crossing, can reduce construction costs.

Length within 100 feet of Perennial/Intermittent Streams

Construction and long-term maintenance of utility lines and structures can result in direct and indirect effects to surface waters as a result of soil disturbance, erosion and habitat disturbance. Maintaining an adequate buffer between transmission line construction activities and adjacent surface waters is prudent.

Length Crossing Waterbodies

Large waterbodies can pose obstacles to transmission line routing, and sometimes require routing around the water feature. The Project would be constructed using 230-kV transmission structures that allow for an average span length of 650 to 950 feet. Waterbodies that are less than 950 feet wide could be spanned by the proposed transmission line.

Length Crossing National Wetland Inventory (NWI) Wetlands

Due to the sensitive nature of wetland habitat and the species occupying the habitat, direct impacts as a result of short-term construction or long-term operations should be avoided. Wetlands can typically be spanned by transmission lines; however, wetlands within the ROW would need to be delineated in localized areas prior to construction and measures to avoid impacts to wetlands would be implemented.

Class I Cultural Resources Sites within 500 Feet

Important historical and cultural resources should be avoided when routing a transmission line. Depending on the resource and its status with the State Historic Preservation Office, some sites can be spanned as long as the ground surface in the vicinity of the site is not disturbed.

Length within Known Prairie Dog Colonies

Prairie dog colonies can be a potential concern for routing transmission lines since these colonies typically provide habitat for the black-footed ferret, which is a federally-listed endangered species. Project biologists have determined that it is highly unlikely the black-footed ferret would occur in the Project study area, and RUS has concurred with this determination. Another potential concern is that burrowing owls often use prairie dog burrows for nest sites. The burrowing owl is protected under the Migratory Bird Treaty Act. Burrowing owl surveys within potential habitat areas would be conducted prior to construction.

Raptor Nests within 0.25 mile of Centerline

Transmission line routing must consider potential effects to raptors and other avian species protected by the Migratory Bird Treaty Act. Areas of high flight activity are generally found around nests and foraging areas. Proximity of nests to transmission lines increases the risk of collision and potential mortality.

Length within Sharp-Tailed Grouse Leks

Sharp-tailed grouse leks were included in the constraints criteria since the grouse population has been in decline through loss of habitat across the nation. The grouse prefers grasslands and prairies and primarily forages on the ground in summer months. Nesting typically occurs in May and June. The presence of active leks (i.e. communal display and breeding areas) along a transmission line route may influence construction scheduling. These leks can typically be spanned by the transmission line, but peer-reviewed data suggests that grouse will likely abandon the use of leks that are under and near transmission lines.

3.3 Criteria Considered but Removed from Comparative Analysis

Several routing criteria were evaluated against the data compiled during the AE/MCS data search but were ultimately removed from further evaluation in the comparative analysis matrix because they either did not apply to the alternative routes or the criteria applied evenly to all routes and therefore, would not make a discernable difference for purposes of comparing and ranking alternatives. These criteria were removed from the comparative analysis.

Length within 0.25 mile of a Scenic Byway

Transmission lines and associated structures could result in an adverse visual effect to motorists traveling on scenic byways. Altering a scenic viewshed by erecting man-made utility infrastructure could detract from the overall viewing experience. All of the routes evaluated parallel a scenic byway (Native American Scenic Byway) for approximately 3 miles between Big Bend Dam and the proposed Lower Brule Substation, so this criterion was not particularly useful in distinguishing among the various alternative routes; however, the Applicant-Preferred Route parallels scenic byways for a slightly shorter length than any of the alternative routes. As a result, this criterion was removed from the comparative matrix.

Length within 500 Feet of Census Landmarks

Census landmarks consist of structures accounted for in census data and typically include schools, hospitals, airports and landing strips, churches, cemeteries and jails. These types of land uses may present routing constraints depending upon the distance between the transmission line and the census landmark structure and the sensitivity of the land use. Other factors include the size of the transmission line (kV) and associated structure specifications. No census landmarks were identified within 500 feet of the centerline of alternative routes, with the exception of an old, inactive landing strip. As a result, this criterion was removed from the matrix.

Length within Areas Classified as Important Farmland

Based on U.S. Department of Agriculture classifications, important farmland within the macro-corridor is classified as “prime farmland”, “farmland of statewide importance”, or “prime farmland, if irrigated.” Because of the extensive distribution of important farmland throughout the macro-corridor, all of the routes would cross varying amounts of important farmland. Since important farmland is widely distributed throughout the macro-corridor, this category was not a significant discriminator among the routes and was therefore removed from the matrix.

Construction of transmission lines through agricultural areas rarely results in a disruption of agricultural practices for more than a single growing season, and if constructed after harvest or during winter months, may result in minimal disruption. In addition, most agricultural operations may continue within the ROW once construction has been completed so the amount of land removed from agricultural production is minimal and is generally limited to the actual footprint of the transmission structures and the area immediately around the structures.

Historic Structures

Only one historic structure was identified during the early stages of the AE/MCS, within 500 feet of an early version of the Applicant-Preferred Route. The Applicant-Preferred Route was subsequently shifted away from the structure. For this reason, this criterion was removed from the matrix.

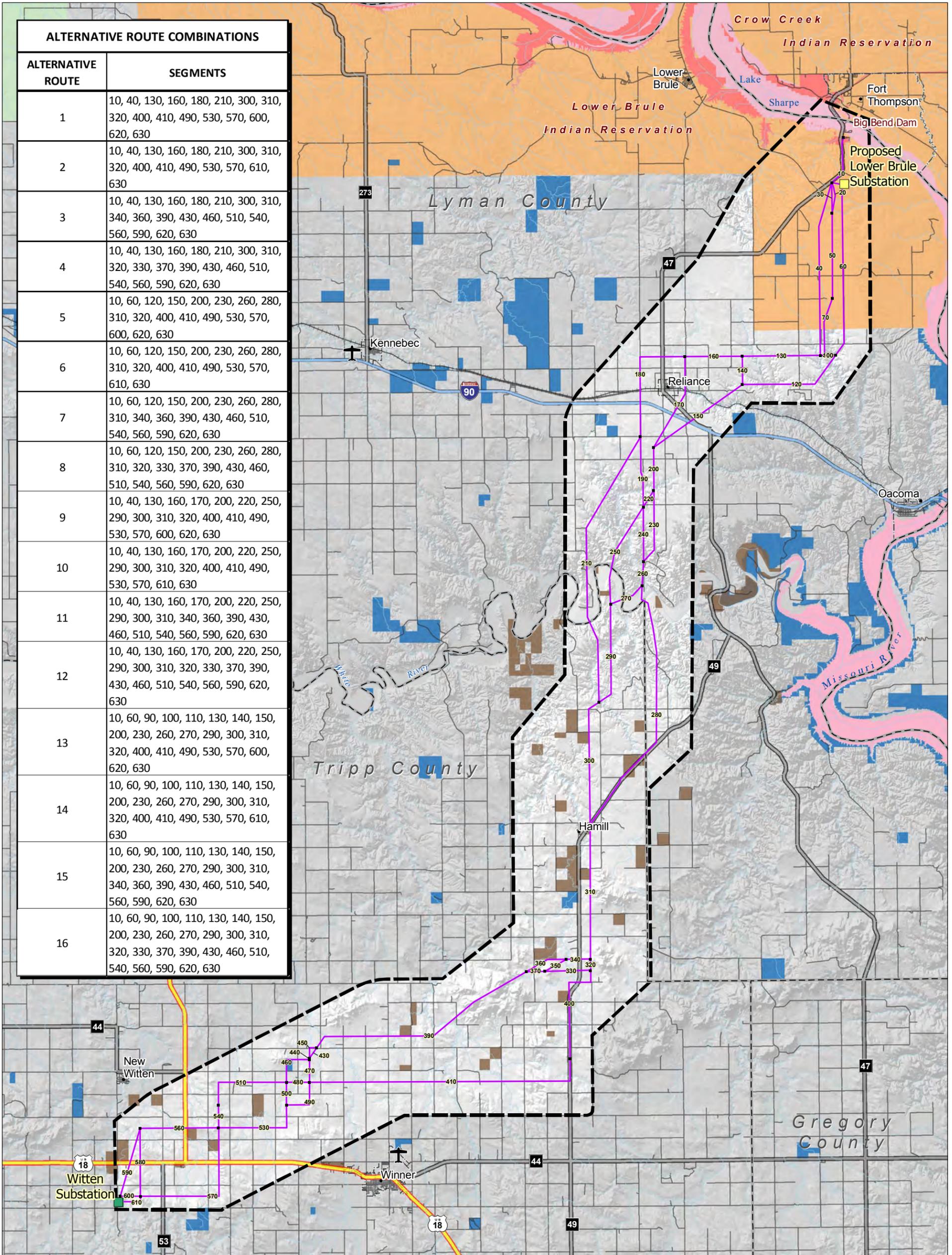
3.4 Selection of Alternate Routes

3.4.1 Big Bend – Lower Brule Substation 230-kV Transmission Line

As shown in Figures 3-1 and 3-2, the northern portion of the Project, the proposed 230-kV transmission line between the Big Bend Dam (new 230-kV double-circuit structure) and the proposed Lower Brule Substation consists of a single route, with no alternatives. This part of the Project is located entirely on the Lower Brule Indian Reservation. Basin Electric and Western will work with the Lower Brule and Rosebud Tribal Representatives to determine an appropriate alignment for the new transmission line and location for the proposed substation.

3.4.2 Lower Brule – Witten 230-kV Transmission Line

A total of 17 routes including the Applicant-Preferred Route (identified as Route 17) were evaluated in the comparative matrix. The 16 preliminary alternative routes consist of a combination of various segments. Figure 3-1 depicts the segments that were evaluated in this routing report and includes a table that defines the segment combinations that comprised each of the 16 alternative routes. Figure 3-2 is a map that shows the Applicant-Preferred Route. As noted previously, a number of adjustments were made to the Applicant-Preferred Route between public scoping and the comparative analysis/routing report phase in order to avoid conflicts, minimize environmental effects, and/or address the concerns of the greatest number of landowners.



ALTERNATIVE ROUTE COMBINATIONS	
ALTERNATIVE ROUTE	SEGMENTS
1	10, 40, 130, 160, 180, 210, 300, 310, 320, 400, 410, 490, 530, 570, 600, 620, 630
2	10, 40, 130, 160, 180, 210, 300, 310, 320, 400, 410, 490, 530, 570, 610, 630
3	10, 40, 130, 160, 180, 210, 300, 310, 340, 360, 390, 430, 460, 510, 540, 560, 590, 620, 630
4	10, 40, 130, 160, 180, 210, 300, 310, 320, 330, 370, 390, 430, 460, 510, 540, 560, 590, 620, 630
5	10, 60, 120, 150, 200, 230, 260, 280, 310, 320, 400, 410, 490, 530, 570, 600, 620, 630
6	10, 60, 120, 150, 200, 230, 260, 280, 310, 320, 400, 410, 490, 530, 570, 610, 630
7	10, 60, 120, 150, 200, 230, 260, 280, 310, 340, 360, 390, 430, 460, 510, 540, 560, 590, 620, 630
8	10, 60, 120, 150, 200, 230, 260, 280, 310, 320, 330, 370, 390, 430, 460, 510, 540, 560, 590, 620, 630
9	10, 40, 130, 160, 170, 200, 220, 250, 290, 300, 310, 320, 400, 410, 490, 530, 570, 600, 620, 630
10	10, 40, 130, 160, 170, 200, 220, 250, 290, 300, 310, 320, 400, 410, 490, 530, 570, 610, 630
11	10, 40, 130, 160, 170, 200, 220, 250, 290, 300, 310, 340, 360, 390, 430, 460, 510, 540, 560, 590, 620, 630
12	10, 40, 130, 160, 170, 200, 220, 250, 290, 300, 310, 320, 330, 370, 390, 430, 460, 510, 540, 560, 590, 620, 630
13	10, 60, 90, 100, 110, 130, 140, 150, 200, 230, 260, 270, 290, 300, 310, 320, 400, 410, 490, 530, 570, 600, 620, 630
14	10, 60, 90, 100, 110, 130, 140, 150, 200, 230, 260, 270, 290, 300, 310, 320, 400, 410, 490, 530, 570, 610, 630
15	10, 60, 90, 100, 110, 130, 140, 150, 200, 230, 260, 270, 290, 300, 310, 340, 360, 390, 430, 460, 510, 540, 560, 590, 620, 630
16	10, 60, 90, 100, 110, 130, 140, 150, 200, 230, 260, 270, 290, 300, 310, 320, 330, 370, 390, 430, 460, 510, 540, 560, 590, 620, 630

BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features Project Study Area Alternative Route Segment	Jurisdiction DOD - Army Corps of Engineers Recreation Areas BIA - Indian Reservation USFS - National Grassland State of South Dakota Indian Trust Land	Transportation Interstate U.S. Highway State Highway Other Road Railroad Airport	Boundaries County Municipal Utility System Existing Substation Proposed Substation
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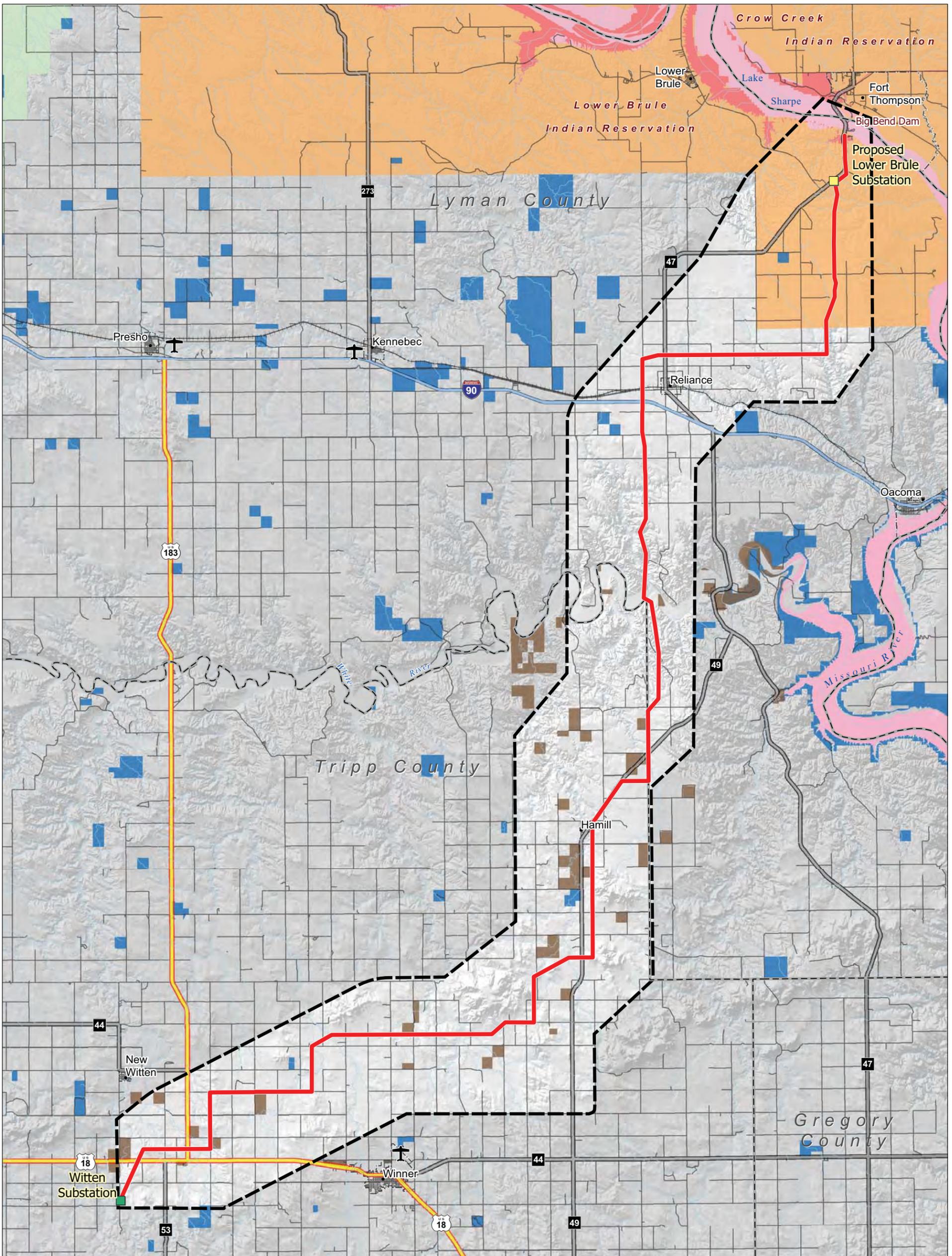
ALTERNATIVE ROUTES

AZCOM
717 17th Street Suite 2600
Denver, CO 80202

0 3 6
Miles

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Date Modified: November 21, 2011
Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, SDGIS, USACE

FIGURE 3-1



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features

- Project Study Area
- Applicant-Preferred Route

Jurisdiction

- DOD - Army Corps of Engineers
- Recreation Areas
- BIA - Indian Reservation
- USFS - National Grassland
- State of South Dakota
- Indian Trust Land

Transportation

- Interstate
- U.S. Highway
- State Highway
- Other Road
- Railroad
- Airport

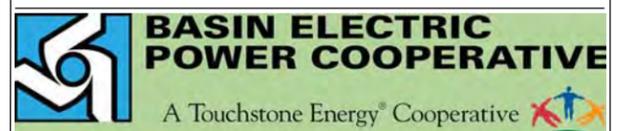
Boundaries

- County
- Municipal

Utility System

- Existing Substation
- Proposed Substation

APPLICANT-PREFERRED ROUTE



717 17th Street Suite 2600
Denver, CO 80202

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Date Modified: November 21, 2011

Projection: NAD 1983 State Plane, South Dakota South, Feet
Data Sources: ESRI, BTS, US Census, Basin, USGS, SDGIS, USACE

FIGURE 3-2

3.4.3 Comparative Analysis of 17 Routes (Applicant-Preferred Route and 16 Alternative Routes)

Table 3-1 quantifies the resource data by alternative route and ranks the various routes based on the quantified data. With the exception of Engineering, lower values for each criterion (e.g., route length) result in a better ranking. For Engineering, the higher the quantitative data (e.g., length adjacent to linear features), the better the ranking since it is optimal to follow existing linear features when routing a transmission line.

As expected, many routes resulted in duplicate ranks for individual categories, as well as total scores and the spread between the various alternatives in the “Overall Total Score” row is considered minimal (totals ranging from 27 to 34), which emphasizes the fact that the Applicant-Preferred Route and the 16 alternative routes would result in similar impacts on the resources present within the corridor.

The following text provides a summary description of the results in Table 3-1. The values for each of these criteria allow the alternatives to be compared against each other and to see the relative differences among the alternatives.

3.4.3.1 Route Length

The 16 routes that were evaluated in the GIS model ranged in length from approximately 72 to 77 miles. Routes 7, 8, 11, 12 and 15 were all the shortest at approximately 72 miles. Routes 1 and 2 ranked 5th and were the longest at 77 miles. The Applicant-Preferred Route ranked 4th at 76 miles.

3.4.3.2 Percent of Route Adjacent to Existing Linear Features

The length of an alternative route within 200 feet of each category (transmission and distribution lines, U.S. and State Highways, county roads, and section lines) was added together and divided by the total length of the route to create a percentage adjacent to linear features. For the routes that were evaluated, the percent adjacent to existing linear features ranged from approximately 22 percent (Route 12) to 56 percent (Applicant-Preferred Route, 17). Due to the substantive difference between the routes, the percent adjacent to linear features were assigned ranks based on the range of percentages listed below:

Adjacent to Existing Linear Features (Percent Ranges)	Assigned Rank
55% to 59%	1
50% to 54%	2
45% to 49%	3
40% to 44%	4
35% to 39%	5
30% to 34%	6
25% to 29%	7
20% to 24%	8
19% or less	9

3.4.3.3 Length of Route Crossing Indian Trust Land

Routes 5, 6, 7 and 8 cross approximately 7,235 feet of Indian Trust land. In addition, the Applicant-Preferred Route crosses approximately 2,614 feet of Indian Trust land. The current alignment of the Applicant-Preferred Route barely encroaches onto a parcel of Indian Trust land (the reference line is located approximately 1 foot inside the parcel); however, Basin Electric intends to avoid this parcel of land completely during the ROW acquisition process.

3.4.3.4 Length Crossing Reservoirs and Strip Mines

Based on the GIS data from the U.S. Census Bureau, eight of the 16 alternative routes would cross a feature identified in the Census dataset as a reservoir. The Applicant-Preferred Route does not cross any reservoirs. Based on the size of and the length across the reservoir (379 feet), this feature could be easily spanned or avoided entirely through minor route adjustments.

3.4.3.5 Communication Facilities within 150 Feet

All 16 alternative routes are located within 150 feet of an existing telecommunications facility. The Applicant-Preferred Route does not have any telecommunications facilities within 150 feet of the current alignment.

3.4.3.6 Residences within 500 Feet

As described in the AE/MCS, there are numerous residences scattered throughout the Project corridor. Of the 16 routes that were evaluated, all of the routes have at least one and a maximum of two homes within 500 feet of the transmission line, and 12 of the alternative routes have one residence within 250 feet of centerline. Based on the centerline used in this analysis, the Applicant-Preferred Route had 2 residences within 500 feet and no residences within 250 feet.

3.4.3.7 Number of Perennial Stream Crossings

All 17 routes cross three or more perennial streams. The Applicant-Preferred Route and Alternative Routes 5, 6, 7, and 8 cross a total of 3 streams, Alternative Routes 1, 2, 3, and 4 cross 6 streams each, and Alternative Routes 9 through 16 cross 7 streams each. Stream crossings within the study area are relatively narrow and can be easily spanned by the proposed transmission line, which has a span length between 650 and 950 feet. Construction and long-term operational measures would need to be implemented to minimize impacts to water quality and stream habitat. The Applicant-Preferred Route and Alternative Routes 5, 6, 7, and 8 would have the least potential impact on water resources and therefore, ranked best for this category.

3.4.3.8 Length within 100 feet of Perennial or Intermittent Streams

All 17 routes are located within 100 feet of perennial and intermittent streams, with cumulative paralleling distances ranging between 25,000 and 32,000 feet. Alternative Routes 3, 4, 7, and 8 had the shortest distance of transmission line within 100 feet of a perennial or intermittent stream and therefore ranked the

best. The Applicant-Preferred Route, along with Alternative Routes 1, 2, 5, and 6 were ranked in second place with cumulative distances of 28,000 feet.

3.4.3.9 Length Crossing Waterbodies

All of the alternative routes, as well as the Applicant-Preferred Route, cross areas defined as waterbodies or open water. The cumulative total length of crossings over waterbodies ranged from 1,200 to 1,600 feet. The Applicant-Preferred Route crosses approximately 1,600 feet in total. However, it should be noted the waterbodies crossed by any of the alternative routes can be easily spanned by the transmission line since the maximum water body width (White River crossing) is 570 feet and the typical span distance of the transmission line is 650 to 950 feet.

3.4.3.10 Length Crossing National Wetlands Inventory (NWI) Wetlands

There are numerous wetlands located within the Project study area and the total length of wetland crossings for the routes ranged from approximately 3,000 to 6,000 feet. Most of these wetland areas crossed by routes are small and can be easily spanned. One of the larger wetland areas (approximately 1,100 feet at its widest point) is crossed by the Applicant-Preferred Route, but the centerline is near the southern edge of the wetland and the ROW is expected to be shifted south to avoid or span the wetland area. All wetlands within the transmission line ROW would need to be delineated to avoid impacts during construction and maintenance activities.

3.4.3.11 Class I Cultural Resources Sites within 500 Feet

Each of the alternative routes, including the Applicant-Preferred Route, are within 500 feet of 5 to 7 previously identified cultural resources sites. The specific nature of these sites, the potential impacts of the Project, and potential avoidance/mitigation measures for these cultural resources sites will be addressed in the EA. In addition, all of the alternative routes (excluding the Applicant-Preferred Route) cross one recorded site, which has been determined to be potentially eligible for listing in the National Register of Historic Places (NHRP). Alternative Routes 1, 2, 3, and 4 and the Applicant-Preferred Route cross a second site that is listed as NRHP-eligible. Further analysis of all sites within 500 feet of the Project centerline will be required during the EA process and consultation with the South Dakota SHPO will determine potential effects and mitigation requirements. In most cases, cultural resources can be avoided by spanning the site or through protective measures implemented during construction. In some cases, the transmission line may need to be relocated or the artifacts could be recovered and preserved.

3.4.3.12 Length within Known Prairie Dog Colonies

All of the alternative routes traverse portions of previously documented prairie dog colonies, which may or may not currently be active. Prairie dog colonies are a potential concern since these colonies can provide nesting habitat for the burrowing owl, which is protected under the Migratory Bird Treaty Act. The length of the routes through prairie dog colonies ranged from 260 to 1,628 feet. The Applicant-Preferred Route would cross 1,097 feet of prairie dog colonies.

3.4.3.13 Raptor Nests within 0.25 mile of Centerline

While detailed nest surveys have not yet been completed, existing resource data compiled for this study indicate recorded raptor nests within 0.25 mile from some of the alternative routes. Alternative Routes 1, 2, 5, 6, 9, 10, 13, and 14 are all within 0.25 mile of one recorded raptor nest. All remaining routes, including the Applicant-Preferred Route, were not located in proximity to a recorded nest site and therefore, received a better ranking for this criterion.

3.4.3.14 Length within Sharp-Tailed Grouse Leks

There is one historic sharp-tailed grouse lek that has been identified within the Project study area. This historic grouse lek, which is located northwest of Reliance, would be crossed by alternative routes 1, 2, 3 and 4 and the Applicant-Preferred Route; however, the current status of this grouse lek is unknown. If this sharp-tailed grouse lek is determined to be active, construction of the transmission line may need to occur outside of the breeding season or the transmission line may need to be re-routed to avoid impacts to this sensitive species habitat.

3.4.4 *Alternative Routes Removed From Further Consideration*

As a result of the comparative analysis described in Section 3.3, including the quantitative data in Table 3-1, and consideration of the qualitative metrics described in Section 3.1, a number of the potential alternative routes were eliminated from further consideration. As listed in Table 3-1, the Applicant-Preferred Route ranked number 1 in comparison to all the other alternatives with a total score of 27. Several alternatives ranked in second and third place (Alternative Routes 5, 6, 7, 8, 15 and 16), with total scores of 28 and 29. The minimal spread in scores between the alternative routes is due to the fact that the difference between these routes is fairly minimal. As discussed previously, both quantitative and qualitative metrics were used to determine which routes should be eliminated. A summary of the rationale used to eliminate 14 of the alternative routes from further analysis is provided below:

- Routes 1 and 2 were eliminated since they had the greatest length of any alternative and both of these alternative routes scored poorly in the matrix.
- Routes 3 and 4 were very similar to each other. These alternative routes were eliminated based on length within known prairie dog towns and length crossing NWI wetlands.
- Routes 5, 6, 7 and 8 were eliminated since they used segments that crossed Indian Trust land.
- Route 9 was eliminated due to length within known prairie dog towns and because it had the highest length within 100 feet of perennial streams. This alternative route had the worst overall score in the matrix.
- Routes 11 and 12 were very similar to each other. Those alternatives were eliminated based on length within known prairie dog towns and length crossing NWI wetlands.
- Routes 13 and 14 were also similar to each other. These routes were the second longest routes at 76 miles each and had the greatest length within 100 feet of perennial streams.

- Route 15 is similar to Route 16, but Route 15 had a longer length within 100 feet of perennial streams.

Alternative Route 16 had minimal constraints, scored well in the matrix (total rank of 3), and shared few segments with the Applicant-Preferred Route. Therefore, Alternative Route 16 was determined to provide a reasonable alternative to the Applicant-Preferred Route. Other routes that ranked in second or third place were nearly identical to the Applicant-Preferred Route or to Alternative Route 16 and therefore, did not represent reasonable additional alternatives. Although Alternative Route 10 does not perform well in the matrix when compared with the other alternative routes (Route 10 received a total score of 34 with a rank of 7 in Table 3-1), this route was retained for evaluation in the EA since the route provides a distinctly different alternative route than either the Applicant-Preferred Route or Alternative Route 16. Additional features of the Alternative Routes and the Applicant-Preferred Route are described in Section 4.0 below.

4.0 IDENTIFICATION OF ROUTES FOR ANALYSIS IN THE EA

As described in Section 3.1, both quantitative and qualitative criteria were used to evaluate the 16 alternative routes and the Applicant-Preferred Route and to identify two alternative routes for analysis in the EA. Basin Electric and Western worked closely with RUS, Native American tribal representatives, the U.S. Army Corps of Engineers, and local landowners to identify potential routes that would best meet the Project objectives and purpose and need, while minimizing adverse environmental effects and conflicts with existing land uses. This process resulted in the identification of the Applicant-Preferred Route, which will be evaluated in detail in the EA. Basin Electric will continue to refine this route such that some potential impacts can be minimized or avoided long before construction occurs. In comparison, no comparable route refinement process has been conducted for the alternative routes.

In addition to the Applicant-Preferred Route, two alternative routes were identified based on the route screening analysis described in Section 3. This quantitative and qualitative process resulted in the identification of Alternative Routes 10 and 16. The selected routes represent a reasonable range of alternative routes within the Project study area and these routes will be evaluated in the EA. Figure 4-1 illustrates the three selected alternative routes.

4.1 Alternative Route 10

As illustrated in Table 3-1, the following features of Alternative Route 10 are favorable:

- Route 10 is slightly shorter than the Applicant-Preferred Route.
- Route 10 has a shorter length across waterbodies when compared with Applicant-Preferred Route.

Potentially unfavorable aspects of Alternative Route 10 include:

- Only 35 percent of the total length of Route 10 is adjacent to existing linear features.
- Route 10 crosses an existing reservoir.
- Route 10 crosses 7 perennial streams and has the longest length within 100 feet of perennial and intermittent streams.
- Route 10 has the second longest length within known prairie dog towns.

4.2 Alternative Route 16

As illustrated in Table 3-1, the following features of Alternative Route 16 are favorable:

- Route 16 is approximately 2 miles shorter than Route 10 and approximately 3 miles shorter than the Applicant-Preferred Route.
- Route 16 has the shortest length crossing waterbodies and NWI wetlands.

- Route 16 has the shortest length within previously documented prairie dog colonies.

Potentially unfavorable aspects of Alternative Route 16 include:

- Only 37 percent of the total length of Route 16 is adjacent to existing linear features.
- Route 16 crosses 7 perennial streams.
- Route 16 has a longer length within 100 feet of perennial and intermittent streams when compared with the Applicant-Preferred Route.

4.3 Applicant-Preferred Route

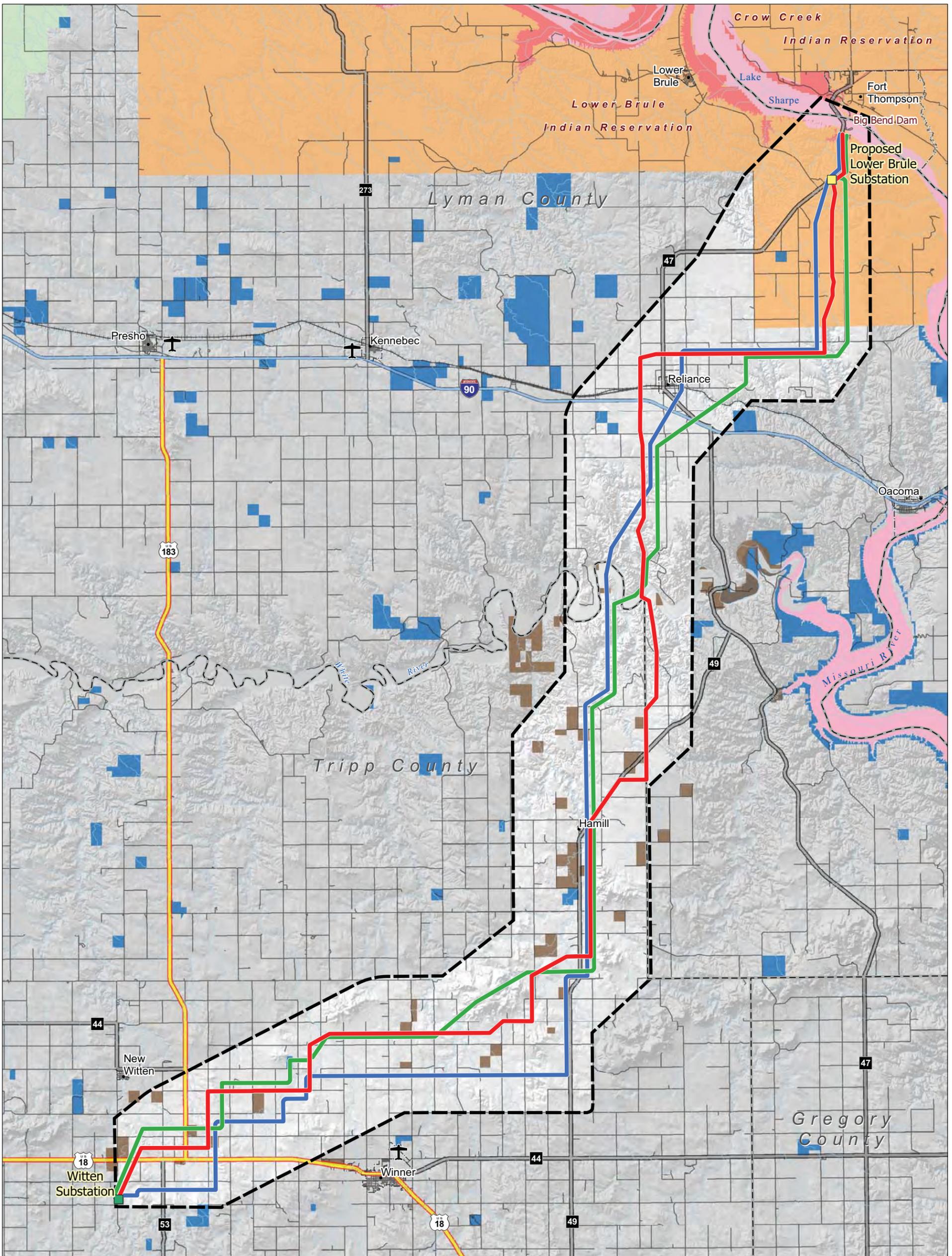
Favorable aspects of the Applicant-Preferred Route compared with the two alternative routes include:

- The route has the greatest percentage of alignment paralleling linear features.
- The route is not within 150 feet of any known communications facilities.
- The route has the fewest crossings of perennial streams and the shortest length within 100 feet of perennial and intermittent streams.

Potentially unfavorable aspects of the Applicant-Preferred Route compared with the two alternative routes include:

- The Applicant-Preferred Route is longer than Routes 10 and 16.
- The centerline of the Applicant-Preferred Route encroaches on and crosses Indian Trust land for approximately 2,614 feet; although as previously described, Basin Electric will completely avoid this parcel during the easement acquisition process.
- Based on the centerline used in this analysis, the Applicant-Preferred Route had two residences within 500 feet of centerline compared to one residence along Routes 10 and 16. However, as a result of recent adjustments to the Applicant-Preferred Route, Basin Electric has confirmed there are presently no occupied residences within 500 feet of the centerline.
- The Applicant-Preferred Route has the greatest length crossing waterbodies and NWI wetlands.
- The Applicant-Preferred Route is the only one of the three retained routes that traverses a historic sharp-tailed grouse lek.

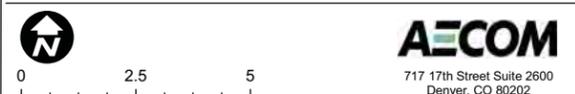
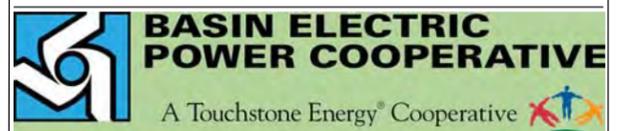
All of these resource issues will be thoroughly evaluated in the EA, and none of the issues identified in this preliminary screening of the alternatives appear to be insurmountable from a routing and permitting perspective. It is likely that all of the potential impacts associated with the Applicant-Preferred Route (or either of the alternative routes) can be minimized or avoided through minor adjustments as needed and through standard construction mitigation practices.



BIG BEND TO WITTEN TRANSMISSION PROJECT

Project Features	Jurisdiction	Transportation	Boundaries
Project Study Area	DOD - Army Corps of Engineers	Interstate	County
Applicant-Preferred Route	Recreation Areas	U.S. Highway	Municipal
Route 10	BIA - Indian Reservation	State Highway	
Route 16	USFS - National Grassland	Other Road	
<i>Note: Routes 10 and 16 offset for display purposes.</i>	State of South Dakota	Railroad	Utility System
	Indian Trust Land	Airport	Existing Substation
			Proposed Substation

APPLICANT-PREFERRED ROUTE AND SELECTED ALTERNATIVES



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 Date Modified: November 21, 2011
 Projection: NAD 1983 State Plane, South Dakota South, Feet
 Data Sources: ESRI, BTS, US Census, Basin, USGS, SDGIS, USACE

FIGURE 4-1

5.0 REFERENCES

Basin Electric Power Cooperative. April 2011. Basin Electric Big Bend to Witten 230-kV Transmission Project Alternative Evaluation and Macro-Corridor Study

BTS (U.S. Department of Transportation, Bureau of Transportation Statistics), 2006. Data on the locations of airports. Available online at:
http://www.bts.gov/programs/geographic_information_services/

FCC (Federal Communications Commission), 2009. Data on the locations of communications facilities. Available online at: http://wireless.fcc.gov/geographic/index.htm?job=licensing_database_extracts

NPS (National Park Service), 2008. Data on the location of properties listed on the National Register of Historic Places. Available online at: <http://www.nps.gov/nr/research/>

NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service), 2011. Data on soils and soil type. Available online at: <http://soildatamart.nrcs.usda.gov/>

SDGIS (South Dakota Geographic Information System), 2011. Data on land ownership and jurisdiction. Available online at: <http://arcgis.sd.gov/server/sdGIS/Data.aspx>

TransCanada, 2009. Final Report, Keystone XL Pipeline, Integrated System Eastern Interconnection Transmission Impacts, Integrated System Network Load Study, May 15.

USACE (U.S. Army Corps of Engineers), 2003. Big Bend Dam/Lake Sharpe Master Plan, Missouri River, South Dakota, Update of Design Memorandum MB-90. October.

U.S. Census Bureau, 2010. Data on roads, railroads, and census landmarks from TIGER database. Available online at: <http://www.census.gov/geo/www/tiger/tgrshp2010/tgrshp2010.html>

U.S. Department of Agriculture, Rural Utilities Service. July 2011. Big Bend to Witten 230-kV Transmission Project Environmental Assessment Scoping Report.

USFWS (U.S. Fish and Wildlife Service), 2010. Data on the location of wetlands in the National Wetlands Inventory. Available online at: <http://www.fws.gov/wetlands/Data/DataDownload.html>

USGS (U.S. Geological Survey), 1999. National Hydrography Dataset. Data on the locations of streams, rivers, lakes and other water features. Available online at: <http://nhd.usgs.gov/>

USGS (U.S. Geological Survey), 2001. National Land Cover Dataset. Available online at: <http://seamless.usgs.gov/index.php>

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Appendix D

Environmental Protection Measures

1. Jurisdictions, Land Use, and Agricultural Practices

Land Use

- The movement of crews and equipment will be limited to the right-of-way (ROW) and other areas that have been cleared for cultural, historical, and biological resources. The construction contractor will limit movement on the ROW so as to minimize damage to rangeland, cropland, or property.
- The ROW across the Lower Brule Sioux Indian Reservation will be issued as a lease as negotiated with the LBST.

Agricultural Practices

- Where practical, construction activities will be scheduled during periods when agricultural activities would be minimally affected or the landowner will be compensated accordingly.
- Fences, gates, and similar improvements that are removed or damaged will be promptly repaired or replaced. New gates may be installed, if deemed appropriate.
- The ROW will be purchased through negotiations with each landowner affected by the proposed project and payment will be made of full value for crop damages or other property damage during construction or maintenance.
- When weather and ground conditions permit, all deep ruts that are hazardous to farming operations and to movement of equipment will be eliminated or compensation will be provided if the landowner desires. Such ruts will be leveled, filled, and graded, or otherwise eliminated in an approved manner. Ruts, scars, and compacted soils from construction activities in cropland or rangeland will be loosened and leveled by subsoiling, paraplowing, scarifying, harrowing, or disking, as appropriate. Damage to ditches, roads, and other features of the land will be corrected. The land and other features will be restored as nearly as practicable to their original conditions.

2. Geology, Minerals, and Soils

Soils

- Excess subsoils and rock will be hauled off-site to an approved landfill.
- Erosion and sediment controls will be established prior to construction, then maintained and controlled through application of Storm Water Pollution Prevention Plans (SWPPPs).
- Sediment control measures (e.g., installation of silt fences) will be used, where appropriate, to prevent sediment from moving off-site and into waterbodies.
- Maintenance operations will be scheduled during periods of minimum precipitation to minimize the potential of surface runoff and to reduce the risk of erosion, rutting, sedimentation, and soil compaction. However, emergency repairs to the proposed transmission line may occur during periods of inclement weather. Ruts, scars, and compacted soils resulting from emergency activities will be repaired by subsoiling, paraplowing, scarifying, harrowing, or disking, as appropriate.
- Temporary laydown areas will be located in previously disturbed areas and/or areas previously surveyed for cultural and biological resources.
- Landslide-prone areas associated with the Pierre Shale would be assessed for potential instability. Such assessment would include, if necessary, review of available information concerning areas of mapped landslides, descriptions of historic landslides, and consultation with appropriate governmental agency personnel who are knowledgeable about the hazards.

Assessment shall also include field surveys and gathering of geotechnical information to determine what engineering design methods would mitigate or lessen potential risks. If the risks cannot be practically mitigated or lessened, then avoidance of potentially unstable areas is recommended such as relocation of routes to more stable bedrock. If avoidance is not possible, then appropriate design standards should be used to mitigate the risk to the furthest extent possible.

3. Vegetation and Noxious Weeds

Vegetation

- Where wooded areas cannot be avoided, the proposed transmission line will be placed in areas with the lowest density of trees, whenever feasible, thereby reducing the number of trees that will require removal within the construction ROW.
- All vegetative materials resulting from clearing operations will either be chipped on site, or removed and disposed of in a permitted facility.
- Existing native vegetation within the construction ROW will be preserved whenever feasible.
- Surface disturbance areas will be reclaimed using native species, as approved by the Natural Resources Conservation Service, county extension agency, or landowners, and will be planted at the appropriate times in order to reestablish native vegetative cover and minimize the potential for invasion by non-native species.
- Wetland and riparian communities will be spanned by the proposed transmission line, thereby avoiding impacts to these ecosystems.
- Erosion and sedimentation controls will be implemented to minimize indirect impacts to wetlands and riparian areas.
- If herbicides are used to remove woody species that become established in the ROW and pose a hazard to the transmission line, they will be used in an appropriate manner.
- Mulch and seeds used for revegetation, erosion, and sediment control will be certified as weed-free.

Noxious Weeds

- If noxious weeds are observed in the surface disturbance areas, populations will be controlled with the application of herbicides, which will be applied by a certified herbicide applicator in accordance with label instructions and State and local County Weed Board regulations. Biological control methods (i.e., use of spurge beetles, etc.) also may be considered for weed control, in consultation with appropriate agencies.
- Herbicides will not be used near surface water.
- Prior to the initiation of construction activities, construction vehicles and equipment will be thoroughly cleaned to prevent the possible spread of noxious weed seeds within the project area.
- The construction ROW and other surface disturbance areas will be monitored annually for noxious weeds for a 3-year period following construction and reclamation. Landowners will be consulted regarding all noxious weed control measures and issues.
- Herbicide applications will occur in late spring or early summer to eradicate or control noxious weeds before they mature.

4. Fish and Wildlife Resources

- Prior to surface disturbance activities during the migratory bird (not including raptors) breeding season (April 15 through July 15), a qualified biologist will survey within suitable ROW habitat (i.e., non-cultivated land) for nesting activity and other evidence of nesting (e.g., mated pairs, territorial defense, birds carrying nest material, transporting food). If active nests are located, or other evidence of nesting is observed, appropriate protection measures, including establishment of buffer areas and constraint periods, will be implemented until the young have fledged and dispersed from the nest area. These measures will be implemented on a site-specific and species-specific basis, in coordination with applicable state and federal agencies and the Lower Brule Sioux Tribe, as needed.
- If construction is to occur during the breeding season for raptors (February 1 through August 15), prior to construction activities, raptor breeding surveys will be conducted by a qualified biologist through areas of suitable nesting habitat to identify any active nest sites within 0.5 mile (1.0 mile for bald eagles) from the project area. If applicable, appropriate protection measures, including seasonal constraints and establishment of buffer areas will be implemented at active nest sites until the young have fledged and have dispersed from the nest area. These measures will be implemented on a site-specific and species-specific basis, in coordination with applicable state and federal agencies and the LBST, as needed
- Standard measures to minimize avian collision risk with overhead transmission lines, as outlined in *Reducing Avian Collisions with Power Lines* (Avian Power Line Interaction Committee [APLIC] 2012), will be examined and appropriate measures will be developed in coordination with applicable state and federal agencies and the LBST, as needed
- Adequate raptor proofing designs, as described in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006), will be implemented on the structures in coordination with applicable state and federal agencies and the LBST, as needed.
- Holes that are drilled or excavated for pole placement or foundation construction and left unattended overnight will be marked and secured with temporary fencing and plywood covers to reduce the potential for livestock and wildlife entering the holes and for public safety.

5. Threatened and Endangered Species

- In order to minimize impacts to threatened and endangered species, Basin Electric will implement mitigation measures presented during the Section 7 consultation between RUS and the USFWS. The USFWS concurred with the mitigation measures presented in the EA (Larson 2013; **Appendix E**).

6. Wetlands, Floodplains, and Water Quality

- A pre-construction wetland and waterbody survey will be conducted prior to construction to determine the location and spatial extent of wetlands and waterbodies within the project area. All features will be mapped using a Global Positioning System device to enable feature avoidance and site-specific structure placement. In localized areas where detailed wetland mapping will be required for appropriate structure placement to avoid wetland impacts, the U.S. Army Corps of Engineers–approved three-parameter approach will be used to delineate wetland boundaries.
- A 100-foot buffer will be established adjacent to wetlands and streams, where practicable, to prevent or minimize impacts to those ecosystems. Construction vehicles and equipment will not traverse through wetlands and riparian areas, thereby avoiding direct impacts to these sensitive areas.
- Transmission line structures will be sited so that streams and drainages are spanned and remain undisturbed. Construction and maintenance access also will avoid these areas.

- Staging areas and refueling areas will not be located near surface waterbodies.
- Areas that need to be cleared during construction will be revegetated with an approved native seed mix as soon as technically feasible to minimize soil erosion and sediment runoff.
- A Spill Prevention and Response Plan will be developed prior to the start of construction to prevent the potential for spills of hazardous substances into streams and drainages, and potential contamination of groundwater. The plan will include a procedure for storage of hazardous materials and refueling of construction equipment outside of riparian zones, spill containment and recovery plan, and notification and activation protocols.
- Refueling of construction vehicles will occur at commercial fueling facilities and staging areas, if on-site fuel storage is needed for refueling.
- A SWPPP will be developed and implemented prior to initial construction activities. This Plan will include an analysis of materials that will be utilized and site activities that could potentially impact storm water and the associated mitigation measures to minimize that potential. Plan implementation will include regular inspections of areas under construction, material storage and laydown areas, and structural devices for storm water management. All construction personnel will be trained and required to comply with Plan's requirements and the maintenance of all environmental protection measures. The SWPPP will be maintained until final stabilization of all disturbed areas has been completed.

7. Cultural Resources and Native American Traditional Values

- If any previously unknown cultural resources or human remains are discovered during project construction, all work within 200 feet of the discovery that might adversely affect the cultural resource or human remains will cease until the agencies, in consultation with the appropriate parties, can evaluate the discovery. The agencies will be notified immediately (within 24 hours) and will have a qualified professional archaeologist and tribal representative (if necessary) with the proper expertise for the suspected resource type on-site as soon as possible. Construction in the immediate vicinity of the discovery will not proceed until authorized by the agencies.
- Basin Electric will ensure that all of their personnel, contractors, and subcontractors will not engage in the illegal collection, damage, or vandalism of historic and prehistoric resources.
- Basin Electric will retain a tribal monitor during construction activity.

8. Air Quality

- Fugitive dust emissions generated as a result of surface disturbance activities and vehicle use of access roads will be controlled by the periodic application of water, if necessary.
- Vehicles and equipment will be properly maintained to avoid excessive emission of exhaust gases due to poor engine adjustments.
- The speed of vehicles traveling on unpaved roads will be limited, to the extent practicable, to reduce the generation of fugitive dust.
- Burning waste materials within the ROW will not be permitted and all waste materials will be disposed of at permitted waste disposal areas or landfills.

9. Visual Resources

- In order to minimize aesthetic impacts for motorists traveling on the Native American Scenic byway (SH 47), junipers and other woody species would be planted in irregular patterns between SH 47 and the Lower Brule Substation, in coordination with the Lower Brule Tribe.

10. Transportation

- The transportation of materials and equipment will be conducted in accordance with South Dakota Department of Transportation regulations.
- All necessary provisions will be made to conform to safety requirements for maintaining the flow of public traffic. Construction operations will be conducted to offer the least possible obstruction and inconvenience to public traffic.
- Public roads, section lines and existing trails will be used, to the extent practicable, to access the proposed transmission line.

Appendix E

**Agency and Tribal
Consultation Letters**



July 24, 2013

Mr. Kevin Solie
Basin Electric Power Cooperative
1717 East Interstate Ave.
Bismarck ND 58503

INITIAL SECTION 106 PROJECT CONSULTATION

Project: 130621004F – Big Bend to Witten transmission line

Location: Multiple Counties

(RUS)

Dear Mr. Solie:

Thank you for the opportunity to comment on the above referenced project. On June 21, 2013, we received the information regarding the proposed line placement in South Dakota for Basin Electric Power Cooperative.

Given that there is no direct federal involvement in your project at this time, we can only make a preliminary recommendation. Based on the information provided in your correspondence and the report "A Class III Cultural Resources Survey and a Traditional Cultural Property Survey of the Proposed Big Bend to Witten Transmission Line Corridor, Lyman and Tripp Counties, South Dakota for Basin Electric Power Cooperative" by Brian L. Molyneaux, PhD and Florentine Blue Thunder, and your additional information provided on July 18th, 2013, we would recommend a determination of "No Historic Properties Affected" provided the following stipulations: 1) all eligible and unevaluated sites are avoided by all construction activities 2) activities occurring in areas not identified in your correspondence are submitted to SHPO for further review and comment.

Please note this recommendation is limited to the areas identified in this request and does not apply to any staging or material storage areas.

After the agency official has completed the Section 106 process if historic properties are discovered or unanticipated effects on historic properties are found, the agency official shall avoid, minimize or mitigate the adverse effects to such properties and notify the SHPO and Indian tribes that might attach religious and cultural significance to the affected property within 48 hours of the discovery, pursuant to 36 CFR part 800.13.

Consultation with the SHPO does not relieve the federal agency official from consulting with other appropriate parties, as described in 36CFR Part 800.2(c).

Should you require any additional information, please contact Amy Rubingh, at (605) 773-8370. We appreciate your concern for the non-renewable cultural heritage of our state.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

A handwritten signature in black ink that reads "Amy Rubingh". The signature is written in a cursive, flowing style.

Amy Rubingh
Review and Compliance Archaeologist

CC: Deirdre Remley – deirdre.remley@wdc.usda.gov – USDA Rural Utilities Service

**BASIN ELECTRIC
POWER COOPERATIVE**

1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58503-0564
PHONE: 701-223-0441
FAX: 701-557-5336



June 19, 2013

RECEIVED JUL 08 2013

Scott Larson, Field Supervisor
U. S. Fish and Wildlife Service
South Dakota Field Office
420 S. Garfield Avenue, Suite 400
Pierre, SD 57501-5408



Dear Mr. Larson:

The enclosed Biological Assessment (BA) is hereby submitted for consideration as informal consultation with the U.S. Fish and Wildlife Service (Service) in accordance with Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) for the Big Bend to Witten 230-kV Transmission Project (Project) as proposed by Basin Electric Power Cooperative (Basin Electric). The BA addresses six federally listed species and one federal candidate species, which were identified by the U.S. Fish and Wildlife Service (USFWS) as occurring within or near the study area.

Basin Electric is seeking financial assistance from the U.S. Department of Agriculture (USDA) Rural Utilities Service (RUS), as well as an interconnection agreement from the U.S. Department of Energy, Western Area Power Administration (Western). RUS is the lead agency and Western is a cooperating agency. RUS is requesting written concurrence from the USFWS on the determinations that have been reached for the proposed project. The following table contains the species considered in the BA, as well as the effects determination for each species.

Species	Status	Habitat	Potential for Occurrence in Project Area	Preliminary Determination	Rationale
Black-footed ferret (<i>Mustela nigripes</i>)	E	The species inhabits prairie dog colonies.	Potential to occur	May affect, not likely to adversely affect	Endangered/ Non-essential Experimental Population (EXPN)

Species	Status	Habitat	Potential for Occurrence in Project Area	Preliminary Determination	Rationale
Whooping crane (<i>Grus Americana</i>)	E	During migration, freshwater marshes, wet prairies, shallow portions of waterbodies, and grain and stubble fields are utilized for foraging.	Potential to occur	May affect, not likely to adversely affect	Appropriate conservation measures will be implemented to minimize potential impacts.
Interior least tern (<i>Sterna altilarum ssp. athalassos</i>)	E	During migration, shallow waters of rivers, streams, and lakes are utilized for foraging.	Potential to occur	May affect, not likely to adversely affect	The species may be present at the Missouri River. Appropriate conservation measures will be implemented to minimize potential impacts.
Piping plover (<i>Charadrius melodus</i>)	T	During migration, shallow waters of rivers, streams, and lakes are utilized for foraging.	Potential to occur	May affect, not likely to adversely affect	The species may be present at the Missouri River. Appropriate conservation measures will be implemented to minimize potential impacts.
American burying beetle (<i>Nicrophorus americanus</i>)	E	The species inhabits grassland and native prairie.	Potential to occur	May affect, not likely to adversely affect	The Project would disturb a small amount of potential habitat in the extreme northern extent of the known geographic range for this species.

Key = E –Endangered, T –Threatened

June 19, 2013

Page 3

A summary of proposed conservation measures, which will continue to be refined in coordination with applicable state and federal agencies and the Lower Brule Sioux Tribe as needed, includes:

- Standard measures to minimize avian collision risk with overhead transmission lines, as outlined in *Reducing Avian Collisions with Power Lines* (Avian Power Line Interaction Committee [APLIC] 2012), will be examined and appropriate measures developed as needed.
- Adequate raptor proofing designs, as described in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006), will be implemented on transmission structures.
- Siting of Project components will be avoided within active prairie dog colonies, to the extent practicable.
- Anti-perch devices will be placed on transmission structures that occur in active prairie dog colonies as determined through further coordination.
- Although the USFWS has not recommended surveys for the black-footed ferret, surveys will be completed if requested by the Lower Brule Sioux Tribe as additional information on habitat quality and ferret population status becomes available.
- Line marking according to APLIC guidelines in areas of suitable crane stopover habitat to mitigate collision risk for migrating whooping cranes as discussed with the USFWS South Dakota Ecological Services Office and the Lower Brule Sioux Tribe. This measure also serves to mitigate collision risk for migrating and foraging interior least terns and piping plovers.
- Project staff will be trained to recognize whooping cranes, any sightings will be immediately reported to the USFWS, South Dakota Field Office, and, if whooping cranes were to be sighted during construction, activities will cease until the birds move away from the Project ROW.
- Existing native vegetation within the construction ROW will be preserved whenever feasible.
- Surface disturbance areas will be reclaimed using native species, as approved by the county extension agency or landowners, and will be planted at the appropriate times in order to re-establish native vegetative cover and minimize the potential for invasion by non-native species.
- Wetland and riparian communities will be spanned by the proposed transmission line, thereby avoiding impacts to these ecosystems.
- Erosion and sedimentation controls will be implemented to minimize indirect impacts to wetlands and riparian areas.
- If herbicides are used to remove woody species that become established in the ROW and pose a hazard to the transmission line, they will be used in an appropriate manner.

June 19, 2013

Page 4

- Mulch and seeds used for re-vegetation, erosion, and sediment control will be certified as weed-free.
- Implement additional mitigation measures resulting from Section 7 consultation between Rural Utilities Service and the U.S. Fish and Wildlife Service.

Based on the information in the BA and the conservation measures that Basin Electric has committed to, Basin Electric recommends an overall finding of "may affect, not likely to adversely affect" federally listed species for the Project. If you agree, please provide us with documentation of your concurrence.

If you require further information, please contact Basin Electric's Environmental Project Manager, Kevin Solie at ksolie@bepec.com or 701.557.5495 or RUS's Environmental Project Manager, Deirdre Remley at deirdre.remley@wdc.usda.gov or (202) 720-9640.

Sincerely,



Kevin L. Solie
Senior Environmental Coordinator

/ser

Enclosure

cc: Deirdre Remley, RUS
Rod O'Sullivan, Western

The U.S. Fish and Wildlife Service concurs with your conclusion that the described project will not adversely affect listed species. Contact this office if changes are made or new information becomes available.

6/26/13
Date


SD Field Supervisor
USFWS

APR 22 2011

Chairman Charles Murphy
Standing Rock Sioux Tribe
PO Box D
Fort Yates, North Dakota 58538

Dear Mr. Murphy

The Rural Utilities Service (RUS), an agency of the U.S. Department of Agriculture, is considering an application for financial assistance from Basin Electric Power Cooperative (BEPC) to construct and operate a new 230-kilovolt (kV) transmission line in Lyman and Tripp Counties, South Dakota. The proposed Big Bend to Witten Transmission Line (Project) will interconnect with the Western Area Power Administration (Western) transmission system in order to meet existing and future electric power requirements in south central South Dakota, including the proposed Keystone XL Pipeline. The proposed Project will transfer power from Western's transmission system at a new substation to be located near Big Bend Dam, South Dakota to the Rosebud Electric Cooperative Witten Substation near Witten, South Dakota. RUS is considering funding this application, which would make it an undertaking subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800).

The proposed Project plans to construct the following components: (1) a 230-kV single circuit transmission line predominately using steel single-pole self-supporting structures within a 125-foot-wide right-of-way (ROW) approximately 70 miles long; (2) an addition to the existing Witten Substation; and (3) a new substation, designated as the Lower Brule Substation. Located near the town of Witten, South Dakota, the Witten Substation is owned by Rosebud Electric Cooperative. BEPC proposes to build and own the new addition to this substation. BEPC anticipates that other communication facility additions or enhancements will be necessary for the Project, including radio towers and buildings at the substations; and other intermediate sites.

Western plans to build the new Lower Brule Substation near Big Bend Dam and approximately two miles of double-circuit line to connect this new facility to the dam. Western has determined that implementation of these proposed plans is an undertaking subject to review under 36 CFR Part 800. In accordance with 36 CFR § 800.2(a)(2), Western has designated RUS as the lead Federal agency fulfilling their collective responsibilities under Section 106.

The location of the proposed Project is described in the enclosed map. Approximately six miles of the proposed transmission line as well as the Lower Brule substation will be located on the Lower Brule Indian Reservation. The remainder of the proposed Project is located within the historic homeland of the Lower Brule Sioux and the Rosebud Sioux Tribes. Accordingly, BEPC, using aerial imagery and topographic maps, has worked closely with these tribes to develop the Project corridor and route alternatives shown on the enclosed map.

RUS is inviting the Standing Rock Sioux Tribe to participate in government-to-government consultation for this undertaking. Please advise RUS of your decision by May 13, 2011. RUS has submitted more detailed project documentation to Waste'Win young.

RUS appreciates your attention to this matter. Pursuant to its regulations at 7 CFR Part 1794 implementing the National Environmental Policy Act, RUS will be hosting Scoping meetings for this project in South Dakota on April 26-27, 2011. More detailed information about these meetings is enclosed if you would like to attend.

Should you have any questions or require additional information, please contact Mr. Richard Fristik, Senior Environmental Protection Specialist, at 202-720-5093 or via email at Richard.Fristik@wdc.usda.gov.

Sincerely,

Mark S. Plank

MARK S. PLANK
Director
Engineering and Environmental Staff
Water and Environmental Programs

Enclosures

Cc: EES file EES RFristik EES MPlank EES LDean
Rod O'Sullivan, Environmental Protection Specialist
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12115 W. Alameda Parkway
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Lakewood, CO 80228-8213

Kevin L. Solie, Senior Environmental Analyst
Basin Electric Power Cooperative
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Bismarck, North Dakota 58503

Jon Alstad, Senior Project Manager
Environment
AECOM
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Fort Collins, CO 80525

Stephen Tromly, Archeologist
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Western Area Power Administration
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Draft: EES RFristisk, (202) 720-5093, 4/12/11; final: mw 4/21/11
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Tribal Leaders Distribution List

Chairman Kevin Keckler
Cheyenne River Sioux Tribe
PO Box 590
Eagle Butte, SD 57625

Chairman Duane Big Eagle
Crow Creek Sioux Tribe
PO Box 50
Fort Thompson, SD 57339

President John Yellow Bird Steele
Oglala Sioux Tribe of the Pine Ridge Reservation
PO Box 2070
Pine Ridge, SD 57770

Chairwoman Rebecca White
Ponca Tribe of Nebraska
PO Box 288
Niobara, NE 68760

Chairman Douglas Rhodd
Ponca Tribe of Oklahoma
20 White Eagle Drive
Ponca City, OK 74601

Chairman Roger Trudell
Santee Sioux Nation
108 Spirit Lake Avenue West
Niobara, NE 68760-7219

Chairman Charles Murphy
Standing Rock Sioux Tribe
PO Box D
Fort Yates, ND 58538

Chairman Michael B. Jandreau
Lower Brule Sioux Tribe
187 Oyate circle
Lower Brule, SD 57548

President Rodney M. Bordeaux
Rosebud Sioux Tribe
PO Box 430
Rosebud, SD 57570

APR 22 2011

Clair Green, Director
Cultural Resource Office
Lower Brule Sioux Tribe
187 Oyate Circle
Lower Brule, South Dakota 57548

Dear Mrs. Green:

As you know, the Rural Utilities Service (RUS), an agency of the U.S. Department of Agriculture, is considering an application for financial assistance from Basin Electric Power Cooperative (BEPC) to construct and operate a new 230-kilovolt (kV) transmission line in Lyman and Tripp Counties, South Dakota. The proposed Big Bend to Witten Transmission Line (Project) will interconnect with the Western Area Power Administration (Western) transmission system in order to meet existing and future electric power requirements in south central South Dakota, including the proposed Keystone XL Pipeline. The proposed Project will transfer power from Western's transmission system, at a new substation to be located near Big Bend Dam, South Dakota to the Rosebud Electric Cooperative Witten Substation near Witten, South Dakota.

The proposed Project plans to construct the following components: (1) a 230-kV single circuit transmission line predominately using steel single-pole self-supporting structures within a 125-foot-wide right-of-way (ROW) approximately 70 miles long; (2) an addition to the existing Witten Substation; and (3) a new substation to be built by Western, designated as the Lower Brule Substation. BEPC anticipates that other communication facility additions or enhancements will be necessary for the Project, including radio towers and buildings at the substations and one or two intermediate sites.

Approximately six miles of the proposed transmission line as well as the new Lower Brule substation will be located on the Lower Brule Indian Reservation. Furthermore, the remainder of the proposed Project will be located on lands considered to be the historic homeland of the Lower Brule Sioux and the Rosebud Sioux Tribes.

Both RUS and Western have responsibilities to conduct review for the referenced proposal under Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). In order to streamline this review, Western has designated RUS as the lead Federal agency fulfilling their collective responsibilities under Section 106 in accordance with 36 CFR § 800.2(a)(2).

Mrs. Clair Green

Through early coordination, consultations, meetings over the past year, and the assistance of both Tribes, BEPC was able to develop a Project corridor and route alternatives, as shown on the enclosed map, that are more likely to avoid or minimize impacts to the cultural resources important to your tribe. Now that RUS is taking the lead on this proposed project, the intent of this letter is to formalize the government to government consultation requirements under the National Environmental Policy Act and NHPA Section 106 process. RUS, Western and BEPC will continue to work closely with you as the environmental assessment and review under Section 106 proceeds.

As discussed at an earlier meeting, public scoping meetings are being planned for two communities (Reliance and Winner) along the route of this proposed project. The public scoping meetings have been scheduled for April 26 and 27, 2011. It was agreed that we would have a tribal meeting during that timeframe, however due to conflicting meetings we would like to plan a consultation meeting for the week of June 6, 2011. Please let us know which day that week would be best for you. For your information, you will find enclosed detailed information about the upcoming scoping meetings to be held on April 26 and 27, 2011. Also enclosed is the letter sent to other tribes should they want to participate in this consultation.

RUS looks forward to working closely with you. Should you have any questions or require additional information, and to let us know which date in June is best for you, please contact Mr. Richard Fristik, Senior Environmental Protection Specialist, at (202) 720-5093 or via email at Richard.Fristik@wdc.usda.gov.

Sincerely,

Mark S. Plank

MARK S. PLANK
Director
Engineering and Environmental Staff
Water and Environmental Programs

Enclosures (*map, scoping notice, letter to other tribes*)

Cc: EES file EES RFristik EES MPlank

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Lakewood, CO 80228-8213

David Kluth, Regional Preservation Officer
Western Area Power Administration
South Dakota Maintenance Office
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Huron, South Dakota 57350-2474

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THPO Distribution List

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Acting Tribal Historic Preservation Officer
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Appendix F

Representative Relay Tower Viewshed Simulations at the Lower Brule Switchyard



150 foot Tower

Observation Point #2

Observation Point #1

