

# Teckla-Osage-Rapid City 230 kV Transmission Line Project

## Final Environmental Impact Statement

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**Bureau of Land Management**

High Plains District



**USDA Forest Service**

Black Hills National Forest  
Thunder Basin National Grassland

*November 2014*

# Teckla-Osage-Rapid City 230 kV Transmission Line Project Final Environmental Impact Statement

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## **APPENDIX A**

### **PUBLIC INVOLVEMENT AND COLLABORATION**

# Teckla-Osage-Rapid City 230kV Transmission Project Public Involvement and Collaboration

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During the project development and analysis period, collaborative efforts were made to involve, interact, and cooperate with individuals and groups interested in the T-O-RC Project. This effort included public scoping and review of the Draft EIS as discussed below.

## SCOPING

Scoping is the process of obtaining public comments about proposed federal actions to determine the breadth of issues to be addressed. Comments on the proposed action, potential concerns, and opportunities for managing the T-O-RC Project Area were solicited from members of the public, American Indian Tribes, other public agencies, adjacent property owners, organizations, and Forest Service specialists.

A scoping letter was mailed to approximately 3,000 potentially interested parties, including adjacent landowners, Tribes, and State and local governments, beginning on August 2011. This letter included a description of the project area, an overview of the NEPA process, a general explanation of the actions proposed and the reasons for the proposal, and an invitation to comment. Two public meetings were held to explain the proposal to the public, and to take comment. A total of 41 members of the public attended these meetings, which were held in Newcastle, Wyoming on September 13, 2011 and in Rapid City, South Dakota on September 20, 2011.

The project was entered into the Schedule of Proposed Actions (SOPA) in July 2011. SOPA contains a list of Forest Service proposed actions that will soon begin or are undergoing environmental analysis and documentation. It provides information so the public can become aware of and indicate interest on specific proposals (located on-line at [www.fs.fed.us/sopa](http://www.fs.fed.us/sopa)).

The Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) was published in the *Federal Register* on Friday, August 26, 2011. This provided official notification that the public comment period for the T-O-RC Project would conclude on October 28, 2011. A corrected NOI was published in the *Federal Register* on Tuesday, December 24, 2013 to update the timing information for the Draft and Final EISs and to clarify the mailing address for comments.

Appendix A of the Draft EIS contains a summary of the input received during scoping.

## OPPORTUNITY TO COMMENT ON DRAFT EIS

The public was provided an opportunity to comment on the T-O-RC Project Draft EIS during a 45-day comment period. This comment period began when a Notice of Availability (NOA) was

published in the Federal Register on Friday, December 27, 2013. A Legal Notice was published in the Laramie Boomerang on December 29, 2013 and also in the Casper Star Tribune and the Rapid City Journal, newspaper of record, on January 4, 2014, announcing an 'Opportunity to Comment' on the T-O-RC Project DEIS. Letters were sent to the entire Project mailing list (approximately 3,000 potentially interested parties) announcing the availability of the DEIS and the DEIS was made available on the BBNF website at <http://go.usa.gov/Bh1>. In addition, copies of the DEIS were mailed to the individuals and entities identified in **Table A-1**.

Public open houses were held in Rapid City, South Dakota on January 13, 2014 and Newcastle, Wyoming on January 14, 2014. Because of poor weather on January 14, a second public open house was held in Newcastle on January 29, 2014 to accommodate interested parties who may not have been able to attend the January 14 meeting.

During the DEIS comment period, 37 individuals, groups, or agencies submitted comment letters. Included in the comments were suggestions for additional route modifications in three specific areas in South Dakota. To assist in the determination of the viability of these suggested modifications and because they could potentially affect interested parties differently in these areas than identified in the Draft EIS, the BBNF solicited additional input from landowners in these areas.

Letters were sent on April 3, 2014 along with maps showing the potential new route modifications to solicit additional public comment. A meeting of a local homeowners group on May 1, 2014 was also attended by Forest Service personnel. A total of 27 individuals, groups, or agencies submitted comments during this process. Following this additional public input, two of the potential route modifications were updated and one was dropped from additional consideration.

Additional input was solicited on the updated route modifications in the Deerfield Road area and the Sun Ridge Road area on the BBNF. A letter dated June 27, 2014 and associated maps were sent to the entire mailing list requesting additional comments by July 16, 2014.

Forty-four additional comment letters were received in response to the June 27 letter. Most of these comments were specific to the potential route modifications at the two locations identified above in the South Dakota portion of the Project area.

All of the comments received have been analyzed using a process called content analysis.

## **COMMENT CONTENT ANALYSIS AND AGENCY RESPONSE PROCESS**

The content analysis process strives to identify all relevant issues, not just those represented by the majority of respondents. In addition to capturing relevant factual input, the content analysis identifies the relative strength of public sentiment behind particular viewpoints. The intention of the content analysis process is to represent the public's viewpoints and concerns as fairly as possible, and to present those concerns in such a way as to assist the ID Team in effectively responding to them.

The ID Team reviewed the public comment statements and considered the substance of the concerns, evaluated whether they triggered a change in the environmental analysis, and drafted responses. The ID Team provided any recommendations for adjustments to the DEIS analysis or documentation to the Team Leader for review, consideration, and action.

Additional discussions and/or factual and clarifying information have been incorporated in the document.

In general, the ID Team responded in the following ways to public concerns as prescribed in the 40 CFR 1503.4.

- Modify alternatives including the proposed action.
- Supplement, improve, or modify analysis.
- Make factual corrections.
- Explaining why the comments do not need further Forest Service response.

In response to the comments on the DEIS, the ID Team has made factual and clarifying corrections in the document, and/or explained why changes are not warranted. Minimal response (basically acknowledgement) has been made to concerns stating a position or an opinion. However, these positions and opinions have been compiled by the ID Team for consideration by the Responsible Official. Some specific suggestions for management of the project area may be adopted by the Responsible Official, other specific concerns are beyond the authority of the Forest Service and beyond the scope of the DEIS or determined to be impractical. Several of the comments resulted in the addition of new Route Modifications.

## **SUMMARY OF PUBLIC COMMENT ON THE DRAFT EIS**

Public comment on the Draft EIS was rich and varied, and reflects, for the most part, respondents' livelihood, lifestyle, and/or position/opinion on issues or concerns.

In general, most of the respondents living within and adjacent to the project area are supportive of a new transmission line, but preferred that it be located primarily on public versus private lands. Most were in favor of Alternative 3 (Proposed Action with Route Modifications) and had suggestions on routes to avoid private land impacts.

## **AGENCY RESPONSE TO PUBLIC COMMENTS**

All respondents' names and addresses are entered into a project-specific database, enabling creation of a complete list of all respondents. In the content analysis process, each response was assigned a unique letter (ID) that allowed analysts to link specific comments to the original letter. Each comment is given a number (Comment Number) and is coded by response. The comment / response tables attached below contain a summary of all respondents' comments and the Agency's response. Original letters are in the T-O-RC Project File at the Mystic Ranger District office in Rapid City, South Dakota.

Public comments and responses are separated into two tables below. **Table A-2** (DEIS Comment and Agency Response) contains comments received on the DEIS and the corresponding agency responses. **Table A-3** (Post-DEIS Comment and Agency Response) contains comments received subsequent to the DEIS comment period in response to the two letters (April and June 2014) the BBNF sent requesting additional input on newly developed route modifications.

Copies of comment letters received from local, state, or federal agencies after publication of the DEIS are included at the end of this Appendix.

**Table A-1  
T-O-RC Project Draft Environmental Impact Statement  
Distribution List**

<b>Name</b>	<b>City</b>	<b>State</b>
National Agricultural Library Acquisitions & Serials Branch	Beltsville	MD
Mark Carda Black Hills Power	Rapid City	SD
John G & Ellen M Butts	Newcastle	WY
Phillip Grumstrup G & S Forest Management	Black Hawk	SD
Donald Henry	Hill City	SD
Pat Sjogren & Mel Nelson	Hill City	SD
Advisory Council on Historic Preservation Director, Planning and Review	Washington	DC
Deputy Director, APHIS PPD/EAD	Riverdale	MD
National Environmental Coordinator, NRCS	Washington	DC
U.S. Army Corps of Engineers Northwestern Division	Portland	OR
Chief of Naval Operations (N45) Energy and Environmental Readiness Division	Washington	DC
Suzanne Bohan US EPA - Region 8	Denver	CO
Director, OEPC	Washington	DC
Francis A & Sandra L Bulawa	Newcastle	WY
James W & Donna L Bunch	Newcastle	WY
George Gliko US DOI Bureau of Reclamation	Billings	MT
Steve Kaubisch Kaubisch Ranch, LLC	Hill City	SD
Peter A & Caroline Larsen	Newcastle	WY
Doug & Michelle Olson	Hill City	SD
William A Porter	Bloomington	MN
Lance Rom Quality Services, Inc.	Rapid City	SD
Kay Taylor Libraries Documents Processor, Colorado State University	Fort Collins	CO
Dick Terry	Newcastle	WY
Tim & Sonya Tysdal, et al	Newcastle	WY
Leonard D & Teresa J Seeley Ranch Preserves, LLC	Osage	WY
Mike Walbert Power Engineers	Newcastle	WY
	Meridian	ID
<i>Parties on this list received either a hard copy of the DEIS, a CD copy, or both. The complete DEIS mailing distribution list (approximately 3,000 potentially interested parties) to whom notice of the DEIS availability was sent is located in the T-O-RC Project File.</i>		

**Table A-2**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO COMMENTS ON THE DRAFT EIS**

Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
Thomas and Leah Edwards TLE Ranch 94 Edwards Road, HCR 83 Gillette, WY 82718	A - 1	Suggests that since Teckla Substation borders an existing "power corridor" which includes power line, railroad tracks and gas/oil pipelines, the proposed project be located within the corridor.	Black Hills Power was informed that coal will likely be mined right up to the edge of both sides of the railroad ROW in the future. This would result in the existing transmission lines, pipelines, and possibly even the railroad to be relocated in the future. Therefore, the proposed transmission line was located further west to avoid the additional expense and impacts associated with future relocation.	No change to EIS necessary
	A - 2	Concerned project avoids public lands and related permitting process.	The project is located on a combination of private, federal, and state lands. The location of the proposed route between the Osage Substation and Rapid City was determined primarily by the location of the currently unused transmission line ROW. Between the Osage and Teckla Substations in Wyoming, the proposed route crosses federal, state, and private lands. The location of this portion of the route was determined by multiple factors including sensitive biological areas, existing and planned mineral development, existing infrastructure, and others.	No change to EIS necessary
	A - 3	Concerned about wildlife impacts (specifically birds, raptors).	Potential impacts to wildlife including birds and raptors are addressed in the EIS in Chapter 3, section 3.2. Line will be built to required APLIC standards to limit impact to raptors.	No change to EIS necessary
John Flocchini Durham Ranches, Inc. 7835 Hwy 59 Gillette, WY 82718	B - 1	Concerned that BHP does not appear willing to negotiate in good faith concerning damages for conducting surveys of the proposed route.	Comment noted. Black Hills Power will be discussing the topic of damage payments with individual property owners.	No change to EIS necessary
	B - 2	Concerns with aesthetic issues.	Visual resource impacts are addressed in the EIS in Chapter 3, section 3.7.	No change to EIS necessary
	B - 3	Concerned with grass fire caused by a short in the power line and liability and mitigation if grass is destroyed.	Fire risk associated with transmission lines is discussed in Chapter 3, section 3.3 of the EIS. The transmission line will be designed to mitigate lightning strikes.	Updated discussion of wildfire risk from transmission lines is included in section 3.3 of the FEIS.
	B - 4	Concerned with landowner liability issue. Requests mitigation for powerline impacts to small fixed wing airplanes.	Black Hills Power intends to work with the landowner to site the transmission line in an area that will not affect his private airstrip.	No change to EIS necessary
	B - 5	Concerned with project effects to wildlife, grazing management during construction including bison calving season disturbance.	Wildlife impacts are addressed in detail within the EIS in Chapter 3, section 3.2. Black Hills Power intends to work with the landowner in an effort to avoid potential construction impacts during bison calving season.	No change to EIS necessary
Bridle Bit Ranch Brandon Dilts 6546 Highway 59 South HCR 83 Gillette, WY 82718	C - 1	Opposed to proposed route located extremely close to home, corrals and airport; all of vital importance to ranching operation.	Black Hills Power intends to work with the landowner in an effort to locate the transmission line away from the ranch headquarters as well as the private airstrip.	No change to EIS necessary
	C - 2	Concerned the line will limit access to airport runway and hangars.	See response to comment C-1 above.	No change to EIS necessary

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William Porter 1262 A Beaver Creek Road Newcastle, WY 82701 Mailing: 8748 Walton Oaks Dr. Bloomington, MN 55438	D - 1	Concern that project is a significant visual polluter that can be avoided. Suggest building natural gas or solar powered "mini" generating stations near demand areas.	Transmission lines do result in visual impacts. Visual resource impacts are addressed in the EIS in Chapter 3, section 3.7. Building distributed generation projects would not eliminate the need for transmission lines that interconnect the electrical system.	No change to EIS necessary
Dave Riemenschneider 1750 Rand Road Rapid City, SD 57702 Home address: 7100 Sun Ridge Rd., Rapid City, SD 57702	E - 1	Suggests an alternate 3g route to remove the line from residential areas while reducing the cost of construction due to terrain, and improving accessibility for maintenance.	An additional route modification was developed in this area and was sent to the public for comment prior to including it in the EIS analysis. A slightly modified version of this suggested route was included as part of a more comprehensive route modification in this area that was developed by the Forest Service in response to additional comments received from the public (referred to as Route Modification 3j). This additional route modification was included and evaluated in the FEIS.	A description of this route modification is included in Section 2.2.3 of the FEIS. In addition, an evaluation of this modification is included in the discussion of each resource topic in Chapter 3 of the FEIS.
Mark Carda BHP P.O. Box 1400 Rapid City, SD 57709	F - 1	Suggest a modification where the proposed route crosses Highway 44 to the north away from the residential areas.	An additional route modification was developed in this area and was sent to the public for comment prior to including it in the EIS analysis. Based on comments received from the public, the Forest Service decided not to include this route modification in the analysis.	This potential route modification is discussed in Section 2.3.6 of the FEIS as a route that was considered but eliminated from detailed study.
	F - 2	Suggest a modification in the Sun Ridge Road area moving the proposed route slightly south to better utilize topography and away from residences.	Similar to route suggested by Riemenschneider (Comment E-1 above). An additional route modification was developed in this area and was sent to the public for comment prior to including it in the EIS analysis. See response to E-1 above.	See E-1 above.
Mountain Meadow Resort, LLC 11321 Gillett Prairie Road Hill City, SD 57745 Mailing: 2102 Creek Dr. Rapid City, SD 57703	G - 1	In area near Mt. Meadows Resort, request the proposed line go north on Williams Draw Road to east on Deerfield Road to where the line is proposed to intersect to avoid lines over private property; and without affecting any recreation areas as alternate for Route Modification 3b.	An additional route modification was developed in this area and was sent to the public for comment prior to including it in the EIS analysis. A slightly modified version of this suggested route located south of Deerfield Road was developed by the Forest Service and provided to the public for review. This route modification (referred to as Route Modification 3h) was included and evaluated in the FEIS.	A description of this route modification is included in Section 2.2.3 of the FEIS. In addition, an evaluation of this modification is included in the discussion of each resource topic in Chapter 3 of the FEIS.
Mary Osborne 11321 Gillette Prairie Rd #3-3 - Hill City SD (Summer Only) 3910 Parkridge Dr - Rapid City SD 57702 - (Year round)	H - 1	In area near Mt. Meadows, concerned that proposed route would impact private lands and campground. Concerned with visual, noise impacts and health hazards to nearby residents.	See response to G-1 above.	See G-1 above.
Jeff Allen 11331 Gillette Prairie Rd. Hill City, SD 57745	I - 1	For Route Modification 3b, request the line go north on Williams Draw Rd, then east on Deerfield Road where the line would then join back up where the current proposal runs to avoid private property.	See response to G-1 above.	See G-1 above.

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Robert F. Stewart Regional Environmental Officer Office of Environmental Policy and Compliance U.S. DOI P.O. Box 25007 (D-108) Denver, CO 80225-0007	J - 1	The northern long-eared bat (NLEB) has been proposed for listing under the ESA. Address white-nosed syndrome in the continental U.S. Incorporate threats per recent 12-month finding (78 FR 61046), and impacts of proposed action. Include conservation measures to avoid or minimize effects to the NLEB. Consult NLEB Conference and Planning Guidance at <a href="http://www.fws.gov/northeast/virginiafield/pdf/NLEBinterimGuidance6Jan2014.pdf">http://www.fws.gov/northeast/virginiafield/pdf/NLEBinterimGuidance6Jan2014.pdf</a> .	The discussion of the NLEB has been updated in the FEIS to include the updated status of the species and to include the discussion of white-nose syndrome.	Chapter 3, section 3.2 of the FEIS has been updated to include this updated information for the NLEB.
	J - 2	Incorporate the finalized Greater Sage-Grouse Mitigation and Development Plan into Appendix B of the Final EIS.	Reference to the final project-specific mitigation plan for Greater Sage-grouse has been added.	Appendix B has been updated in the FEIS to include this reference.
	J - 3	If Alternative 2 is preferred alternative, use mitigation measures to reduce the impacts to scenic and visual qualities, and recreation resources associated with Pactola Reservoir. Support Alternative 3 with Modification 3f because it responds best to the issues in the Pactola Reservoir area.	The preferred alternative identified in the EIS is Alternative 3 using Modification 3f to move the line away from Pactola Reservoir (see Section 2.1 of EIS).	No change to EIS necessary
Mike Konishi / Gwen Booth Wyoming Game and Fish Department Habitat Protection Office Support Specialist 5400 Bishop Blvd Cheyenne, WY 82006	K - 1	Update the Greater Sage-Grouse Mitigation Plan to reflect Sage-Grouse Executive Order (SGEO) 2011-5. The original Greater Sage-grouse Development and Mitigation Plan, is based on SGEO 2010-4.	The Greater Sage-Grouse Mitigation Plan may be updated based on coordination with WGFD to reflect Sage-Grouse Executive Order (SGEO) 2011-5.	Additional language referencing Sage-Grouse Executive Order (SGEO) 2011-5 has been added to Section 3.1.1.2 of the FEIS.
	K - 2	Recommends a number of power line construction measures to minimize impacts to raptors and other sensitive wildlife including using raptor-safe design criteria as suggested in APLIC 2006, using raptor perch-prevention near grouse leks or core areas, avoiding construction activity near occupied raptor nests, avoiding construction near crucial habitats for grouse and other species, managing the ROW to benefit wildlife and minimize invasion by noxious weeds, and minimizing road construction and limiting public access to roads.	Most of these measures are already included in the project description and the mitigation measures identified in Appendix B. Where needed, updates to Appendix B were made to reflect consistency with WGFD's recommendations.	The wildlife mitigation measures for the Wyoming portion of the line have been updated in Appendix B of the FEIS.
	K - 3	Recommends a number of power line construction measures to minimize impacts to aquatic habitats an species including implementing BMPs to minimize sediments and other pollutants; servicing, fueling, and staging equipment away from streams and riparian areas; and preventing the spread of aquatic invasive species (AIS) by following Wyoming's required AIS prevention measures.	Most of these measures are already included in the project description and the mitigation measures identified in Appendix B. Where needed, updates to Appendix B were made to reflect consistency with WGFD's recommendations.	Appendix B in the FEIS has been updated.
Jeffrey R. Vonk Department Secretary SD Game, Fish, and Parks 523 East Capitol Ave., Pierre, SD 57501	L - 1	Recommends a number of edits and additions to the EIS clarifying the analysis for the Black-backed Woodpecker (BBWO).	Chapter 3, Section 3.2 has been updated to include the suggested revisions.	Chapter 3, Section 3.2.1.1.2.1.1.1 of the FEIS has been updated to include this additional information for the BBWO.
	L - 2	Recommends a number of edits and additions to the EIS clarifying the analysis for the Peregrine Falcon.	The EIS has been updated to include the suggested revisions.	Chapter 3, Sections 3.2.1.1.3.5, 3.2.1.2.2, and 3.2.2.1.1.3.4 and Appendix B of the FEIS has been updated to include this additional information for the Peregrine Falcon.
	L - 3	Include analysis (beneficial and detrimental) to osprey, the primary raptor known to nest on powerline structures in the Black Hills.	The EIS has been updated to include the suggested analysis and mitigations for the osprey.	A new section was added to Chapter 3, Sections 3.2 in the FEIS for the osprey and Appendix B of the FEIS has been updated to include suggested additional mitigation.
	L - 4	Update EIS to reflect the proposal to list the Northern Long-Eared Bat as an endangered species.	See response to comment J-1 above.	Chapter 3, section 3.2 of the FEIS has been updated to include this updated information for the NLEB.
	L - 5	In Appendix B of the EIS, include mitigation to avoid impacting "Trail Trek", a public event on the Mickelson Trail.	The EIS has been updated to include the suggested mitigation.	Appendix B of the FEIS has been updated to include this mitigation.

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	L - 6	In Appendix B of the EIS, include mitigation that snowmobile trails cannot be plowed from Dec 1 through Mar 31.	The EIS has been updated to include the suggested mitigation.	Appendix B of the FEIS has been updated to include this mitigation.
Richard L. Currit Senior Archaeologist Wyoming State Historic Preservation Office 2301 Central Ave. Barrett Bldg. 3rd Floor Cheyenne, WY 82002	M - 1	Suggests a few specific edits to the cultural resources section of the EIS.	Suggested edits were made.	Revisions were made to Chapter 3, Sections 3.12.1 and 3.12.3 of the FEIS.
Bridget Hill Director Wyoming Office of State Lands & Investments Herschler Bldg., 3 West 122 West 25th Street Cheyenne, WY 82002-0600	N - 1	Regarding state lands, project must comply with the Rules and Regulations adopted by the Board of Land Commissioners per W.S. § 36-2-107 and W.S. § 36-9-118 and comply with the Governor's Executive Order 2011-5, Greater Sage-Grouse Core Area Protection.	Comment noted regarding applicable rules and regulations. The analysis of Sage Grouse impacts and mitigation can be found in Section 3.2.2.2.1.1.1 of the EIS. Also see response to comments J-2 and K-1 above.	No change to EIS necessary
	N - 2	Regarding state lands, project proponent requires easement or special use lease and must provide all data and supplementary data required for the applications.	Comment noted. Applicant will provide required applications when final route confirmed.	No change to EIS necessary
	N - 3	OSLI would support the implementation of Modification 3a to the Proposed Action.	Comment noted. The preferred alternative identified in the EIS (see Section 2.1) is Alternative 3 incorporating Modification 3a.	No change to EIS necessary
Nathaniel Miullo NEPA Lead Reviewer EPA R8 National Disaster Recovery Specialist 1595 Wynkoop St Denver, CO 80202	O - 1	Concerning wetlands protection, the Final EIS should identify that during project implementation, the lead Federal Agencies will meet requirements under 33 CFR 320.3 – the requirements of Nationwide Permit #12 for utility lines.	References to the requirements of Nationwide Permit #12 have been added to the EIS.	Chapter 3, Section 3.6 and Appendix B of the FEIS has been updated to include this information.
	O - 2	Recommends including procedures for reducing vehicle emissions in the FEIS.	An additional measure has been added to Appendix B indicating that the contractors building the line will be encouraged to use the most efficient equipment available.	Additional measure added to Appendix B.
	O - 3	Recommends identifying the steps project proponents may take to either substitute SF 6 emitting equipment or mitigate the greenhouse gas emissions from leaking electrical transmission equipment.	System transformers do not contain SF6. BHP uses SF6 terminal equipment (breakers), which are industry standard and may be the only available technology. BHP maintenance practices include monitoring and mitigating SF6 equipment.	No change to EIS necessary
	O - 4	EPA rated the Agency Preferred Alternative as "Environmental Concerns - Adequate" (EC1).	Comment noted	No change to EIS necessary
Weston County Board of Commissioners Jerry Shepperson, Vice Chair 1 West Main Street Newcastle, WY 82701	P - 1	Indicated that Weston County Board of Commissioners have not been notified by the USFS of this proposed power line, and request an extension to both the DEIS comment period timeline, and any final EIS decision date.	The Weston County Board of Commissioners was notified both during scoping and when the DEIS was published. In a response letter to the County, no formal time extension was made.	No change to EIS necessary
	P - 2	Request the appropriate USFS EIS representative and senior BHP Executive Manager attend a Commissioners Meeting as soon as possible to discuss this project and coordinate schedules.	In the response letter to the County, the Forest Service offered to meet with the County at their request.	No change to EIS necessary
Shannon Anderson Powder River Basin Resource Council 934 N. Main St. Sheridan, WY	Q - 1	Questions the purpose and need. BHP has other power lines in the area that are currently under capacity and could be used to meet the needs of this project.	The existing transmission network between Wyoming and South Dakota does not have sufficient capacity to meet the current load serving needs and upcoming contractual obligations. Transmission studies have been performed over the past 8 years identifying and confirming the need. There is not sufficient excess or unused capacity to meet these needs within the existing transmission system.	No change to EIS necessary

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	Q-2	Requests adopting mitigation to use public land as much as possible and work with stakeholders to minimize private land impact; minimize impacts to public land users including recreationists, hunters, and grazing lessees; minimize impacts to vegetation and soils; minimize potential impacts from fires and other types of accidents	BHP will coordinate with private landowners to obtain ROW. Mitigation measures for all resources are identified in Chapter 3 and Appendix B of the EIS.	No change to EIS necessary
	Q-3	Fully assess cumulative impacts of the project, including impacts related any power generation that will serve the transmission line.	The need for the transmission project is not directly linked to any existing or proposed power generation project(s).	No change to EIS necessary
Franklin Fallen Budd-Fallen Law Office 300 East 18th Street P.O. Box 346 Cheyenne, WY 82003-0346	R-1	Concern that analysis falls short of NEPA's procedural requirements	Comment noted	No change to EIS necessary
	R-2	Concern that analysis has incomplete information and relies on later developed mitigation and prevention plans to protect resources.	The EIS identifies and discusses the specific mitigation measures required for the action. The final detailed mitigation plans referenced in the EIS must meet these standards / requirements identified in the EIS as well as the subsequent decision documents and will be applied to the final design of the route that is selected as a result of the EIS process.	No change to EIS necessary
	R-3	Concern that incomplete mitigation and prevention plans falls short of NEPA's requirement that the merits of each proposed alternative be rigorously explored and objectively evaluated. Question whether review of the alternatives, including the Preferred Alternative, is sufficient to meet the standard for alternatives analysis. Uses cultural resources as an example.	See response R-2 above regarding mitigation. Cultural resources and the commitment for needed surveys and mitigation is included in a Programmatic Agreement (PA) that has been developed among the Forest Service, federal and state agencies with jurisdiction over cultural resources, and tribes.	No change to EIS necessary
	R-4	The cumulative effects analysis is inadequate to meet the statutory requirements of 40 C.F.R. § 1508.7.	Direction for cumulative effects analysis is laid out in the Council on Environmental Quality (CEQ) regulations at 40 CFR 1508.7 and 1508.25; in subsequent CEQ guidance including "Guidance on the Consideration of Past Actions in Cumulative Effects Analysis" dated June 24, 2005; and in the Forest Service NEPA regulations at 36 CFR 220.4. Collectively, this direction requires that the analysis consider the incremental impact of the action when added to the impacts of other past, present and reasonably foreseeable future actions. This analysis considers the direct and indirect effects of the proposal and alternatives. Past actions were considered which are relevant in terms of effects, but the individual effects of all past actions need not be categorized. While quantifying cumulative effects is desirable, it is not always practical due to unknown incremental effects of future actions, for example. The term, "negligible" where used in the EIS is supported by the analysis and speaks for itself.	No change to EIS necessary

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	R – 5	<p>Concern about impacts to private lands such as those stated below:</p> <ul style="list-style-type: none"> <li>• That private landowners along the proposed route will have their land encumbered more than the Federal Government (125 feet vs 100 feet).</li> <li>• Concern that private landowners be consulted prior to the siting of additional ROW needed on their land.</li> <li>• Question regarding what will be done in those areas where full ROW width clearing is unnecessary</li> <li>• Concerned that the full impacts not analyzed because 80% the proposed route in Wyoming crosses private lands and because the ROW on private lands is proposed to be a total 1/4 greater in width.</li> <li>• Concern regarding the larger number of stream crossings on private versus federal or state lands.</li> <li>• Whether access to streams or across streams for livestock, irrigation purposes, any other agricultural purpose, and/or recreational purposes would be maintained (construction and operation).</li> <li>• Concern that Route Modification 3a produces significant impacts to streams, erodible soils, and wetlands that will impact other wildlife and wildlife habitat.</li> <li>• Concerned that the analysis of impacts to private land values is too narrow and should include impacts to residential property values and fair market value to include impacts to the value of ranching and farming activities, impacts to crops/livestock/improvements, etc, transfer of liability to the private landowner, the costs of managing access to the easement for construction, operation and maintenance purposes, and health concerns for individuals and animals working in and around the ROW.</li> </ul>	<p>Discussion of impacts on private lands is included in the EIS. Section 3.1.2.2.2.1.1 describes the impacts to land use and management on private lands, Section 3.7.2.2.2.1.1 describes impacts to visual resources on private lands, Section 3.15.2.2.2 describes impacts to socioeconomics, and Sections 3.16.1.2 and 3.16.2.2 describes EMF impacts.</p> <p>Private landowners will be consulted regarding ROW on their land and they will still be able to use the lands within the ROW with the primary restriction being prohibition on building structures within the ROW. Where there are no trees that need to be cleared for safety, vegetation would be cleared during construction only at areas needed to erect the structure and line and provide access to these locations with the construction areas reclaimed following construction. Streams would be spanned by the line and access to them will be maintained as needed. The transmission line components and construction methodologies are described in Section 2.2.2.1 of the EIS and the relevant mitigation measures are described in Appendix B.</p> <p>Route Modification 3a was developed specifically to avoid impacts to sensitive wildlife habitats. While it does cross streams, these streams would spanned by the line.</p> <p>Modifications have been made to Chapter 3 of the FEIS to make it more clear where impacts to private lands are discussed.</p>	<p>Additional clarifications regarding impacts and mitigation on private lands have been added the various sections of Chapter 3 of the FEIS.</p>
	R – 6	<p>Concern with occurrence and potential spread of cheatgrass. Suggest adding weed species of concern to the state and landowners.</p>	<p>Impacts from noxious weeds in Wyoming including cheatgrass are addressed in Chapter 3, Section 3.9.2.2.2. Weeds of concern to the State are included in the analysis and reference to landowner input into the weed plans has been added to the discussion.</p>	<p>Edits have been made to Section 3.9.2.2.2.1 of the FEIS to confirm that private landowners will be include in weed management planning on their lands.</p>
	R – 7	<p>Request Appendix C Past, Present and Foreseeable Activities, be quantified to better evaluate the potential for spreading cheatgrass and the associated fuel loading, and fire ignition.</p>	<p>Not all of these activities have been yet defined. All of these activities will be managed for weed control by the agency with jurisdiction or the landowners involved. Also see response to R-4.</p>	<p>No change to EIS necessary</p>
	R – 8	<p>Concern regarding on how impacts to grazing would be managed. Request considering additional mitigation to indicate that construction activities be coordinated with ranchers on private lands to include coordination on timing, access to and across streams, access across or around construction areas, and/or mitigation for damages to any improvements.</p>	<p>As part of their ROW/easement acquisition process, BHP will coordinate with each landowner regarding how to best mitigate these impacts.</p>	<p>No change to EIS necessary</p>

**Table A-2**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO COMMENTS ON THE DRAFT EIS**

Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
	R – 9	Concerns regarding hydrology impacts: <ul style="list-style-type: none"> <li>• That Route Modification 3a was not adequately considered in the cumulative effects analysis.</li> <li>• That water impacts conclusion is incorrect since the proposed route crosses the same named stream 11 times.</li> <li>• Discussion regarding the Proposed Action's impact on surface water use did not include irrigation, livestock access, and recreation impacts on private land in Wyoming.</li> </ul>	Route modification 3a is not expected to add considerable impacts to surface water as all stream crossings would be expected to be spanned by the line as indicated in the DEIS. No impacts are expected to livestock access as discussed in the grazing section of the DEIS. Likewise no impacts to recreation or irrigation would be expected as access would not be changed except during construction.	Clarifications were added as needed to EIS
	R – 10	Analysis of paleontological resources should also document the project's impact on the ability to preserve and/or excavate the areas for research and other purposes.	Except where the individual transmission structures would be located, the entire area would be available for further research or study if needed.	No change to EIS necessary
	R – 11	Ensure that the standards for dust control required by state and federal permits will be applied to activities on private lands.	Except where specifically noted otherwise, the Project will implement all mitigation identified in Appendix B of the EIS on both public and private lands.	No change to EIS necessary
	R – 12	Ensure that the figures listed are accurate. DEIS states costs of approximately \$62 million, and the BHP 2010-2021 Energy Facility Plan states the new line will cost "\$45-\$50 million dollars: The Subsequent Biennial Report of the Ten-Year Plan at 6 (2012)..	The cost of the project will continue to be updated as the project becomes better defined.	No change to EIS necessary
	R – 13	Concern that the Hazardous Materials/Public Health and Safety analysis based on the EMF levels at the edge of the ROW but does not describe "human health risks" for ranchers and others who might be working within the ROW and under the lines (i.e. maximum amount of exposure or maximum length of exposure time)	The assessment in Section 3.16.2.2.1.1 of the EIS indicates that there would be no expected human health risks from EMF because the calculated levels from the proposed 230 kV transmission line are significantly below national and international standards and guidelines.	No change to EIS necessary
	R – 14	Questions the impact for those lands where one or more transmission lines already exists (i.e. Does the number of lines increase the EMF area? Does the number of lines increase the strength of the EMF?).	It is likely that if transmission lines are added to a corridor where line are already located, the EMF levels will be close to the same or increase slightly over current levels	No change to EIS necessary
Daniel and Carole Mark P.O.Box 396 Newcastle, WY 82701	S – 1	Request publication notices be published in the Newsletter Journal. Request distinction in the public notices if the gathering is an actual "Public Meeting" (where there is an agenda, public verbal comment opportunities, question/answers and meeting minutes taken) or if it will be "Open House" (project poster boards)	Information was published in both South Dakota and Wyoming publications including the Newsletter Journal. The term "public meeting" was meant generically to refer to a meeting open to the public.	No change to EIS necessary
	S – 2	Request the project not be acted upon indefinitely until the prior "unused transmission ROW" is returned to an original condition.	Comment noted	No change to EIS necessary

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Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
	S-3	Request private and public land managers within the Oil Creek fire zone to perform a field-assessment of the resultant environmental impacts due to fire-safe neglect and maintenance deficiencies of a BHP transmission line easement/construction. Include the root cause report in the FEIS.	<p>The agencies acknowledge that losses occurred, and could occur again on private lands in Wyoming from a fire burning under the right conditions, regardless of the cause. The DEIS in the Fire and Fuels section discussed primarily effects to fuels on Federal lands in Wyoming managed by the Forest Service and BLM. A general discussion of effects of past actions to non-Federal lands in the project area, and a qualitative discussion of possible effects of the alternatives, has been added to the FEIS. Additional information on fire risk from transmission lines has also been added to the EIS.</p> <p>The agencies presume the commenters reference to the “root cause report” actually refers to the wildland fire investigation report on the Oil Creek Fire, filed by State of South Dakota Fire Investigator Philip Geenen, and dated July 3, 2012. The agencies have reviewed this report and a copy is included in the project file.</p>	Additional information on fire risk from transmission lines has been added to the FEIS in Chapter 3, Section 3.3. Discussion of the Oil Creek fire has been added to Section 3.3.1.2.1 of the FEIS.
	S-4	Request removal of unsubstantiated evaluation criteria (such as costs and visual impacts) from the EIS conclusions and re-evaluate this option (Alternative Following Existing Highways) performing a quantitative assessment of the substantiated factors.	The referenced discussion in the EIS summarizes the analysis in the routing study conducted for the Project which is available as part of the Administrative Record for the Project (as indicated in Section 4.3 of the EIS). This routing study included public and agency participation including public meetings. Multiple reasons are given in the EIS for the dismissal of this alternative because of its longer length (about 33% longer) – increased environmental impacts, costs, visual impacts. Costs are relevant because the costs of the line will be paid by the rate-payers. Visual impacts are somewhat subjective but a common measure of this impact is the numbers of people who would be able to see something.	No change to EIS necessary
	S-5	Suggest deleting alternatives described in Sections 2.3.3 or 2.3.4 and then re- evaluate with same level of analysis as Proposed Action.	Comment noted. See response to comment S-4 above.	No change to EIS necessary
	S-6	Suggest including a summary of current municipalities directly served by BHP within the T-O-RC proposed service network, their service area historical reliability data.	All cities in the Black Hills area, including Osage, Newcastle, and Upton will benefit from the reliability improvements associated with the increased transmission redundancy.	No change to EIS necessary

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Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
	S – 7	Suggest including the engineering Availability scheme (criteria and basic path schematic) proposed for the T-O-RC power network and estimates of individual stage reliability contributes to the Availability scheme proposed.	NERC TPL Reliability Standards require BHP to plan the transmission system to supply projected customer demands (customer load) and firm transmission services (bulk energy transfers) under Category C outage conditions (loss of any two transmission elements). Transmission studies have consistently demonstrated that the Teckla-Osage-Lange 230kV line is the best long-term option to meeting required reliability criteria. In addition to the reliability drivers for this project, BHP has a commitment to provide 130MW of firm transmission service beginning in 2016.	This information has been added to Section 1.6 of the FEIS.
	S – 8	Request a plan with at least two alternatives and an "earliest/latest" estimated timeline for the Teckla substation relocation in order to minimize overall environmental impacts of the proposed project and to avoid negating the assessments in this EIS. The EIS should be placed in the "Alternative 1: No Action" status indefinitely until this basic scheme is provided.	As indicated, timing for the potential relocation of the Teckla Substation is unknown. If/when it would be relocated, it would affect only a very small area at the western terminus of the project. Any required additional environmental analyses, permits, or ROWs associated with this change would need to be conducted and acquired prior to implementation.	No change to EIS necessary
	S – 9	Request extension of the EIS comment and decision periods to allow for evaluation and analysis by Wyoming State wildlife and habitat manager's desired evaluation and input timeframe needs.	The WGDF, USFWS, BLM and TBNG wildlife specialists have all provided comments on the project.	No change to EIS necessary
	S – 10	Request private and public land managers within the Oil Creek fire zone to perform a field-assessment of the resultant environmental impacts due to fire-safe neglect and maintenance deficiencies of a BHP transmission line easement/construction. Include the root cause report in the FEIS.	See response to S-3 above.	See S-3 above.
	S – 11	Request including all Wyoming Fires known and including through the end of 2013 within the Proposed Action analysis area.....include all of these findings in an updated Table 3-30 and provide a detailed discussion of the impacts in the section text narrative.	Additional information on fires in Wyoming has been added to the EIS.	Additional information on Wyoming fires has been added to the FEIS in Chapter 3, Section 3.3. Table 3-30 of the FEIS has been updated to include this information.
	S – 12	Request including all available Wyoming Wildfire data, explicitly the Oil Creek Fire root cause report and its findings, in the EIS. Redo all fire hazard and effects analyses accounting for the actual impacts already felt and the potential to the Proposed Action area. Proper input regarding the impacts of all fires within the analysis area through 2013 is needed by a formal USFS led Public Meeting (not an Open House) in Wyoming.	See responses to comments S-3 and S-11 above.  The agencies have sufficient information to support this discussion and do not plan to convene public meetings to seek further information at this time.	See responses to comments S-3 and S-11 above.
	S – 13	Request extension of the EIS comment and decision periods commensurate with Wyoming State and Weston County Fire Managers timeframe needed to properly scope and assess the Proposed Action impacts to propose mitigation and risk reduction measures to minimize the burdens induced on our residents and community resources.	The Counties, State, and federal land managing agencies were contacted for input.	No change to EIS necessary
	S – 14	Request extension of the EIS comment and decision periods commensurate with Weston County Commissioner's request for proper scoping and impact evaluation.	See response to comment P-1 above.	See response to comment P-1 above.
	S – 15	Request extension of the EIS comment and decision periods and have USFS re-examine, with new independent team members, analyze the Section 2.3.	See responses to comments S-4 and S-5 above.	See responses to comments S-4 and S-5 above.
	S – 16	Request extension of the EIS comment and decision periods to allow evaluation and analysis by Wyoming State wildlife and habitat manager's desired evaluation and input timeframe needs.	See response to comment S-9 above.	See response to comment S-9 above.
Peter and Caroline Larsen	T – 1	Concerned with 2012 Oil Creek Fire damage and potential for future fire risk	See response to S-3 above.	See response to S-3 above.

**Table A-2**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
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Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
808 Oil Creek Road, P.O. Box 428 Newcastle, WY 82701-0428	T – 2	Question the legal basis for expanding a 60 foot easement for 69kV use into a 125 foot easement for 230 kV use.	This location takes advantage of an existing, previously cleared ROW with existing access in most places – requiring only an additional 65 feet of width to provide the needed 125-foot ROW. In place where a new ROW would be required, a full 125 feet would need to be cleared and new access may need to be constructed.	No change to EIS necessary
	T – 3	Concern with past poor BHP overall line maintenance.	Comment noted	No change to EIS necessary
	T – 4	Section 2.3.5 makes claims that are vague and unsubstantiated. The statement is made that "...the possibility of failure of both lines is increased by being collocated." Where are the statistics and examples of such dual failure and how much is the risk increased? The phrase ".need for increasing system reliability" is used without a detailed analysis of the reliability of the existing lines. The phrase "Would require a longer construction period resulting in greater air emissions" is used with no quantitative support.	See response S-7 above.	See response S-7 above.
	T – 5	Include mention of the lives and aircraft lost from collisions with previous BHP transmission lines in the corridor of the proposed T-O-RC line.	Reference to previous aircraft collision has been added.	Additional information has been added to the FEIS in Chapter 3, Section 3.14.
	T – 6	Question why the Weston County commissioners not notified of this proposed power line. Question whether NEPA and Federal Law requires the USFS to coordinate with local county governments on projects of this nature.	See response P-1 above.	See response P-1 above.
Edward Merrill PO Box 641 Newcastle, WY 82701	U – 1	Oppose the project. Concern with impacts to wildlife, historic properties, Indian artifacts and fossils..	Comment noted. Wildlife, cultural resources and paleontology are addressed in Chapter 3.	No change to EIS necessary.
	U – 2	Concerned with 2012 Oil Creek Fire damage and potential for future fire risk	See response to S-3 above.	See response to S-3 above.
	U – 3	Suggest moving line away from residences due to fire safety concerns.	The proposed line has been routed to avoid residences to the extent possible. BHP will work with each landowner in situations where the proposed ROW on private lands would be close to houses.	No change to EIS necessary
	U – 4	Oppose the Project. Concern with past poor BHP overall line maintenance, suggest review of maintenance prior to new line construction.	Comment noted	No change to EIS necessary
Brock Merrill PO Box 2515 Mills, WY 82644	V – 1	Oppose the project. Concern with impacts to private property, wildlife, historic properties, Indian artifacts and fossils.	Comment noted. Wildlife, cultural resources and paleontology are addressed in Chapter 3.	No change to EIS necessary.
	V – 2	Include discussion of Oil Creek Fire that burned 63,000 acres.	See response to S-3 above.	See S-3 above.
	V – 3	Suggest moving line away from residences due to fire safety concerns.	See response to comment U-3 above.	See U-3 above.
	V – 4	Concern with past poor BHP overall line maintenance, suggest review of maintenance prior to new line construction.	Comment noted	No change to EIS necessary
Elizabeth Cuthbert-Millett 376 Plum Creek Road Plum Creek Ranch LLC Newcastle, Wyoming 82701 Mailing address: 512 Custer Street, Laramie, Wyoming 82070	W – 1	Include discussion of Oil Creek Fire that burned 62,000 acres.	See response to S-3 above.	See S-3 above.
	W – 2	Question project purpose. Suggest upgrading existing lines to improve the systems reliability and future demand.	Transmission studies have identified the Teckla Substation as the best location for transmission interconnection. In addition, the existing transmission system does not have sufficient capacity to meet current load serving needs and upcoming contractual obligations. Existing transmission does not exist in the area required to provide a point of interconnection and a solution for redundancy. Rebuilding existing facilities does not address issued identified during transmission studies or provide viable solutions.	No change to EIS necessary

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Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
	W – 3	Question estimated mileage of 183.9 (1.7, p.1-15), which leaves 39.9 miles unaccounted for. Concerned that impacts to private lands not adequately addressed since private lands account for half of route. DEIS states construction staging in Wyoming would not be located on Federal lands (2.2.2.2), therefore concerned these would be located on private lands.	Section 1.7 on page 1-15 of the EIS has no reference to mileage. Private lands do make up the majority of lands crossed in Wyoming and additional information to clarify the impacts to private lands has been added to the EIS (see response to R-5 above). Staging areas are expected to be on private lands in Wyoming under terms of agreements with the respective landowners.	See R-5 above.
	W – 4	Question statement that landowners were "consulted to identify ways to minimize issues and effects related to implementing the ROW and power line (2-12)", I was never consulted. First contacted by November 8, 2013 certified letter from BHC requesting permission to enter our private lands to survey. No alternative routes were mentioned at that time only the proposed route shown in the DEIS.	Records show that the commentor was also sent a scoping notice for the Project in 2011 and a notice in December 2013 that the DEIS was available.	No change to EIS necessary
Lindsey Ellsworth 601 Pritchard Ln. Weatherford, TX 76087	X – 1	Oppose the project. Concern with impacts to private property, wildlife, historic properties, Indian artifacts and fossils.	Comment noted. Wildlife, cultural resources and paleontology are addressed in Chapter 3.	N/A
	X – 2	Concerned with 2012 Oil Creek Fire damage and potential for future fire risk.	See response to S-3 above.	See S-3 above.
	X – 3	Suggest moving line away from residences.	See response to comment U-3 above.	See U-3 above.
	X – 4	Concern with past poor BHP overall line maintenance, suggest review of maintenance prior to new line construction.	Comment noted.	N/A
Shannon (Merrill) Gentry 4025 Mary Circle Apt A Las Cruces, NM 88001	Y – 1	Concern with impacts to wildlife, historic properties, Indian artifacts and fossils..	Wildlife, cultural resources and paleontology are addressed in Chapter 3.	N/A
	Y – 2	Concerned with 2012 Oil Creek Fire damage and potential for future fire risk. Suggest moving line away from residences.	See response to S-3 above.	See S-3 above
	Y– 3	Concern that access and terrain makes line maintenance difficult. Concern with past poor BHP line maintenance.	Comment noted	N/A
Jason Nahrgang 527 Plum Creek Rd. Newcastle, WY 82701 Mailing Address 4257 Ashby Field Dr. Colorado Springs, CO 80922	X– 1	Concerned with additional property value and visual impacts resulting from proposed transmission line when added to existing lines in the area. Concerned with 2012 Oil Creek Fire damage and potential for future fire risk.	Visual  See response to S-3 above.	See S-3 above
Kathleen Merrill P.O.Box 641 Newcastle, WY 82701	AA - 1	Oppose the project. Concerned about prime wildlife habitat, historic properties, Indian artifacts and fossils.	Comment noted. Wildlife, cultural resources and paleontology are addressed in Chapter 3.	N/A
	AA – 2	Concerned with 2012 Oil Creek Fire damage and lack of compensation.	See response to S-3 above.	See S-3 above.
	AA – 3	Request the line to be a greater distance from residences.	See response to comment U-3 above.	See U-3 above.
	AA - 4	Concern with past poor BHP overall line maintenance, suggest review of maintenance prior to new line construction.	Comment noted	N/A
Teresa Seeley P.O.Box 97 100 Seeley Road Osage, WY 82723	BB - 1	Concern with past poor BHP overall line maintenance.	Comment noted.	N/A
	BB- 2	Concern with Oil Creek Fire damage and lack of compensation.	See response to S-3 above.	See S-3 above.
Lenard Seeley P.O Box 97 Osage, WY 82723	CC - 1	Concern with past poor BHP overall line maintenance.	Comment noted.	N/A
	CC – 2	Concerned with 2012 Oil Creek Fire damage and lack of compensation.	See response to S-3 above.	See S-3 above.
	CC – 3	Concern with slow contact with landowners. First contact on the proposed power line was November 2013 with a surveying firm.	Comment noted.	N/A

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**Teckla-Osage-Rapid City 230kV Transmission Line**  
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Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
	CC - 4	Concerned local government was not involved in the NEPA process as required by FLPMA and NEPA.	See response P-1 above.	See P-1 above.
Randall Farella P.O.Box 241 Newcastle, WY	DD - 1	Concern with impacts to wildlife, historic properties, Indian artifacts and fossils.	Wildlife, cultural resources and paleontology are addressed in Chapter 3.	N/A
	DD - 2	Concern with the 2012 Oil Creek Fire damage and lack of compensation.	See response to S-3 above.	See S-3 above.
	DD - 3	Suggest moving proposed line a greater distance from residences in the area.	See response to comment U-3 above.	See U-3 above.
Gary (and Donna) Kluthe <a href="mailto:garydonnak@hotmail.com">garydonnak@hotmail.com</a> no mailing address provided	EE - 1	Requested help finding map of route	Comment noted.	N/A
Sammi Kenzy 24098 Pine Grove Road Rapid City, SD 57702	FF - 1	Confusion with Black Hills Electric Cooperative 69 kV Rockerville Transmission Line Project	Comment noted.	N/A
James and Coleen McHolland 13785 Ember Road (East end of Pine Grove Road) Rapid City, SD 57702	GG - 1	Confusion with Black Hills Electric Cooperative 69 kV Rockerville Transmission Line Project	Comment noted.	N/A
Chris Gualtieri <a href="mailto:chrisgualtieri@yahoo.com">chrisgualtieri@yahoo.com</a> no mailing address provided	HH - 1	Supports project.	Comment noted.	N/A
Shirley and Roy Donguelli 9 Borgialli Lane Newcastle, WY 82701	II - 1	Supports project.	Comment noted.	N/A
Cindy Pushing-Thompson 1525 Pushing Place Rapid City, SD 57702	JJ - 1	Supports Route Modification 3g	Comment noted.	N/A
Robert Stroh No address provided (Weston County landowner)	LL - 1	Supports project	Comment noted	N/A

**Table A-3**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO Post-DEIS PUBLIC COMMENTS**

<b>Commentor</b>	<b>Comment ID</b>	<b>Comment Summary</b>	<b>Response</b>	<b>Location of Change in FEIS</b>
Jackie and John Barbo 13120 Michelle Drive Rapid City, SD 57702-8501	A	Concerns with potential route modification near Highway 44.	The Highway 44 route modification is no longer being considered as a viable alternative for the project and is not being further analyzed.	This potential route modification has been added to Section 2.3 – Alternatives Considered But Eliminated From Detailed Study.
Sharon Briney 13125 Michelle Drive Rapid City, SD 57702	B	Use existing line and enlarge its capacity.	Comment noted.	Additional information on project need has been added to Section 1.6.
Thomas A. Grissom 13103 Michelle Drive Rapid City, SD 57702	C	Oppose potential route modification near Highway 44.	Comment noted. See response to comment A.	See A above.
Pat Hall 11750 W. Hwy 44 Rapid City, SD	D	Has property in vicinity of the Project near Highway 44.	Comment noted. See response to comment A.	See A above.
Gail and Fay Kangas 22988 Shields Road Rapid City, SD 57702	E-1	Opposes potential route modification near Highway 44 and support original route.	Comment noted. See response to comment A.	See A above.
	E-2	Opposes entire project. Concerned with effect to property values, views and wildlife.	Comment noted. Effect to property values, views and wildlife are addressed in the EIS in Chapter 3.	No change to EIS necessary
Phil and Helen Nichols (Own 4 properties along W Hwy 44.)	F	Supports potential route modification near Highway 44.	Comment noted. See response to comment A.	See A above.
Al Perry 13121 Michelle Drive Rapid City, SD 57702	G	Oppose potential route modification near Highway 44. Suggests using existing structures at present HWY 44 crossing.	Comment noted. See response to comment A.	See A above.
Robert Powell 22981 Shields Rd. Rapid city, SD 57702	H	Concerned with property value loss; health, view shed effects; historic Johnson Siding Flume impacts associated with potential route modification near Highway 44.	Comment noted. See response to comment A.	See A above.
Chris and Diana Walla 3824 Jet Drive PO Box 725 Rapid City, SD 57709-0725	I	Prefers potential route modification near Highway 44 over Proposed Action route. Concerned proposed action will adversely affect viewshed and will adversely affect wildlife.	Comment noted. See response to comment A. Effects to visuals and wildlife are addressed in the EIS in Chapter 3.	See A above
Jeff Allen 11331 Gillette Prairie Rd. Hill City, SD 57745	J	Supports route modification 3h near Deerfield Road over Proposed Action to avoid private property and minimizing impacts.	Comment noted.	No change to EIS necessary
Dan Holsworth Mountain Meadow Resort 11321 Gillette Prairie Rd. Hill City, SD 57745	K	Supports route modification 3h near Deerfield Road over Proposed Action.	Comment noted.	No change to EIS necessary
Dawn and Tom Johnson 10349 480 <sup>th</sup> Street Tamarack, MN 55787	L	Supports route modification 3h near Deerfield Road over Proposed Action.	Comment noted.	No change to EIS necessary
Jeff Allen 11331 Gillette Prairie Rd. Hill City, SD 57745	M	Supports route modification 3h near Deerfield Road over Proposed Action because it eliminates impacts to private land and is less visible from Hat Mountain.	Comment noted.	No change to EIS necessary

**Table A-3**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO Post-DEIS PUBLIC COMMENTS**

<b>Commentor</b>	<b>Comment ID</b>	<b>Comment Summary</b>	<b>Response</b>	<b>Location of Change in FEIS</b>
James Cummings 22446 Elk Vale Rd. Rapid City, SD 57701	N	Supports route modifications 3h and 3i near Deerfield Road over Proposed Action.	Comment noted.	No change to EIS necessary.
Brian Donahoe 25669 479 <sup>th</sup> Ave. Garretson, SD 57030	O	Prefers route modification 3h over 3i because feels that it will be less visible from Hat Mountain.	Comment noted	Visual impacts from 3h and 3i are discussed in Section 3.7 of the FEIS.
Marcia Dunsmore PMB 175 2695 US HWY 85 Four Corners, WY 82715	P	Opposes H and I due to impairment of views from Deerfield Road.	Comment noted. Visual effects are addressed in the EIS in Chapter 3.	Visual impacts from 3h and 3i are discussed in Section 3.7 of the FEIS.
Francie Goode 10 Ranch Market Rd. Newcastle, WY 82701	Q	Supports route modifications 3h or 3i because lessens impacts to private lands.	Comment noted.	No change to EIS necessary.
Stan and Sara McDowell PO Box 526 Lander, WY 82520	R	Unclear where route is in Weston County Section 33.	Comment noted.	N/A
Glenn Riggs 1550 Gray Blvd Newcastle, WY 82701	S	Prefers the original proposed route or route modification 3b.	Comment noted.	No change to EIS necessary.
Ronald L Baker 6515 Sun Ridge Rd. Rapid City, SD 57702	T	Opposes route through Sun Ridge Road neighborhood (3g). Concerned with visual impacts.	Comment noted. Visual effects are addressed in the EIS in Chapter 3.	Route modification 3j was developed and added to the analysis in the FEIS. Visual impacts from 3g and 3j in this area are discussed in Section 3.7 of the FEIS.
Roger Bingaman 6616 Sun Ridge Rd. Rapid City, SD 57702	U	Opposes route through Sun Ridge Road neighborhood (3g). Concerned with visual impacts.. Concerned with impacts to noise, erosion, decrease in property value.	Comment noted.	Route modification 3j was developed and added to the analysis in the FEIS. Impacts to all resources in this area are discussed in Chapter 3 of the FEIS.
Dave and Lee Anne England 6747 Sun Ridge Rd. Rapid City, SD 57702	V	Oppose route along section lines adjacent to Ponderosa Ridge (3g) because of property value effects due to clearcutting, wildlife habitat and recreation impacts. Support route further north across undeveloped land (Proposed Action).	Comment noted.	Route modification 3j was developed and added to the analysis in the FEIS. Property value, wildlife and recreation impacts for the routes in this area are addressed in the FEIS in Chapter 3.
Matt and Carla Henry 6323 Sun Ridge Rd. Rapid City, SD 57703	W	Opposes route through Sun Ridge Road neighborhood (3g). Property devaluation because of visual and recreation impacts. Support original route (Proposed Action).	Comment noted.	Route modification 3j was developed and added to the analysis in the FEIS. Property value, visual, and recreation impacts for the routes in this area are addressed in the FEIS in Chapter 3.

**Table A-3**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO Post-DEIS PUBLIC COMMENTS**

Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
James Hodgens (via email: james@hodgens.net)	X-1	Opposes route through Sun Ridge Road neighborhood (3g). Potential health impact reduction from burial or DC should be included.	Comment noted. Burial or DC options are not being considered for Project because of feasibility and cost.	No change to EIS necessary.
	X-2	For 3 g - evaluate mining versus visual impacts to residences.	Impacts to all resources are considered for all routes.	Impacts associated with new route modification (3j) are included in Chapter 3 of the FEIS.
	X-3	Quantify costs associated with visual impacts	Property value impacts are discussed in Chapter 3 of the EIS.	No change to EIS necessary.
	X-4	Supports co-location of trail along ROW	Comment noted. There are trails along portions of the ROW. This is discussed in Section 3.8 of the EIS.	No change to EIS necessary.
	X-5	Proposes new route farther away from residences.	The concept of the suggested routes were incorporated into additional route modification 3j. Large parts of the suggested route cross private lands over which the Forest Service has no jurisdiction.	Route modification 3j was developed and added to the analysis in the FEIS.
	X-6	Evaluate impacts within ½ mile from final alignment and include species	Analysis area for routes included an area ½ mile on either side of routes.	No change to EIS necessary
Jerred Koppmann 1123 Wild Life Rd. Rapid City, SD 57702	Y	Opposes route through Sun Ridge Road neighborhood (3g). Too close to residences, concern with property value decline.	Comment noted. Property value effects are addressed in the EIS in Chapter 3.	Route modification 3j was developed and added to the analysis in the FEIS.
Burton Lang 6219 Sun Ridge Rd. Rapid City, SD 57701	Z	Opposes route through Sun Ridge Road neighborhood (3g). Move line away from homeowners.	Comment noted.	Route modification 3j was developed and added to the analysis in the FEIS.
Michael and Barbara Lewis 6680 Sun Ridge Rd. Rapid City, SD 57702	AA	Opposes route through Sun Ridge Road neighborhood (3g). Concerns with visual impacts; property devaluation; health; EMF; fire; tree removal; traffic. Prefers Proposed Action route.	Comment noted. Visual, property value, health EMF, fire, tree removal and traffic effects are addressed in the EIS in Chapter 3. Route modification 3j was developed and added to the analysis in the FEIS.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Mark Mailander 1030 Wilderness Trail Rapid City, SD 57702	BB	Opposes route through Sun Ridge Road neighborhood (3g). Concern with effects to health; visuals from residences; property devaluation.	Comment noted. Health, visual and property value effects are addressed in the EIS in Chapter 3.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
James and Eileen McKeon 1129 Wild Life Rd. Rapid City, SD 57702	CC	Opposes route through Sun Ridge Road neighborhood (3g). Support original route. Concerns with impacts to views, electrical device interference, humming and potential health effects from the line.	Comment noted. Visual effects, electrical interference, humming and potential health effects are addressed in the EIS in Chapter 3.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Ponderosa Ridge HOA	DD	Opposes route modification 3g. Concern with decrease in property value.	Comment noted. Property value effects are addressed in the EIS in Chapter 3.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Dave and Christina Riemenschneider 7100 Sun Ridge Rd. Rapid City, SD 57702	EE-1	Not opposed to route modification 3g or 3j. Opposes Proposed Action.	Comment noted.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
	EE-2	Follow section lines; do not cross private property with current residents	Comment noted.	
Dale and Lisa Stradinger 6510 Sun Ridge Rd Rapid City, SD 57702	FF	Opposes route through Sun Ridge Road neighborhood (3g)., suggests using Forest Service lands.	Comment noted.	Route modification 3j was developed and added to the analysis in the FEIS.

**Table A-3**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO Post-DEIS PUBLIC COMMENTS**

<b>Commentor</b>	<b>Comment ID</b>	<b>Comment Summary</b>	<b>Response</b>	<b>Location of Change in FEIS</b>
Mike Sweet 2910 Stockdale Dr. Rapid City, SD 57702	GG	Opposes the Proposed Action and supports 3 g.	Comment noted.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Jerry and Cathy Weber 6657 Sun Ridge Rd. Rapid City, SD 57702	HH	Opposes route through Sun Ridge Road neighborhood (3g). Concerns with potential health; EMF; noise and TV/radio; signal impacts and decrease in property values.	Comment noted. Health; EMF; noise, interference and property values are addressed in Chapter 3.	Route modification 3j was developed and added to the analysis in the FEIS. Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Campbell County Conservation District PO Box 2577 Gillette, WY 82716	II	No comment. Sun Ridge/Deerfield routes not within district.	Comment noted.	N/A
Rich Gabrielson 5160 Jake Rd. Rapid City, SD 57702	JJ	Supports route modification 3j since it has least impacts to private lands.	Comment noted.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Catherin Halgerson 6360 Sun Ridge Rd. Rapid City, SD 57702	KK	Supports route modification 3j.	Comment noted.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Donald Herrmann 1133 Aztec Drive Rapid City, SD 57701	LL	Opposes all routes in Sun Ridge Road area. Suggests new alternatives: bury it, follow Hidden Valley Rd; do nothing.	Comment noted. The No Action Alternative, Alternative 1, addresses this concern.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Michael and Barbara Lewis 6680 Sun Ridge Rd. Rapid City, SD 57702	MM-1	Supports original planned route plus northern portion of "J" west & north of quarry areas. Modification j is less offensive than 3g.	Comment noted.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
	MM-2	Comments on Facility Permit Application with State of South Dakota.	This is separate from Forest Service process and addresses siting on private lands.	N/A
James McKeon 1129 Wild Life Rd. Rapid City, SD 57702	NN	Prefers route modification 3j since it appears to have the minimum impact.	Comment noted.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Dave and Linda Mitchell 5440 Hidden Valley Lane Rapid City, SD 57702	OO	Prefer route stays south of Hidden Valley Road.	Comment noted. The proposed line is located south of Hidden Valley Road.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.

**Table A-3**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO Post-DEIS PUBLIC COMMENTS**

<b>Commentor</b>	<b>Comment ID</b>	<b>Comment Summary</b>	<b>Response</b>	<b>Location of Change in FEIS</b>
Steve Palmer SD Dept. of Transportation PO Box 1970 Rapid City, SD 57709	PP	Plans for a box culvert at Hidden Valley Road intersection with SD 231. Suggest contacting GCC Dacotah.	Comment noted.	No change to EIS necessary
Dave and Christina Riemenschneider 7100 Sun Ridge Rd. Rapid City, SD 57702	QQ	Not opposed to route modification 3j, but it crosses 3 private property lots.	Comment noted.	No change to EIS necessary
Leona Van Schoonhoven 5465 Hidden Valley Lane Rapid City, SD 57702	RR	Prefers route stays south of Hidden Valley Road.	Comment noted. The proposed line is located south of Hidden Valley Road.	No change to EIS necessary
William Shaw 1170 Wilderness Trail Rapid City, SD 57702	SS	Concerned that both Modifications 3j and 3g cut directly through neighborhoods thus lowering property values. Prefers "Original proposed route."	Comment noted. Effects to property values are discussed in the EIS in Chapter 3.	Impacts to all resources associated with the routes in this area are discussed in Chapter 3 of the FEIS.
Susan Callaway 149 Kenwood Dr. Newcastle, WY 82701	TT	Need better maps. Post card mailing with URL address would have been more useful.	Comment noted.	No change to EIS necessary
William Curley P.O. Box 956 Newcastle, WY 82701	UU	Suggests alternate route for transmission line from Teckla to Lang Substation following county lines in Wyoming.	Comment noted. Alternative routes are discussed in Chapter 2 of the EIS.	No change to EIS necessary
William Fuller PO Box 183 Newcastle, WY 82701-0183	VV	Opposes project. Concerned about more wildfires in the area.	Comment noted.	Additional information on wildfire included in Section 3.3 of the FEIS.
Roy Gill 10 Painted Hills Road Newcastle, WY 82701	WW	Supports project.	Comment noted.	No change to EIS necessary
Jerry and Maxine Groner 110 S. Sumner Ave. Newcastle, WY 82701-2833	XX	Supports project.	Comment noted.	No change to EIS necessary
Chris Gualtieri 217 W. Winthrop Newcastle, WY 82701	YY	Supports whatever route is thought to be right.	Comment noted.	No change to EIS necessary
Homer S. Harvey Box 853 Upton, WY 82730	ZZ	Supports project.	Comment noted.	No change to EIS necessary
Hermes Consolidated, d-b-a Wyoming Refining Co #10 Stampede St. PO Box 820 Newcastle, WY 82701	AAA	Supports project.	Comment noted.	No change to EIS necessary
Dennis Irwin P.O. Box 685 Douglas, WY 82633	BBB	Would like to see map of the route in Wyoming.	Comment noted.	No change to EIS necessary

**Table A-3**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO Post-DEIS PUBLIC COMMENTS**

<b>Commentor</b>	<b>Comment ID</b>	<b>Comment Summary</b>	<b>Response</b>	<b>Location of Change in FEIS</b>
Tonu and Karen Kiese 258 Elk Grove Trail Newcastle, WY 82701	CCC	Unsure where the route is in Wyoming. Requests link to site with better maps.	Comment noted.	No change to EIS necessary
Lawrence E Klingberg, Jr. 8111 Dartmoor Drive Huntington Beach, CA 92646	DDD	Believes his property not affected by project. Needs better map.	Comment noted.	No change to EIS necessary
Bruce Lang 13 Lake View Drive Pine Haven, WY 82721	EEE	Questions where the route is in Weston County, WY.	Comment noted.	No change to EIS necessary
John Miller Dept of Environment & Natural Resources Joe Foss Building, 523 East Capitol Pierre, SD 57501-3182	FFF-1	No adverse impacts expected for air, drinking water, solid waste.	Comment noted.	No change to EIS necessary
	FFF-2	Recommend BMPs and states that erosion, sediment and pollutant controls are required.	Comment noted. BMPs are incorporated as design features and mitigations, and Forest Plan standards and guidelines incorporate Watershed Conservation Practices.	No change to EIS necessary
	FFF-3	Impacts to wetlands require permits from the U.S. Army Corps of Engineers	Comment noted.	No change to EIS necessary
	FFF-4	No adverse impacts expected for ground water quality. No petroleum and other chemical releases have been identified by the Department. Contamination encountered during construction must be reported, sampled and stockpiled.	Comment noted.	No change to EIS necessary
Anthony Montano National Park Service - IMR W. Alameda PKWY Denver, CO 80228	GGG	May have concerns with four National Historic Trails that may be in the area. Requests shape files of the proposed route.	Shapefiles provided. The commenter was contacted to verify the identity of the trails. The routes of the four trails were reviewed. All lie far to the south of the project area.	No change to EIS necessary
Kipp Petersen 1203 W. 35 <sup>th</sup> Street Kearney, NE 68845	HHH	Supports project.	Comment noted.	No change to EIS necessary
Bill Porter 8748 Walton Oaks Drive Bloomington, MN 55438	III	Transmission lines are inefficient.	Comment noted.	N/A
Fern Porter 810 Old HWY 85 Newcastle, WY 82701	JJJ	Maps unclear regarding impacts to property.	Comment noted.	N/A
Clayton Ralls 3330 Stirrup St. Newcastle, WY 82701	KKK	Questions need for any route modifications. Supports original proposed routes for Deerfield and Sun Ridge Rd.	Comment noted.	No change to EIS necessary
Roberta Rinegar 229 Daffodil Street Casper, WY 82604	LLL	Maps don't show route in Wyoming.	Comment noted.	N/A
Flo Round 8 Ridgewood Newcastle, WY 82701	MMM	Opposes higher bills, supports no outages.	Comment noted.	No change to EIS necessary
Zane Rhynard 12 Bleeker Rd. Newcastle, WY 82701	NNN	New landowner supports project.	Comment noted.	No change to EIS necessary
Rich and Melody Toth PO Box 283 Upton WY 82730	OOO	Opposes project.	Comment noted.	No change to EIS necessary

**Table A-3**  
**Teckla-Osage-Rapid City 230kV Transmission Line**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**  
**RESPONSES TO Post-DEIS PUBLIC COMMENTS**

Commentor	Comment ID	Comment Summary	Response	Location of Change in FEIS
Ed and Marjorie Wagoner PO Box 405 101 Big Plum Creek Rd. Newcastle, WY 82701	PPP	Opposes project. Has concerns about line maintenance and construction related debris left on private land. Private landowners' concerns aren't heard.	Comment noted.	Additional information about impacts to all resources associated with the routes on private lands are discussed in the various sections of Chapter 3 of the FEIS.
Leslie and DeAnn Whitney 1568 Mush Creek Rd. Newcastle, WY 82701	QQQ	Supports project.	Comment noted.	No change to EIS necessary
Ilene Whitney 1572 Mush Creek Rd. Newcastle, WY 82701-9542	RRR	Concerned with fires and impact to grass.	Fire risk associated with transmission lines is discussed in Chapter 3, section 3.3 of the EIS. The transmission line will be designed to mitigate lightning strikes.	Updated discussion of wildfire risk from transmission lines is included in section 3.3 of the FEIS.

**Comment Letters on DEIS  
from  
Local, State, or Federal Agencies**

**From:** Robert Stewart [[mailto:robert\\_f\\_stewart@ios.doi.gov](mailto:robert_f_stewart@ios.doi.gov)]  
**Sent:** Tuesday, January 28, 2014 9:50 AM  
**To:** FS-comments-rocky-mountain-black-hills-mystic  
**Subject:** BHP 230kV Transmission Line Project - DOI Comments

**PLEASE ACKNOWLEDGE RECEIPT BY REPLY TO THIS MESSAGE**

The Department of the Interior's comments on the subject document are attached.

If you require paper-copy or word-processor version, please so advise.

Robert F. Stewart  
Regional Environmental Officer  
Office of Environmental Policy and Compliance  
U.S. Department of the Interior  
P.O. Box 25007 (D-108)  
Denver, CO 80225-0007  
Voice: (303) 445-2500  
Fax: (303) 445-6320  
Cell: (303) 478-3373  
Email: [robert\\_f\\_stewart@ios.doi.gov](mailto:robert_f_stewart@ios.doi.gov)



# United States Department of the Interior



OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
Denver Federal Center, Building 67, Room 118  
Post Office Box 25007 (D-108)  
Denver, Colorado 80225-0007

January 28, 2013

9043.1  
ER 13/813

Ms. Ruth Esperance, District Ranger, Mystic Ranger District  
BHP 230kV Transmission Line Project  
8221 South Highway 16  
Rapid City, SD 57702

RE: Draft Environmental Impact Statement (DEIS) US Forest Service (USFS) Teckla- Osage-  
Rapid City Transmission 230 kV Project, Thunder Basin National Grassland, Black Hills  
National Forest, South Dakota; Teckla, Wyoming;

Dear Ms. Esperance:

The Department of the Interior has reviewed the subject document and offers the following comments provided by the U.S. Fish and Wildlife Service and Bureau of Reclamation for your consideration.

## Threatened and Endangered Species

We are providing comment related to conservation of two species: the northern long-eared bat (*Myotis septentrionalis*), a species proposed for listing under the Endangered Species Act (ESA, 16 U.S.C. 1531 *et seq.*), and the greater sage-grouse (*Centrocercus urophasianus*), a candidate for listing under the ESA.

### Northern long-eared bat

The DEIS indicates that “The effects of the proposed Project were evaluated for all Endangered, Threatened, Proposed, and Region 2 Sensitive species, and their habitat.” However, the DEIS fails to note that the northern long-eared bat has been proposed for listing under the ESA (DEIS p. 3-27). This species is addressed within the DEIS as a species of local conservation concern (DEIS p. 3-82).

Albeit not addressed directly with respect to the northern long-eared bat, the DEIS indicates that the proposed action will result in loss of habitat, or potential habitat, for the northern long-eared bat:

New disturbance for the Proposed Action would include some areas of new ROW, expansion of the existing unused ROW, new spur roads, potential improvements to existing roads, structure locations, and construction and decking areas. For the Proposed Action, new disturbance would occur primarily in locations dominated by ponderosa pine (547 acres; 86%). In South Dakota, there would be a total of approximately 559 acres of tree clearing on NFS lands.

DEIS p. 3-342

The majority (70%) of new disturbance on NFS lands would occur in mature forests categorized as Structural Stage of 4 (4A, 4B, and 4C).

DEIS p. 3-343

The analysis does not adequately address conservation of the northern long-eared bat in the context of the progression of white-nosed syndrome in the continental United States. Therefore, we recommend that the DEIS analysis for the northern-long-eared bat incorporate a more robust treatment of the threats to the northern long-eared bat, as detailed within the recent 12-month finding (78 FR 61046), and potential effects of implementation of the proposed action. In addition, we recommend the development and implementation of conservation measures to avoid or minimize effects to the northern long-eared bat. We recommend that the Forest Service consult the recently published Northern Long-eared Bat Conference and Planning Guidance at <http://www.fws.gov/northeast/virginiafield/pdf/NLEBinterimGuidance6Jan2014.pdf>.

#### Greater sage-grouse

Appendix B of the DEIS, entitled *Design Criteria, Mitigation Measures, and Monitoring*, relates specific conservation measures intended to minimize effects of implementation to Greater sage-grouse (Appendix B, p. 21). The DEIS (p. 3-117) also references a specific mitigation plan addressing the greater sage-grouse (Greater Sage-Grouse Mitigation and Development Plan). In October, 2010, staff of the Wyoming Ecological Services Field Office received a draft of this plan. They do not, however, have record of a finalized mitigation plan or any record of correspondence related to a final plan. We recommend incorporating the referenced mitigation plan into Appendix B of the Final EIS.

If you have any questions regarding these comments, please contact Clark McCreedy at the Wyoming Ecological Services Field office ([clark\\_mccreedy@fws.gov](mailto:clark_mccreedy@fws.gov)) or phone (307) 772-2374, extension 227.

#### Bureau of Reclamation Comments

The Proposed Action would construct the transmission line in close proximity to the Pactola Reservoir (DEIS Figures 2-1 and F-58) located in the Black Hills of South Dakota. Pactola Reservoir is a Reclamation project located within the Black Hills National Forest (BHNF).

The Pactola Reservoir area is managed for public recreational purposes with developed day use sites, campgrounds, swim areas, boat launches, observation points, a visitor center, hiking trails, and more amenities located nearby (DEIS Figure 3-16). Although impacts to recreation

resources in the DEIS are not identified as one of the key issues, Alternative 3 with Modification 3e and 3f were developed in response to address considerations for the Pactola Reservoir area by relocating portions of the transmission line farther away from the reservoir (DEIS p. 2-12).

The proposed project would be located within a visually sensitive area identified in the BHNF Land and Resource Management Plan (DEIS p. 3-293). Pactola Reservoir is a prominent viewing area in the BHNF, which would be impacted by the Proposed Action (DEIS p. 3-290). Key issue 3 (DEIS p. 1-18) identifies the concern for potential impacts to visual resources. Alternative 3 with Modification 3e or 3f were developed to respond to scenic integrity and visual resources. Reclamation agrees that impacts to visual resources in the Pactola Area would be lessened with implementation of Modification 3e or 3f.

Reclamation would like to encourage the incorporation of project design features and mitigation measures for scenery as provided in Appendix B of the DEIS. Should the right-of-way under Alternative 2 be identified as the preferred alternative in the Final Environmental Impact Statement, Reclamation recommends using mitigation measures to the full extent available to reduce the impacts to scenic and visual qualities, and recreation resources associated with Pactola Reservoir.

Based on the information in the DEIS and in consideration of potential impacts to multiple resources in the Pactola Reservoir area, Reclamation advocates implementation of Alternative 3 with Modification 3f because it responds best to the issues in the Pactola Reservoir area.

Please contact Vernon LaFontaine at 406-247-7720 or [vlafontaine@usbr.gov](mailto:vlafontaine@usbr.gov) for further information or questions on the comments submitted.

Sincerely,

A handwritten signature in black ink that reads "Robert F. Stewart". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

Robert F. Stewart  
Regional Environmental Officer

RS

**Public Comment Form  
Black Hills National Forest**

**Teckla-Osage Rapid City Transmission Project  
Route Modifications**

NAME: ANDREW MONTANO, NPS-IMR

ADDRESS: 12795 W. Alameda Parkway  
Denver, CO 80228

- I have no comments, please keep me informed.
- Please remove me from your Teckla-Osage-Rapid City Transmission Project mailing list.
- I have the following comments about the Teckla-Osage-Rapid City Transmission Project Route Modifications:

NPS may have concerns related to four National  
Historic Trails that could be impacted by your proposed  
transmission line. These trails include: California  
Natl. Trail, the Mormon Pioneer Natl. Trail, the Oregon  
Natl. Trail, and the Pony Express Natl. Trail. Potential  
impacts to these trails may include visual resource  
impacts.

Please send email to andrew\_montano@nps.gov  
or contact me at 303-969-2439 should you want  
to discuss this further.

NPS would love to receive shape files of the proposed  
transmission line route(s) with all routing  
alternatives. THANK YOU.

Return to: Ruth Esperance, District Ranger, Mystic Ranger District, Teckla-Osage-Rapid City Transmission Project, 8221 South Hwy 16, Rapid City, SD 57702 (Or fold, seal, and add a stamp to the back of the sheet).

.....  
Andrew M. Montañó, PMP  
National Park Service | Department of the Interior  
12795 West Alameda Parkway  
\_\_\_\_\_  
Denver, CO 80228  
\_\_\_\_\_

place  
stamp  
here

Ruth Esperance, District Ranger  
Mystic Ranger District  
Teckla-Osage-Rapid City Transmission Project  
8221 South Highway 16  
Rapid City, SD 57702

**From:** Miullo, Nat [<mailto:Miullo.Nat@epa.gov>]  
**Sent:** Monday, February 10, 2014 5:12 PM  
**To:** Esperance, Ruth -FS; Fischer, Edward -FS  
**Cc:** FS-comments-rocky-mountain-black-hills-mystic  
**Subject:** Teckla-Osage-Rapid City Transmission Line DEIS rating by U.S. EPA

Attached is EPA's NEPA rating letter for the Teckla-Osage-Rapid City Transmission Line Draft Environmental Impact Statement.

A hard copy has been mailed to the Mystic Ranger District.

If you have any questions, comments or concerns, please contact me at the above e-mail, or call at one of the numbers below.

Thank you for the opportunity to comment.

*Nathaniel Miullo*  
*NEPA Lead Reviewer*  
*R8 National Disaster Recovery Specialist*  
<http://www.fema.gov/national-disaster-recovery-framework>  
D: 303 312 6233  
C: 303 518 9906



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

1595 Wynkoop Street  
DENVER, CO 80202-1129  
Phone 800-227-8917  
www.epa.gov/region08

~~FEB 10 2014~~

Ref: EPR-N

Ruth Esperance, District Ranger  
Mystic Ranger District  
8221 South Highway 16  
Rapid City, SD 57702

Re: Teckla-Osage-Rapid City Transmission Project  
Draft Environmental Impact Statement  
CEQ # 20130377

Dear Ms. Esperance:

In accordance with our responsibilities under Section 102(2) (C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Teckla-Osage-Rapid City Transmission Project Draft Environmental Impact Statement (EIS) as prepared by the United States Forest Service (USFS). It is the EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project, which includes a rating of the environmental impacts of the proposed action and the adequacy of the Draft EIS.

**Project Description**

Black Hills Power has requested a right-of-way (ROW) authorization to construct and operate a 230-kV transmission line from the Teckla and Osage Substations in northeastern Wyoming to the Lange Substation in the Rapid City area in South Dakota. The project, under Alternative 2 (Proposed Action), would be approximately 144 miles long. The transmission line would cross portions of the Black Hills National Forest and private lands in South Dakota and portions of the Thunder Basin National Grasslands, private lands, Bureau of Land Management (BLM) lands and state lands in Wyoming. The line would be constructed on wood or steel H-frame structures for most of its length with possibly some steel monopole structures in the Rapid City area. The support structures would be 65 to 75 feet tall, and the project would require a ROW of 100 feet on federal lands and 125 feet on private lands.

**The EPA's Comments and Recommendations**

The EPA appreciates the detail included for identifying, minimizing and repairing any impacts from noxious weed infestation in the Draft EIS. We also appreciate efforts to address our

comments for providing information on how impacts will be minimized, particularly in regard to hydrology, water quality, and wetlands. Our remaining comments and recommendations follow.

### Wetlands Protection

The Draft EIS identifies that the Proposed Action ROW would cross less than one acre of wetlands in the State of South Dakota portion and just over a cumulative nine acres in Wyoming (of which the direct and indirect effects and impacts would be negligible). While the expected impacts to wetlands from the proposed action are identified as being negligible, the EPA recommends that the Final EIS specifically identify that during project implementation, the lead Federal Agencies will meet requirements under 33 CFR 320.3. This requirement specifically relates to the U.S. Army Corps of Engineers Nationwide Permit #12 for utility lines. It authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States where certain activities that have minimal individual and cumulative adverse effects on the aquatic environment will take place. Depending on the size of the wetlands potentially affected (as small as ½ an acre or greater) the Lead Federal Agency may be required to provide pre construction notice to the U.S. Army Corps of Engineers, or, depending on the circumstances, actually receive a permit prior to construction activity.

### Air Emissions Mitigation and Fuel Conservation

While the Draft EIS identifies several positive steps that will be taken during construction to minimize road construction and traffic-related air emissions (primarily dust), we did not find procedures for minimizing engine idling or for use of clean diesel heavy equipment. These procedures are often used in the construction industry for minimizing mobile source air pollution, reducing fuel consumption and saving money. The EPA recommends that the Final EIS identify procedures for reducing vehicle emissions associated with the project.

### Green House Gases

Sulfur hexafluoride (SF 6) is often used in electrical transmission equipment, including transformers and circuit breakers. The global warming potential of SF 6 is 23,900, making it the most potent greenhouse gas that the Intergovernmental Panel on Climate Change has evaluated (source: <http://epa.gov/climatechange/ghgemissions/gases/fgases.html>). According to EPA, the number of units in a power system that leak is 15% and of that 15%, 10% can be repaired. While this is a small subset of an entire system's equipment that may be releasing green house gases, due to the potency of SF 6, EPA recommends that the Final EIS identify what steps project proponents may take to either substitute SF 6 emitting equipment or mitigate the green house gas emissions from leaking electrical transmission equipment.

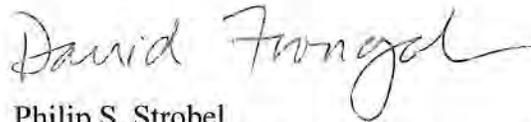
### **The EPA's Rating**

Based on our review, the EPA is rating the Agency Preferred Alternative as "Environmental Concerns – Adequate" (EC1). The "EC" rating means the EPA's review has identified potential impacts that should be avoided to fully protect the environment. The "1" rating means that while

no further analysis or data collection is necessary, the EPA has suggests the addition of clarifying language or information. A full description of the EPA's rating system can be found at <http://www.epa.gov/compliance/nepa/comments/ratings.html>.

Thank you for your thoughtful consideration of the EPA's scoping comments and the opportunity to provide comments on the Draft EIS. If you have any questions or would like to discuss our comments or rating, please contact me at 303-312-6704, or the Lead Reviewer for this project, Nat Miullo at 303-312-6233.

Sincerely,



for

Philip S. Strobel

Acting Director, NEPA Compliance and Review Program  
Office of Ecosystem Protection and Remediation



DEPARTMENT OF GAME, FISH, AND PARKS  
Foss Building  
523 East Capitol  
Pierre, South Dakota 57501-3182

Ruth Esperance, District Ranger  
Mystic Ranger District, BHNF  
8221 South Highway 16  
Rapid City, SD 57702

February 8, 2014

Subject line: Teckla-Osage-Rapid City Transmission Line  
Deadline: February 10, 2014  
email: [comments-rocky-mountain-black-hills-mystic@fs.fed.us](mailto:comments-rocky-mountain-black-hills-mystic@fs.fed.us)

Attached are comments from South Dakota Department of Game, Fish, and Parks (SDGFP). Resource experts in the Division of Parks and Recreation and Division of Wildlife (DOW) best support Alternative 3 (proposed action with route modifications). Many SDGFP comments in response to the Notice of Intent (October 2011) were addressed in the DEIS. Appendix B is very thorough for mitigation and considerations for impacts to natural resources.

However, discussed herein are issues we believe were not considered for the highest degree of safety and concern to three bird species, one bat species, and impacts to our state trails systems.

This project is an important energy development for the people South Dakota. The Draft EIS (DEIS) indicates that there will be considerable disturbance and human activity during construction and final inspection stages, which are expected to last several years. Therefore, we cannot over emphasize the necessity of Black Hills Power (BHP) to work closely with BHNF and SDGFP resource experts in a revision for the Final EIS (FEIS), Design Criteria and Mitigation, and field visits through-out the life of the Teckla-Osage Transmission Line project. We look forward to closely working with you and BHP on this project.

Sincerely,

Jeffrey R. Vonk,  
Department Secretary

JV:da

cc: Scott Larson, Field Supervisor, USDI FWS, SD Field Office  
GFP Director Tony Leif, Director Doug Hofer, Tom Kirschenmann, John Lott, Paul Coughlin, Shelly Deisch, Mike Kintigh, Shannon Percy, John Kanta, Silka Kempema, Eileen Dowd Stukel

## **Attachment**

Comments on the Draft Environmental Impact Statement (DEIS)  
SD Department of Game, Fish, and Parks,  
Division of Parks and Recreation and Division of Wildlife (DOW).  
Submitted February, 2014

### **Terrestrial Wildlife**

#### *1. Black-backed Woodpecker (BBWO)*

The DEIS is required to address how this project may or may not impact Black-backed Woodpeckers (BBWO) and their viability on the Forest. Black-backed Woodpeckers are a species of concern to BBNF and a species of greatest conservation need (SGCN) to the State of South Dakota. DOW has helped support a significant portion of the local research. There is a Petition to the USFWS to consider this species for federal listing (Hanson et.al 2012). In that light, the narrative of the life history, habitat needs and estimated density of BBWO in the Black Hills were not accurately portrayed. For example, the transmission line will transverse through mountain pine beetle infested trees, which the DEIS recognized as one habitat selected by BBWO. To strengthen the FEIS, additional local and applicable research should be included in the effects analysis. DOW offers the following recommended edits to the existing DEIS narrative. Contact Dr. Mark Rumble, Research Scientist, USFS, Rocky Mt. Research Station, Rapid City, SD. (605-716-2174) for additional information and local expertise.

#### DEIS page 3-30, 3-31. Section 3.2.1.1.2.1.1.1 Species Ecology

First paragraph page 3-30, replace with: “.....Recently burned pine forests (Dixon and Saab 2000; USFS 2000) and forests infested with mountain pine beetles (Bonnot 2006, Rota 2013, Rota et.al 2014) are preferred by this species in the Black Hills.....”

Second paragraph page 3-30, replace with: “Black-backed Woodpecker populations are often irruptive as they follow outbreaks of woodboring beetles after these types of disturbances (Bonnot et. al 2008). Large movements have been noted..... Abundance peaks within the first few years after a fire or mountain pine beetle infestation (Rota et.al 2014) but decreases as snags decay and beetle food sources dwindle.”

First incomplete paragraph page 3-31: Strike “Though burned forests are suspected to function as a source habitat, there is a lack of information on movements and mortality to support this.” This is not true. Some burned forests function as source habitats, but some fires showed negative population growth probably because the season of the burn and the extent of high and moderately burned forest (Rota 2013).

Where appropriate add: “Research in the Black Hills indicates that overall nesting success and recruitment into the population can be low mostly in areas infested with mountain pine beetles and some areas where prescribed fire resulted in less extensive moderate and severely burned forest, likely due to predation (Rota 2013).”

#### DEIS page 3-32, Section 3.2.1.1.2.1.1.2 Analysis Area

Second paragraph: Strike the population estimate for BBWO. This number was calculated without the benefits of a peer-reviewed population model. The number reported in the DEIS does not take into account variability in survey methods, home ranges, available and suitable habitat and statistical reliance. Research in California (Siegel et. al 2010) shows that about 70% of birds are observed in call playback surveys and only 23% in passive surveys.

It is scientifically unsupported to estimate 7 birds/km<sup>2</sup> when a density of 0.1 - 0.45 birds/km<sup>2</sup> is probable in the Black Hills forest at large (Mohren 2002, Bonnot 2008, Vierling 2004, and RMBO reports). Densities greater than 1 bird/km<sup>2</sup> were found during a few years post burn in wildfires.

#### *2. American Peregrine Falcon*

The common name is Peregrine Falcon, not American Peregrine Falcon (American Ornithologists' Union) and should be changed in the FEIS. It is a SD State endangered species and a SGCN.

#### DEIS page 3-61, Section 3.2.1.1.3.5 Cliff/Cave Dependent Species

The DEIS describes peregrine falcon as a species limited by cliffs. This is not accurate as of recent. Include the following information: DOW conducted a 3-year peregrine falcon reintroduction project from 2011 – 2013. Approximately 60 individuals were released in downtown Rapid City (SDGFP 2013, SDGFP website). Future nesting is anticipated in Rapid City and/or the surrounding Black Hills where the transmission line is proposed. Black Hills Power (BHP) is a partner in this peregrine reintroduction project. Both buildings (including Black Hills Corporation) used as release sites are within 3 aerial miles of the Lange Substation where the Teckla-Osage transmission line is proposed to end in Rapid City. We believe that the FEIS should supplement this information and better assess potential impacts to an urban population of peregrine falcons in the greater Rapid City area.

#### Appendix B

The FEIS should include design criteria and mitigation for an urban peregrine population. Please will contact Eileen Dowd Stukel (605-773-4229) to coordinate. Suggested language could include, but is not limited to “BHP project personnel need to consult with SDGFP - DOW prior to and during construction to communicate whether there are nesting attempts by peregrine falcons. Each situation will be evaluated for extra precautions to avoid disturbing this SD state endangered species and jeopardizing nesting success to this recovering species.”

#### DEIS page 3-89 Section 3.2.1.2.2 USFS SS, BLM Sensitive Species, USFS SOLC

The DEIS made reference to the State of Wyoming's SGCN. Is there a reason South Dakota's SGCNs were not discussed or considered? It should be noted that all four species we recommend for additional analysis in the FEIS are SD SGCN.

DEIS page 3-155 Section 3.2.2.2.1.1.3.4 Cliff/Cave Dependent Species - Direct Effects

Third paragraph: “Disturbance of American Peregrine Falcon nests could cause the same results as those for bats.” Need to reword as it reads as if peregrines have roosts, or that bats have nests.

Third paragraph: The FEIS needs to support this statement: “However, once construction is complete, individuals would be able to reoccupy the area of construction. All of these Region 2 cliff/cave dependent sensitive species in the analysis area would be able to continue normal behaviors once construction is completed.” We disagree with such a broad statement. It is very likely that disturbance during a vulnerable time would result in the loss of reproductive output for a nesting bird or abandonment of an important roost site, in the case of bats. This is not normal, especially for rare, threatened or endangered species.

Last paragraph page 3-156 and throughout: The FEIS must provide scientific literature to support this statement: “Based on excellent flight maneuverability of the Townsend’s big-eared bat, Fringed myotis and American Peregrine Falcon, the probability of mortality cause by collision with transmission lines or associated guy-wires are low.”

First incomplete paragraph p. 3-158. This is another place where the potential for urban nesting peregrines should be added to the FEIS.

Appendix B, Table W-1, page B-16

The DEIS lists USFWS 2012 as the source of many of the buffer zones for raptors. However, the Literature Cited section includes numerous USFWS 2012 citations. FEIS needs to make distinctions between 2012a, 2012b, etc. in the body of the FEIS and correlate to the Literature Citation section.

Appendix B, page B-16, second bullet, second line

Add the word “acres” after “at least 180...”

### 3. Osprey

Osprey are a SD State Threatened species and a SGCN. In our 10/14/11 NOI letter, we requested that osprey be specifically considered in the effects analysis of this project. The DEIS appropriately referenced The Avian Power Line Interaction Committee (APLIC 2006) guidelines for construction designs to mitigate for unintended bird strikes and losses. However, no analysis was conducted for impacts (beneficial and detrimental) to osprey, the primary raptor known to nest on powerline structures in the Black Hills. The FEIS needs to include this species.

Appendix B and Table W1, page B-16

FEIS needs to include timing restrictions for osprey (USFWS Wyoming Website, Romin and Muck, 2002) which we modified from 3/25 – 8/31. These migratory raptors typically return to the Black Hills between 3/25 – 4/10 with males arriving first and pairs/offspring occupying the nest site through September (SDGFP 2011-2013, SDGFP Personnel Observations).

FEIS needs to include a disturbance buffer of 0.25 miles. Adult osprey are somewhat more tolerant of human-caused disturbances compared to other raptors (Romin and Muck 2002, SDGFP Personnel Observations). Utah (Romin and Muck 2002) and Wyoming (USFWS Wyoming Website) recommend buffers of 0.25 and 0.50 miles, respectively, throughout the nesting season.

Osprey present a unique situation in the Black Hills with a self-established population, primarily nesting on powerline structures within a ponderosa pine forest. BHP and other utility companies have moved nests off power structures with the cooperation of BHNF and SDGFP, and have placed said nests on nesting platforms within or immediately adjacent to the utility ROW. For purposes of this project, attempting to keep a 0.25 -0.50 mile buffer from 3/25 – 8/31 may not be reasonable or realistic in all cases. We prefer to work directly with BHP and its contractors to determine which osprey nests need site-specific mitigative measures. Our experience with osprey has shown that humans and equipment working directly below or close to a nest for several days are the greatest threats to nest abandonment, especially during nest initiation and egg laying/incubating. This roughly correlates to 3/25 – 6/1.

The FEIS Appendix B should include mitigation measures such as: “Osprey are the primary nesting raptor on powerline structures in the Black Hills. BHP will immediately contact BHNF and SDGFP biologists when any nest (active or not) is found and/or when any raptor is seen attempting to build a nest on or near the project area. Wildlife biologists will determine the raptor species, type and duration of disturbances allowed.” And “Osprey nest on artificial nesting platforms adjacent to or within the ROW. Every effort will be made to employ buffer and timing restrictions. BHP will contact BHNF and SDGFP biologists to coordinate project activity near all osprey nesting platforms.”

#### ***4. Northern Long-Eared Bat, or Northern Myotis (Myotis septentrionalis)***

This species is currently proposed for listing as an endangered species and is a South Dakota SGCN. We recommend that the FEIS rework the narratives and Table 3-10 (page 3-65). Appendix B can then be amended to reflect additional mitigation for this species in light of the new and eminent classification. This comment letter is not best suited for that purpose and we recommend BHP contact BHNF, SDGFP and USFWS biologists.

### **SD Trails:**

#### ***1. Mickelson Trail***

##### **Appendix B**

Design criteria and mitigation need to include considerations for “Trail Trek”, one of our biggest public events on the Mickelson Trail. This annual celebration is always on the third weekend of September. Construction and work on the powerline should not impede this event. As work on the powerline near the Mickelson Trail progresses towards September of each year, please contact Shannon Percy (605-584-3896) with the SDGFP Division of Parks and Recreation to coordinate.

## 2. Snowmobile Trails

Attached is a map (Figure 1.) that BHNH provided to our Trails office which indicates where the powerline will cross at least five snowmobile trails: 1, 2, 9, 12A and 13. BHP construction crews may need to utilize the snowmobile trail system and adjoining roads. Snowfall in the map area is limited and what little amount falls and accumulates, is critical to maintaining the trails.

### Appendix B

Additional mitigation needs to be included. We suggest “Field planning should consider that snowmobile trails cannot be plowed from December 1st through March 31<sup>st</sup>. Contact Shannon Percy with SDGFP Division of Parks and Recreation to coordinate project activity near and around snowmobile trails 1, 2, 9, 12A and 13.”

### **Literature Cited**

APLIC. 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Institute. <http://www.aplic.org>

Bonnot, T. 2006. Nesting ecology of Black-backed Woodpeckers in mountain pine beetle infestations in the Black Hills, SD. MS Thesis. University of Missouri-Columbia. 78 pp.

Bonnot, T. W., M. A. Rumble, and J. J. Millspaugh. 2008. Nest success of Black-backed Woodpeckers in forests with mountain pine beetle outbreaks in the Black Hills, SD. *Condor*. 110:450–457.

Hanson, C., K. Coulter, J. Augustine and D. Short. 2012. Before the Secretary of the Interior – Petition to List the Black-Backed Woodpecker (*Picoides arcticus*) as Threatened or Endangered Under the Federal Endangered Species Act. John Muir Project of Earth Island Inst. Cedar Ridge, CA. and others. 115 pp.

Mohren, S.R. 2002. Habitat evaluation and density estimates for the black-backed woodpecker (*Picoides arcticus*) and northern three-toed woodpecker (*Picoides tridactylus*) the Black Hills National Forest. MS Thesis, University of WY, Laramie.

Romin L. and J. Muck. 2002. Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances. US Fish and Wildlife Service. Salt Lake City, Utah. <http://www.fws.gov/utahfieldoffice/migbirds.html>

Rota, C.T. 2013. Not all forests are disturbed equally: Population dynamics and resource selection of Black-backed Woodpeckers in the Black Hills, SD. PhD Dissertation. Univ. of Missouri-Columbia. 146 pp.

Rota, C.T., M.A. Rumble, J.J. Millspaugh, C.P. Lehman, and D.C. Kesler. 2014. Space-use and habitat associations of Black-backed Woodpeckers (*Picoides arcticus*)

occupying recently disturbed forests in the Black Hills, SD. Forest Ecology and Mgt. 313:161-168.

Siegel, R.B., J.F. Saracco and R.L. Wilkerson. 2010. Management Indicator Species (MIS) surveys on Sierra Nevada National Forests: Black-backed Woodpecker. 2009 Annual Report. FS Agreement 08-CS-11052005-201, Mod. #1. Institute for Bird Populations, Sierra Nevada Bird Observatory. 66pp.

SDGFP 2011-2013. Occupancy and nest observations of osprey in the Black Hills of SD, Avian Research and Consulting Reports).

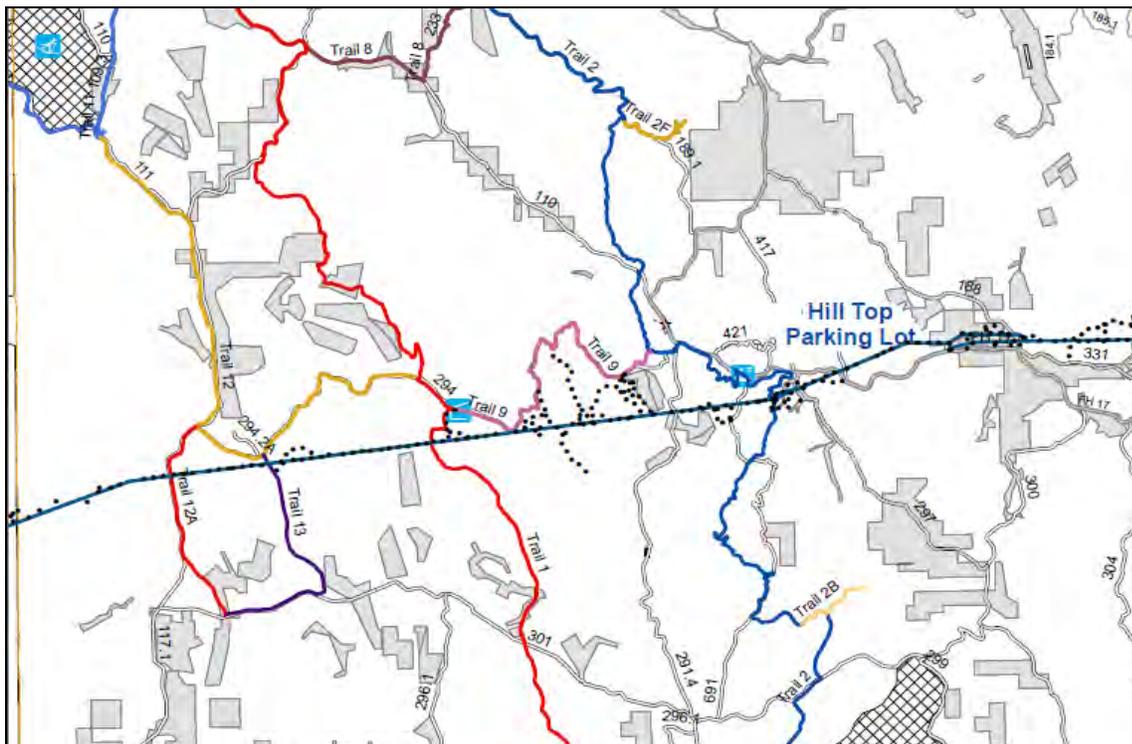
SDGFP. 2013. Peregrine falcon (*Falco peregrinus*) reintroduction in South Dakota. Final Report for State Wildlife Grant Project T-10-R-1, Amendment #5. SDGFP, Pierre.

SDGFP Website. Peregrine Falcon Recovery in Rapid City, SD.  
<http://gfp.sd.gov/wildlife/management/diversity/peregrine-falcon-recovery.aspx>

USFWS Wyoming Ecological Services Website. Raptor Buffers.  
[http://www.fws.gov/wyominges/pages/species/Species\\_SpeciesConcern/Raptors.html](http://www.fws.gov/wyominges/pages/species/Species_SpeciesConcern/Raptors.html)

Vierling, K. 2004. Report on woodpecker breeding in the Jasper Fire. Submitted to the USFS, February 19, 2004. SD School of Mines and Technology, Rapid City. 11pp.

**Figure 1.** Map of snowmobile trails (1, 2, 9, 12A and 13) west of Deerfield Reservoir that cannot be plowed December 1 – March 31.





**DEPARTMENT OF ENVIRONMENT  
and NATURAL RESOURCES**

JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
denr.sd.gov



29

July 16, 2014

Ruth Esperance  
Forest Service  
Mystic Ranger District  
8221 South Highway 16  
Rapid City, SD 57702

Dear Ms. Esperance:

The South Dakota Department of Environment and Natural Resources (DENR) reviewed the Black Hills Power Proposal and have the following comments.

1. Based on the information provided, the Air Quality Program does not anticipate any adverse impacts. The Air Quality Program has no objections to this project.
2. Based on the information provided, the department does not anticipate any adverse impacts to drinking waters of the state. The Drinking Water Program has no objections to this project.
3. The Waste Management Program does not anticipate any adverse impacts. Any construction debris needs to be disposed of at a permitted solid waste facility. Please contact the Waste Management Program if you have any questions on solid waste disposal at (605) 773-3153.
4. It is recommended that Best Management Practices (BMP) for sediment and erosion control be incorporated into the planning.
5. At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site. Any construction activity that disturbs an area of one or more acres of land must have authorization under the General Permit for Storm Water Discharges Associated with Construction Activities. Contact the Department of Environment and Natural Resources for additional information or guidance at 1-800-SDSTORM (737-8676) or <http://denr.sd.gov/des/sw/StormWaterandConstruction.aspx>.
6. Tributaries and wetlands are considered waters of the state and are protected under the South Dakota Surface Water Quality Standards. The discharge of pollutants from any source, including indiscriminate use of fill material, may not cause destruction or impairment of except where authorized under Sections 402 or 404 of the Federal Water Pollution Control Act. If these waters will be impacted, please contact the U.S. Army Corps of Engineers concerning these permits.

7. The South Dakota Department of Environment and Natural Resources (DENR) Ground Water Quality Program has reviewed the above-referenced project for potential impacts to ground water quality. Based on the information submitted in your memo, dated June 27, 2014, DENR does not anticipate adverse impacts to ground water quality by this project.

There have been numerous petroleum and other chemical releases throughout the state. Of the releases reported to the Department, we have identified no release cases in the vicinity of your project. Still, the locational information provided to us regarding releases is sometimes inaccurate or incomplete. If you would like to do more research regarding releases, information on releases reported in South Dakota may be obtained at the following website: [www.denr.sd.gov/des/gw/Spills/dbspillsearch.aspx](http://www.denr.sd.gov/des/gw/Spills/dbspillsearch.aspx).

In the event that contamination is encountered during construction activity or is caused by construction activity, Black Hills Power (BHP), or its designated representative, must report the contamination to DENR at 605-773-3296. Any contaminated soil encountered must be temporarily stockpiled and sampled to determine disposal requirements.

If you have any questions concerning these comments, please contact me at (605) 773-3351.

Sincerely,



John Miller  
Surface Water Quality Program

cc: Brad Schultz, Air Quality Program  
Mark Mayer, Drinking Water Program  
Vonni Kallemeyn, Waste Management Program  
Ryan Fitzpatrick, Ground Water Quality Program



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES  
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JUL 15 2014

6 FROM NEB 57702



22

Note: Comment was handwritten in light pencil, so it was retyped to aid in reading.

### Public Comment Form Black Hills National Forest

#### Teckla-Osage Rapid City Transmission Project Route Modifications

NAME: Steve Palmer, SDDOT

Steve Palmer, SDDOT  
P.O. Box 1970  
Rapid City, SD 57709  
605-394-1635

ADDRESS: P.O. Box 1970

Rapid City SD 57709

605-394-1635

- I have no comments, please keep me informed.
- Please remove me from your Teckla-Osage-Rapid City Transmission Project mailing list.
- I have the following comments about the Teckla-Osage-Rapid City Transmission Project Route Modifications:

SD 231 has a plan for a box culvert crossing SD 79  
(shown as SD 79 on map) near intersection with Hidden  
Valley Road. Suggest contacting them also.

Structures to be located outside SD 231 ROW

GCC Dacotah has plans for box culvert crossing SD 79  
(shown as SD 79 on map) near intersection with Hidden  
Valley Road. Suggest contacting them also.

Structures to be located outside SD 231 ROW

Return to: Ruth Esperance, District Ranger, Mystic Ranger District, Teckla-Osage-Rapid City Transmission Project , 8221 South Hwy 16, Rapid City, SD 57702 (Or fold, seal, and add a stamp to the back of the sheet).

RAPID CITY AREA OFFICE  
S.D. DEPT. OF TRANSPORTATION  
P.O. BOX 1970  
RAPID CITY, SD 57709-1970

RAPID CITY SD 577

20 JUL 2014 PM 1 T



RECEIVED

JUL 17 2014

Ruth Esperance, District Ranger  
Mystic Ranger District  
Teckla-Osage-Rapid City Transmission Project  
8221 South Highway 16  
Rapid City, SD 57702

5770268741





## WYOMING GAME AND FISH DEPARTMENT

5400 Bishop Blvd. Cheyenne, WY 82006

Phone: (307) 777-4600 Fax: (307) 777-4699

wgfd.wyo.gov

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CHARLES PRICE

---

January 30, 2014

WER 12221  
USDA Forest Service  
Black Hills National Forest, SD  
Thunder Basin National Grassland, WY  
Draft Environmental Impact Statement  
Teckla-Osage-Rapid City Transmission 230 kV Project  
Black Hills Power  
Campbell and Weston Counties

Ruth Esperance, District Ranger  
Mystic Ranger District  
Teckla-Osage-Rapid City Project  
8221 South Highway 16  
Rapid City, SD 57702

Dear Ms. Esperance:

The staff of the Wyoming Game and Fish Department (WGFD) has reviewed the Draft Environmental Impact Statement for the Teckla-Osage-Rapid City Transmission 230 kV Project submitted by Black Hills Power (BHP). We offer the following comments.

### **Terrestrial Considerations:**

The Teckla-Osage Rapid City 230K Transmission Line crosses designated sage-grouse core area. For any disturbance/activity within core the Governor's Sage Grouse Executive Order (SGEO) 2011-5 requires the Density/Disturbance Calculation Tool (DDCT) to be conducted. Since this project has not been evaluated using the current DDCT analysis under SGEO 2011-5, one should be completed. We also recommend updating the Greater Sage-Grouse Mitigation Plan to reflect Sage-Grouse Executive Order (SGEO) 2011-5. The original Greater Sage-grouse Development and Mitigation Plan, submitted by Black Hills Power, is based on SGEO 2010-4.

The WGFD appreciates efforts made by BHP to circumvent the Upton-Fairview and Oil City 2 leks by greater than 0.6 miles even though they are not located within sage-grouse core areas.

Power Line Construction Recommendations:

- Power lines and conductors should be constructed in accordance with raptor-safe design criteria as suggested in the following publication:

- Avian Power Line Interaction Committee (APLIC). 2006. Suggested practices for avian protection on power lines: The state of the art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.
- Avoid power line construction across waterways that are used as flight corridors by migratory waterfowl, and neo-tropical migrants.
- Avoid construction of overhead lines and other perch sites in occupied sharp-tailed grouse or sage-grouse habitat, especially within ¼ mile of leks, or within 0.6 mile in sage-grouse core areas. Where these structures must be built, or presently exist, locate along existing utility corridors or modify the structures to prevent perching raptors, where possible.
- Avoid construction activity within ½-mile to 1-mile of occupied raptor nests, depending on the species and site configuration. See table below:

<b>WGFD DISTURBANCE-FREE DATES AND BUFFERS FOR RAPTORS</b>		
<b>SPECIES</b>	<b>DISTURBANCE-FREE DATES</b>	<b>DISTURBANCE-FREE BUFFER</b>
Bald Eagle	February 15 – August 15	½ mile
Ferruginous Hawk	March 1 – July 31	1 mile
Golden Eagle	February 15 – July 31	½ mile
Merlin	April 1 – August 15	½ mile
Northern Goshawk	April 1 – August 15	½ mile
Peregrine Falcon	March 15 – August 15	½ mile
Prairie Falcon	March 1 – August 15	½ mile

Note: Disturbance-free dates include territory establishment through fledging.

Note: Additional considerations include line of sight, visibility, type of disturbance activity, location of disturbance above or below the occupied nest, and specific situations.

- Power line construction should be avoided within crucial habitats subject to the following seasonal stipulations (as applicable):
  - Big game winter range: November 15 - April 30.
  - Sage-grouse Non-Core Area, ¼-mile NSO buffer from lek perimeter: March 15 – June 30.
  - Sage-grouse Non-Core Area nesting/early brood-rearing, 2-mile buffer from lek perimeter or otherwise mapped: March 15-June 30.

Ruth Esperance

January 30, 2014

Page 3 of 5 - WER 12221.00

- Sage-grouse Core Areas; 0.6 mile NSO buffer from lek perimeter: March 15 – June 30.
  - Sage-grouse Core Areas nesting/early brood rearing, March 15-June 30.
  - Avoid human activity between 8 p.m. and 8 a.m. from March 1- May 15 within ¼ mile of the perimeter of occupied sage-grouse leks (0.6 mile in Core Areas)
  - Sharp-tailed grouse leks; ¼-mile NSO from lek perimeter buffer: March 15 - May 31.
  - Avoid human activity between 8 p.m. and 8 a.m. from March 15 – May 31 within ¼ mile of the perimeter of occupied sharp-tail grouse leks.
  - Sharp-tailed grouse nesting/early brood-rearing, 2-mile buffer from lek perimeter: April 1 – July 15.
- Power line right of ways can be actively managed to benefit some species of game animals and offer enhanced hunting opportunities. As such, a habitat management plan should be established for this power line right of way. The plan should be designed to keep this habitat, at the expense of the operator, in early to mid seral stages, while avoiding the establishment of noxious weeds and other undesirable plant species. This will prevent establishment of tall trees that could interfere with the line, while enhancing forage and cover for game animals.
  - Construction of roads should be minimized to the greatest extent possible, and roads needed only for construction should be obliterated and reseeded to avoid establishment of noxious weeds and other undesirable plant species. To minimize disturbance to wildlife and enhance habitat quality, retained roads should be effectively closed to public travel and only be open for future construction and service work, or administrative access.

### **Aquatic Considerations:**

To minimize impacts to the aquatic resources of nearby waterways, we recommend the following:

- Accepted best management practices be implemented to ensure that all sediments and other pollutants are contained within the boundaries of the work area. Disturbed areas that are contributing sediment to surface waters as a result of project activities should be promptly re-vegetated to maintain water quality.
- Equipment should be serviced and fueled away from streams and riparian areas. Equipment staging areas should be at least 300 feet from riparian areas.
- Preventing the spread of aquatic invasive species (AIS) is a priority for the State of Wyoming, and in many cases, the intentional or unintentional spread of organisms from one body of water to another would be considered a violation of State statute and

Wyoming Game and Fish Commission Regulation. To prevent the spread of AIS, the following is required:

If equipment has been used in a high risk infested water [a water known to contain Dreissenid mussels\* (zebra/quagga mussels)], the equipment must be inspected by an authorized aquatic invasive species inspector recognized by the state of Wyoming prior to its use in any Wyoming water.

Any equipment entering the State by land from March through November (regardless of where it was last used), must be inspected by an authorized aquatic invasive species inspector prior to its use in any Wyoming waters.

If aquatic invasive species are found, the equipment will need to be decontaminated by an authorized aquatic invasive species inspector.

Any time equipment is moved from one 4<sup>th</sup> level (8-digit) Hydrological Unit Code watershed to another within Wyoming, the following guidelines are recommended:

**DRAIN:** Drain all water from watercraft, gear, equipment, and tanks. Leave wet compartments open to dry.

**CLEAN:** Clean all plants, mud, and debris from vehicle, tanks, watercraft, and equipment.

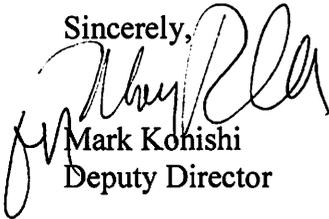
**DRY:** Dry everything thoroughly. In Wyoming, we recommend drying for 5 days in Summer (June - August); 18 days in Spring (March - May) and Fall (September - November); or 3 days in Winter (December - February) when temperatures are at or below freezing.

\*A list of high risk infested waters and locations in Wyoming to obtain an AIS inspection can be found at: [wgfd.wyo.gov](http://wgfd.wyo.gov)

Ruth Esperance  
January 30, 2014  
Page 5 of 5 - WER 12221.00

Thank you for the opportunity to comment. If you have any questions or concerns, please contact Rick Huber, Staff Aquatic Biologist, at 307-777-4558 or Linda Cope, Staff Terrestrial Biologist, at 307-777-2533.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Kohishi', written over the printed name and title.

Mark Kohishi  
Deputy Director

MK/mf/gb

cc: USFWS  
Paul Mavrakis, Sheridan Region  
Justin Binfet, WGFD - Sheridan Region  
Joe Sandrini, WGFD – Sheridan Region

**From:** Richard Currit [<mailto:richard.currit@wyo.gov>]  
**Sent:** Monday, February 03, 2014 8:47 AM  
**To:** FS-comments-rocky-mountain-black-hills-mystic  
**Cc:** Hilton, Michael R -FS  
**Subject:** Teckla-Osage-Rapid City Transmission Line Project DEIS

Dear Ms. Esperance,

Thank you for the opportunity to comment. Overall I found the Cultural Resources section of this DEIS to be well written, and therefore have only a couple of comments;

- Section 3.12.1.6 states, in part, that "In those cases where programmatic agreement stipulations may not apply, applicable cultural resources laws, rules, and directives will be followed". Given that the programmatic agreement (PA) will be the guiding Section 106 document for this undertaking I can't imagine a situation under which it's stipulations would not apply, particularly in the case of Field Survey. If it is felt that an alternative to the PA is needed, the default should be identified as 36 CFR Part 800.
- Section 3.12.3.2, 4th Paragraph. The second sentence discusses the "period of importance". This should be changed to "period of significance" in order to be consistent with National Park Service (NPS) guidance.
- Section 3.12.3.2, 4th Paragraph. The final sentence reads, in part, that "In cases where archaeological sites are considered significant because of the scientific data they contain rather than their setting...". This implies that setting may convey significance. I suggest that this be changed to read, in part, that "In cases where archaeological sites are considered significant because of the scientific data they contain, and setting is not a contributing aspect of integrity....".
- Section 3.12.3.2.2.1, Last Paragraph, The second sentence reads (emphasis added); "If the site is **continually** used ceremonially to maintain the identity of the tribe or group then it may be **considered** a TCP by the Native American tribe or group." There are two issues with this sentence that should be addressed. First, continuity of use is not a requirement for a site to be determined to be a TCP, and this concept is not found in NPS Bulletin 38, "Guidelines for Evaluating and Documenting Traditional Cultural Properties". Second, in order to be a TCP, a site needs to be eligible for, or listed in, the National Register or Historic Places (NRHP). Whether or not it is "considered" a TCP by any group is immaterial if it does not meet that criteria. These should be corrected.

Sincerely,

Richard L. Currit  
Senior Archaeologist  
Wyoming State Historic Preservation Office  
2301 Central Ave., Barrett Bldg. 3rd Floor  
Cheyenne, WY 82002  
307-777-5497

E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.

# WYOMING OFFICE OF STATE LANDS AND INVESTMENTS

122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002  
Phone: 307.777.7331  
Fax: 307.777.3524  
[slfmail@wyo.gov](mailto:slfmail@wyo.gov)



MATTHEW H. MEAD  
Governor

BRIDGET HILL  
Director

February 5, 2014

Ruth Esperance, District Ranger  
Mystic Ranger District  
Black Hills Power 230kV Transmission Line Project  
8221 South Highway 16  
Rapid City, SD 57702

Sent Via Email to: [comments-rocky-mountain-black-hills-mystic@fs.fed.us](mailto:comments-rocky-mountain-black-hills-mystic@fs.fed.us)

**Re: OSLI Project #2014-001  
Draft Environmental Impact Statement  
Black Hills Power 230kV Transmission Line Project**

To Whom It May Concern,

The staff of the Office of State Lands and Investments (OSLI) has reviewed the captioned document and offers the following comments relative to the proposed action insofar as it pertains to the mission of this office.

OSLI's goal is to effectively manage natural resources and funds for current and future generations. To that end, OSLI manages its assets for two key purposes consistent with traditional trust principles: (1) long term growth in value, and (2) optimum, sustainable revenue production. These principles guide both allocation of resources and land management practices.

Because the Board of Land Commissioners and OSLI are responsible for managing these trust assets for short- and long- term returns to the beneficiaries, we are quite interested in any action that could impact land use and/or development on state trust lands. As always, notwithstanding the federal NEPA process or federal approvals, the project proponent must comply with the Rules and Regulations adopted by the Board of Land Commissioners in accordance with W.S. § 36-2-107 and W.S. § 36-9-118, in the event that development occurs on, or it is necessary to traverse, state lands. In addition, the proponent will be required to comply with the Governor's Executive Order 2011-5, Greater Sage-Grouse Core Area Protection, if there is siting of any sort on state trust land.

State trust lands occupy a portion of land necessary for the proposed routes. The identified route appears to traverse 10.3 miles of state trust land. The two mile wide assessment area is estimated to contact 7,709 acres of trust parcels, although the actual acreage encumbered is significantly less.

Ruth Esperance, District Ranger  
Mystic Ranger District  
Black Hills Power 230kV Transmission Line Project  
February 5, 2014  
Page 2

The project proponent must procure an easement or special use lease, pursuant to Rules and Regulations of the Board of Land Commissioners and policies in place at the time of application. The Board does not offer perpetual easements. As a supplement to the current application forms, the proponent will be required to furnish satisfactory responses to the following requests upon initial submission to OSLI:

1. Description of all adjacent uses undertaken on the parcel in question and the surrounding parcels.
2. Description of opportunities to route the proposed easement within an existing easement or use.
3. Opportunity to reroute the proposed easement use off of state trust lands (and description of the effect on adjacent landowners, if any).

On April 8, 2011, the project proponent received a letter of concurrence from the Wyoming Game and Fish Department (WGFD) stating that "the project can move forward under the terms established" in the submitted Greater Sage-Grouse Mitigation and Development Plan. The document states that Modification 3a would avoid a Greater Sage-Grouse lek on private land and would have the same land use and management impacts as the Proposed Action, as well as no measurable difference in recreation resources as compared to the Proposed Action. In consideration of these factors, OSLI would support the implementation of Modification 3a to the Proposed Action.

OSLI generally prefers alignment of multiple rights-of-way to minimize impacts to trust land. However, existing easements or rights-of-way should not be considered an opportunity corridor. The exception to this is the Governor's designated Utility Corridor within Sage Grouse Core Areas.

We appreciate this opportunity to comment. If we may be of further assistance, please do not hesitate to contact this office.

Regards,



Bridget Hill  
Director

BH/sc/dt

CLERK OF COURT  
SANDRA WALFORD  
COUNTY ATTORNEY  
DONALD B. HANSEN  
COUNTY SHERIFF  
BRYAN COLVARD

COUNTY COMMISSIONERS  
LENARD D. SEELEY, CHAIRMAN  
RANDY ROSSMAN  
MARTY ERTMAN  
JERRY SHEPPERSON  
TRACY HUNT

COUNTY CLERK  
MAMIE C. KRANK  
COUNTY ASSESSOR  
TINA CONKLIN  
COUNTY TREASURER  
SUSAN OVERMAN

**COUNTY OF WESTON**  
1 WEST MAIN STREET  
NEWCASTLE, WYOMING 82701

February 4, 2014

United States Forest Service  
Attn: Ms. Ruth Esperance  
Mystic District Ranger  
8221 South Highway 16  
Rapid City, SD 57702

**RE: BHP Proposed T-O-RC Project 203kv power line**

Dear Ms. Esperance,

The subject of the Environmental Impact Statement (EIS) has been brought to the attention of the Weston County Board of Commissioners. We have not been notified by the USFS of this proposed power line, under the requirements of NEPA and Federal Laws the proposed Black Hills Power 230kv Teckla-Osage-Rapid City power line project requires the USFS to coordinate with local County governments including the Weston County Board of Commissioners.

It is our understanding that the USFS is the lead agency conducting the EIS for this project. We request an appropriate period extension to both the upcoming Draft EIS comment period timeline of February 10, 2014, and any final EIS decision date until Weston County, WY and its included municipalities can conduct our internal scoping of the potential impacts of the subject project.

We are also requesting that the appropriate USFS EIS representative and senior BHP Executive Manager attend a Commissioners Meeting as soon as possible to discuss this project and coordinate schedules. The Weston County Commissioners' meetings are held on the first and third Tuesday of each month beginning at 9:00 a.m. in the Courthouse located at 1 West Main, Newcastle, WY 82701.

Please respond with a written verification of this transmittal, to schedule a meeting with the Board of Commissioners and with your proposed plan for EIS date extensions.

Sincerely,



**WESTON COUNTY BOARD OF COMMISSIONERS**

Jerry Shepperson  
Vice Chairman

22

Public Comment Form  
Black Hills National Forest

Teckla-Osage Rapid City Transmission Project  
Route Modifications

NAME: CAMPBELL COUNTY CONSERVATION DISTRICT

ADDRESS: P. O. BOX 2577  
GILLETTE, WY 82716

- ( ) I have no comments, please keep me informed.
- ( ) Please remove me from your Teckla-Osage-Rapid City Transmission Project mailing list.
- () <sup>WE</sup> I have the following comments about the Teckla-Osage-Rapid City Transmission Project Route Modifications:

THE ROUTE OPTIONS NEAR DEERFIELD ROAD AND SUN RIDGE ROAD ARE  
NOT LOCATED WITHIN THE CAMPBELL COUNTY CONSERVATION DISTRICT, WE  
DO NOT HAVE ANY COMMENT OTHERWISE.

CAMPBELL COUNTY  
CONSERVATION DISTRICT  
P.O. Box 2577  
Gillette, Wyoming 82717

CASPER WY 820  
10 JUL 2014 PM 2 Y



RECEIVED

RUTH ESPERANCE DISTRICT RANGER  
MYSTIC RANGER DISTRICT USFS  
8221 SOUTH HIGHWAY 16  
RAPID CITY SD 57702  
ATTN: Teckla-Osage-Rapid City Project



## **APPENDIX B**

### **DESIGN CRITERIA, MITIGATION MEASURES, AND MONITORING**

# **Appendix B**

## **Design Criteria, Mitigation Measures, and Monitoring**

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Specific design criteria, mitigation measures, and monitoring procedures described herein have been developed to be used as part of the action alternatives. Certain federal, state, local, or other permits, approvals, cooperative agreements, memorandums of Understanding (MOUs), etc., will be necessary or required as part of implementing the Teckla Osage Rapid City (T-O-RC) Transmission Line Project (the Project) actions. The appropriate documentation would be developed prior to initiation of applicable actions.

Forest Service Manual and Handbook direction, Regional Watershed Conservation Practices (WCP, Forest Service Handbook 2509.25), Forest Plan standards and guidelines, South Dakota and Wyoming Best Management Practices, and other management requirements apply to the proposed activities. Management requirements such as applicable Forest Plan standards are repeated here only if clarification is required.

The design criteria, mitigation measures, and monitoring procedures that would be applicable to each resource area and, where applicable, that would be applicable for portions of the Project in South Dakota and Wyoming are described below. Because of the overlap of criteria and measures that would be applicable to multiple resources and both States, duplication and redundancy of the measures occurs to ensure they are accurately exhibited.

### **LAND USE AND LAND MANAGEMENT**

The following measures would be implemented to minimize impacts to land use and land management:

- If construction activities damage or destroy existing improvements, such improvements would be repaired or replaced to their condition prior to disturbance as agreed to by the parties involved.
- Fences and gates would be installed, or repaired and replaced to their original condition, as required by the land management agency or landowner if they are damaged or destroyed. Temporary gates would be installed only with the permission of the land management agency or landowner and would be restored to their original condition following construction.
- All existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line.
- Survey markers found in the ROW would be protected. Survey markers include, but are not limited to, Public Land Survey System line and corner markers, other property boundary line and corner markers, bearing trees and posts, and horizontal and vertical geodetic monuments.

### **MONITORING**

No monitoring requirements are applicable to land use / land management.

## **SOCIOECONOMICS**

BHP would pay private landowners, the USFS, and the BLM the fair market value, or another agreed-upon cost, for acquiring the needed ROW, reducing the amount of timber available for sale, and reducing the amount of land available for grazing.

## **MONITORING**

No monitoring requirements are applicable to socioeconomics.

## **HAZARDOUS MATERIALS**

BHP would train field personnel in spill prevention, control, and countermeasure procedures, and use totally enclosed containers to dispose of hazardous and non-hazardous waste. Hazardous materials would not be drained onto the ground or into streams or drainage areas. Additionally, BHP would ensure that hazardous and non-hazardous wastes are transported to facilities that are authorized to accept such wastes. Furthermore, should a hazardous material spill occur, all contaminated soil would be removed and disposed of properly.

## **MONITORING**

BHP would monitor Project activities to ensure that appropriate BMPs are implemented.

## **RECREATION**

The following measures would be incorporated into the project to minimize impacts to recreation:

- To reduce potential impacts on recreation values and safety, at highway, canyon, and trail crossings, poles would be placed at the maximum feasible distance from the crossing within limits of standard tower design.
- Existing improvements would be repaired or replaced if they are damaged or destroyed by construction activities to their condition prior to disturbance as agreed to by the parties involved.
- All existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line.
- Fences and gates would be installed, or repaired and replaced to their original condition prior to the Proposed Action's disturbance as required by the landowner or the land management agency if they are damaged or destroyed by construction activities. Temporary gates would be installed only with the permission of the landowner or the land management agency and would be restored to original condition prior to the Proposed Action's disturbance following construction.
- Any temporary fences and gates installed would be coordinated to allow movement for livestock, big game, recreation, fire protection, and mineral development, if feasible.

- Construction crews would not be permitted to use Redbank Spring Campground, which includes only four campsites.
- During construction activities, BHP would monitor Beaver Creek Campground and adjust its activities to limit indirect effects on this campground. Adjustments may include limiting construction crews to only one campsite and pumping the toilet vault more frequently.
- Construction would be avoided to the extent possible where the line crosses the Mickelson Trail during the "Trail Trek", a public event on the Mickelson Trail, to avoid impacting participants of the event.
- Snowmobile trails along the ROW would not be plowed from December 1 through March 31 unless needed to implement emergency repairs.

## **MONITORING**

No monitoring requirements are applicable to recreation.

## **RANGE / WEEDS / BOTANY**

The PDFs discussed in this section are measures that BHP would apply as a part of the Proposed Action. These measures, designed to avoid or reduce the impacts of the Proposed Action, are organized by resource topics.

### ***Common to Multiple Resources***

- The area limits of construction activities would be predetermined, with activity restricted to and confined within those limits. This area is generally limited to the existing ROW and other approved areas such as local routing options and staging areas.
- Mitigation measures developed during the consultation period under Section 7 of the Endangered Species Act (1973) as amended would be adhered to as specified by the USFS, U.S. Fish and Wildlife Service (USFWS), and National Oceanic and Atmospheric Administration (NOAA) fisheries.
- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- Prior to construction, all supervisory construction personnel would be instructed on the protection of ecological resources. To assist in this effort, the construction contract would address: (a) federal, state, and tribal laws regarding plants and wildlife; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources including specific mitigation measures.
- BMPs and SOPs would be implemented for herbicide application, soil protection, revegetation, and use of weed-free plant materials.
- Weed control methods that may negatively impact special status plants, snails, wetlands, or riparian areas would be avoided. Treat individual plants rather than broadcast application in areas where special status species occur. Control weeds at snail occurrences, but use herbicides when snails are not on the surface. Monitor weed treatments used at special status plant occurrences and retreat as needed during the season.

Appendix B  
Design Criteria, Mitigation Measures, and Monitoring

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- Two Biological Assessments have been prepared, one for South Dakota and one for Wyoming. One Biological Evaluation would be prepared, so that is combined for Black Hills National Forest (BHNF) and Thunder Basin National Grassland (TBNG).
- Ground disturbance would be prohibited within 500 feet of surface water and/or riparian areas unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation would occur prior to development.
- Riparian areas or wetlands where populations of sensitive species are located are to be avoided during ground disturbing activities. Use one or more of the following tied to the site-specific conditions for disturbances adjacent to known sensitive species occurrences:
  - a. Avoid removing riparian or wetland vegetation; filling or dredging the riparian area or wetland; diverting stream flow from the current channel.
  - b. Prevent storm runoff from washing silt into the stream or wetland.
  - c. Reseed and/or replant cut and fill slopes with native seed and/or native plants promptly to control erosion and for prevention of noxious-weed infestations. Use appropriate measures to control erosion on disturbed areas that are steep, are highly erosive, and/or adjacent to the riparian area.
  - d. Timing, placement, and installation of temporary stream diversions shall allow passage of aquatic life and protect sensitive and species of local concern.
- Where feasible, existing landscape features would be utilized to span the conductor over non-forested riparian wetlands to avoid cutting woody vegetation.

### **Range**

- Project construction activities would be coordinated with livestock permittees. Fences would be kept closed during construction if cattle are in the pasture. All gates would be kept closed while livestock are on the affected allotment and pastures(s), during the authorized grazing season. Any temporary fences and gates installed would be coordinated to allow movement for livestock, big game, recreation, fire protection, and mineral development, if feasible.
- Impacts to range improvement structures (i.e., gates, fences, spring developments, stock ponds, pipelines) would be avoided.
- Range improvement structures, if damaged by construction activities, would be repaired as soon as possible, if there are livestock on the affected allotment(s). If structures are damaged outside of the grazing season, they would be repaired before the start of next year's authorized livestock use on affected allotment(s).

### **Noxious Weeds**

- Noxious weeds include weeds designated as “noxious” by the states of South Dakota and Wyoming, and additional weed species designated for project counties, as applicable.
- Before ground-disturbing activities begin, inventory and prioritize weed infestations for treatment in project operating areas and along access routes. Identify what weeds are on site, or within reasonably expected potential invasion vicinity, and do a risk assessment accordingly. Control weeds as necessary.
- Prior to construction, a noxious weed, reclamation, and revegetation plan would be completed in consultation with the agencies to minimize the effects of noxious weeds and ground

Appendix B  
Design Criteria, Mitigation Measures, and Monitoring

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disturbance due to Proposed Action activities. The plan would address any required cleaning of construction vehicles, weed treatment protocols, and anything else to remain compliant with all involved agencies.

- A high-pressured washer would be used to clean construction equipment before it is used for the first time and before being used in each project county, as well as before equipment is moved from noxious weed infested areas to new work sites.
- Only herbicides approved by the USFS would be used. To protect avian endangered and threatened species, organochlorine pesticides would not be used as chemical agents.
- Best Management Practices and SOPs would be implemented for herbicide application, soil protection, revegetation, and use of weed-free plant materials.
- Initiate re-vegetation as soon as possible, not to exceed six months, after termination of ground-disturbing activities. Revegetate all disturbed soils with native species in seed/plant mixtures that are certified noxious-weed-free. On areas needing the immediate establishment of vegetation non-native, non-aggressive annuals (e.g., wheat, oats, rye), or sterile species may be used while native perennials are becoming established, or when native species are not available (e.g., during drought years or years when wildfire burns large acreages in the U.S.). Other aggressive non-native perennials (e.g., smooth brome, timothy) would not be used. Seed would be tested for noxious weeds. If mulches are used they are to be certified noxious-weed free. Weed-free alfalfa seed may be used only when native legume seed is not available and only when there is extensive disturbance associated with road construction or mine reclamation where topsoil is no longer available.
- Use certified noxious-weed-free seed, feed and mulch. Submit proof-of-purchase to appropriate land agency before using plant materials.
- Inspect, document, and treat weeds in all limited term ground-disturbing operations for at least three growing seasons following completion of the project.
- Inspect, document, and treat weeds in the proposed ROW and roads only used by BHP for life of the SUP.
- The approved seed/plant mixtures for the BHNF would be applied at the rate of 20 pounds per acre, and are stratified by zone and use to include the following:
  1. High elevation uplands: 25 percent slender wheatgrass (*Elymus trachycaulus*), 30 percent annual ryegrass (*Lolium multiflorum*), 10 percent Canada wildrye (*Elymus canadensis*), 10 percent Canby bluegrass (*Poa canbyi*), 20 percent green needlegrass (*Nassella viridula*), and five percent purple prairie clover (*Dalea purpurea*) or American vetch (*Vicia americana*).
  2. Low elevation uplands: 35 percent annual ryegrass (*Lolium multiflorum*), 25 percent slender wheatgrass (*Elymus trachycaulus*), 15 percent green needlegrass (*Nassella viridula*), five percent purple prairie clover (*Dalea purpurea*) or American vetch (*Vicia americana*), and 20 percent any combination of four warm season grasses, including blue grama (*Bouteloua gracilis*), switchgrass (*Panicum virgatum*), Indiangrass (*Sorghastrum nutans*), or sideoats grama (*Bouteloua curtipendula*).
  3. Mystic Mix is a sod-forming mix available at Warne Chemical in Rapid City that may be used in areas where regeneration of ponderosa pine is not desired, for example in utility corridors and road cuts. This includes 32 percent slender wheatgrass (*Elymus trachycaulus*), 22 percent western wheatgrass (*Agropyron smithii*), 26 percent annual ryegrass (*Lolium multiflorum*), five percent side oats grama (*Bouteloua curtipendula*), 10

percent green needlegrass (*Stipa viridula*), and five percent little bluestem (*Schizachyrium scoparium*).

### **Botany**

- Special status plant species include those species with any of the following status: federal Threatened or Endangered, USFS Region 2 Sensitive, BHNF Species of Local Concern, TBNG Species of Local Concern, BLM Newcastle Forest Office Sensitive, BHNF target species, or tracked by the State of South Dakota.
- Habitat suitability for special status plants would be assessed on all federal lands.
- Special status plants would be surveyed on the BHNF where there are suitable habitats that would have project-related ground disturbance and have not been surveyed within the past five to seven years. If habitat associated with special status plant species occurs on the TBNG and BLM Newcastle Forest Office, Black Hills Power would coordinate with these agencies whether special status plant surveys would be required. Surveys for special status plants would be conducted by qualified botanists to determine presence, absence, and habitat occupancy.
- Weed control methods that may negatively impact special status plants, snails, wetlands, or riparian areas would be avoided. Treat individual plants rather than broadcast application in areas where special status species occur. Control weeds at snail occurrences, but use herbicides when snails are not on the surface. Monitor weed treatments used at special status plant occurrences and retreat as needed during the season.
- Ground disturbance would not occur in occupied habitat for federal Threatened or Endangered plant species, Forest Service Sensitive species, BHNF Species of Local Concern, and BLM Sensitive species, or in Botanical Areas and Research Natural Areas. In the event that any surface disturbing activities would occur in the vicinity of federal Threatened or Endangered plant species, Forest Service Sensitive species, Species of Local Concern, or BLM Sensitive species, the USFS or BLM would be consulted to ensure minimal impact.
- Ground disturbance would be avoided to the extent possible within 50 feet of BHNF target plant species. BHNF target plant occurrences would be flagged to ensure that these “no disturbance” areas are visible to project personnel. If ground-disturbing activities cannot be avoided in these areas, a Forest Service botanist or biologist would be consulted to ensure minimal impact.
- The boundaries of sensitive plant populations would be delineated with clearly visible flagging or fencing based on surveys conducted prior to construction. In the event any special-status plants would require relocation, permission would be obtained from the USFS or BLM. If avoidance or relocation were not practical, the topsoil surrounding the plants would be salvaged, stored separately from subsoil and respread during the restoration process.
- Any special status species discovered after issuance of the permit would be appropriately managed by active coordination between Black Hills Power and the Forest Service or BLM. Solutions would be based on circumstances of the discovery and consider the species’ needs, contractual obligations and cost, and mitigation measures available at the time of discovery.
- New construction spur roads would be located out of riparian areas or wetlands, and avoided in white spruce habitat to the extent possible.

## TRANSPORTATION

BHP would adhere to the following design criteria:

- Locate road closure devices on the ground to provide the most effective means of accomplishing the desired travel management strategy. Devices include gates, barriers, slash, or other devices needed to prohibit or eliminate use;
- Use physical closures, such as slash, stumps, rocks, and revegetation to eliminate use. Use earthen barriers if there is not adequate material available for slash, stumps, or rock closures. This shall be done after activities to allow use of a road by BHP and their contractors;
- Relocate or construct roads out of draw bottoms and drainages to improve drainage and protect soil and water resources;
- Revegetate abandoned roadbeds and return them to as natural a state as possible;
- After construction is complete, return motorized trails and access roads to pre-construction conditions;
- Coordinate with BHNF hydrologist, fisheries biologist, silviculturist, and engineering staff for any road reconstruction or realignment along protected stream courses;
- Minimize the number of road stream crossings. Coordinate with BHNF fisheries biologist, hydrologist, and engineering staff for any unavoidable road stream crossings;
- Develop a construction plan, which would include method(s) of road construction, length and width of roads, curve radii, type of equipment, and method for maintenance;
- Install signage on project road/trails “closed to public access” to be maintained for the life of the project and constructed of Carsonite;
- Construct vehicle turnouts for traffic safety;
- Adhere to timing restrictions presented on the MVUM, based on project activities;
- In construction areas disturbance would be limited to overland travel where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access;
- All construction vehicle movement outside the ROW would be restricted to designated access, contractor-required access, or public roads; and
- During construction, appropriate traffic control measures that meet standards outlined in the *Manual of Uniform Traffic Control Devices* would be utilized for public safety. Prior notice would occur for any extended delays or road blockage.
- BHP would coordinate with USFS and BLM engineering staff to verify the access routes to show staff specialists the location and design of any planned road widening, relocation, realignment, and new construction to ensure that roads would not have additional adverse effects on resources. Changes may occur based on field review.
- BHP would also ensure that maintenance on all roads is current during use for power line access and construction for the life of the contract. Maintenance includes cleaning out silt from sediment collecting ponds and depositing it in upland locations, keeping silt fence upright and functioning by cleaning out any sediment collected in front of the silt fence and depositing it in upland locations, keeping all drainage structures clear and functional, eliminating erosion of cut and fill slope and roadway soils, maintaining vegetative buffers,

Appendix B  
Design Criteria, Mitigation Measures, and Monitoring

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encouraging revegetation, and blading road surfaces. Post use maintenance is also required by BHP or their contractors.

Additionally, BHP would implement the following mitigation measures:

- Protect water quality by implementing the BMPs;
- Revegetate and block temporary roads and closed roads when no longer needed;
- During periods of excessive wet weather, prohibit using roads to haul trees out of the area and to prevent deterioration of roads;
- Keep all trails, roads, ditches, and other improvements free of logs, slash, and debris;
- Promptly repair any road, trail, or improvement damaged by operations;
- After power line construction is complete, return roads and trails to suitable conditions;
- Protect and improve roads and trails where soil and water resource damage occurs or is likely to occur;
- Apply native seed mixture as soon as practical, to road cut and fill slopes and other areas disturbed during construction activities. Seed mixture specifications shall be supplied by the USFS; and
- Train field personnel in spill prevention, control, and countermeasure procedures, and use totally enclosed containers to dispose of hazardous and non-hazardous waste. Hazardous materials would not be drained onto the ground or into streams or drainage areas. Additionally, BHP would ensure that hazardous and non-hazardous wastes are transported to facilities that are authorized to accept such wastes. Furthermore, should a hazardous material spill occur, all contaminated soil would be removed and disposed of properly.

## MONITORING

BHP would coordinate with USFS and BLM personnel to conduct site inspections and verify that road maintenance, reconstruction, and new construction activities meet contract specifications. The inspections would include measurements to determine physical effects, success of natural and enhanced revegetation, and to ensure traffic safety and compliance with state and federal laws.

BHP would adhere to USFS Road Damage Guidelines to limit soil movement and road damage during hauling activities (Road Damage Guidelines are found in USDA-FSH, 2409.15 – Timber Sale Administration Handbook, Chapter 50, Specified Transportation Facilities, Black Hills Supplement No. 2409.15-92-1).

## SCENERY

Project design features (PDFs) and mitigation measures relevant to scenery resources and common to several resources include the following:

- In construction areas where recontouring is not required, disturbance would be limited to overland travel where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.

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- To reduce visual contrast and reduce siltation in construction areas (e.g., marshaling yards, tower sites, spur roads from existing access roads) where ground disturbance is substantial, surface preparation (including decompaction, redistribution of topsoil, etc.), redistribution of coarse woody debris, and reseeded would occur. The method of restoration could normally consist of loosening the soil surface, reseeded, installing cross drains for erosion control, placing water bars in the road, and filling ditches. BHP may prepare a revegetation plan in consultation with the USFS and BLM. The plan would specify disturbance types and their appropriate revegetation techniques to be applied for all Proposed Action work areas, access roads, and all sidecast materials. Techniques could include reseeded native or other acceptable vegetation species. The plan would include management and maintenance procedures approved by the USFS and BLM for ongoing use of access roads and temporary work areas.
- To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any cross-country route would follow the landform contours in designated areas where practicable, providing that such alignment does not impact other resources.
- In construction areas where recontouring is not required, no grading would occur to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access. Restoration could include reseeded (if required). Methods would be detailed in the USFS-and BLM approved Revegetation Plan.
- To reduce potential impacts on recreation values and safety, at highway, canyon, and trail crossings, poles are to be placed at the maximum feasible distance from the crossing within limits of standard tower design.
- The area limits of construction activities would be predetermined, with activity restricted to and confined within those limits. This area is generally limited to the existing ROW and other approved areas such as local routing options and staging areas.
- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.

PDFs specific to scenery resources include the following:

- No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity. Exceptions could be made for paint use on vegetation to mark avoidance of sensitive species or plants considered to have ethnobotanic significance.
- To reduce visual contrast in designated areas, poles would be placed so as to avoid impacts to sensitive viewpoints within limits of standard pole design. If the sensitive features cannot be completely avoided, poles would be placed so as to minimize the disturbance by spanning the sensitive area. Similarly, to reduce visual impacts, poles are to be placed at the maximum feasible distance from the crossing of roads or trails within limits of standard tower design.

Mitigation measures specific to scenery resources include the following:

- All steel structures shall be treated to have a dulled finish.
- To reduce visual contrast, tree removal within the ROW would be limited to the minimum required area that is necessary to meet Federal Energy Regulatory Commission (FERC) Standards, to ensure proper clearances and safe operation, and to provide safe access for construction, line inspection and maintenance operations.

- To reduce potential impacts on scenery and reduce visual contrast, preserve low growing shrub vegetation up to five feet in height in areas within the ROW where clearing is not necessary for proper clearances, safe operation and safe access for construction, line inspection, and maintenance operations.
- To reduce potential impacts on scenery and reduce visual contrast in the residential area along SD Hwy 44 in the Hisega area and in the area of concentrated recreation activity east of Pactola Reservoir where high impacts to sensitive viewers would occur, preserve low growing trees and shrubs up to 25-feet in height in areas within the ROW, but outside the conductor path and where clearing is not necessary for proper clearances, safe operation and safe access for construction, line inspection, and maintenance operations.
  1. This includes the following locations: South Dakota portion of the Proposed Action, mile 29.1 to 31.6; mile 31.8 to 31.9; mile 32.0 to 32.8; mile 33.9 to 34.4; and mile 34.5 to 37.0.

## MONITORING

No monitoring requirements are applicable to scenery / visual resources.

## WILDLIFE

The following PDFs and mitigation measures would be implemented under Alternatives 2 and 3 to minimize or eliminate potential impacts to wildlife and botanical resources throughout construction areas. These PDFs and mitigation measures would be universally applied to the entire length of the proposed ROW and associated transmission line. Species specific mitigation measures designed to minimize or eliminate potential impacts to a particular species are largely based on Standards and Guidelines identified in TBNG and BBNF LRMPs.

## South Dakota

### ***Common to Multiple Resources***

- The area limits of construction activities would be predetermined, with activity restricted to and confined within those limits. This area is generally limited to the existing ROW and other approved areas such as local routing options and staging areas.
- Mitigation measures developed during the consultation period under Section 7 of the Endangered Species Act (1973) as amended would be adhered to as specified by the USFS, USFWS, and NOAA fisheries. *Will ensure the Alternatives 2 or 3 complies with FSM 2670:*
- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- Prior to construction, all supervisory construction personnel would be instructed on the protection of ecological resources. To assist in this effort, the construction contract would address: (a) federal, state, and tribal laws regarding plants and wildlife; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources including specific mitigation measures.

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- BMPs and SOPs would be implemented for herbicide application, soil protection, revegetation, and use of weed-free plant materials. *Will ensure Alternatives 2 or 3 complies with FSMs 2150 and 2900.*
- Weed control methods that may negatively impact special status plants, snails, wetlands, or riparian areas would be avoided. Treat individual plants rather than broadcast application in areas where special status species occur. Control weeds at snail occurrences, but use herbicides when snails are not on the surface. Monitor weed treatments used at special status plant occurrences and retreat as needed during the season. *Will ensure Alternatives 2 or 3 complies with BHNF Standards 3103 and 8.2-2104, Guideline 4304, and Noxious Weed Management Plan.*
- Ground disturbance would be prohibited within 500 feet of surface water and/or riparian areas unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation would occur prior to development. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 3104 and 3106 and BHNF Guidelines 4111 and 9204.*
- Riparian areas or wetlands where populations of sensitive species are located are to be avoided during ground disturbing activities. Use one or more of the following tied to the site-specific conditions for disturbances adjacent to known sensitive species occurrences:
  1. Avoid removing riparian or wetland vegetation; filling or dredging the riparian area or wetland; diverting stream flow from the current channel.
  2. Prevent storm runoff from washing silt into the stream or wetland.
  3. Reseed and/or replant cut and fill slopes with native seed and/or native plants promptly to control erosion and for prevention of noxious-weed infestations. Use appropriate measures to control erosion on disturbed areas that are steep, are highly erosive, and/or adjacent to the riparian area.
  4. Timing, placement, and installation of temporary stream diversions shall allow passage of aquatic life and protect sensitive and species of local concern. *Will ensure Alternatives 2 or 3 complies with BHNF Standards 3103, 3106, and 8.2-2104.*
- Where feasible, existing landscape features would be utilized to span the conductor over non-forested riparian wetlands to avoid cutting woody vegetation.
- In construction areas where recontouring is not required, disturbance would be limited to overland travel where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.
- To reduce visual contrast and reduce siltation in construction areas (e.g., marshaling yards, tower sites, spur roads from existing access roads) where ground disturbance is substantial, surface preparation (including decompaction, redistribution of topsoil, etc.), redistribution of coarse woody debris, and reseeding would occur. The method of restoration could normally consist of loosening the soil surface, reseeding, installing cross drains for erosion control, placing water bars in the road, and filling ditches. BHP may prepare a revegetation plan in consultation with the USFS. The plan would specify disturbance types and their appropriate revegetation techniques to be applied for all Proposed Action work areas, access roads, and all side cast materials. Techniques could include reseeding native or other acceptable vegetation species. The plan would include management and maintenance procedures approved by the USFS for ongoing use of access roads and temporary work areas.
- To minimize the amount of sensitive features disturbed in designated areas, poles would be placed so as to avoid sensitive features such as, but not limited to, riparian areas, cultural

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resource sites of significance, and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design. If the sensitive features cannot be completely avoided, poles would be placed so as to minimize the disturbance. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 3104 and 3106 and BHNF Guidelines 4111 and 9204.*

- Erosion and sediment control measures would conform to applicable federal and state regulations.
- In construction areas disturbance would be limited to overland travel where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.
- All Threatened, Endangered, Proposed, and Region 2 Sensitive species or species of concern located after contract or permit issuance would be appropriately managed by active coordination between permittee, contractor or purchaser, Forest Service line officer, project administrator, and biologist and/or botanist. Solutions need to be based on the circumstances of each new discovery and must consider the species need, contractual obligations and costs, and mitigation measures available at the time of discovery. Within contracts, provide protective clauses that would allow short-term sensitive species habitat protection and or mitigation measures such as seasonal or other restrictions (e.g., March 1 – October 30 that may be required to mitigate direct effects on newly discovered TESP and SOLC species. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 3115. Will ensure Alternatives 2 or 3 complies with FSM 2670.*

Protect heron colonies and osprey nests. Consider potential effects of disturbance, nesting phenology, human activities at onset of nest initiation, topography, forest cover, nest protection standards, and recommendations used by state or federal agencies and other appropriate factors when designing protection. Discourage human disturbance within 0.25 miles of heron colonies from March 1 through August 1. Coordinate project activities with SDGFP and FS district wildlife biologists if working near heron colonies. *Will ensure Alternatives 2 or 3 complies with BHNF Objective 218.*

### **Noxious Weeds**

- Noxious weeds include weeds designated as “noxious” by the states of South Dakota and Wyoming, and additional weed species designated for project counties, as applicable. *Will ensure Alternatives 2 or 3 complies with state law in South Dakota and Wyoming.*
- Before ground-disturbing activities begin, inventory and prioritize weed infestations for treatment in project operating areas and along access routes. Identify what weeds are on site, or within reasonably expected potential invasion vicinity, and do a risk assessment accordingly. Control weeds as necessary. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 4301.*
- Prior to construction, a Noxious Weed, Reclamation, and Revegetation Plan would be completed in consultation with the agencies to minimize the effects of noxious weeds and ground disturbance due to proposed project activities. The plan would address any required cleaning of construction vehicles, weed treatment protocols, and anything else to remain compliant with all involved agencies. *Will ensure Alternatives 2 or 3 complies with FSM 2900. Will ensure Alternatives 2 or 3 complies with BHNF Standard 3106 and Objective 231, and Noxious Weed Management Plan.*
- A high-pressured washer would be used to clean construction equipment before it is used for the first time and before being used in each project county, as well as before equipment is moved from noxious weed infested areas to new work sites. *Will ensure Alternatives 2 or 3*

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*complies with FSM 2900. Will ensure Alternatives 2 or 3 complies with BHNF Objective 231 and Noxious Weed Management Plan.*

- Only herbicides approved by the USFS would be used. To protect avian endangered and threatened species, organochlorine pesticides would not be used as chemical agents. *Will ensure Alternatives 2 or 3 complies with FSM 4500.*
- As part of the Noxious Weed and Rehabilitation Plan, incorporate measures that would reduce the introduction and/or translocation aquatic nuisance species identified in the BHNF Aquatic Nuisance Action Plan (USFS 2009). Measures should be taken to reduce the pathways of spread of these species. Mitigation measures should include designated water sources, decontamination of equipment (prior to construction and during construction) and staging area locations in relation to water sources. *Will ensure Alternatives 2 or 3 complies with FSM 2900. Will ensure Alternatives 2 or 3 complies with BHNF Standard 3106.*
- Initiate re-vegetation as soon as possible, not to exceed six months, after termination of ground-disturbing activities. Revegetate all disturbed soils with native species in seed/plant mixtures that are certified noxious-weed-free. On areas needing the immediate establishment of vegetation non-native, non-aggressive annuals (e.g., wheat, oats, rye), or sterile species may be used while native perennials are becoming established, or when native species are not available (e.g., during drought years or years when wildfire burns large acreages in the U.S.). Other aggressive non-native perennials (e.g., smooth brome, timothy) would not be used. Seed would be tested for noxious weeds. If mulches are used they are to be certified noxious-weed free. Weed-free alfalfa seed may be used only when native legume seed is not available and only when there is extensive disturbance associated with road construction or mine reclamation where topsoil is no longer available. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 1110, Guideline 8402, Objective 231, and Noxious Weed Management Plan.*
- Use certified noxious-weed-free seed, feed and mulch. Submit proof-of-purchase to appropriate land agency before using plant materials. *Will ensure Alternatives 2 or 3 complies with FSM 2900. Will ensure Alternatives 2 or 3 complies with BHNF Standard 4306 and Noxious Weed Management Plan.*
- Inspect, document, and treat weeds in all limited term ground-disturbing operations for at least three growing seasons following completion of the project. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 2.2-4201 and Objective 231.*
- Inspect, document, and treat weeds in the proposed ROW and roads only used by BHP for life of the SUP. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 2.2-4201 and Objective 231.*
- The approved seed/plant mixtures for the BHNF would be applied at the rate of 20 pounds per acre, and are stratified by zone and use to include the following (*Will ensure Alternatives 2 or 3 complies with BHNF Approved Seed Mixes (M. Vedder, 2012, personal communication)*):
  1. High elevation uplands: 25 percent slender wheatgrass (*Elymus trachycaulus*), 30 percent annual ryegrass (*Lolium multiflorum*), 10 percent Canada wildrye (*Elymus canadensis*), 10 percent Canby bluegrass (*Poa canbyi*), 20 percent green needlegrass (*Nassella viridula*), and five percent purple prairie clover (*Dalea purpurea*) or American vetch (*Vicia americana*).
  2. Low elevation uplands: 35 percent annual ryegrass (*Lolium multiflorum*), 25 percent slender wheatgrass (*Elymus trachycaulus*), 15 percent green needlegrass (*Nassella viridula*), five percent purple prairie clover (*Dalea purpurea*) or American vetch

(*Vicia americana*), and 20 percent any combination of four warm season grasses, including blue grama (*Bouteloua gracilis*), switchgrass (*Panicum virgatum*), Indiangrass (*Sorghastrum nutans*), or sideoats grama (*Bouteloua curtipendula*).

3. Mystic Mix is a sod-forming mix that may be used in areas where regeneration of ponderosa pine is not desired, for example in utility corridors and road cuts. This includes 32 percent slender wheatgrass (*Elymus trachycaulus*), 22 percent western wheatgrass (*Agropyron smithii*), 26 percent annual ryegrass (*Lolium multiflorum*), five percent side oats grama (*Bouteloua curtipendula*), 10 percent green needlegrass (*Stipa viridula*), and five percent little bluestem (*Schizachyrium scoparium*).

## **Botany**

- Habitat suitability for special status plants would be assessed on all federal lands. *Will ensure the Proposed Action complies with BHNF request (K. Owens, 2012, personal communication).*
- Special status plants would be surveyed on the BHNF where there are suitable habitats that would have project-related ground disturbance and have not been surveyed within the past five to seven years. If habitat associated with special status plant species occurs on the TBNG and BLM Newcastle Forest Office, Black Hills Power would coordinate with these agencies whether special status plant surveys would be required. Surveys for special status plants would be conducted by qualified botanists to determine presence, absence, and habitat occupancy.
- Ground disturbance would not occur in occupied habitat for federal Threatened or Endangered plant species, Forest Service Sensitive species, BHNF Species of Local Concern, and BLM Sensitive species, or in Botanical Areas and Research Natural Areas. In the event that any surface disturbing activities would occur in the vicinity of federal Threatened or Endangered plant species, Forest Service Sensitive species, Species of Local Concern, or BLM Sensitive species, the USFS or BLM would be consulted to ensure minimal impact. *Will ensure the Proposed Action complies with BHNF Standard 8.2-2104.*
- Ground disturbance would be avoided to the extent possible within 50 feet of BHNF target plant species. BHNF target plant occurrences would be flagged to ensure that these “no disturbance” areas are visible to project personnel. If ground-disturbing activities cannot be avoided in these areas, a Forest Service botanist or biologist would be consulted to ensure minimal impact. *Will ensure the Proposed Action complies with BHNF request (K. Owens, 2012, personal communication).*
- The boundaries of sensitive plant populations would be delineated with clearly visible flagging or fencing based on surveys conducted prior to construction. In the event any special-status plants would require relocation, permission would be obtained from the USFS or BLM. If avoidance or relocation were not practical, the topsoil surrounding the plants would be salvaged, stored separately from subsoil and respread during the restoration process.
- Any special status species discovered after issuance of the permit would be appropriately managed by active coordination between Black Hills Power and the Forest Service or BLM. Solutions would be based on circumstances of the discovery and consider the species’ needs, contractual obligations and cost, and mitigation measures available at the time of discovery. *Will ensure the Proposed Action complies with BHNF Standard 3115.*

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- New construction spur roads would be located out of riparian areas or wetlands, and avoided in white spruce habitat to the extent possible. *Will ensure the Proposed Action complies with BHNF request (K. Owens, 2012b, personal communication).*

### **Wildlife**

- All waste products and food garbage from construction sites would be deposited in a covered waste receptacle, or removed daily. Garbage would be hauled to a suitable disposal facility.
- No holes or pits would be left open overnight or when the site is not manned to prevent inadvertently trapping or injuring wildlife.
- All construction and maintenance activities would be conducted in a manner that would minimize disturbance to drainage channels and stream banks.
- All construction vehicle movement outside the ROW would be restricted to designated access, contractor-acquired access, or public roads.
- Hazardous materials would not be drained onto the ground or into streams or drainage areas. Totally enclosed containment would be provided for all hazardous materials trash.
- The transmission line would be constructed according to Avian Power Line Interaction Committee (APLIC 2006, 2012) standards and USFWS recommendations to reduce the risk of electrocution to raptors, bats, and other large birds. *Will ensure Alternatives 2 or 3 complies with BHNF Standards 8308 and 8309.*
- BHP would prepare an Avian and Bat Protection Plan which would include monitoring for collision mortalities. Bird flight diverters would be installed if areas of high mortality are identified during monitoring.
- The Action Alternatives would comply with current recommended raptor and bat protection guidelines (APLIC/USFWS) to reduce the potential for raptor collision and electrocution.

### **BHNF Sensitive, SOLC, MIS Wildlife**

- In Management Area (MA) 5.4, limit the amount of disturbance from construction and maintenance activities during the winter periods (December 15 through May 15). BHNF personnel would be contacted prior to any winter construction in MA 5.4 regarding the implementation of seasonal restriction. Maintain current seasonal closures, limiting use of access routes by the public during the winter months following the current BHNF Motorized Vehicle Use Map. *Will ensure Alternatives 2 or 3 complies with BHNF Goal 2, Objective 238a, Standard 2101, Standard 3102, and Standard 9101.*
- Construction and maintenance activities in Rocky Mountain bighorn sheep lambing areas would be restricted from April 1 through June 15. Activities may also include road work, noxious weed treatment and on the ground personnel (e.g., layout, saw crews). Coordinate with the SDGFP to determine acceptable management activities, length of timing restriction and the size of area to be avoided. *Will ensure the Proposed Action complies with BHNF Standard 3216.*
- Helicopter flight paths should avoid known high use areas of bighorn sheep identified by the SDGFP department. Timing restrictions are required to reduce the negative effects of bighorn sheep movement. Coordinate with the SDGFP to determine the length of timing restriction

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and the size of area to be avoided. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 5.4-9101.*

- Prior to construction, coordinate with SDGFP and FS biologist to identify known raptor nests in the analysis area. Nests would be avoided while active. Timing and disturbance buffers would be maintained around identified raptor nests using USFWS-recommended spatial and temporal buffers for construction-related activities (USFWS 2012). The distance may be reduced where forest characteristics or topography reduce the line-of-site distance from the nest, based on site-specific analysis. Similarly, timing and disturbance buffers would be maintained around Bald Eagle winter roost areas, in season (Table W1). Consultation with SDGFP and FS biologist would be conducted prior to implementing changes in timing and disturbance buffers. New nests, signs of nest building, or where raptors are defensive (attacking) would be immediately reported to the FS wildlife biologist and SDGFP prior to commencement of work. BHP would work with the SDGFP and FS biologist to help mitigate the effects on the species based on Standard 3204. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 3204.*
- Permanently avoid known Bald Eagle nests by 660 feet if structures would be visible from existing nest, and 330 feet if structures would not be visible from existing nest, as per the USFWS National Bald Eagle Management Guidelines (USFWS 2007c). *Will ensure Alternatives 2 or 3 complies with BHNF Standard 3101 and the BGEPA.*
- BHP personnel would consult with SDGFP prior to and during construction in order to identify if Peregrine Falcon nesting is known with areas of proposed activity. Each situation would be evaluated for extra precautions to avoid disturbing this SD state endangered species and impacting nesting success to this recovering species.

**TABLE W1  
DISTURBANCE BUFFERS AND TIMING RESTRICTIONS ON RAPTOR AND OTHER NESTS  
IN SOUTH DAKOTA**

SPECIES	NEST		WINTER ROOST	
	DISTANCE (MILES)	DATES	DISTANCE (MILES)	DATES
Bald Eagle	1.0	2/1 – 9/1	1.0	11/1 - 4/1
Northern Goshawk <sup>1</sup>	0.5	4/1 – 8/15		
Cooper's Hawk <sup>2</sup>	0.25	4/1 – 8/31		
Sharp-shinned Hawk <sup>2</sup>	0.25	4/15 – 8/31		
Peregrine Falcon <sup>2</sup>	1	3/15 – 8/31		
Broad-winged Hawk <sup>2</sup>	0.25	4/15 – 8/15		
Northern Harrier <sup>2</sup>	0.25	4/15 – 8/31		
Flammulated Owl <sup>2</sup>	0.25	4/1 – 9/30		
Northern Saw-whet Owl <sup>2</sup>	0.125	4/1 – 8/31		
Burrowing Owl	0.25	4/15 – 8/31		
Osprey <sup>3</sup>	0.25	3/25-8/31		
Great Blue Heron <sup>4</sup>	0.25	3/1 – 8/1		

<sup>1</sup>Source: USFS 2005

<sup>2</sup>Source: USFWS 2012

<sup>3</sup>Source: SDGFP

<sup>4</sup>Source: Vermont Fish and Wildlife 2002)

\*Dates may vary depending on the species

- With the exception of emergency repair situations, any construction, restoration, maintenance, and termination activities in identified sensitive areas would be modified or

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curtailed during sensitive periods (e.g., nesting, breeding, hibernation) for candidate, proposed, threatened, and endangered, or other sensitive species. If emergency repair situations impact sensitive areas, BHP or other entities need to contact the SDGFP and the FS wildlife biologist as soon as possible. For all non-emergency activities, consult with the SDGFP and/or FS biologist in advance of construction or maintenance activities to approve activities and timeframes in identified sensitive areas.

- Species specific mitigation measures to protect nesting Northern Goshawks, including retaining at least 180 acres of suitable nesting habitat around historically active nests, and avoidance of construction activities within one-half mile of active Northern Goshawk nests from April 1 through August 15. No roads or temporary roads should be constructed, converted, reconstructed within an active goshawk nest stand (e.g., 30-40 acres). Use of roads or skidding may occur outside of timing restrictions using existing trails/roads. Prohibit decking of logs or large slash piles within known goshawk nest stand (30-40 acres). Timing restrictions would apply to all management activities (e.g., layout, road use, skidding) unless determined by a FS wildlife biologist. *Will ensure Alternatives 2 or 3 complies with BHNF Standard 3108 and BHNF Standard 3111.*
- No structures, access roads, or overland travel access paths would be placed through Black Tailed Prairie Dog (BTPD) colonies. *Would ensure the Proposed Action complies with BHNF Standard 3121.*
- Where caves or abandoned mines serve as nurseries or hibernacula for bats, vegetative changes within 500 feet of the opening would be avoided unless topography or other features protect the openings from disturbance. *Will ensure the Proposed Action complies with BHNF Standard 3102 and BHNF Standard 3207.*
- Design of all access road crossings of permanent or intermittent water bodies to allow aquatic species, including USFS Sensitive fish species, to pass through unimpeded. *Will ensure the Proposed Action complies with BHNF Standard 1203 and BHNF Standard 3106.*
- Avoid placing slash piles in meadows and grasslands. If unavoidable, slash piles and log deck areas should be placed on the edges of these meadows and grasslands. *Will ensure the Proposed Action complies with BHNF Guidelines 4111 and 9204.*
- New roads and temporary roads should avoid being placed within meadows or grasslands. If topography is constraining, roads/trails should be placed as far as possible from meadow edge and avoid bisecting meadow/grassland. *Will ensure the Proposed Action complies with BHNF Guidelines 4111 and 9204.*
- No known Black Hills red-bellied snake hibernacula occur within the South Dakota Sensitive Species Analysis Area. Should a previously unidentified hibernacula be identified, the Proposed Action would communicate with the appropriate BHNF personnel to reduce potential impacts to Black Hills red-bellied snake. *Will ensure the Proposed Action complies with BHNF Standard 3116.*
- *Report any mine entrances, caves, or dead bats discovered during project implementation to FS wildlife biologists.*

#### *Monitoring*

- BHP would be responsible for monitoring of the effectiveness of the transmission line design in preventing bird and bat mortality, as part of the T-O-RC Transmission Line Project's Avian and Bat Protection Plan. This includes training field personnel on bird identification, procedures for reporting mortalities, recognizing potential avian and bat hazards, and

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company procedures to prevent additional bird and mortalities. Reporting under the Bird and Bat Conservation Strategy should include contacting both the USFWS and the SDGFP permit offices.

- BHP would be responsible for annual surveys of their line. Any raptor nest found on the line would be reported to the SDGFP permit office and or FS biologist prior to taking actions to correct any power line issues. Coordinate with the FS and the SDGFP to determine appropriate actions to ensure the protection of the affected wildlife species while providing power to the public.
- Monitoring of specific wildlife use sites (e.g., nests, hibernacula) would be coordinated between the USFWS, SDGFP, and FS, where applicable.
- During other non-project related field surveys, any wildlife species found dead or injured as a result of the transmission line would be reported to the appropriate agency and to BHP, as soon as possible. This would allow BHP to rectify any power line hazards that may have caused the mortality.

## Wyoming

The following Project Design Features (PDF) and mitigation measures would be implemented as part of the Proposed Action to minimize or eliminate potential impacts to wildlife and botanical resources throughout construction areas. These PDFs and mitigation measures would be universally applied to the entire length of the Proposed Action. Species-specific mitigation measures designed to minimize or eliminate potential impacts to a particular species are largely based on Standards and Guidelines identified in TBNG and BHNH LRMPs.

### ***Common to Multiple Resources***

- The area limits of construction activities would be predetermined, with activity restricted to and confined within those limits. This area is generally limited to the existing ROW and other approved areas such as local routing options and staging areas.
- Mitigation measures developed during the consultation period under Section 7 of the Endangered Species Act (1973) as amended would be adhered to as specified by the USFS, USFWS, and NOAA fisheries. *Will ensure the Proposed Action complies with FSM 2670.*
- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- Prior to construction, all supervisory construction personnel would be instructed on the protection of ecological resources. To assist in this effort, the construction contract would address: (a) federal, state, and tribal laws regarding plants and wildlife; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources including specific mitigation measures.
- Best Management Practices (BMPs) and Standard Operating Procedures (SOPs) would be implemented for herbicide application, soil protection, revegetation, and use of weed-free plant materials. *Will ensure the Proposed Action complies with FSMs 2150 and 2900. Will ensure the Proposed Action complies with TBNG Standards 1.J.2 and 5*

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- Weed control methods that may negatively impact special status plants, snails, wetlands, or riparian areas would be avoided. Treat individual plants rather than broadcast application in areas where special status species occur. Control weeds at snail occurrences, but use herbicides when snails are not on the surface. Monitor weed treatments used at special status plant occurrences and retreat as needed during the season. *Will ensure the Proposed Action complies with TBNG Guidelines 1.F.38 and 1.J.10.*
- Ground disturbance would be prohibited within 500 feet of surface water and/or riparian areas unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation would occur prior to development. *Will ensure the Proposed Action complies with TBNG Standard 1.B. 3, 4, 5, 6, 10, 13, and 14, 1.F.44, 45, and Guideline 1.F.8, and 43.*
- Riparian areas or wetlands where populations of sensitive species are located are to be avoided during ground disturbing activities. Use one or more of the following tied to the site-specific conditions for disturbances adjacent to known sensitive species occurrences:
  - a. Avoid removing riparian or wetland vegetation; filling or dredging the riparian area or wetland; diverting stream flow from the current channel.
  - b. Prevent storm runoff from washing silt into the stream or wetland.
  - c. Reseed and/or replant cut and fill slopes with native seed and/or native plants promptly to control erosion and for prevention of noxious-weed infestations. Use appropriate measures to control erosion on disturbed areas that are steep, are highly erosive, and/or adjacent to the riparian area.
  - d. Timing, placement, and installation of temporary stream diversions shall allow passage of aquatic life and protect sensitive and species of local concern. *Will ensure the Proposed Action complies with TBNG Standards Standards 1.B.1, 2, 3, 6, 7, 8, 9, 13, 1.F.44, 45, and Guideline 1.B.14 and 1.F.43.*
- Where feasible, existing landscape features would be utilized to span the conductor over non-forested riparian wetlands to avoid cutting woody vegetation. *Will ensure the Proposed Action complies with TBNG Standards 1.B.1, 2, 3, 6, 7, 9, 13, 1.F.44, 45 and Guideline 1.B.14 and 1.F.43.*
- In construction areas where recontouring is not required, disturbance would be limited to overland travel where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.
- To reduce visual contrast and reduce siltation in construction areas (e.g., marshaling yards, tower sites, spur roads from existing access roads) where ground disturbance is substantial, surface preparation (including decompaction, redistribution of topsoil, etc.), redistribution of coarse woody debris, and reseeding would occur. The method of restoration could normally consist of loosening the soil surface, reseeding, installing cross drains for erosion control, placing water bars in the road, and filling ditches. BHP may prepare a revegetation plan in consultation with the USFS. The plan would specify disturbance types and their appropriate revegetation techniques to be applied for all proposed Project work areas, access roads, and all side cast materials. Techniques could include reseeding native or other acceptable vegetation species. The plan would include management and maintenance procedures approved by the USFS for ongoing use of access roads and temporary work areas.
- To minimize the amount of sensitive features disturbed in designated areas, poles would be placed so as to avoid sensitive features such as, but not limited to, riparian areas, cultural resource sites of significance, and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design. If the sensitive features cannot be completely avoided, poles

would be placed so as to minimize the disturbance. *Will ensure the Proposed Action complies with TBNG Standard 1.B.1, 2, 3, 5, 6, 13, and 15, and Guideline 1.B.14.*

- Erosion and sediment control measures would conform to applicable federal and state regulations. *Will ensure the Proposed Action complies with TBNG Standard 1.B.11, 12, 13, and 15 and Guideline 1.B.14.*
- In construction areas disturbance would be limited to overland travel where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.
- A USFS Sensitive Species located after contract or permit issuance would be appropriately managed by active coordination between permittee, contractor or purchaser, Forest Service line officer, project administrator, and biologist and/or botanist. Solutions need to be based on the circumstances of each new discovery and must consider the species need, contractual obligations and costs, and mitigation measures available at the time of discovery. *Will ensure the Proposed Action complies with FSM 2670. Will ensure the Proposed Action complies with TBNG Standard 1.F.73 and Guideline 1.F.13*

### **Noxious Weeds**

- Noxious weeds include weeds designated as “noxious” by the states of South Dakota and Wyoming, and additional weed species designated for project counties, as applicable. *Will ensure the Proposed Action complies with state law in South Dakota and Wyoming.*
- Before ground-disturbing activities begin, inventory and prioritize weed infestations for treatment in project operating areas and along access routes. Identify what weeds are on site, or within reasonably expected potential invasion vicinity, and do a risk assessment accordingly. Control weeds as necessary. *Will ensure the Proposed Action complies with TBNG Guideline 1.F.38.*
- Prior to construction, a Noxious Weed, Reclamation, and Revegetation Plan would be completed in consultation with the agencies to minimize the effects of noxious weeds and ground disturbance due to proposed project activities. The plan would address any required cleaning of construction vehicles, weed treatment protocols, and anything else to remain compliant with all involved agencies. *Will ensure the Proposed Action complies with FSM 2900. Will ensure the Proposed Action complies with TBNG Standard 1.J.2 and Guideline 1.F.38.*
- A high-pressured washer would be used to clean construction equipment before it is used for the first time and before being used in each project county, as well as before equipment is moved from noxious weed infested areas to new work sites. *Will ensure the Proposed Action complies with FSM 2900.*
- Only herbicides approved by the USFS and BLM would be used. To protect avian endangered and threatened species, organochlorine pesticides would not be used as chemical agents. *Will ensure the Proposed Action complies with FSM 4500.*
- As part of the Noxious Weed and Rehabilitation Plan, incorporate measures that would reduce the introduction and/or translocation aquatic nuisance species. Measures should be taken to reduce the pathways of spread of these species. Mitigation measures should include designated water sources, decontamination of equipment (prior to construction and during construction) and staging area locations in relation to water sources. *Will ensure the Proposed Action complies with FSM 2900. Will ensure the Proposed Action complies with TBNG Standard 1.J.5 and Guideline 1.J.7.*
- Initiate re-vegetation as soon as possible, not to exceed six months, after termination of ground-disturbing activities. Revegetate all disturbed soils with native species in seed/plant mixtures that are certified noxious-weed-free. On areas needing the immediate establishment of vegetation non-native, non-aggressive annuals (e.g., wheat, oats, rye), or sterile species may be used while native perennials are becoming established, or when native species are not available (e.g., during

drought years or years when wildfire burns large acreages in the U.S.). Other aggressive non-native perennials (e.g., smooth brome, timothy) would not be used. Seed would be tested for noxious weeds. If mulches are used they are to be certified noxious-weed free. Weed-free alfalfa seed may be used only when native legume seed is not available and only when there is extensive disturbance associated with road construction or mine reclamation where topsoil is no longer available. *Will ensure the Proposed Action complies with TBNG Guideline 1.J.7.*

- Use certified noxious-weed-free seed, feed and mulch. Submit proof-of-purchase to appropriate land agency before using plant materials. *Will ensure the Proposed Action complies with FSM 2900. Will ensure the Proposed Action complies with TBNG Standard 1.J.5.*
- Inspect, document, and treat weeds in all limited term ground-disturbing operations for at least three growing seasons following completion of the project.
- Inspect, document, and treat weeds in the proposed ROW and roads only used by BHP for life of the SUP.

### **Botany**

- Habitat suitability for special status plants would be assessed on all federal lands.
- Special status plants would be surveyed on the BHNF where there are suitable habitats that would have project-related ground disturbance and have not been surveyed within the past five to seven years. If habitat associated with special status plant species occurs on the TBNG and BLM Newcastle Forest Office, Black Hills Power would coordinate with these agencies whether special status plant surveys would be required. Surveys for special status plants would be conducted by qualified botanists to determine presence, absence, and habitat occupancy.
- Ground disturbance would not occur in occupied habitat for federal Threatened or Endangered plant species, Forest Service Sensitive species, BHNF Species of Local Concern, and BLM Sensitive species, or in Botanical Areas and Research Natural Areas. In the event that any surface disturbing activities would occur in the vicinity of federal Threatened or Endangered plant species, Forest Service Sensitive species, Species of Local Concern, or BLM Sensitive species, the USFS or BLM would be consulted to ensure minimal impact. *Will ensure the Proposed Action complies with TBNG Guideline 1.F.35 and Standard 1.F.40.*
- The boundaries of sensitive plant populations would be delineated with clearly visible flagging or fencing based on surveys conducted prior to construction. In the event any special-status plants would require relocation, permission would be obtained from the USFS or BLM. If avoidance or relocation were not practical, the topsoil surrounding the plants would be salvaged, stored separately from subsoil and respread during the restoration process. *Will ensure the Proposed Action complies with TBNG Guideline 1.F.35.*
- Any special status species discovered after issuance of the permit would be appropriately managed by active coordination between Black Hills Power and the Forest Service or BLM. Solutions would be based on circumstances of the discovery and consider the species' needs, contractual obligations and cost, and mitigation measures available at the time of discovery.

### **Wildlife**

- All waste products and food garbage from construction sites would be deposited in a covered waste receptacle, or removed daily. Garbage would be hauled to a suitable disposal facility.
- No holes or pits would be left open overnight or when the site is not manned to prevent inadvertently trapping or injuring wildlife.
- All construction and maintenance activities would be conducted in a manner that would minimize disturbance to drainage channels and stream banks. *Will ensure the Proposed Action complies with TBNG Standard 1.F.44, and 45.*

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- All construction vehicle movement outside the ROW would be restricted to designated access, contractor-acquired access, or public roads.
- Hazardous materials would not be drained onto the ground or into streams or drainage areas. Totally enclosed containment would be provided for all hazardous materials trash. *Will ensure the Proposed Action complies with TBNG Guideline 1.F.43.*
- The transmission line would be constructed according to Avian Power Line Interaction Committee (APLIC 2006, 2012) standards to eliminate the risk of electrocution to raptors and other large birds. *Will ensure the Proposed Action complies with TBNG Guideline 1.F.1.*
- BHP would prepare an Avian and Bat Protection Plan which would include monitoring for collision mortalities. Bird flight diverters would be installed if areas of high mortality are identified during monitoring.

### **Greater Sage-grouse**

- Tubular steel or wood monopoles with davit arms or braced-pole insulators shall be utilized when the Proposed Action passes through Greater Sage-grouse core area to limit raptor perching and nesting substrate.
- The use of guy-wires shall be restricted when the Proposed Action passes through Greater Sage-grouse core area.
- Bird flight diverters shall be positioned on overhead shield wires when the Proposed Action passes through Greater Sage-grouse core area to reduce potential line collisions.
- Blade-style perch discouragers (see Appendix A for description) shall be employed on davit arms, if used, when the Proposed Action passes through Greater Sage-grouse core area.
- No construction activities shall take place within two miles of a known active Greater Sage-grouse lek between March 1 and June 30. *Will ensure the Proposed Action complies with TBNG Guidelines 1.F.48, 49, 51 and 52.*
- No project-related infrastructure would be placed within a quarter mile of a known active Greater Sage-grouse lek on TBNG property. *Will ensure the Proposed Action complies with TBNG Standard 1.F.46.*
- Compensatory mitigation would be applied to lands on TBNG identified as high suitability Greater Sage-grouse habitat. Funds from compensatory mitigation would go towards ongoing habitat enhancement efforts for Greater Sage-grouse, such as cheatgrass eradication programs and conifer encroachment reduction.

### **TBNG Sensitive, SOLC, MIS Wildlife**

- No structures, access roads, or overland travel access paths shall be placed through BTPD colonies. *Will ensure the Proposed Action complies with TBNG Standard 1.F.65 and Guideline 1.F.64 and 66.*
- Structural elements intended to discourage raptor perching on structures shall be installed on structures when adjacent to BTPD colonies. *Will ensure the Proposed Action complies with TBNG Guideline 1.F.33.*
- Construction activities would be avoided within a quarter of a mile of potential Mountain Plover nesting habitat and known Mountain Plover nests between March 15 and July 31. *Will ensure the Proposed Action complies with TBNG Guideline 1.F.27, 29, and 30 and Standards 1.F.25, 26, 28, 31, and 32.*
- Construction activities would be avoided within a quarter of a mile of known occupied swift fox den between March 1 and August 31. *Will ensure the Proposed Action complies with TBNG Standard 1.F.67 and Guideline 1.F.68.*

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- Prior to construction, active raptor nests would be identified within the analysis area. Timing and disturbance buffers would be maintained around identified nests as included in the TBNG LRMP for construction-related activities (Table W2). *Will ensure the Proposed Action complies with TBNG Standard 1.F.74, Guideline 1.F.75, and Standard 1.F.76.*
- With the exception of emergency repair situations, construction, restoration, maintenance, and termination activities in designated areas would be modified or curtailed during sensitive periods (e.g., nesting and breeding periods) for candidate, proposed, threatened, and endangered, or other sensitive animal species. The Authorized Officer in advance of construction or maintenance would approve sensitive areas and timeframes. *Will ensure the Proposed Action complies with TBNG Standard 1.F.6, 29, 74, 76 Guideline 1.F.75.*

<b>TABLE W2 DISTURBANCE BUFFERS AND TIMING RESTRICTIONS ON RAPTOR NESTS IN WYOMING</b>				
SPECIES	NEST		WINTER ROOST	
	DISTANCE (MILES)	DATES	DISTANCE (MILES)	DATES
Bald Eagle	1.0	2/1 – 7/31	1.0	11/1 -3/31
Golden Eagle	0.5	2/1 – 7/31	None	
Merlin	0.5	4/1 – 8/15	None	
Ferruginous Hawk	0.5	3/1 – 7/31	None	
Swainson's hawk	0.5	3/1 – 7/31	None	
Burrowing Owl	0.25	4/15 – 8/31	None	
Other raptors*	0.125	2/1 – 7/31*	None	

Source: USFS 2001 \*Dates may vary depending on the species.

- Vegetation clearing in Wyoming would occur outside of the migratory bird nesting season (April 15 to July 15) on TBNG and BLM properties. *Will ensure the Proposed Action complies with TBNG Guideline 1.F.6.*
- Prior to construction, active raptor nests would be identified within the analysis area. Timing and disturbance buffers would be maintained around identified nests as identified in the TBNG LRMP for construction-related activities (see Table C1). *Will ensure the Proposed Action complies with TBNG Standard 1.F.74, Guideline 1.F.75, and Standard 1.F.76.*
- Permanently avoid known Bald Eagle nests by 660 feet if structures would be visible from existing nest, and 330 feet if structures would not be visible from existing nest, as per the USFWS National Bald Eagle Management Guidelines (USFWS 2007c). *Will ensure the Proposed Action complies with TBNG Standard 1.F.73, and BGEPA.*

## WATER RESOURCES

The design criteria/mitigation techniques that follow are measures that BHP would apply as a part of the Proposed Action to avoid or reduce impacts to surface water and surface water quality:

- USFS Watershed Conservation Practices for water features and forest plan direction would be followed.
- Equipment service and refueling would be away from ephemeral, intermittent and perennial streams, wetlands, springs, and riparian areas. Equipment staging areas would be at least 300 feet from riparian areas. There would be no construction within 100 feet of drainages and

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wetlands. BMPs would be implemented to contain sediments and pollutants and disturbed areas would be reclaimed and/or revegetated to maintain water quality.

- To reduce siltation in construction areas (e.g., marshaling yards, tower sites, spur roads from existing access roads) where ground disturbance is substantial, surface preparation (including decompaction, redistribution of topsoil, etc.), redistribution of coarse woody debris, and reseeding would occur. The method of restoration could normally consist of loosening the soil surface, reseeding, installing cross drains for erosion control, placing water bars in the road, and filling ditches. BHP may prepare a revegetation plan in consultation with the USFS for disturbance on National Forest. The plan would specify disturbance types and their appropriate revegetation techniques to be applied for all Proposed Action work areas, access roads, and all sidecast materials. Techniques could include reseeding native or other acceptable vegetation species. The plan would include management and maintenance procedures approved by the USFS for ongoing use of access roads and temporary work areas.
- To minimize ground disturbance of the landscape, the alignment of any cross-country route would follow the landform contours in designated areas where practicable, providing that such alignment does not impact other resources. To the extent practicable, avoid driving down, through or across streams, draws, arroyos and ravines.
- To minimize the amount of sensitive features disturbed in designated areas, poles would be placed so as to avoid sensitive features such as, but not limited to, riparian areas, cultural resource sites of significance, and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design. If the sensitive features cannot be completely avoided, poles would be placed so as to minimize the disturbance.
- Cutting and thinning of vegetation in bottoms and low areas would be minimized and work would be limited to periods of low flows or dry channel to the extent practicable.
- In the event that some vegetation within a stream corridor may need to be cut, it should be limited to conifer species (ponderosa pine and spruce) that will attain any kind of tree height that might threaten power lines; hardwoods such as birch, aspen, oak should be limited removal due to the fact they do not grow as tall; and riparian shrubs (willows, birch, etc.) should not be cut.
- In the event that riparian vegetation does need to be cut, site specific consultation with the affected unit hydrologist, botanist, and wildlife biologist should occur prior to vegetation removal to develop site specific requirements and/or mitigation measures.
- When approved, cutting within riparian corridors should be limited to hand-felling, unless equipment use is site specifically approved by the hydrologist.
- Consultation with the BHNF Mystic Ranger District hydrologist and botanist would take place prior to **any and all** stream crossings and/or improvements to identify site-specific design requirements, and/or mitigation measures and to limit number of stream crossings, identify roads and trails that are candidates for use as access roads due to prior disturbance, or location in less sensitive areas.
- Erosion and sediment control measures would conform to applicable federal and state regulations.
- In construction areas disturbance would be limited to overland travel where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access. Restoration could include reseeding (if required). Methods would be detailed in a USFS-approved revegetation plan.

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- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- BMPs and SOPs would be implemented for herbicide application, soil protection, revegetation, spill prevention, and use of weed-free plant materials.
- Riparian areas or wetlands where populations of sensitive species are located are to be avoided during ground disturbing activities. Use one or more of the following tied to the site-specific conditions for disturbances adjacent to known sensitive species occurrences:
  1. Avoid removing riparian or wetland vegetation; filling or dredging the riparian area or wetland; diverting stream flow from the current channel.
  2. Prevent storm runoff from washing silt into the stream or wetland.
  3. Reseed and/or replant cut and fill slopes with native seed and/or native plants promptly to control erosion and for prevention of noxious-weed infestations. Use appropriate measures to control erosion on disturbed areas that are steep, are highly erosive, and/or adjacent to the riparian area.
  4. Timing, placement, and installation of temporary stream diversions shall allow passage of aquatic life and protect sensitive and species of local concern.
- All construction and maintenance activities would be conducted in a manner that would minimize disturbance to drainage channels and stream banks.
- At a minimum, a 100 foot WIZ buffer should be applied to protect streams courses, ponds, wetlands, springs, fens and other water bodies from disturbance associated with transmission line construction and maintenance activities that could impair stream function, increase sedimentation and affect riparian/aquatic species habitat. No vegetative treatment within the WIZ is recommended to maintain multi-layered riparian vegetation structure, ensure lake/stream shading, and to maintain important wildlife habitat features. Consider larger buffer widths along perennial and intermittent streams (e.g., South Fork Castle Creek, Slate Creek and Rapid Creek).

BHP would implement erosion and sediment controls throughout construction of the project, including stabilization measures for disturbed areas and structural controls to divert runoff and remove sediment. Proper implementation of these and BMPs described above, as well as compliance with federal and state regulation, would minimize impacts to surface waters and surface water quality. Impacts to surface water and surface water quality would be reduced to negligible levels.

## South Dakota

All information in this section is from the 1997 BHNH Plan of Land and Resource Management.

### General

- In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term stream health and riparian ecosystem condition.
- Maintain long-term ground cover, soil structure, water budgets, and flow patterns in wetlands to sustain their ecological function, per 404 regulations
- Vegetative type conversion should only be done in riparian areas to reestablish riparian vegetation for the protection and/or enhancement of those ecosystems.

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- As opportunities arise, and need dictates, relocate or implement mitigation measures for roads, trails, watering tanks, ponds, water catchments, and similar facilities currently located within the Water Influence Zone.
- Locate camping sites for contractual purposes (e.g., mining, logging, etc.) such that channel and riparian areas are not impacted.
- Prohibit log land, decking areas and mechanical slash piling within riparian areas unless the integrity of the riparian area can be protected (e.g., frozen, snow-covered ground conditions).

**Stream Channels**

- Conduct actions so that stream pattern, geometry, and habitats are maintained or improved toward robust stream health.
- Move stream channels only if all other practical alternatives to protect critical resources or capital investments have been exhausted and other legal requirements have been met. If streams are put in channels:
  1. Use methods that create stable beds and banks and beneficial aquatic habitat features; and
  2. Use stream geometry relationships to reestablish meanders, width/depth ratios, etc. consistent with each major stream type.
- Design and construct all stream crossings and other in-stream structures to provide for passage of flow and sediment, withstand expected flood flows, and allow free movement of resident aquatic life.
- Naturally occurring debris shall not be removed from stream channels unless it is a threat to life, property, important resource values, or otherwise covered by legal agreement.
- When projects are implemented which can affect: large, woody debris; retain natural and beneficial volumes of large, woody debris for fish habitat; stream energy dissipations; and as sources of organic matter for the stream ecosystem.
- When stabilizing damaged stream banks, preferentially use methods that emphasize vegetative stabilization. Use native vegetation for stream bank stabilization whenever possible.
- Manage water-use facilities to prevent gully erosion of slopes and to prevent sediment and bank damage to streams.
- Design water developments to minimize damage to channel capacity, aquatic habitat and riparian vegetation.

**In-stream Flows**

- Manage vegetation treatments so that stream flows are not changed to the extent that long-term stream health is degraded.
- Maintain enough water in perennial streams to sustain existing stream health. Return some water to dewatered perennial streams when needed. Comply with Section 505 of the FLPMA and 36 CFR 251.56 when issuing and re-issuing authorizations for water storage and diversion facilities.

### **Water Quality**

- Place new sources of chemical and pathogenic pollutants where such pollutants would not reach surface or ground water.
- Apply runoff controls to disconnect new pollutant sources from surface and ground water.
- Apply chemicals using methods which minimize risk of entry to surface and ground water.
- Where natural background water pollutants cause degradation, it is not necessary to implement improvement actions. Short-term or temporary failure to meet some parameters of the applicable federal or state standard, such as increased sediment from road crossing construction or water resource development, may be permitted in special cases.
- Deposit no waste material (silt, sand, gravel, soil, slash, debris, chemical, or other material) below high water lines, in riparian areas, in the areas immediately adjacent to riparian areas, in the areas immediately adjacent to riparian areas or in natural drainage ways (draws, land surface depressions or other areas where overland flow concentrates and flows directly into streams or lakes).
- Prohibit deposition of soil material in natural drainage ways.
- Locate the lower edge of disturbed or deposited soil banks outside the active floodplain.
- Prohibit stockpiling of topsoil or any other disturbed soil in the active floodplain.
- Locate drilling mud pits outside riparian areas, wetlands and floodplains. If location is unavoidable in these areas, seal and dike all pits to prevent leakage.
- Rehabilitate gravel pits, if located in riparian zones, to simulate a natural riparian/aquatic situation.
- Do not allow new roads to parallel streams when road location must occur in riparian areas unless alternatives have been assessed and determined to be more environmentally damaging. Cross streams at right angles. Locate crossings at points of low bank slope and firm surfaces.
- Further information can be found in the Water Conservations Practices Handbook FSH 2509.25.

## **Wyoming**

All information in this section is from the 2001 Land and Resource Management Plan for TBNG.

### **Water**

- Manage land treatments to conserve site moisture and to protect long-term stream health from damage by increased runoff.
- Manage land treatments to maintain enough organic ground cover in each land unit to prevent harmful increased runoff (exceptions shall occur in special habitat situations (e.g., prairie dog habitat).
- In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term health and riparian ecosystem condition.
- Design and construct all stream crossings and other in-stream structures to provide for passage of flow and sediment, withstand expected flood flows, and allow free movement of resident aquatic life.

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- Conduct actions so that stream pattern, geometry, and habitats are maintained or improved toward robust stream health.
- Maintain long-term ground cover, soil structure, water budgets, and flow patterns of wetland to sustain their ecological function, per 404 regulations. The 404 regulations are guidelines established by the Environmental Protection Agency. They constitute the substantive environmental criteria used in evaluating activities regulated under Section 404(b)(1) of the Clean Water Act. The full text of these regulations can be found at 40 CFR 230.
- Return and/or maintain sufficient stream flows, under appropriate authorities, to minimize damage to scenic and aesthetic values, fish, and wildlife habitat, and to otherwise protect the environment.
- Manage water-use facilities to prevent gully erosion of slopes to prevent sediment and bank damage to streams.
- Construct roads and other disturbed sites to minimize sediment discharge into stream, lakes, and wetlands.
- Place new sources of chemicals and pathogenic pollutants where such pollutants would not reach surface or ground water.
- Apply runoff controls to disconnect new pollutant sources from surface and ground water.
- Apply chemicals using method that minimize risk of entry to surface and ground water.
- Design activities to protect and manage the riparian ecosystems. Maintain the integrity of the ecosystem including quantity and quality of water.
- Locate activities and facilities away from the water's edge or outside the riparian areas, woody draws, wetlands, and floodplains unless alternatives have been assessed and determined to be more environmentally damaging. If necessary to locate activities or facilities in these areas, then:
  1. Deposit no waste material (silt, sand, gravel, soil, slash, debris, chemical, or other material) below high water lines, in riparian areas, in the areas immediately adjacent to riparian areas, in the areas immediately adjacent to riparian areas or in natural drainage ways (draws, land surface depressions or other areas where overland flow concentrates and flows directly into streams or lakes).
  2. Prohibit deposition of soil material in natural drainage ways.
  3. Locate the lower edge of disturbed or deposited soil banks outside the active floodplain.
  4. Prohibit stockpiling of topsoil or any other disturbed soil in the active floodplain.
  5. Locate drilling mud pits outside riparian areas, wetlands and floodplains. If location is unavoidable in these areas, seal and dike all pits to prevent leakage.
  6. Rehabilitate gravel pits, if located in riparian zones, to simulate a natural riparian/aquatic situation.
- Do not allow new roads to parallel streams when road location must occur in riparian areas unless alternatives have been assessed and determined to be more environmentally damaging. Cross streams at right angles. Locate crossings at points of low bank slope and firm surfaces.

Further information can be found in the Water Conservations Practices Handbook FSH 2509.25.

- In Wyoming, introduction and spread of aquatic invasive species (AIS) would be avoided, reduced, and minimized through the implementation of Wyoming's AIS prevention measures.

## MONITORING

There would be monitoring of BMPs during and after construction until permanent stabilization has been achieved as described by the SWPPP, Forest Plan, and other applicable permits and regulations.

## WETLANDS

The design criteria/mitigation techniques that follow are measures that BHP would apply as a part of the Proposed Action to avoid or reduce impacts to wetlands:

- All construction areas would be a minimum of 100 feet from wetlands.
- No overhead vegetation would be cut within 100 feet of wetlands unless the overhead vegetation would interfere with the transmission line or safety requirements of the transmission line.
- Removal of vegetation in forested wetlands (wetlands dominated by woody vegetation 20 feet or taller could temporarily or permanently involve a conversion to a different wetland type (i.e., a change to shrub or herbaceous type). However, wetland vegetation would not be cut unless conifers posed a hazard due to their height interfering with power lines.
- The only trees that would be removed from wetland areas are those conifers or hardwoods that pose a threat to the power line and only with site-specific consultation with the affected USFS Ranger District hydrologist, botanist, and wildlife biologist prior to vegetation removal.
- Structures would not be placed in wetlands and would be located at least 100 feet away from wetland boundaries including springs; no structures in wetlands; no dredge or fill activities in wetlands, including springs. These measures apply to all wetlands in the Project Area, regardless of whether each individual wetland meets the regulatory definition of “jurisdictional wetland.”
- Site-specific consultation would occur for access road or trails in areas of wetlands, streams, springs and riparian areas through BHP/contractor coordination with Black Hills National Forest watershed/wetlands personnel.
- To reduce visual contrast and reduce siltation in construction areas (e.g., marshaling yards, tower sites, spur roads from existing access roads) where ground disturbance is substantial, surface preparation (including decompaction, redistribution of topsoil, etc.), redistribution of coarse woody debris, and reseeded would occur. The method of restoration would normally consist of loosening the soil surface, reseeded, installing cross drains for erosion control, placing water bars in the road, and filling ditches. BHP may prepare a revegetation plan in consultation with the USFS. The plan would specify disturbance types and their appropriate revegetation techniques to be applied for all Proposed Action work areas, access roads, and all sidcast materials. Techniques may include reseeded native or other acceptable vegetation species. The plan would include management and maintenance procedures approved by the USFS for ongoing use of access roads and temporary work areas. A Forest Service approved Revegetation Plan would be submitted.
- To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any cross-country route would follow the landform contours in designated areas where practicable, providing that such alignment does not impact other resources.

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- To minimize the amount of sensitive features disturbed in designated areas, poles would be placed so as to avoid sensitive features such as, but not limited to, riparian areas, cultural resource sites of significance, and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design. If the sensitive features cannot be completely avoided, poles would be placed so as to minimize the disturbance.
- Erosion and sediment control measures would conform to applicable federal and state regulations.
- In construction areas where recontouring is not required, no grading would occur to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access. Restoration could include reseeded (if required). Methods would be detailed in a Forest Service approved Revegetation Plan.
- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- Prior to construction, all supervisory construction personnel would be instructed on the protection of ecological resources. To assist in this effort, the construction contract would address: (a) federal, state, and tribal laws regarding plants and wildlife; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources including specific mitigation measures.
- BMPs, WCPs, and SOPs would be implemented for herbicide application, soil protection, revegetation, and use of weed-free plant materials.
- Riparian areas or wetlands where populations of sensitive species are located are to be avoided during ground disturbing activities. Use one or more of the following tied to the site-specific conditions for disturbances adjacent to known sensitive species occurrences:
  1. Avoid removing riparian or wetland vegetation; filling or dredging the riparian area or wetland; diverting stream flow from the current channel.
  2. Prevent storm runoff from washing silt into the stream or wetland.
  3. Reseed and/or replant cut and fill slopes with native seed and/or native plants promptly to control erosion and for prevention of noxious-weed infestations. Use appropriate measures to control erosion on disturbed areas that are steep, are highly erosive, and/or adjacent to the riparian area.
  4. Timing, placement, and installation of temporary stream diversions shall allow passage of aquatic life and protect sensitive and species of local concern.
- All construction and maintenance activities would be conducted in a manner that would minimize disturbance to drainage channels and streambanks.

BHP would implement erosion and sediment controls throughout construction of the project, including stabilization measures for disturbed areas and structural controls to divert runoff and remove sediment. Proper implementation of these and BMPs described above, Forest Service WCPs, as well as compliance with federal and state regulation, would minimize impacts to receiving waters, which includes wetlands. Impacts to wetlands would be reduced to negligible levels.

## **MONITORING**

There would be monitoring of project compliance to BMPs, WCPs, and design criteria during and after implementation, until permanent stabilization has been achieved and as described by the SWPPP, Forest Plan, and other applicable permits and regulations.

## TIMBER AND SILVICULTURE

The PDFs discussed in this section are measures that BHP would apply as a part of the Proposed Action. These measures, designed to avoid or reduce the impacts of the Proposed Action, are organized by resource topics.

### ***Common to Multiple Resources***

- A Fire Protection Plan would be developed.
- The area limits of construction activities would be predetermined, with activity restricted to and confined within those limits. This area would generally be limited to the existing ROW and other approved areas such as local routing options and staging areas.
- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- BHNF forestry BMPs would be adhered to.

### ***Timber and Silviculture***

- A Logging Plan would be prepared prior to construction that includes: specifications for pre-construction timber cruising; determination of area and volume of timber to be removed; acres of trees to be removed that were killed by beetle infestation; snags to be removed or retained; and the quantity of timber available for sale.
- Tree clearing would be kept to the minimum required to construct the Project and meet Federal Energy Regulatory Commission (FERC) standards regarding clearances between transmission lines and trees.
- A Road Use Permit would be required by BHNF if timber removed from private land would be hauled on BHNF managed roads.
- Timber removal on state lands would be coordinated with Wyoming State Forestry Division and/or South Dakota State Resource Conservation and Forestry Division.
- Skidder-type yarding would not be allowed on: 1) USFS lands with greater than 40 percent slopes; or 2) BLM lands with slopes greater than 45 percent. Areas with highly erodible soils would have more restrictive thresholds. Other logging operations on slopes steeper than these would be limited to technically and environmentally acceptable methods such as cable yarding.
- Trees would be felled if they occur in the proposed ROW or are hazard trees located directly adjacent to the ROW. Lop and scatter or chip, whole tree skidding and piling are all acceptable. Limbing would be done where trees are felled; and logs would be cut to length and transported to decking areas. Remaining slash would be lop and scattered to a depth of 12 inches. With prior authorization, BHP would also extend lop and scatter 50 feet from either side of ROW in BHNF to reduce fire risk. Windrowing of slash along timber edge would be avoided.

## **FIRE AND FUELS**

The PDFs discussed in this section are measures that BHP would apply as a part of the Proposed Action. These measures, designed to avoid or reduce the impacts of the Proposed Action, are organized by resource topics.

### ***Common to Multiple Resources***

- A Fire Protection Plan would be developed to minimize fire risk. The area limits of construction activities would be predetermined, with activity restricted to and confined within those limits. This area is generally limited to the existing ROW and other approved areas such as local routing options and staging areas.

### ***Fire and Fuels***

- Rules and regulations administered by USFS would be followed concerning the use, prevention, and suppression of fires on federal lands, including any fire prevention orders that may be in effect at the time of the permitted activity.
- Internal and external combustion engines used on federally managed lands would be operated as per 36 CFR 261.52(j), which requires all such engines to be equipped with a qualified spark arrester that is maintained and not modified.
- Vehicles and equipment would be outfitted with shovels, water, and fire extinguishers that are rated at a minimum as ABC-10 pound.
- Trees would be felled if they occur in the proposed ROW or are hazard trees located directly adjacent to the ROW. Lop and scatter or chip, whole tree skidding, and piling are all acceptable. Limbing would be done where trees are felled; and logs would be cut to length and transported to decking areas. Remaining slash would be lop and scattered to a depth of 12 inches. With prior authorization, BHP would also extend lop and scatter 50 feet from either side of ROW in BHNF to reduce fire risk. Windrowing of slash along timber edge would be avoided.
- Slash would not be piled near transmission line structures, sensitive plants, or meadows that contribute to Waters of the United States.
- For collector and arterial roads, manage activity fuels to remove 70 to 90 percent of the activity fuels seen from the road's edge up to a maximum distance of 300 feet.

## **MONITORING**

No monitoring requirements are applicable to fire and fuels.

## **SOILS**

The design criteria/mitigation techniques that follow are measures that BHP would apply as a part of the Proposed Action to avoid or reduce impacts to soils:

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Design Criteria, Mitigation Measures, and Monitoring

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- The areal limits of construction activities would be predetermined, with activity restricted to and confined within those limits. This area is generally limited to the existing ROW and other approved areas such as local routing options and staging areas.
- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- To minimize ground disturbance, the alignment of any cross-country route would follow the landform contours in designated areas where practicable, providing that such alignment does not impact other resources.
- In construction areas disturbance would be limited to overland travel where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.
- Operate heavy equipment for land treatments only when soil moisture is below the plastic limit, or protected by at least one foot of packed snow or two inches of frozen soil (Watershed Conservation Practices Handbook [WCPH] design criteria).
- Restrict roads, landings, skid trails, concentrated-use sites, and similar soil disturbances to designated sites (WCPH design criteria).
- On soils with surface soil (A-horizon) thinner than one inch, topsoil organic matter less than two percent, or effective rooting depth less than 15 inches, retain 80 to 90 percent of the fine (less than three inches in diameter) post treatment logging slash in the stand after each clearcut and seed-tree harvest. Consider need for retention of coarse woody debris slash in each activity area to balance soil quality requirements and fuel loading concerns (WCPH design criteria). These criteria would apply only in areas that would be restored at the end of construction.
- If machine piling of slash is done, conduct piling to leave topsoil in place and to avoid displacing soil into piles or windrows (WCPH design criteria).
- In areas where soils are particularly sensitive to disturbance, existing access roads would only be repaired to the extent necessary to make them passable.
- In construction areas, work would be halted where wet conditions cause excessive rutting of roads and/or work areas. Work would not resume until conditions improve.
- Minimize soil compaction by reducing off-road vehicle passes, and/or operate construction vehicles during frozen or dry soil conditions.
- Stabilize and maintain roads and other disturbed sites during and after construction to control erosion.
- Reclaim roads and other disturbed sites when use ends.
- Initiate revegetation as soon as possible, not to exceed six months after termination of ground disturbing activities. Revegetate all disturbed soils with native species in seed/plant mixtures that are noxious-weed free.
- Reseed and/or replant cut and fill slopes with native seed and/or native plants promptly to control erosion. Use appropriate measures to control erosion on disturbed areas that are steep, are highly erosive, and/or adjacent to the riparian area. See the Hydrology Technical Report for additional design criteria for the protection of riparian areas.
- Stabilize, scarify or recontour temporary roads, construction yards, decking areas and pulling and tensioning sites prior to seeding.

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- BHP would prepare a revegetation plan in consultation with the USFS. The plan would specify disturbance types and their appropriate revegetation techniques to be applied for all Proposed Action work areas, access roads, and all sidecast materials. Techniques would include reseeding native or other acceptable vegetation species. The plan would include management and maintenance procedures approved by the USFS for ongoing use of access roads and temporary work areas.
- Perform an onsite slope-stability examination on slopes over 30 percent prior to design of roads or activities that remove most or all of the timber canopy for the following areas and soils:
  1. Lakoa, Larkson, and Citadel soils found in the Bear Lodge Mountains;
  2. Rockoa and Mathias soils on the Dakota Hogback; and
  3. Citadel soil found in the northern and eastern Black Hills (BHNF Land and Resource Management Plan).
- Perform an onsite slope-stability examination on slopes over 55 percent prior to design of roads or activities that remove most or all of the timber canopy on all other soil types. Limit intensive ground-disturbing activities on unstable slopes identified during slope-stability exams (BHNF Land and Resource Management Plan).
- Avoid soil disturbing activities on all slopes over 40 percent (TBNG).
- Manage land treatments to maintain enough organic ground cover to prevent harmful increased runoff.
- Install waterbars or similar structures on temporary roads to divert runoff when needed.
- When ground disturbance occurs, use vegetative buffer strips or barriers to reduce sediment.
- Erosion and sediment control measures would conform to applicable federal and state regulations.
- BMPs and SOPs would be implemented for soil protection.
- BMPs would be implemented to minimize sediment discharge into streams, lakes and wetlands (sedimentation discussion and needs are addressed in the Hydrology Technical Report).
- Prior to construction, all supervisory construction personnel would be instructed on the protection of ecological resources, including soils.

Proper implementation of the design criteria and mitigation measures described above, as well as compliance with federal and state regulations, would reduce soil impacts to negligible levels.

## **MONITORING**

Not all monitoring is known at this time; however, monitoring is to include inspection of BMPs during construction and monitoring seeded areas for successful establishment.

## **CULTURAL RESOURCES**

The design criteria that follow are measures that the Project Proponent (BHP) would apply and adhere to during implementation of the T-O-RC Project and subsequent maintenance activities. The criteria are designed to reduce or eliminate the potential for adverse effects to the integrity of historic properties (as defined in 36 CFR §800.16(l)(1)).

### **DESIGN CRITERIA INCORPORATED IN PROGRAMMATIC AGREEMENT**

A programmatic agreement (PA) has been developed for the T-O-RC Project, pursuant to 36 CFR 800.14(b). The PA provides the primary design criteria developed for this project. It stipulates specific roles and responsibilities for Signatories and Invited Signatories governing the treatment of historic properties that have the potential to be affected by the undertaking. Specific stipulations incorporated in the PA are not repeated word-for-word here. The PA should be referenced throughout the implementation phase. In general, stipulations in the PA address:

- Identification of the Area of Potential Effect (APE) for the selected Alternative.
- Procedures for identifying cultural resources within the APE.
- Procedures for evaluating National Register of Historic Places eligibility of identified cultural resources.
- Procedures for assessing effects on historic properties.
- Appropriate measures for resolving adverse effects on historic properties where they cannot be avoided.
- Reporting and consultation requirements.
- Procedures in the event that a need for changes in construction activities are identified during project implementation.
- Professional standards.
- Appropriate responses in the event of unanticipated discoveries of cultural resources or human skeletal remains during project implementation.

### **ADDITIONAL DESIGN CRITERIA**

The following constitute design criteria that would be followed by the Project Proponent to compliment criteria stipulated in the PA:

- The Project Proponent would avoid adverse effects to historic properties whenever and wherever feasible. Where potential effects are deemed unavoidable, or where unanticipated discoveries occur during construction, operation, or maintenance, site-specific measures would be implemented according to the relevant stipulations in the PA.
- The Black Hills National Forest, as lead agency, may require an on-site cultural resource monitor during construction activities in areas determined to be culturally sensitive.
- Prior to initiation of construction activities, the Proponent shall enlist the services of a qualified cultural resources specialist approved by the Black Hills National Forest (lead agency) Heritage Resources Program Manager to formally instruct all supervisory construction personnel on the significance and protection of cultural resources. It may be necessary to provide more than one training session in order to ensure that all supervisory personnel receive instruction. Cultural resources training for supervisory construction personnel would include:
  - 1) A definition of cultural resources and historic properties.
  - 2) An overview of applicable cultural resource statutes and regulations.

- 3) How the T-O-RC Project will comply with stipulations in the programmatic agreement (PA).
- 4) Preference and need for avoidance of historic properties and/or justification for mitigation procedures.
- 5) Statutes addressing protection and confidentiality of archaeological materials and consequences of looting.

## **MONITORING**

If effects to historic properties cannot be avoided or minimized and mitigation would be required as a result of anticipated adverse effects to historic properties, the Parties would consult to develop an appropriate Mitigation Plan as per Stipulation III.D of the PA. The Mitigation Plan would include a monitoring plan for the Undertaking that would address (1) how and when construction activities and historic properties would be monitored during project implementation, and (2) provide stipulations for post-construction monitoring to confirm that mitigation prescriptions as implemented were successful.

## **PALEONTOLOGICAL RESOURCES**

The Project Design Features (PDF) discussed in this section are measures that BHP would apply as a part of the Proposed Action. These measures are common to multiple resources and are designed to avoid or reduce the impacts of the Proposed Action.

- To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any cross-country route would follow the landform contours in designated areas where practicable, providing that such alignment does not impact other resources.
- To minimize the amount of sensitive features disturbed in designated areas, poles would be placed so as to avoid sensitive features such as, but not limited to, significant paleontological or cultural resource sites, riparian areas, and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design. If the sensitive features cannot be completely avoided, poles would be placed so as to minimize the disturbance.
- Erosion and sediment control measures would conform to applicable federal and state regulations.
- In construction areas where recontouring is not required, no grading would occur to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access. Restoration could include reseeded (if required). Methods would be detailed in the USFS-approved Revegetation Plan submitted.
- The area limits of construction activities would be predetermined, with activity restricted to and confined within those limits. This area is generally limited to the existing ROW and other approved areas such as local routing options and staging areas.
- Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- Best Management Practices (BMP) and Standard Operating Procedures (SOP) would be implemented for herbicide application, soil protection, revegetation, and use of weed-free plant materials.
- All existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line.

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- Prior to construction, all supervisory construction personnel would be instructed on the protection of cultural/paleontological resources. To assist in this effort, the construction documents would address: (a) federal and state laws regarding antiquities and paleontological resources, including collection and removal; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources.
- To minimize the risk of high value cultural or paleontological resource sites being disturbed in designated areas, BHP would avoid them or design the line to allow conductor spanning of the sites.
- In the event that potentially significant paleontological resources are discovered during construction, potentially destructive work within 100 feet of the find would be halted. BHP's construction inspector would immediately implement the following measures:
  1. Flagging would be erected to prohibit potentially destructive activities from occurring.
  2. BHP's paleontologist would make a preliminary assessment of the newly discovered resource.
  3. If the paleontologist determines that the discovery represents a potential new site or an undocumented feature of a documented site, USFS would be notified and protocol identified by the agency would be followed.
  4. Construction on public lands would not resume in the identified area until cleared by the USFS's Authorized Officer.
- The specific areas of ground disturbing activities, for example access road construction, structure sites, staging areas, would be identified prior to construction. If any of these areas have not been sufficiently inventoried for cultural or paleontological resources, they would be surveyed prior to construction in that specific area.
- The USFS may require the presence of a paleontological resource monitor onsite during construction on public lands in areas the agency determines to be sensitive.
- All construction and maintenance activities would be conducted in a manner that would minimize disturbance to drainage channels and streambanks.
- In areas where soils are particularly sensitive to disturbance, existing access roads would be repaired only to where they are passable.
- In construction areas, work would be halted where wet conditions cause excessive rutting of roads and/or work areas. Work would not resume until conditions improve.
- All construction vehicle movement outside the ROW would be restricted to designated access, contractor-acquired access, or public roads.

### **Paleontological Recommended Mitigation Measures**

Project specific Paleontological Resources Monitoring and Mitigation Plans (PRMM) have been developed to minimize the likelihood that potential direct or indirect impacts associated with the Proposed Action would create high or moderate impacts as defined above. The need to implement these PRMMs at any specific location along the ROW would be determined by the jurisdictional land owner (BLM, USFS, Wyoming State Lands) based on applicable regulations and policies. The following PRMMs have been developed for this project to minimize or avoid direct and indirect initial impacts associated with project activity.

- **PRMM 1:** Preparation and implementation of a Paleontological Resources Monitoring Plan (PRMP). The PRMP would be prepared to outline construction monitoring requirements for paleontological resources wherever they are encountered, most likely in FYPC/PFYC Class

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3, 4 or 5 formations. In anticipation of encountering paleontological resources on federally-owned property, a qualified paleontologist would apply for and receive a paleontological resource use permit (PRUP) from BLM prior to starting ground disturbing activity. As part of the PRUP, the BHP qualified paleontological consultant would enter into an agreement with a repository to receive the recovered resources. The PRMM plan would be prepared in accordance with guidance provided in BLM IM2009-011 (BLM 2008).

- Paleontological monitoring would include observation of exposed rock units to ascertain if paleontological resources are present. The monitor would have authority to temporarily divert grading away from exposed resources to recover the specimens.
- **PRMM 2:** Prepare and implement a Worker Training Plan. Construction supervisors and crew would receive training by a qualified paleontologist in the procedures for identification and protection of paleontological resources as well as procedures for implementation in the event these resources are encountered during ground-disturbing activities. The Worker Training Plan would include instructions for protection of significant paleontological resources from indirect impacts such as vandalism and theft.
- **PRMM 3:** Prepare and implement a Paleontological Resource Data Recovery Plan. In the event paleontological resources are encountered on federally-owned lands during construction, construction activities would be temporarily diverted from the discovery and the monitor would notify all concerned parties and collect material for testing and processing as directed by the supervising paleontologist. Implementation of the plan would be contingent on discovery of significant paleontological resources within the disturbed areas.

A final technical report would be prepared summarizing construction monitoring and present the results of the resource recovery program. The report would be prepared in general accordance guidelines established in BLM IM2009-011 (BLM 2008).

**APPENDIX C**

**PAST AND PRESENT  
AND  
FORESEEABLE ACTIVITIES**

# APPENDIX C

## PAST, PRESENT, AND FORESEEABLE ACTIVITIES TECKLA-OSAGE-RAPID CITY TRANSMISSION LINE PROJECT

Past, present and foreseeable forest activities are summarized in the following tables for South Dakota (Table C-1) and Wyoming (Table C-2).

<b>TABLE C-1</b>		
<b>SOUTH DAKOTA PAST, PRESENT AND FUTURE PROJECTS</b>		
<b>Project Name</b>	<b>Project Description</b>	<b>Schedule</b>
Fire wood gathering	Public would continue to gather firewood in accessible regions in the area.	Ongoing
Christmas tree cutting	Public would continue to cut Christmas trees in accessible regions in the area.	Ongoing
Subdivision development	Given current trends, it is likely that additional private lands may be subdivided and new residences constructed. Additional special use permits such as utility, water line, rights-of-way, and access/easements may be requested.	Ongoing
Special Use Permits	The area contains telephone overhead and underground distribution and transmission power utility lines under special use permits. Maintenance is ongoing for these facilities. Use of access routes would continue	Ongoing
Range developments and livestock grazing	Includes fencing, dugouts, wells, spring developments, etc. Permitted livestock grazing would continue on NFS (National Forest System) NFS and on private lands.	Ongoing
Vegetative Treatment	Commercial and non-commercial vegetative treatments would continue in the area. Treatments may include timber harvest, hardwood restoration, meadow restoration, and fuel treatments. These types of treatments may also occur on private land but at a smaller scale. Additional roads/trails may be constructed.	Ongoing
Wildfires	The frequency, size and intensity of possible wildfires depend upon various factors, including weather, ignition means, and fuels loadings. There is a greater hazard for wildfires to occur in the cumulative effects analysis area due to high fuel hazards as a result of Mountain Pine Beetle caused pine mortality	Ongoing
Recreation	Recreation activities, including hunting, fishing, hiking, skiing, and the use of off-road vehicles would continue in the area.	Ongoing

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Past, Present and Foreseeable Activities

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**TABLE C-1**  
**SOUTH DAKOTA PAST, PRESENT AND FUTURE PROJECTS**

Project Name	Project Description	Schedule
Integrated Pest Management	Treatments to reduce or eliminate noxious weeds and invasive species would continue on NFS and private property within the area. Treatments may include pesticides, biological control agents for example.	Ongoing
Mountain Pine Beetle Response	Projects that reduce the susceptibility of conifer stands to mountain pine beetle epidemic and reduce the fire hazard as a result of Mountain Pine Beetle caused mortality would continue in the analysis area. These projects may include commercial and non-commercial treatments, fuel reduction treatments, sanitation, and pesticide spraying. Treatments would occur on NFS lands, especially adjacent to private land, utility corridors, in developed recreation areas and along egress routes. Similar treatments would likely occur on private land but at a smaller scale.	Ongoing

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Past, Present and Foreseeable Activities

**TABLE C-2  
WYOMING PAST, PRESENT AND FUTURE PROJECTS**

Project Name	Project Description	Schedule
RT Communications, Inc. – South Upton Project #26859	Replacing a telecommunication line within an adjacent to its existing right-of-way (ROW). This area includes 6.69 miles (by 20 feet wide) on National Grassland.	Completed 2010
RT Communications, Inc. – Keeline to Wright #26811	New fiber optic line would be placed in the ROW of WY Highway 450, 90, and 387. This would be on 4.13 miles of National Grassland.	Completed 2010
RT Communications, Inc. – Permit Amendment to Add BNSF Line #44435	Proposal to authorize RT Communications to occupy NFS land and construct and maintain an additional 1250ft of phone line to the BNSF building for year-round services. This line will be tapped into existing line.	Completed September 2014
Samson Powerline Project #43504	Proposal to install 34.5kV, 3-phase, single, overhead power line across FS land for approx. 2621ft. Includes installation of 12 poles. Construction and permanent right-of-way width to be 30ft.	Projected Completion December 2014
Samson and Finley Road Reconstruction off Jenny Trail Project #45253	Proposal to authorize upgrade of 470ft of an unnamed road off Jenny Trail Road.	Projected Completion December 2014
Weston County Easements #33286	Authorize the conversion of a number of existing crown and ditch roads that cross the TBNG to Weston County, WY ownership.	Completed 2012
Inyan Kara Assembled Land Exchange #4324	This land exchange is being handled by the Inyan Kara Grazing Association on behalf of 13 landowners in Weston County, WY The land exchange consists of 16,600 acres.	Projected Completion 2017
Inyan Kara Analysis Area Vegetation Management, Phase II #20929	Implement vegetation management to meet the desired goals of the Grassland Plan.	Completed Fall 2008
Upton-Osage Fuels Reduction Project #4667	85 acres of sanitation salvage (overtopped, dead and dying trees), 256 acres of shelter wood (overstory and understory removal), Commercial Thinning 204 acres (remove pole size), 104 acres of Pre-commercial thin (smaller than pole size), understory removal, thinning from below, 75 acres of boundary treatment (trees 50-100 feet from the boundary), 195 acres of broadcast burning (under burn to reduce timber treatment slash)	Completed
Westport Oil and Gas – Nicholson CBNG POD #3585	Created 10 coal bed natural gas wells. Approximately 760 acres of NFS land was disturbed.	Completed

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Past, Present and Foreseeable Activities

**TABLE C-2  
WYOMING PAST, PRESENT AND FUTURE PROJECTS**

Project Name	Project Description	Schedule
Wright Area Coal Lease by Application #27646	Analyze the applications for coal leases in the Wright area. It is aimed at the continuation of coal mining for the Jacobs Ranch, Black Thunder, and North Antelope Rochelle Mines.	Analysis completed Fall 2012, but not all decisions have been made
Wyoming Pipeline Company Amendment – Mush Creek Pumping Station Project#44693	Proposal to authorize Wyoming Pipeline Company to occupy NFS land for the construction and maintenance of an additional 361 feet of natural gas line to the Mush Creek Pumping Station tapping into an existing line along Hwy 450	Projected Completion Spring 2015
Wyoming Pipeline Company Butte Junction Crude Oil Pipeline Replacement Project#44703	Proposal to authorize Wyoming Pipeline Company to replace 3.2 miles of existing crude oil pipeline from the southwest side of Beaver Creek, west of Newcastle, WYO.	Projected Completion March 2015
Thunder Basin Coal Company, LLC – Black Thunder Mine: Installation/Construction of Dewatering Wells and Overstripping Area #35929	The proposed dewatering wells are located on NFS lands, and consist of two areas. The USFS has identified a need to authorize Thunder Basin Coal Company, LLC to construct the dewatering wells and overstrip activities.	Completed August 2012
Black Thunder Mine Topsoil and Overburden Stockpile #37506	Thunder Basin Coal Company's Black Thunder Mine (BTM) has requested an authorization to occupy NFS lands for the purpose of constructing and storing topsoil and overburden stockpiles. The proposed project area lies immediately adjacent to BTM's existing lease and within the West Hilight Coal Lease by Application, which has been analyzed for potential environmental impacts under the Wright Area EIS	Application Withdrawn
North Antelope Rochelle and School Creek Mines 69 kV Power line #28791	New construction of 69 kV power line will include approximately 19.5 total miles of 69 kV overhead power line. Approximately 14.9 miles will include NFS land, to move power lines out of existing coal mine leases.	Completed January 2010

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Past, Present and Foreseeable Activities

**TABLE C-2  
WYOMING PAST, PRESENT AND FUTURE PROJECTS**

Project Name	Project Description	Schedule
Relocation of Teckla Substation - Antelope Ridge Coal Lease	<p>The portion of the proposed ROW route near the Teckla Substation in Wyoming is within the recently submitted Lease by Application (LBA) for the Antelope Ridge coal lease. This LBA was approved for further processing by the BLM by the Powder River Regional Coal Team at the October 26<sup>th</sup>, 2011 meeting. The analysis for this LBA is led by the BLM Casper Field Office with the USFS as a cooperating agency; therefore the timeline is driven primarily by the BLM. Since the LBA has been approved for further analysis, the USFS will have conditions on all of the existing and new authorizations that facilities may remain in place until such time that the land is placed under lease. Since the authorization is non-exclusive and grants no ownership rights, therefore all authorizations could be revoked. Discussions and analysis of the relocation of the entire Teckla Substation are currently being negotiated, as the substation also sits within the proposed coal LBA. It is unknown at this time where the chosen location of the substation will be. This changed condition could result in a new route alternative that would need to be considered if the site location is known at the time this EIS document is finalized.</p>	<p>Timing of the completion of the analysis for this LBA will not likely be completed until 2014 or later</p>
School Creek Mine Coal Mining Startup Facilities #31904	<p>West Roundup Resources, Inc. has requested an authorization to amend the existing School Creek Mine special use permit to include an additional (approximately) 663 acres of NFS land.</p>	<p>Completed August 2012</p>
West Antelope II Coal Lease Application #21025	<p>BLM held a coal lease sale for federal coal tracts and issuance of a federal coal lease. This project included 4,109 acres of federal land and an estimated 429.7 million tons of in-place federal coal.</p>	<p>Completed August 2009</p>

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Past, Present and Foreseeable Activities

**TABLE C-2  
WYOMING PAST, PRESENT AND FUTURE PROJECTS**

Project Name	Project Description	Schedule
Lance Oil Antelope - Road Use & Access Permit #41419	Proposes to use the NFSR 1121.E1 road for approximately 0.52 miles from the intersection of Antelope Road Campbell County RD 17-4 to the south in Section 3 T. 41 N., R. 71 W. on the TBNG. The existing road is crowned and ditched road for .3 miles with 14 foot driving surface the remaining road is a flat bladed road to the property line. Proposes to rebuild the road to a crowned and ditched graveled road with a 20' driving surface. Proposes to use the road year around for access to a well pad for both drilling and long term operation.	Completed August 2013
North Antelope Rochelle Mine Road Relocation #22810	Proposes to construct new roads to relocate the existing Antelope and Matheson roads. The existing roads will be mined through, and there is a need to reroute the current travel way. Approximately 4.4 miles of road will be located on NSF land. The construction corridor is 150 feet.	Completed 2010
North Antelope Rochelle Mine Dewatering Activity #36448	North Antelope Rochelle Mine (NARM) of Peabody Powder River Mining, LLC requested an amendment to their current Special Use Permit for Ancillary Facilities Related to Mining Activity to authorize drilling test holes for potential dewatering activity on NFS lands. The proposal consists of approximately 230 test holes on NFS lands totaling approximately 567 acres that occur outside the NARM lease boundary but within the mine's permit boundary.	Completed 2012
Antelope Mine Rail Spur Expansion #31909	Antelope Coal LLC has requested an authorization to amend the existing Antelope Mine special use permit to allow expansion of the railroad spur area associated with expansion and increased capacity of the coal load-out facility.	Completed Fall 2013
Geokinetics Alta 3D Geophysical Project #36909	The project will encompass approximately 634 square miles with approximately 120,480 acres of the Thunder Basin National Grassland included in the project area. The project is proposed as a multi-source geophysical vibrosis with some shot holes	Phase I completed January 2011;Phase II not yet implemented

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Past, Present and Foreseeable Activities

**TABLE C-2  
WYOMING PAST, PRESENT AND FUTURE PROJECTS**

Project Name	Project Description	Schedule
Berenergy Corp. Road Reconstruction #41956	Special Use Permit #DGL56 includes allowing Berenergy Corp. to use approx. 0.6 miles of NFS Road #935, within an 18ft right-of-way, for year-round access to their existing oil and gas lease operations in the Manning Oilfield	Projected Completion December 2014
Ballard Petroleum Holdings, LLC Applications for Permit to Drill (APDs) #41574	Proposal to conduct surface use operations associated with accessing, drilling, testing, and completing two horizontal oil wells on NFS lands	Projected Completion Spring 2015
Bates Creek Aspen Restoration Project #43680	Proposal to treat units totaling 913 acres of NFS and private land within the Forest boundary. Improves the condition of aspen and associated meadow communities and improve habitat for wildlife species	Completed October 2014
Black Hills Plateau Production (BHPP), Natural Gas Pipeline #45025	Proposal construct and install approx. 3,700 ft of pipeline adjacent to an existing access road from the Murphy B-11 oil well to an existing KN gas gathering pipeline to capture and use natural gas vented at the well site.	Projected Completion Spring 2015
Charger Resources APD for Tuit Draw Federal 11-2PH Well #45740	The APD includes operations associated with accessing, drilling, testing, and completing a horizontal oil/gas well. Approx 886ft of new road, 400ft by 400ft well pad with total disturbance of 6.4ac	Projected Completion August 2015
Charger Resources LLC Special Use Permit (SUP) #44434	Proposal to authorize use of NFS lands for operations associated with accessing, drilling, and producing oil/gas from a proposed horizontal well	Projected Completion December 2014
Charger Resources LLC Power Line Permit #45149	Charger Resources LLC purchased an existing power distribution line that provides electrical service to several oil wells in the area. Proposal to authorize operation and maintenance of the 1970ft of 14.4kV power line and right-of-way.	Projected Completion January 2015
Converse County Oil and Gas EIS Project #44124	Proposal to authorize use of NFS lands for operations associated with accessing, drilling, and producing oil/gas from a proposed horizontal well	Projected Completion May 2015
Devon Energy Porcupine Creek 3D Seismic Project #44127	Notice of Intent for proposal to conduct oil and gas geophysical exploration operations on the Thunder Basin National Grassland	Completed September 2014

Appendix C  
Past, Present and Foreseeable Activities

**TABLE C-2  
WYOMING PAST, PRESENT AND FUTURE PROJECTS**

Project Name	Project Description	Schedule
Plan Amendment for Prairie Dog Management #19596	The ferret reintroduction area boundary would be modified. This project would add management tools for controlling the prairie dog that are not currently available, such as lethal and non-lethal, landownership adjustment and third party solutions.	Completed November 2009
Thunder Basin National Grassland Prairie Dog Amendment #42753	The ferret reintroduction area boundary would be modified. This project would add management tools for controlling the prairie dog that are not currently available, such as lethal and non-lethal, landownership adjustment and third party solutions.	Projected Completion Winter 2015
Invasive Plant Management EIS for Medicine Bow-Routt National Forests and TBNG #19692	States of CO and WY, including Campbell and Weston counties. This proposal would allow the aerial application of the herbicides Plateau and Journey to treat infestations of cheatgrass acres on the Medicine Bow-Routt National Forest and TBNG	Projected completion Winter 2015
Thunder Basin National Grassland Travel Management #24661	Travel Management for the TBNG. This project covers the entire Grassland. Review and analysis of the roads/trails for designation, include: opening trails/roads, closing trails/roads, converting roads to trails, decommissioning trails/roads, seasonal closures for trails/roads, and constructing trails/roads.	N/A
Greater Sage-Grouse Conservation Measures - TBNG Plan Amendment #38134	The TBNG is a cooperating agency in the development of a programmatic EIS to incorporate Greater Sage-Grouse conservation measures into land management plans through plan amendment, including the TBNG plan. The Wyoming BLM is the lead agency.	N/A

*N/A = Not Applicable*

**APPENDIX D**

**BHNF and TBNG LAND AND RESOURCE MANAGEMENT PLAN  
STANDARDS AND GUIDELINES  
APPLICABLE TO THE T-O-RC PROJECT**

# Appendix D

## Applicable Black Hills National Forest and Thunder Basin National Grassland Land and Resource Management Plan

### Standards and Guidelines

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#### BIOLOGICAL RESOURCES

##### *South Dakota*

Standards and Guidelines described in Chapter 2 of the BHNF LRMP as amended (USFS 2006) outline specific management directions toward Region 2 Sensitive species which may be applicable to the Proposed Action:

- 1110. Initiate re-vegetation as soon as possible, not to exceed six months after termination of ground-disturbing activities. Revegetate all disturbed soils with native species in seed/plant mixtures that are noxious weed free. On areas needing immediate establishment of vegetation, non-native, non-aggressive annuals (e.g., wheat, oats, rye) or sterile species may be used while native perennials are becoming established, or when native species are not available ... Other aggressive non-native perennials (e.g., smooth brome, timothy) will not be used. Seed will be tested for noxious weeds. If mulches are used, they are to be noxious-weed free. Weed free alfalfa seed may be used only when native legume seed is not available and only when there is extensive disturbance associated with road construction or mine reclamation where top soil is no longer available. **Standard**
- 1115. When ground disturbing or vegetation management occur, use vegetative buffer strips or barriers to reduce sediment. Determine buffer width between stream and roads or trails using the equation in Appendix J (BHNF LRMP). **Guideline**
- 1203. Design and construct all stream crossings and other instream structures to provide for passage of flow and sediment, withstand expected flood flows, and allow free movement of resident aquatic life. **Standard** (Regional WCP Handbook Standard 4)
- 1301. In the water influence zone next to perennial and intermittent streams, lakes and wetlands, allow only those actions that maintain or improve long-term stream health and riparian ecosystem condition. **Standard**
- 1306. Prohibit log landing, decking areas and mechanical slash piling within riparian areas unless the integrity of the riparian area can be protected (e.g., frozen, snow-covered ground conditions). **Standard**
- 2101. The maximum size of openings created by even-aged management will be 40 acres, regardless of forest type, with the following exceptions:
  - a) Where proposals for larger openings are approved by the Regional Forester after a 60-day public review;
  - b) Where larger openings are the result of natural catastrophic conditions of fire, insect or disease attack, or windstorm; and
  - c) Where the area that is cut does not meet the definition of created openings. **Standard**
- 3101. To protect endangered and threatened species:

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- b) Prohibit new disturbances not existing at the time of bald eagle nest initiation, which may detrimentally influence nest success within one mile of bald eagle nests during the nesting season (February 1 through September 1). The distance may be reduced where forest characteristics or topography reduce the line-of-site distance from the nest, based on site-specific analysis.
- c) Protect traditional communal bald eagle winter roost sites. Restrict activities that may disturb bald eagles within one mile of communal roosting areas from November 1 through April 1. **Standard**
- 3102. Where caves are important nurseries or hibernacula for sensitive and local concern bat species protect the caves and maintain their microclimates when designing management activities (e.g., timber harvest, road construction, recreation facilities). Protect known bat day and night roosts. **Standard**
- 3103. Manage known Sensitive Species and SOLC snail colonies to:
  - a) Retain overstory sufficient to maintain moisture regimes, ground level temperatures and humidity.
  - b) Retain ground litter, especially deciduous litter.
  - c) Avoid burning, heavy grazing, OHVs, heavy equipment and other activities that may compact soils or alter vegetation composition and ground cover.
  - d) If prescribed burning is unavoidable, burn when snails are hibernating, usually below 50°F, and use fast-moving fires to minimize effects to snails.
  - e) Control invasive weeds, but use herbicides when snails are not on the surface, and treat individual plants rather than broadcast application. **Standard**
- 3106. Riparian areas or wetlands where populations of sensitive species are located are to be avoided during ground disturbing activities. Use one or more of the following (or other mitigation measures) tied to the site-specific conditions for disturbances adjacent to known occurrences:
  - a) Avoid removing riparian or wetland vegetation; filling or dredging the riparian area or wetland; diverting stream flow from the current channel.
  - b) Prevent storm runoff from washing silt into the stream or wetland.
  - c) Reseed and/or replant cut and fill slopes with native seed and/or native plants promptly to control erosion and for prevention of noxious-weed infestations. Use appropriate measures to control erosion on disturbed areas that are steep, are highly erosive, and/or adjacent to the riparian area.
  - d) Timing, placement, and installation of temporary stream diversions shall allow passage of aquatic life and protect sensitive and SOLC. **Standard**
- 3108. The following additional protective measures will apply relative to the northern goshawk for all projects involving the removal of trees in suitable habitat, except those done for the express purpose of enhancing goshawk habitat:
  - a) Identify nest areas around historically active nests. Nest areas shall consist of 180 acres best suited for nesting habitat within one-half mile of the nest and greater than 300 feet from buildings. Nest areas need not be contiguous but must occur in 30-acre units or larger. Nest areas shall include alternate nests if known. If these conditions cannot be met, then nest areas will include stands that are not currently suitable but that could be managed to meet nesting conditions over time. Vegetation management activities within

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nest areas shall be limited to those that maintain or enhance the stand's value for goshawk.

- b) If a nest area described above occurs within one-half mile of the project area and a protected area has not yet been identified for that nest, the project analysis will determine whether some of the protected acreage should occur within the project area.

**Standard**

- 3111. From April 1 through August 15, minimize additional human-caused noise and disruption beyond that occurring at the time of nest initiation (e.g., road traffic, timber harvests, construction activities) within one-half mile of all active goshawk nests up until the nest has failed or fledglings have dispersed. **Standard**
- 3115. A Region 2 Sensitive Species or SOLC located after contract or permit issuance will be appropriately managed by active coordination between permittee, contractor or purchaser, Forest Service line officer, project administrator, and biologist and/or botanist. Solutions need to be based on the circumstances of each new discovery and must consider the species need, contractual obligations and costs, and mitigation measures available at the time of discovery. **Standard**
- 3116. Avoid creating barriers (e.g., new open roads) between red-bellied snake hibernacula and wetlands. **Standard**
- 3121. Design new structures and facilities in or near prairie dog towns or occupied mountain plover habitat with low profiles and/or perch inhibitors. This does not apply to structures and facilities less than four feet in height or those not expected to be used as hunting perches by raptors. **Standard**
- 3204. Protect known raptor nests. Consider potential effects of disturbance, nesting phenology, human activities existing at onset of nest initiation, species, topography, other Region 2 Sensitive Species and plant SOLC, forest cover, nest protection standards and recommendations used by state or federal agencies, and other appropriate factors when designing protection. **Standard**
- 3207. Where caves or abandoned mines serve as nurseries or hibernacula for bats, vegetative changes within 500 feet of the opening are allowed only if needed to maintain bat habitat or if topography or other features protect the openings from disturbance. **Standard**
- 3216. \*NEW. Where livestock management conflicts with bighorn sheep lambing areas, preference shall be given to bighorn sheep from April 1 through June 15. **Standard**
- 4111. Locate slash piles that are scheduled for burning out of meadows that contribute to Waters of the United States. Use a buffer distance designed to keep sediment, ash, and debris out of channels. See Appendix J (Forest Plan). **Guideline**
- 4301. \*For all proposed projects or activities, determine the risk of noxious-weed introduction or spread, and implement appropriate mitigation measures and treatment. **Standard**
- 4304. \*Treat individual plants or groups of plants in areas where R2 sensitive or species of local concern plants occur. Use a treatment method that is the least risk to the species being protected. **Standard**
- 4306. Use certified noxious weed-free seed, feed, and mulch. Seed will be tested for noxious weeds at the time of purchase. **Standard**
- 8308. Existing powerline poles with unsafe raptor configurations should be replaced or reconfigured with raptor-safe designs during normal pole and line replacement schedules. In

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areas with identified raptor electrocution problems, powerpoles will be replaced or reconfigured with raptor-safe designs as soon as possible. **Standard**

- 8309. For new construction of electric lines and poles, protect raptors by the use of Suggested Practices for Raptor Protection on Power Lines – State of the Art in 1981 (Olendorff 1981) (or any updated version) for single-phase, dead-end, intersection, transformer configurations and under-ground take off poles. **Standard**
- 8402. Manage vegetation to improve scenic integrity. Re-vegetate with native species where available. **Guideline**
- 9101. Designated and newly constructed Forest Development Roads are open all year to appropriate motorized vehicle use, unless a documented decision shows one or more of the following:
  - a) Motorized use conflicts with Forest Plan objectives;
  - b) Motorized use is incompatible with the recreation opportunity spectrum class;
  - c) Motorized use creates user conflicts that result in unsafe conditions;
  - d) Physical characteristics of travelway(s) preclude any form of motorized use;
  - e) Travelways do not serve an existing or identified future public need;
  - f) Financing is not available for maintenance necessary to protect resources;
  - g) Seasonal travel restrictions are required:
    - 1. To avoid unsafe conditions or to prevent unacceptable damage to soil and water resources due to weather or seasonal conditions;
    - 2. To prevent unacceptable wildlife conflict or habitat degradation;
    - 3. To meet a seasonal public and administrative need; or
    - 4. For area protection or non-use. **Standard**
- 9204. Reduce the impact of new Forest development and temporary road construction on wildlife. New roads will generally not be located in meadows. When topology allows, roads should not be within 400 feet of the meadow edge. **Guideline**

In addition to Standard 3101 outlined in the BHNF LRMP as Amended, the Bald Eagle is also protected under the BGEPA. The BGEPA prohibits individuals from the killing (take), possession, selling of parts or whole, purchasing, bartering, transporting, exporting or importing, at any time or in any manner, any Bald Eagle and Golden Eagle (USFWS 2007a, 2007c).

Standards and Guidelines described in Chapter 3 of the BHNF LRMP as amended (USFS 2006) outline specific management directions toward Region 2 Sensitive species which may be applicable to the Proposed Action within each specific Management Area:

- 2.2-4201. \*Control populations of invasive, non-native plant and wildlife species. Use control measures that minimize threats to native species. **Standard**
- 5.4-9101. \*Off-road motorized travel is prohibited from December 15 through May 15. **Standard**
- 8.2-2104. \*Protect unique biological features. If monitoring of R2 sensitive or species of local concern plant occurrences documents these species are being impacted by recreational use, practices will be implemented to protect the species. **Standard**

## **Wyoming**

All applicable Standards and Guidelines outlined in the Grassland Plan (USFS 2001) would be applied. The following species-specific mitigation measures would be applied:

Standards and Guidelines which address plants and wildlife and which would regulate and guide potential projects on TBNG are described in Chapter 1, Section B – Water, Section F – Fish, Wildlife, and Rare Plants, and Section J – Insect and Disease Control, Noxious Weeds, Non-native, and Invasive Species of the LRMP. The following Standards and Guidelines would be applicable to the Proposed Action. At this time, the Proposed Action would not pass through any exclusion buffers placed around active raptor nests as identified in Standard 1.F.73. If active raptor nests are identified and the Proposed Action would occur on TBNG property within the identified exclusion buffer, those buffers would be applied.

### **Chapter 1, Section B – Water**

1.B.1. Manage land treatments to conserve site moisture and to protect long-term stream health from damage by increased runoff. **Standard**

1.B.2. Manage land treatments to maintain enough organic ground cover in each land unit to prevent harmful increased runoff (exceptions shall occur in special habitat situations (e.g. prairie dog habitat)). **Standard**

1.B.3. In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term health and riparian ecosystem condition. **Standard**

1.B.4. Design and construct all stream crossings and other instream structures to provide for passage of flow and sediment, withstand expected flood flows, and allow free movement of resident aquatic life. **Standard**

1.B.5. Conduct actions so that stream pattern, geometry, and habitats are maintained or improved toward robust stream health. **Standard**

1.B.6. Maintain long-term ground cover, soil structure, water budgets, and flow patterns of wetland to sustain their ecological function, per 404 regulations. The 404 regulations are guidelines established by the Environmental Protection Agency. They constitute the substantive environmental criteria used in evaluating activities regulated under Section 404(b)(1) of the Clean Water Act. The full text of these regulations can be found at 40 CFR 230. **Standard**

1.B.7. Return and/or maintain sufficient stream flows, under appropriate authorities, to minimize damage to scenic and aesthetic values, fish, and wildlife habitat, and to otherwise protect the environment. **Standard**

1.B.8. Manage water-use facilities to prevent gully erosion of slopes to prevent sediment and bank damage to streams. **Standard**

1.B.9. Construct roads and other disturbed sites to minimize sediment discharge into streams, lakes, and wetlands. **Standard**

1.B.10. Place new sources of chemicals and pathogenic pollutants where such pollutants will not reach surface or ground water. **Standard**

1.B.11. Apply runoff controls to disconnect new pollutant sources from surface and ground water. **Standard**

1.B.12. Apply chemicals using methods that minimize risk of entry to surface and ground water. **Standard**

1.B.13. Design activities to protect and manage the riparian ecosystem. Maintain the integrity of the ecosystem including quantity and quality of water. **Standard**

1.B.14. Locate activities and facilities away from the water's edge or outside the riparian areas, woody draws, wetlands, and floodplains unless alternatives have been assessed and determined to be more environmentally damaging. If necessary to locate activities or facilities in these areas, then:

- Deposit no waste material (silt, sand, gravel, soil, slash, debris, chemical, or other material) below high water lines, in riparian areas, in the areas immediately adjacent to riparian areas or in natural drainageways (draws, land surface depressions or other areas where overland flow concentrates and flows directly into streams or lakes).
- Prohibit deposition of soil material in natural drainageways.
- Locate the lower edge of disturbed or deposited soil banks outside the active floodplain.
- Prohibit stockpiling of topsoil or any other disturbed soil in the active floodplain.
- Locate drilling mud pits outside riparian areas, wetlands and floodplains. If location is unavoidable in these areas, seal and dike all pits to prevent leakage.
- Rehabilitate gravel pits, if located in riparian zones, to simulate a natural riparian/aquatic situation. **Guideline**

1.B.15. Do not allow new roads to parallel streams when road location must occur in riparian areas unless alternatives have been assessed and determined to be more environmentally damaging. Cross streams at right angles. Locate crossings at points of low bank slope and firm surfaces. **Standard**

## **Chapter 1, Section F – Fish, Wildlife, and Rare Plants**

### General

1.F.1. Consult state and regional Partners in Flight Bird Conservation Plans for additional guidance on land bird habitat management. **Guideline**

1.F.6. Delay mowing of grasslands until July 15 or later to protect ground-nesting birds, including their nests and young broods. Project-level analyses will determine the earliest mowing date. **Guideline**

1.F.8. Use the following criteria at the project level to help determine where to manage for rest and large blocks of high structure grasslands in upland areas for waterfowl, prairie grouse, and other ground-nesting birds:

- Presence of moderate to highly productive soils,
- Dominance of mid to tall grass species,
- Proximity to waterfowl pairing ponds and/or prairie grouse display grounds,
- Proximity to wetlands with well-developed emergent vegetation,
- Proximity to cooperative waterfowl/wetland development projects and other major wetland complexes. **Guideline**

1.F.13. Protect all known day roost areas and wintering sites used by bats. **Guideline**

### *Mountain Plover*

1.F.25. To help maintain suitable nesting habitat for mountain plover, prohibit development of new facilities within 0.25 miles of known mountain plover nests or nesting areas. This does not apply to pipelines, fences and underground utilities. **Standard**

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1.F.26. To help maintain occupied nesting and brooding habitat on black-tailed prairie dog colonies, new oil and gas development will be limited to one well per 80 acres within occupied habitat. Cumulatively, structure and facility development will not occur on more than 2 percent of the occupied mountain plover nesting habitat in each prairie dog colony. **Standard**

1.F.27. Any net loss of suitable and occupied mountain plover habitat as a result of prairie dog poisoning or development of new facilities within prairie dog colonies will be replaced within the year by concurrent expansion of suitable plover habitat or in some cases, by enhanced management and protection of occupied plover habitat elsewhere on or near the national grassland. The amount of habitat loss is based on the amount of suitable and occupied habitat available prior to prairie dog dispersal in the year of the poisoning or development. **Guideline**

1.F.28. To help reduce disturbances and risks to nesting mountain plover, prohibit the following activities in plover nesting areas or within 0.25 miles of plover nests from March 15 through July 31:

- Construction (e.g., roads, water impoundments, oil and gas facilities),
- Reclamation,
- Seismic exploration,
- Gravel mining operations,
- Oil and gas drilling,
- Drilling of water wells,
- Prescribed burning. **Standard**

1.F.29. To help reduce disturbances and risks to nesting mountain plover, do not authorize the following activities in plover nesting areas or within 0.25 miles of plover nests from March 15 through July 31:

- Construction (e.g., pipelines, utilities, fencing),
- Workover operations for maintenance of oil and gas wells,
- Permitted recreation events involving large groups of people,
- Grasshopper spraying,
- Prairie dog shooting (in consultation with state wildlife agencies and U.S. Fish and Wildlife Service). **Guideline**

1.F.30. To help reduce risks to mountain plover, access to oil and gas facilities in occupied mountain plover habitat for routine maintenance should be limited to once per 24 hour period and occur between 9 am and 5 pm. Duration of maintenance activities should not extend beyond 1 hour when possible. This does not apply to travel for emergency repairs. **Guideline**

1.F.31. To help reduce risks to mountain plovers from traffic, limit vehicle speeds in occupied mountain plover habitat to 25 mph on resource roads and 35 mph on local roads. **Standard**

1.F.32. Vegetation management projects in suitable mountain plover habitat will be designed to maintain or improve mountain plover habitat. **Standard**

1.F.33. To avoid attracting avian predators, new structures and facilities in occupied mountain plover habitat will be designed with low profiles and/or perch-inhibitors. This does not apply to structures and facilities less than 4 feet in height or those not expected to be used as hunting perches by raptors. **Guideline**

*Sensitive Plant and Animal Species*

1.F.35. Do not authorize new facilities, roads, trails, fences, salting and mineral areas, water developments in habitat occupied by sensitive plant species. **Guideline**

1.F.38. Avoid the use of invasive plant control methods that may negatively impact sensitive plants. **Guideline**

1.F.40. Do not authorize vegetation management and construction projects that would prevent recolonization of sensitive plant populations from adjacent populations. **Standard**

1.F.43. Design and construct new facilities to minimize the risk of accidental spills and discharge of petroleum and other toxic materials into waters occupied by sensitive fish species, and implement appropriate precautionary measures. **Guideline**

1.F.44. Do not authorize uses that would deplete instream flows below levels needed to protect the aquatic habitats of sturgeon chub and other sensitive native fish species. **Standard**

1.F.45. Design and implement vegetation management and construction projects so they do not degrade habitat for plains top minnow and other clear-water stream species by increasing sediment load and turbidity. **Standard**

1.F.46. To help reduce adverse impacts to breeding sage grouse and their display grounds, prohibit construction of new oil and gas facilities within 0.25 miles of active display grounds. A display ground is no longer considered active if it's known to have been unoccupied during the past 5 breeding seasons. This does not apply to pipelines and underground utilities. **Standard**

1.F.48. To reduce disturbances to nesting sage grouse, do not authorize the following activities within 2.0 miles of active display grounds from March 1 to June 15:

- Construction (e.g., pipelines, utilities, fencing),
- Seismic exploration,
- Workover operations for maintenance of oil and gas wells,
- Permitted recreation events involving large groups of people. **Guideline**

1.F.49. To help prevent reproductive failure, limit noise on sage grouse display grounds from nearby facilities and activities to 49 decibels (10 dBA above background noise) from March 1 to June 15. **Guideline**

1.F.51. When constructing facilities or structures within 2 miles of a sage grouse active display ground, design them to discourage raptor perching by maintaining a low profile or using perch inhibitors. **Guideline**

1.F.52. Prohibit development or operations of facilities within 2 miles of a sage grouse display ground if these activities would exceed a noise level of more than 10 decibels above the background noise level (39 db), at 800 feet from the noise source, from March 1 to June 15. **Guideline**

1.F.64. Prohibit activities that would alter water flow regimes and flood prairie dog burrows. **Standard**

1.F.65. Evaluate prairie dog management 3 years after management plan approval. Evaluate prairie dog management again when the total acres of active prairie dog colonies expand to 35,000 acres (approximately 7%) of suitable habitat on the Thunder Basin National Grassland. **Standard**

1.F.66. To reduce risks and habitat loss for prairie dogs and other wildlife species closely associated with prairie dog colonies, align new roads outside prairie dog colonies. If it's necessary to place a new road in a prairie dog colony, minimize the amount of road within the colony to the extent that soil, drainage, topographical and other physical factors will allow. **Guideline**

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1.F.67. To reduce disturbances to swift fox during the breeding and whelping seasons, prohibit the following activities within 0.25 miles of their dens from March 1 to August 31:

- Construction (e.g., roads, water impoundments, oil and gas facilities),
- Reclamation,
- Gravel mining operations,
- Drilling of water wells,
- Oil and gas drilling. **Standard**

1.F.68. To reduce disturbances to swift fox during the breeding and whelping seasons, do not authorize the following activities within 0.25 miles of their dens from March 1 to August 31:

- Construction (e.g., pipelines, utilities, fencing),
- Seismic exploration,
- Workover operations for maintenance of oil and gas wells,
- Permitted recreation events involving large groups of people. **Guideline**

1.F.73. To help prevent abandonment, reproductive failure or nest destruction, prohibit development of new facilities within the minimum distances (line of sight) of active raptor nests and winter roost sites as specified in the following table. For the bald eagle, golden eagle, merlin, ferruginous hawk and Swainson's hawk, a nest is no longer considered active if it's known to have been unoccupied for the last 7 years. For the burrowing owl and other raptor species, a nest is no longer considered active if it's known to have been unoccupied during the current or most recent nesting season. This does not apply to pipelines, fences and underground utilities. **Standard**

SPECIES AND HABITAT	MINIMUM DISTANCE (MILES)
Bald Eagle Nest	1.0
Bald Eagle Winter Roost Area	1.0
Golden Eagle Nest	0.25
Merlin Nest	0.25
Ferruginous Hawk Nest	0.25
Swainson's Hawk Nest	0.25
Burrowing Owl Nest	0.25
Nests of Other Raptors	0.125

1.F.74. To help reduce disturbances to nesting and wintering raptors, prohibit the following activities within the minimum distances (line of sight) of active raptor nests and winter roost areas during the dates specified in the table below:

- Construction (e.g., roads, water impoundments, oil and gas facilities),
- Reclamation,
- Gravel mining operations,
- Drilling of water wells,

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- Oil and gas drilling,
- Timber harvest and fuel treatments
- Precommercial thinning. **Standard**

SPECIES AND HABITAT	MINIMUM DISTANCE (MILES) AND DATES
Bald Eagle Nest	1.0 from 2/1 to 7/31
Bald Eagle Winter Roost Area	1.0 from 11/1 to 3/31
Golden Eagle Nest	0.50 from 2/1 to 7/31
Merlin Nest	0.50 from 4/1 to 8/15
Ferruginous Hawk Nest	0.50 from 3/1 to 7/31
Swainson's Hawk Nest	0.50 from 3/1 to 7/31
Burrowing Owl Nest	0.25 from 4/15 to 8/31
Nests of Other Raptors	0.125 from 2/1 to 7/31*

\*dates may vary depending on species

1.F.75. To help reduce disturbances to nesting and wintering raptors, do not authorize the following activities within the minimum distances (line of sight) of active raptor nests and winter roost areas during the dates specified in the previous table:

- Construction (e.g., pipelines, utilities, fencing),
- Seismic exploration,
- Workover operations for maintenance of oil and gas wells,
- Fuelwood cutting,
- Permitted recreation events involving large groups of people. **Guideline**

1.F.76. If a winter roost area or nest site is discovered, ensure that the necessary habitat components are maintained, including maintenance and regeneration of woodlands. **Standard**

**Chapter 1, Section J – Insect and Disease Control, Noxious Weeds, Non-native, and Invasive Species**

1.J.2. To prevent the spread of undesirable non-native and invasive plant species, include necessary provisions in contracts and permits for use of the National Grasslands and its resources. **Standard**

1.J.5. Allow only certified noxious weed seed-free products for animal feed or re-vegetation projects. This includes use of certified hay or straw, and heat-treated, or other appropriately processed products. **Standard**

1.J.7. Where technically and economically feasible, use genetically local (at the ecological subsection level) native plant species in re-vegetation efforts. To prevent soil erosion, non-native annuals or sterile perennial species may be used while native perennials are becoming established. **Guideline**

1.J.10. Restrict pesticide use where it would have adverse effects on species at risk. **Guideline**

## FIRE AND FUELS

### ***South Dakota***

Base activity and natural fuel treatment on area matrix values within the BHNF FPA in accordance with the following treatment options (BHNF: 4110–Guideline, and 10-01 and 10-04):

- In areas identified as having high ratings for risk, hazard or value:
  - Reduce or otherwise treat all fuels (activity fuels within three years of cutting) so the potential fireline intensity does not exceed 200 BTUs/second/foot on 90 percent of the days when fires occur, or break up continuous fuel concentrations exceeding the above intensity into units 30 to 40 acres maximum size, surrounded by fuel breaks.
  - Interim activity fuel treatment will be accomplished by requiring all slash to be lopped to 18 inches or less at the time of cutting.
- In areas identified as having moderate ratings for risk, hazard or value:
  - Reduce or otherwise treat all fuels (activity fuels within three years of cutting) so the potential fireline intensity does not exceed 300 BTUs/second/foot on 90 percent of the days when fires occur, or break up continuous fuel concentrations exceeding the above intensity into units 40 to 50 acres maximum size, surrounded by fuel breaks.
  - Interim activity fuel treatment will be accomplished by requiring all slash to be lopped to 18 inches or less at the time of cutting.
- In areas identified as having low ratings for risk, hazard or value:
  - Reduce or otherwise treat all fuels (activity fuels within three years of cutting) so the potential fireline intensity does not exceed 400 BTUs/second/foot on 90 percent of the days when fires occur, or break up continuous fuel concentrations exceeding the above intensity into units 40 to 0 acre(s) maximum size, surrounded by fuel breaks.
  - Interim activity fuel treatment will be accomplished by requiring all slash to be lopped to 24 inches or less at the time of cutting. **Guideline**

### ***Wyoming***

Reduce the threat of wildfire to public and private developments by following Guidelines in the National Fire Protection Association Publication 299, Protection of Life and Property from Wildfire, and reduce the fuel load to acceptable levels. **Guideline**

Minimize impacts to paleontological and heritage resources, streams, stream banks, shorelines, lakes and associated vegetation, and habitat for threatened, endangered, proposed, and sensitive species from wildfire suppression efforts in the following ways:

- Prohibit the use of earth-moving equipment on known paleontological or heritage sites.
- Discourage the application of fire-retardant chemicals over riparian areas, wetlands, and open water.
- Prior to using earth-moving equipment, consult appropriate specialists for guidance.
- Notify USFWS when TES habitat is threatened or impacted by fire. **Guideline**

In Backcountry Recreation Nonmotorized areas, and Research Natural Areas, encourage the use of wildland fire suppression strategies and tactics that minimize land and resource disturbance. **Guideline**

## SOILS

### **South Dakota**

Manage land treatments to limit the sum of severely burned and detrimentally compacted, eroded, and displaced land to no more than 15 percent of any land unit. “Land treatments” are human actions that disturb vegetation, ground cover or soil. “Land unit” is a mapped land-type polygon or a mapped soil unit. **Standard** (Regional WCP Handbook Standard 13)

Minimize soil compaction by reducing off-road vehicle passes, by skidding on snow, frozen or dry soil conditions, or by off-ground logging systems. **Guideline**

Limit roads and other disturbed sites to the minimum feasible number, width, and total length consistent with the purpose of specific operations, local topography and climate. **Standard** (Regional WCP Handbook Standard 9)

Stabilize and maintain roads and other disturbed sites during and after construction to control erosion. **Standard** (Regional WCP Handbook Standard 11)

Reclaim roads and other disturbed sites when use ends, as needed, to prevent resource damage. **Standard** (Regional WCP Handbook Standard 12)

Initiate re-vegetation as soon as possible, not to exceed 6 months after termination of ground-disturbing activities. Re-vegetate all disturbed soils with native species in seed/plant mixtures that are noxious-weed free. On areas needing immediate establishment of vegetation, non-native, non-aggressive annuals (e.g., wheat, oats, rye) or sterile species may be used while native perennials are becoming established, or when native species are not available (e.g., during drought years or years when wildfires burn large acreages in the United States). Other aggressive non-native perennials (e.g., smooth brome, timothy) will not be used. Seed will be tested for noxious weeds. If mulches are used they are to be noxious-weed free. Weed-free alfalfa seed may be used only when native legume seed is not available and only when there is extensive disturbance associated with road construction or mine reclamation where topsoil is no longer available. **Standard**

Stabilize, scarify or recontour temporary roads, constructed skid trails and landings prior to seeding. **Guideline**

Construct roads and other disturbed sites to minimize sediment discharge into streams, lakes and wetlands. **Standard** (Regional WCP Handbook Standard 10)

**Black Hills National Forest Direction** (*Soil quality Standards do not apply to administrative sites or other areas with dedicated uses, including transmission line corridors*)

- Maintain soil productivity (in areas that would be restored at the end of construction)
- Stabilize, reclaim and revegetate disturbed areas
- Prohibit soil disturbing activities on slopes greater than 55 percent

### **Wyoming**

Limit roads and other disturbed sites to the minimum feasible number, width, and total length consistent with the purpose of specific operations, local topography, and climate. **Standard**

Stabilize and maintain roads and other disturbed sites during and after construction to control erosion. **Standard**

Reclaim roads and other disturbed sites when use ends, as needed, to prevent resource damage.

**Standard**

Prohibit soil-disturbing activities (e.g., road construction, well pad construction) on slopes greater than 40 percent and on soils susceptible to mass failure. **Guideline**

(See the FSH 2509.18 Soil Management Handbook R2 Supplement No. 2509.18-92-1 for further information.)

## WATER RESOURCES

### **South Dakota**

#### General

In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term stream health and riparian ecosystem condition.

**Standard**

Maintain long-term ground cover, soil structure, water budgets, and flow patterns in wetlands to sustain their ecological function, per 404 regulations. **Standard**

Vegetative type conversion should only be done in riparian areas to reestablish riparian vegetation for the protection and/or enhancement of those ecosystems. **Guideline**

As opportunities arise, and need dictates, relocate or implement mitigation measures for roads, trails, watering tanks, ponds, water catchments, and similar facilities currently located within the Water Influence Zone. **Standard**

Locate camping sites for contractual purposes (e.g., mining, logging, etc.) such that channel and riparian areas are not impacted. **Standard**

Prohibit log land, decking areas and mechanical slash piling within riparian areas unless the integrity of the riparian area can be protected (e.g., frozen, snow-covered ground conditions). **Standard**

#### Stream Channels

Conduct actions so that stream pattern, geometry, and habitats are maintained or improved toward robust stream health. **Standard**

Move stream channels only if all other practical alternatives to protect critical resources or capital investments have been exhausted and other legal requirements have been met. If streams are put in channels:

- Use methods that create stable beds and banks and beneficial aquatic habitat features; and
- Use stream geometry relationships to reestablish meanders, width/depth ratios, etc. consistent with each major stream type. **Guideline**

Design and construct all stream crossings and other in-stream structures to provide for passage of flow and sediment, withstand expected flood flows, and allow free movement of resident aquatic life.

**Standard**

Naturally occurring debris shall not be removed from stream channels unless it is a threat to life, property, important resource values, or otherwise covered by legal agreement. **Guideline**

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When projects are implemented which can affect: large, woody debris; retain natural and beneficial volumes of large, woody debris for fish habitat; stream energy dissipations; and as sources of organic matter for the stream ecosystem. **Guideline**

When stabilizing damaged stream banks, preferentially use methods that emphasize vegetative stabilization. Use native vegetation for stream bank stabilization whenever possible. **Guideline**

Manage water-use facilities to prevent gully erosion of slopes and to prevent sediment and bank damage to streams. **Standard**

Design water developments to minimize damage to channel capacity, aquatic habitat and riparian vegetation. **Guideline**

#### In-stream Flows

Manage vegetation treatments so that stream flows are not changed to the extent that long-term stream health is degraded. **Standard**

Maintain enough water in perennial streams to sustain existing stream health. Return some water to dewatered perennial streams when needed. Comply with Section 505 of the FLPMA and 36 CFR 251.56 when issuing and re-issuing authorizations for water storage and diversion facilities. **Standard**

#### Water Quality

Place new sources of chemical and pathogenic pollutants where such pollutants will not reach surface or ground water. **Standard**

Apply runoff controls to disconnect new pollutant sources from surface and ground water. **Standard**

Apply chemicals using methods which minimize risk of entry to surface and ground water. **Standard**

Where natural background water pollutants cause degradation, it is not necessary to implement improvement actions. Short-term or temporary failure to meet some parameters of the applicable federal or state standard, such as increased sediment from road crossing construction or water resource development, may be permitted in special cases. **Guideline**

### **Wyoming**

#### General

Manage land treatments to conserve site moisture and to protect long-term stream health from damage by increased runoff. **Standard**

Manage land treatments to maintain enough organic ground cover in each land unit to prevent harmful increased runoff (exceptions shall occur in special habitat situations (e.g., prairie dog habitat). **Standard**

In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term health and riparian ecosystem condition. **Standard**

Design and construct all stream crossings and other in-stream structures to provide for passage of flow and sediment, withstand expected flood flows, and allow free movement of resident aquatic life. **Standard**

Conduct actions so that stream pattern, geometry, and habitats are maintained or improved toward robust stream health. **Standard**

Maintain long-term ground cover, soil structure, water budgets, and flow patterns of wetland to sustain their ecological function, per 404 regulations. The 404 regulations are guidelines established by the

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Environmental Protection Agency. They constitute the substantive environmental criteria used in evaluating activities regulated under Section 404(b)(1) of the Clean Water Act. The full text of these regulations can be found at 40 CFR 230. **Standard**

Return and/or maintain sufficient stream flows, under appropriate authorities, to minimize damage to scenic and aesthetic values, fish, and wildlife habitat, and to otherwise protect the environment.

**Standard**

Manage water-use facilities to prevent gully erosion of slopes to prevent sediment and bank damage to streams. **Standard**

Construct roads and other disturbed sites to minimize sediment discharge into stream, lakes, and wetlands. **Standard**

Place new sources of chemicals and pathogenic pollutants where such pollutants will not reach surface or ground water. **Standard**

Apply runoff controls to disconnect new pollutant sources from surface and ground water. **Standard**

Apply chemicals using method that minimize risk of entry to surface and ground water. **Standard**

Design activities to protect and manage the riparian ecosystems. Maintain the integrity of the ecosystem including quantity and quality of water. **Standard**

Locate activities and facilities away from the water's edge or outside the riparian areas, woody draws, wetlands, and floodplains unless alternatives have been assessed and determined to be more environmentally damaging. If necessary to locate activities or facilities in these areas, then:

- Deposit no waste material (silt, sand, gravel, soil, slash, debris, chemical, or other material) below high water lines, in riparian areas, in the areas immediately adjacent to riparian areas, in the areas immediately adjacent to riparian areas or in natural drainage ways (draws, land surface depressions or other areas where overland flow concentrates and flows directly into streams or lakes).
- Prohibit deposition of soil material in natural drainage ways.
- Locate the lower edge of disturbed or deposited soil banks outside the active floodplain.
- Prohibit stockpiling of topsoil or any other disturbed soil in the active floodplain.
- Locate drilling mud pits outside riparian areas, wetlands and floodplains. If location is unavoidable in these areas, seal and dike all pits to prevent leakage.
- Rehabilitate gravel pits, if located in riparian zones, to simulate a natural riparian/aquatic situation. **Guideline**

Do not allow new roads to parallel streams when road location must occur in riparian areas unless alternatives have been assessed and determined to be more environmentally damaging. Cross streams at right angles. Locate crossings at points of low bank slope and firm surfaces. (See the Water Conservation Practices Handbook, Forest Service Handbook [FSH] 2509.25, TBNG LRMP for further information.) **Standard**

## RECREATION

### ***South Dakota***

#### Developed Recreation

Construct, reconstruct, and maintain developed sites in accordance with the recreation opportunity spectrum (ROS) classification established for the immediate area. **Guideline**

Integrated resource management schedules should be prepared prior to rehabilitation, expansion, or construction of projects. **Guideline**

Consider the element of cost efficiency and public desires when planning development and operating sites within the complex. **Guideline**

Facilities may dominate, but must harmonize and blend with the adjacent natural landscape. **Standard**

Design facilities and access to provide site protection, to restrict access, or route recreational use away from R2 sensitive and species of local concern plants that are located within or immediately adjacent to developed recreation sites and to provide for efficient maintenance and user convenience. **Standard**

Design and locate improvements on winter sport sites to provide safety to users and to harmonize with the natural environment. **Standard**

All new or reconstructed developed recreation sites will provide a range of universally accessible opportunities within the limits of the site characteristics. **Standard**

Stands should be managed in campgrounds to provide a variety of species, size classes and age classes to perpetuate forest cover, add diversity in the forest setting, and complement recreation and visual values. **Guideline**

Do not issue special-use permits that will preclude future recreational developments. **Standard**

Emphasize signing for recreational purposes that comply with site-development scale and ROS. **Guideline**

Do not locate any new developed recreation sites in or immediately adjacent to known locations of R2 sensitive or species of local concern plants. **Standard**

#### Dispersed Recreation

Discourage dispersed camping within a minimum of 100 feet from lakes and streams unless exceptions are justified by terrain. **Guideline**

Use the following criteria when evaluating campsites for closure, rehabilitation, or mitigation of damage:

- Campsite condition reaches Frissell class “heavy” or “severe”;
- Site occupancy exceeds the adopted scenic integrity objective;
- There are social use conflicts; and
- Unacceptable environmental damage is occurring. **Standard**

If use exceeds the area capacity or limit of acceptable change for a given ROS class, the following management actions, in order of priority, should be employed to address the impacts or effects to the recreation setting:

- Inform the public and restore or rehabilitate the site;

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- Reroute use or focus use elsewhere;
- Regulate use;
- Restrict the number of users; and
- Close the site. **Standard**

Different accessibility challenge levels will be planned, depending on the nature of the improvement and the principal form of recreation being provided. **Guideline**

#### Recreation Special Uses

When capacity has been met for a certain special use activity, no further permits will be issued.

**Standard**

Avoid issuance of outfitter and guide permits that result in exclusive use of National Forest System (NFS) lands by a special segment of the public. **Standard**

Encourage the dispersion of outfitter and guide camps away from popular sites receiving capacity use.

**Guideline**

Keep a minimum distance of one-half mile between hunting-season outfitter and guide camps except at staging areas, unless there are adequate natural buffers to permit closer distances. **Guideline**

#### Scenery Management

Management activities which are inconsistent with the scenic integrity objectives will be prohibited unless a decision is made to change the scenic integrity objective. Such decisions will be documented in a site-specific decision document. **Guideline**

Where the scenic integrity objective (SIO) criterion is high or moderate, meet the criterion within one full growing season after completion of a project. In the wildland-urban interface (WUI) areas, the moderate SIO should be met within two to four years after the fire-hazard objective is met. Future management activities in WUIs shall meet SIO within one year of treatment. Where it is low or very low, meet the criterion within three full growing seasons after completion of a project. **Guideline**

Choose facility and structure design, color of materials, location and orientation to meet the scenic integrity for the management area. **Guideline**

Integrate the protection of aesthetic values with all resource planning. **Guideline**

Highest priority for protection of scenic quality are those areas of heavy public use, such as scenic byways, major roads or trails, developed recreation sites, administrative sites, and backdrops for cities and towns. **Guideline**

Within the immediate foreground of primary travelways/use areas, manage tree stands to enhance the scenic quality and recreational opportunities. Manage for a variety of scenic quality and recreation opportunities. Manage for a variety of scenic conditions including areas of large, yellow-barked ponderosa pine, areas of hiding cover for wildlife, and areas with open park-like conditions, except as needed to meet Objective 10-02. **Guideline**

Vary stand densities to create vegetative diversity in areas with an adopted scenic integrity objective of Moderate or High. **Guideline**

Large facilities, such as power lines, should not be noticeable features within travel corridors. **Guideline**

## ***Wyoming***

### General

Protect instream flows at special recreation features. Use the following categories to rank streams and stream reaches based on the recreation features and values described:

- **High priority features:** scenic areas and overlooks, visitor centers, canoeing areas, scenic byways, native threatened, endangered, and sensitive species, wilderness water resources under threat of degradation, and similar features where flowing water is critical to a quality recreational experience.
- **Moderate priority features:** recreation areas, including roads, trails, campgrounds, and picnic grounds next to streams and reservoirs where flowing water contributes to a quality recreational experience and to aesthetic values. **Standard**

Refrain from building new recreation facilities in riparian areas unless a clear public need can be demonstrated, and no other reasonable alternative exists. **Guideline**

Implement a "pack-it-in/pack-it-out" solid waste/garbage removal policy where disposal facilities are not available. **Standard**

On sites where dispersed recreation activities have contributed to bare mineral soil and accelerated erosion, mitigate the impacts by redirecting the use, rehabilitating or hardening the site to minimize erosion and off-site movement of soil. **Standard**

### Developed Recreation Sites

Harden sites to protect resources or accommodate user needs. **Guideline**

Close facilities if public safety or sanitation cannot be provided. **Standard**

Design recreational facilities to blend with the elements found in the natural landscape. **Guideline**

Make facilities at trailheads or along trails consistent with the ROS and provide for parking, trail information, and appropriate sanitation facilities, as needed. **Guideline**

Allow oil and gas leasing within developed recreation sites, but do not permit ground-disturbing oil and gas activities. **Standard**

### Outfitters and Guides

Consider the following criteria before making a decision to issue an outfitter and guide service permit:

- There will not be significant conflict with other permitted outfitters and guides, other permittees, or other users as a result of the activities associated with the permit.
- Other resource considerations, including the biological needs of wildlife, are considered and found compatible with the proposed activity.
- The permit furthers national grassland and forest goals. **Guideline**

Require all outfitter and guide permittees conducting activities with a relatively high risk or frequency of serious injury to have at least one guide on each trip who possesses current advanced first aid certification. Examples of high risk activities include, but are not limited to: horse, mule, or pack animal use, snow machine or all-terrain vehicle use, rock climbing, hang gliding, etc. **Standard**

Administer permits, and pursue and prosecute illegal outfitters and guides. **Standard**

Prohibit permanent facilities or caches on NFS lands. **Standard**

Management Area 1.31 – Non-motorized Backcountry Recreation

Develop necessary trailhead facilities on public land to provide adequate public parking in these areas, provide for sanitation facilities and to reduce conflicts with private landowners. **Guideline**

Management Area 3.63 – Black-footed Ferret Reintroduction Habitat

To help expand and maintain suitable black-footed ferret habitat, coordinate and consult with the state wildlife agency to prohibit prairie dog shooting within black-footed ferret reintroduction habitat.

**Standard**

Scenery Management

Rehabilitate areas that do not meet the scenic integrity objectives specified for the management area. Consider the following when setting priorities for rehabilitation:

- Relative importance of the area and the amount of deviation from the scenic integrity objectives.
- Length of time it will take natural processes to reduce the visual impacts so that they meet the scenic integrity objective;
- Length of time it will take rehabilitation measures to meet scenic integrity objectives;
- Benefits to other resource management objectives to accomplish rehabilitation. **Guideline**

## **NOXIOUS WEEDS, NON-NATIVE, AND INVASIVE SPECIES**

### **South Dakota**

For all proposed projects or activities, determine the risk of noxious-weed introduction or spread, and implement appropriate mitigation measures and treatment. **Standard**

Use biological control methods whenever practical, and whenever protecting other resources is desired, such as water quality. **Guideline**

Treat individual plants or groups of plants in areas where R2 sensitive or species of local concern plants occur. Use a treatment method that is the least risk to the species being protected. **Standard**

Apply chemical agents at the lowest effective rates, and as large droplets or pellets to reduce drift. Follow label directions. **Guideline**

Use certified noxious-weed-free seed, feed and mulch. Seed will be tested for noxious weeds at the time of purchase. **Standard**

Use buffers around water sources, lakes, wetlands and streams to keep concentrations of chemical agents in water well below those harmful to drinking, irrigation, aquatic life and non-target vegetation. Treatment of individual plants with aquatic-labeled chemical agents may occur in buffers. **Standard**

Monitor weed treatments used at R2 sensitive and species of local concern plant occurrences and re-treat as needed during the season. **Standard**

## **Wyoming**

To prevent the spread of undesirable non-native and invasive plant species, include necessary provisions in contracts and permits for use of the National Grasslands and its resources.

### **Standard**

Allow only certified noxious weed seed-free products for animal feed or re-vegetation projects. This includes use of certified hay or straw, and heat-treated, or other appropriately processed products. **Standard**

Where technically and economically feasible, use genetically local (at the ecological subsection level) native plant species in re-vegetation efforts. To prevent soil erosion, non-native annuals or sterile perennial species may be used while native perennials are becoming established. **Guideline**

## **TIMBER AND SILVICULTURE**

### **South Dakota**

Avoid cutting snags greater than 20-inch dbh or largest size class available unless a safety hazard.

### **Standard**

Avoid cutting all hardwood snags if there is snag density of less than six per acre; or hardwood snags greater than nine inch dbh and 25 feet high per acre otherwise unless they are a safety hazard. Retain all soft snags unless they are a safety hazard. **Standard**

During vegetation management activities on ponderosa pine forested sites, retain an average of at least 50 linear feet per acre of coarse woody debris with a minimum diameter of 10 inches. On white spruce forested sites retain an average of at least 100 linear feet per acre of coarse woody debris with a minimum diameter of 10 inches. **Standard**

### **Wyoming**

On conifer-forested sites (ponderosa pine), retain an average of at least 50 linear feet per acre of coarse woody debris with a minimum diameter of 10 inches (where materials are available) or largest woody material found on-site. **Standard**

## **CULTURAL RESOURCES**

### **South Dakota**

Consider long-term Forest management needs in determining appropriate use of mitigation of effects to, or avoidance of, heritage resources during project planning. **Guideline**

### **Wyoming**

Consult with designated representatives of federally recognized American Indian Tribes during design of projects with potential to affect cultural rights and practices to help ensure protection, preservation, and use of areas that are culturally important to them. **Standard**

Leave human remains undisturbed. **Guideline**

In case of disturbance, take steps outlined in Appendix M. Follow state law regarding the discovery of human remains. **Standard**

Protect heritage resources from damage by activities or vandalism through project design, specified protection measures, monitoring, and coordination. **Guideline**

Limit non-research oriented ground-disturbing activities on heritage districts and sites eligible for the National Register Historic Preservation (NRHP) that creates adverse impacts to the district or site. **Guideline**

## **AMERICAN INDIAN USES**

### ***South Dakota***

Sensitive information about American Indian religious sites and sacred areas will be kept confidential. **Standard**

## **PALEONTOLOGICAL RESOURCES**

### ***Wyoming***

Protect key paleontological resources (Classes 3, 4, and 5 of the Fossil Potential Classification) from disturbance, or mitigate the effects of disturbance, to conserve scientific, interpretive, and legacy values (see Paleontological Appendix J for details [refers to appendix in USDA Forest Service 2002]). **Standard**

Prior to ground-disturbing activities, conduct paleontological surveys in any area where there is a high potential to encounter these resources according to the process outlined in Appendix J (refers to appendix in USDA Forest Service 2002). **Standard**

## **TRANSPORTATION AND TRAVEL MANAGEMENT**

### ***South Dakota***

Motorized vehicles may be used on restricted areas and roads to accomplish administrative purposes. **Guideline**

Construct temporary roads when there is a one-time need for a transportation facility. Return the road to vegetative production when the one-time need is fulfilled. **Standard**

Obliterate forest development roads when project decisions indicate they are no longer needed to achieve management activities, or where resource damage cannot be mitigated. Inventory and obliterate non-forest development road travelways during project planning and implementation. **Standard**

Reduce the long-term impact of roads on soils:

- Revegetate the entire road prism of temporary and local native-surface roads upon completion of project work;
- Revegetate cut-and-fill slopes of all newly constructed or reconstructed roads;
- Give roads and trails special design considerations to prevent resource damage on capability areas containing soils with high shrink/swell capacity;

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- Provide permanent drainage and establish protective vegetative cover on all new temporary roads or equipment ways, and all existing roads that are being removed from the transportation system; and
- Provide adequate road and trail cross drainage to reduce erosion. **Guideline**

### **Wyoming**

Prohibit all motorized cross-country travel off existing roads and trails, except for authorized emergency services (i.e., law enforcement, medical, search and rescue) and administrative use (i.e., fire control, grazing administration, noxious weed control, and wildlife surveys). **Standard**

Consider existing roads and trails open and allow motorized vehicle use on them unless the following occurs:

- A decision restricts motorized use.
- The area is designated nonmotorized.
- Motorized use is specifically prohibited in management area direction or existing orders.

**Guideline**

Allow motorized wheelchair use in a nonmotorized area so long as that wheelchair meets the legal definition of Title V, Section 507(c)(2) of the Americans with Disabilities Act. **Standard**

Perform site-specific Roads Analysis, including public involvement, prior to making any decisions on road construction, reconstruction, and decommissioning. **Guideline**

Do not invest in new facilities on lands meeting the criteria for disposal. **Guideline**

Install cattle guards or hinged metal gates on popular and designated travel routes. **Guideline**

**APPENDIX E**

**BIOLOGICAL ASSESSMENT AND BIOLOGICAL EVALUATION  
SUMMARY**

# Summary of Black Hills National Forest and Thunder Basin National Grassland Biological Assessments and Biological Evaluations

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This is a summary of the Biological Assessments (BA) and Biological Evaluations (BE) prepared for Black Hills Power's (BHP's) proposed Teckla-Osage-Rapid City (T-O-RC) Transmission Project (the Project). It is a synopsis of the analysis of actions proposed in the Project Final Environmental Impact Statement (FEIS). The full versions of the BAs and BEs for each of the Black Hills National Forest (BHNF) and Thunder Basin National Grassland (TBNG) are available in the Project file. The purpose of the BAs and BEs is to determine how the Proposed Action and alternatives to the Proposed Action will affect federally-listed species and sensitive species listed by the Rocky Mountain Region (Forest Service Manual Regional Supplement No. 2600-2013-1 (dated August 24, 2013)). The Project BAs and BEs were prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act of 1973 (19 U.S.C. 1536 (c)), and standards established in Forest Service Manual direction (26762.42) and the Code of Federal Regulations (CFR) (50 CFR §402). The BHNF BA/BE tiers directly to the Final EIS for the Phase II Amendment to the BHNF Forest Plan (USFS 2005).

## POTENTIALLY AFFECTED SPECIES

### FLORA

#### Federally-Listed Plant Species

##### Black Hills National Forest

Based on the United States Fish and Wildlife Service (USFWS) South Dakota Ecological Services Office list of federally-protected species occurrence by county, there are no federally threatened or endangered plant species known to occur in the proposed analysis area. Information provided by the BHNF also indicated there are no known occurrences of federally-listed plant species in the proposed analysis area.

##### Thunder Basin National Grassland / BLM

Based on the USFWS Wyoming Ecological Services Office list of federally-protected species occurrence by county, one plant species, Ute ladies'-tresses orchid (*Spiranthes diluvialis*, threatened) may occur in Campbell or Weston Counties, Wyoming. Portions of these two counties are included in the analysis area.

#### Region 2 Sensitive Plant Species

##### Black Hills National Forest

The BHNF review was completed using a variety of existing and relevant data sources, including peer-reviewed publications, previous EIS' prepared on behalf of the BHNF (i.e., Phase I and Phase II Land Resource Management Plan (LRMP) Amendment Final EIS and associated BA/BE), South Dakota Natural Heritage Database, BHNF monitoring reports, USFS technical reports, Natural Resource Information System data, and other peer reviewed literature. Data and results of all surveys performed in association with the Proposed Action can be found in the T-O-RC Project file.

Thunder Basin National Grassland

The TBNG review was completed using a variety of existing and relevant data sources, including peer-reviewed publications, TBNG Land and Resource Management Plan (LRMP) (USFS 2001), TBNG annual monitoring reports, LANDFIRE GIS vegetation coverage (USGS 2010), Wyoming Game and Fish Department Greater Sage-Grouse Core Areas and lek data, and Wyoming Natural Diversity Database (WYNDD 2012) species occurrences.

The Sensitive Species list for the Rocky Mountain Region (Region 2) was updated in the Forest Service Manual Regional Supplement No. 2600-2013-1 (dated August 24, 2013). The sensitive plant species that are known to occur on the BHNF and the TBNG, or for which potential habitat occurs, were considered in the evaluation and are presented in **Tables E-1 and E-2**, respectively.

<b>TABLE E-1 REGION 2 SENSITIVE PLANT SPECIES EVALUATED FOR THE BHNF</b>				
SPECIES	SPECIES PRESENT	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED	HABITAT DESCRIPTION
Iowa moonwort <i>Botrychium campestre</i>	No	Yes	Yes	Native, unplowed prairies with thatch, or disturbance (grazing), loess prairie, dunes; 3,700 - 5,000 (10,800) feet elevation.
Slender moonwort <i>Botrychium lineare</i>	No	Yes	Yes	Native grasslands; medium height grass habitat, stream edges forest edges, also upland habitats; 0 -10, 500 feet elevation.
Foxtail sedge <i>Carex alopecoidea</i>	No	Yes	Yes	Wet meadows, wetland margins, streamside, and moist areas; 5,600 - 5,900 feet elevation.
Lesser yellow lady's slipper <i>Cypripedium parviflorum</i> (SYN= <i>C. calceolus</i> )	No	Yes	Yes	Damp mossy woods along streams and bogs; low moist woods and valleys in the Black Hills.
Stream orchid <i>Epipactis gigantea</i>	No	No	No	Valleys near streams; Cascade Creek of the Black Hills.
Groundcedar <i>Lycopodium complanatum</i> (SYN= <i>Diphasiastrum complanatum</i> )	No	Yes	Yes	Woods and thickets.
Large roundleaf orchid <i>Platanthera orbiculata</i> (SYN= <i>Habeneria orbiculata</i> )	No	Yes	Yes	Moist woods of the Black Hills.
Sageleaf willow <i>Salix candida</i>	No	Yes	Yes	Boggy places of the Black Hills.
Autumn willow	No	Yes	Yes	Wet meadows; saturated, organic

Appendix E  
Biological Assessments and Biological Evaluations

<b>TABLE E-1 REGION 2 SENSITIVE PLANT SPECIES EVALUATED FOR THE BHNH</b>				
SPECIES	SPECIES PRESENT	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED	HABITAT DESCRIPTION
<i>Salix serissima</i>				soils of the Black Hills.
Bloodroot <i>Sanguinaria canadensis</i>	No	Yes	Yes	Rich woods of the Black Hills.
Narrowleaf sphagnum <i>Sphagnum angustifolium</i>	No	Yes	Yes	Boggy places of the Black Hills.
Selkirk's violet <i>Viola selkirkii</i>	No	No	No	Cool, shady ravines in the Black Hills.
American cranberrybush <i>Viburnum opulus</i> var. <i>americanum</i>	No	Yes	Yes	Moist woods or thickets; rich wooded ravines in the Black Hills; moist to wetland, fens, marshes, moist woods, and thickets, with paper birch; 4,200 - 4,950 feet elevation.

<b>TABLE E-2 REGION 2 SENSITIVE PLANT SPECIES EVALUATED FOR THE TBNG</b>				
SPECIES	HABITAT REQUIREMENTS	OCCURRENCE IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	RATIONALE IF NOT EVALUATED
Laramie columbine <i>Aquilegia laramiensis</i>	Shady crevices of north facing granite boulders; 6,250-8,000 feet elevation.	No	No	Field visits confirmed no suitable habitat is present <sup>†</sup>
Siberian sea thrift <i>Armeria maritima</i> ssp. <i>sibirica</i>	Alpine moist habitats; 11,900-13,000 feet elevation.	No	No	Field visits confirmed no suitable habitat is present <sup>†</sup>
Barr's milkvetch <i>Astragalus barrii</i>	Dry, calcareous soils and clay hills; cushion plants in badland islands in grassland matrix; 3,700-6,000 feet elevation.	No	Moderate	Evaluated
Iowa moonwort <i>Botrychium campestre</i>	Native, unplowed prairies with thatch, or disturbance (grazing), loess prairie, dunes; 3,700-5,000 (10,800) feet elevation.	No	No	Field visits confirmed no suitable habitat is present <sup>†</sup>

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<b>TABLE E-2 REGION 2 SENSITIVE PLANT SPECIES EVALUATED FOR THE TBNG</b>				
SPECIES	HABITAT REQUIREMENTS	OCCURRENCE IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	RATIONALE IF NOT EVALUATED
Slender moonwort <i>Botrychium lineare</i>	Native grasslands; medium height grass habitat, stream edges forest edges, also upland habitats; riparian, spruce fir, lodgepole pine, forest meadow, 0-10,500 feet elevation.	No	No	Field visits confirmed no suitable habitat is present <sup>†</sup>
Foxtail sedge <i>Carex alopecoidea</i>	Wet meadows, wetland margins, streamside, and moist areas; associated with sedge/willow communities; 5,600 – 5,900 feet elevation.	No	No	Field visits confirmed no suitable habitat is present <sup>†</sup>
Prairie dodder <i>Cuscuta plattensis</i>	Annual, parasitic on <i>Psoralea</i> , <i>Ambrosia</i> , <i>Grindelia</i> , <i>Solidago</i> , <i>Helianthus</i> spp.; 4,200-4,900 feet elevation.	No	Very Limited	Evaluated
Elliptic spikerush <i>Eleocharis elliptica</i> (SYN= <i>Eleocharis tenuis</i> var. <i>borealis</i> )	Associated with thermal seeps, springs, stock ponds, clonal; 6,200 - 7,250 feet (9,100 feet) elevation.	No	No	Field visits confirmed no suitable habitat is present <sup>†</sup>
Dakota buckwheat <i>Eriogonum visherii</i>	Dry plains, badland outcrops/islands in grassland matrix; 1,900-3,000 feet elevation.	No	Limited	Evaluated
Woolly twinpod <i>Physaria didymocarpa</i> var. <i>lanata</i>	Powder River Basin sandstone outcrops, redbed clay (clinker or scoria)-shale slopes, calcareous substrates, and road cuts, open, shrub-dominated slopes; 3,300-9,000 feet elevation.	No	Moderate	Evaluated
Largeflower triteleia <i>Triteleia grandiflora</i>	Meadows or open woods; grassy areas in sagebrush at edge of aspen, lodgepole pine forests, pinyon-juniper-woodlands to pine forest slopes and hills; 5,600-8,000 feet elevation.	No	Limited	Evaluated
American cranberrybush <i>Viburnum opulus</i> var. <i>americanum</i>	Moist woods or thickets; wetlands, fens, marshes; 4,200-4,950 feet elevation.	No	No	Field visits confirmed no suitable habitat is present <sup>†</sup>

## WILDLIFE

### Federally-Listed Wildlife Species

#### Black Hills National Forest

Based on the USFWS South Dakota Ecological Services Office county species distribution lists (October 24, 2013), six species protected or proposed for protection under the ESA may occur in Pennington County (see Table E-3) including: Whooping crane (*Grus americana*), Least Tern (*Sterna antillarum*), rufa red knot (*Calidris canutus rufa*), Sprague’s pipit (*Anthus spragueii*), northern long-eared bat (*Myotis septentrionalis*) and black-footed ferret (*Mustela nigripes*). Whooping cranes may occur in eastern Pennington County during spring and fall migrations, but would be highly unlikely to occur in the mountainous forested habitats of the BBNF. The least tern nests on sand bars of large, braided prairie rivers and may occur in eastern Pennington County. The rufa red knot is a long distance migrant, nesting in the arctic tundra and wintering as far south as the southern tip of South America. In South Dakota, this species may use beaches and mudflats as stopover and feeding areas during migration. Sprague’s pipit is a small songbird that nests in open prairies and grasslands with little to no tree and shrub cover. No black-footed ferret populations are known to occur on BBNF. Except for the northern long-eared bat, none of these species are known to occur within the BBNF. Therefore, implementation of Alternatives 2 (Proposed Action) or 3 (Proposed Action with Route Modifications) will have **No Effect** on these species or their habitats protected under the ESA, except for the northern long-eared bat.

In October of 2013, the USFWS proposed to list the northern long-eared bat as an endangered species (USFWS 2013). Based on the potential for this species to occur in the South Dakota Analysis Area, the northern long-eared bat has been analyzed.

**TABLE E-3  
FEDERALLY PROTECTED SPECIES OF PENNINGTON COUNTY, SOUTH DAKOTA  
AND EFFECTS DETERMINATIONS**

SPECIES	STATUS	HABITAT	CONSIDERED FOR FURTHER ANALYSIS	EFFECTS DETERMINATION
Whooping Crane ( <i>Grus americana</i> )	Endangered	Wetland complexes with no vertical structure used for migration stopover habitat.	No. Not known to occur in Analysis Area.	No effect.
Least tern ( <i>Sterna antillarum</i> )	Endangered	Nests on prairie rivers with large sandbars or other large sandy expanses such as beaches and sand-pit mines	No. Not known to occur in Analysis Area.	No effect.
Sprague's Pipit ( <i>Anthus spragueii</i> )	Candidate	Dry grasslands with native grasses of moderate height and thickness devoid of shrub cover.	No. Not known to occur in Analysis Area.	No effect
Rufa Red Knot ( <i>Calidris canutus rufa</i> )	Proposed Threatened	Winters in South America; nests in tundra habitats near arctic coasts. Habitats	No. Not known to occur in the Analysis Area	No effect.

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**TABLE E-3  
FEDERALLY PROTECTED SPECIES OF PENNINGTON COUNTY, SOUTH DAKOTA  
AND EFFECTS DETERMINATIONS**

SPECIES	STATUS	HABITAT	CONSIDERED FOR FURTHER ANALYSIS	EFFECTS DETERMINATION
		used during migration include beaches and flats associated with large lakes and rivers.		
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	Proposed Endangered	Hibernates in caves and mines. Roosts and forages in wooded riparian zones and at higher elevations in coniferous and deciduous forests.	Potential to occur in the Analysis Area.	Is not likely to jeopardize the continued existence as a Proposed species.
Black-footed ferret ( <i>Mustella nigripes</i> )	Endangered	Open grassland and shrub steppe with well-established prairie dog ( <i>Cynomys</i> sp.) towns	No. Not known to occur in Analysis Area.	No effect.

**Thunder Basin National Grassland / BLM**

According to the list maintained by the USFWS Wyoming Ecological Service Office, the Greater Sage-Grouse (*Centrocercus urophasianus*, candidate species) is known to occur in Campbell and Weston Counties, Wyoming and has the potential to be affected by the proposed project.

**Region 2 Sensitive Wildlife Species**

The Sensitive Species list for the Rocky Mountain Region was updated in the Forest Service Manual Regional Supplement No. 2600-2013-1 (dated August 24, 2013). The sensitive wildlife species that are known to occur on the BHNF and the TBNG or for which potential habitat occurs in the proposed analysis area are presented in **Table E-4**.

**TABLE E-4  
REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS**

SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
Townsend's Big-Eared Bat ( <i>Corynorhinus townsendii</i> )	BHNF, TBNG	Dependent on caves and abandoned mines for roosting habitat. Forages over a variety of habitats including coniferous forests, juniper woodlands, deciduous forests, basins, and desert shrublands (WGFD 2010).	BHNF – No TBNG – No	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG – Yes

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<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
<b>SPECIES</b>	<b>FOREST</b>	<b>HABITAT DESCRIPTION</b>	<b>OCCUR IN ANALYSIS AREA</b>	<b>SUITABLE HABITAT PRESENT</b>	<b>ANALYSIS PROVIDED</b>
Hoary Bat ( <i>Lasiurus cinerus</i> )	BHNF, TBNG	Deciduous and coniferous woodlands with dense canopy and open understory. Often found along forest edges foraging over water sources. Roosts in tree foliage (Willis and Bingham 2005, NatureServe 2012).	BHNF – No TBNG – No	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG - Yes
Fringed Myotis ( <i>Myotis thysanodes</i> )	BHNF, TBNG	Coniferous forests, woodlands, grasslands, and shrublands, although it is probably most common in xeric woodlands, such as juniper, ponderosa pine, and Douglas-fir. Roosts in rock crevices, tree cavities, caves, abandoned mines, and buildings with winter hibernation roosts in caves (WGFD 2010).	BHNF – No TBNG – No	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG - Yes
Spotted Bat ( <i>Euderma maculatum</i> )	TBNG	Low deserts and basins and juniper woodlands but occurs primarily in association with canyons, prominent rock features, and permanent water sources. Roosts in cracks and crevices in high cliffs and canyons, it also occasionally roosts in buildings, caves, or abandoned mines (WGFD 2010).	No	Yes	Yes
Black-Tailed Prairie Dog ( <i>Cynomys ludovicianus</i> )	BHNF, TBNG	Low relief grasslands and sparse grassy shrublands dominated by blue grama, western wheatgrass and big sagebrush. Soils supporting burrows are fine to medium textured silty clay loam, sandy clay loam and loams (WGFD 2010).	BHNF – No TBNG – Yes	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG - Yes

Appendix E  
Biological Assessments and Biological Evaluations

<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
American Marten ( <i>Martes americana</i> )	BHNF	Primarily associated with mature white spruce in the Black Hills. Key habitat elements are relatively dense forests with complex physical structure near the ground, abundant coarse woody debris, and lengthy fire-return intervals (Buskirk 2002).	Yes	Yes	Yes
Rocky Mountain Bighorn Sheep ( <i>Ovis canadensis canadensis</i> )	BHNF, TBNG	Open, grassy areas associated with steep, cliff based escape cover as year round habitat (WGFD 2010).	BHNF – Yes TBNG - No	BHNF – Yes TBNG – No	BHNF – Yes TBNG - No
Swift Fox ( <i>Vulpes velox</i> )	BHNF, TBNG	Shortgrass and mixed-grass prairies with gently rolling or level landscapes. Also sagebrush steppe with low-growing vegetation, relatively flat terrain, friable soils, and high den availability (WGFD 2010).	BHNF – No TBNG - Yes	BHNF – No TBNG - Yes	BHNF – No TBNG - Yes
Northern Goshawk ( <i>Accipiter gentillis</i> )	BHNF, TBNG	Coniferous and mixed conifer/aspen forest habitat, and forages in a wide variety of forest ages, structural conditions, and successional stages. Nest sites are characterized by high canopy cover, high basal area, large tall trees, and fairly open understories, and typically are on the lower third of slopes (WGFD 2010).	BHNF – Yes TBNG - No	BHNF – Yes TBNG - No	BHNF – Yes TBNG - No
Grasshopper Sparrow ( <i>Ammodramus savannarum</i> )	BHNF, TBNG	Shortgrass prairies, mixed grasslands, meadows, open sagebrush-grasslands, and agricultural areas. It requires herbaceous cover and conspicuous perches, and avoids areas containing more than 35% shrubs (WGFD 2010).	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes

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Biological Assessments and Biological Evaluations

<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
Sage Sparrow ( <i>Amphispiza belli</i> )	TBNG	Sagebrush specialist. Prairie and foothills shrubland habitat where sagebrush is present. Prefers shrublands with tall shrubs (1 to 2 meters [3 to 6 feet]) and low grass cover, where sagebrush is clumped in a patchy landscape (WGFD 2010).	No	Yes	Yes
Burrowing Owl ( <i>Athene cunicularia</i> )	BHNF, TBNG	Open prairie, grassland, desert, and shrub-steppe habitats, and may also inhabit agricultural areas. It depends on mammals, particularly prairie dogs and ground squirrels that dig burrows, which it uses for nesting, roosting, and escape (WGFD 2010).	BHNF – No TBNG – No	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG - Yes
American Bittern ( <i>Botaurus lentiginosus</i> )	TBNG	Marshes with open water in the center, gradual slopes, a band of emergent vegetation around the periphery, and idle grassland in the adjacent uplands. Large wetlands, at least 3 hectares (7 acres), with tall, dense emergent vegetation such as cattails, bulrushes, and reeds (WGFD 2010).	No	No	No
Ferruginous Hawk ( <i>Buteo regalis</i> )	BHNF, TBNG	Semiarid open country, primarily grasslands, basin-prairie shrublands, and badlands. It requires large tracts of relatively undisturbed rangeland and nests on rock outcrops, the ground, cut banks, cliff ledges, or trees (WGFD 2010).	BHNF – No TBNG - Yes	BHNF – No TBNG - Yes	BHNF – No TBNG - Yes

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Biological Assessments and Biological Evaluations

<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
<b>SPECIES</b>	<b>FOREST</b>	<b>HABITAT DESCRIPTION</b>	<b>OCCUR IN ANALYSIS AREA</b>	<b>SUITABLE HABITAT PRESENT</b>	<b>ANALYSIS PROVIDED</b>
McCown's Longspur ( <i>Calcarius mccownii</i> )	TBNG	Shortgrass prairie and basin prairie shrubland habitats, and also inhabits plowed and stubble fields, grazed pastures, dry lakebeds, and other sparse, bare, dry ground. Prefers 45% to 80% grass cover and 15% to 25% bare ground (WGFD 2010).	Yes	Yes	Yes
Chestnut-collared longspur ( <i>Calcarius ornatus</i> )	TBNG	Shortgrass and open mixed-grass prairies. Avoids excessively shrubby areas, although it uses scattered shrubs and other low elevated perches for singing (WGFD 2010).	Yes	Yes	Yes
Greater Sage-Grouse ( <i>Centrocercus urophasianus</i> )	TBNG	Large, intact stands of mature sagebrush ( <i>Artemisia</i> sp.) with well-developed grass and forb understory and riparian meadows for nesting habitat.	Yes	Yes	Yes
Mountain Plover ( <i>Charadrius montanus</i> )	BHNF, TBNG	Low, open habitats such as arid shortgrass and mixed-grass prairies with scattered clumps of cacti and forbs. Nest in large, flat grassland expanses with less than 5% slope; sparse, short vegetation (10 centimeters [4 inches] or less); and bare ground. It is adapted to areas that have been disturbed by prairie dogs, heavy grazing, or fire (WGFD 2010).	BHNF – No TBNG - Yes	BHNF – No TBNG - Yes	BHNF – No TBNG - Yes
Black Tern ( <i>Chlidonias niger</i> )	TBNG	Marshes and aquatic areas, and usually prefers marshes or marsh complexes greater than 20 ha (50 ac). Nests in small, loose colonies, generally in areas of still water, with 25% to 75% of the surface covered by emergent vegetation, and well-interspersed with open water (WGFD 2010).	No	No	No

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Biological Assessments and Biological Evaluations

<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
Northern Harrier ( <i>Circus cyaneus</i> )	BHNF, TBNG	Nests on ground in open wetlands, including marshy meadows, wet, lightly grazed pastures, old fields, freshwater marshes, and tundra. May also utilize dry uplands, including upland prairies, mesic grasslands, drained marshlands, croplands, cold desert shrub-steppe, and riparian woodland (Sibley 2003, Smith et al. 2011).	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes
Yellow-billed Cuckoo ( <i>Coccyzus americanus</i> )	BHNF, TBNG	Riparian obligate species that prefers extensive areas of dense thickets and mature, deciduous, cottonwood gallery forests near water, and requires low, dense, shrubby vegetation for nest sites (WGFD 2010).	BHNF – No TBNG - No	BHNF – No TBNG - No	BHNF – No TBNG - No
Olive-Sided Flycatcher ( <i>Contopus cooperi</i> )	TBNG	Primarily montane and northern coniferous forests, often associated with edges and opening associated with water, including wetlands, forest streams, and ponds (Altman and Sallabanks 2000).	No	No	No
American Peregrine Falcon ( <i>Falco peregrinus anatum</i> )	BHNF, TBNG	Forages in a variety of open habitats from open woodlands and forests to shrub-steppe, grasslands, marshes, and riparian habitats. Nests on cliffs often located near water that are usually proximate to habitats with abundant prey (WGFD 2010).	BHNF – No TBNG – No	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG - Yes

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Biological Assessments and Biological Evaluations

<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	BHNF, TBNG	Nests near large lakes and rivers in forested habitat where both adequate prey (fish, waterfowl and ungulate carcasses) are available and old, large-diameter cottonwood or conifer trees for nesting. Migrating and wintering eagles congregate near areas where concentrations of prey are available, such as carcasses of ungulate species, and spawning areas for kokanee, trout, and other fish (WGFD 2010).	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	BHNF, TBNG	Open pastures and prairies with scattered bushes, hedgerows, and trees (Sibley 2003).	BHNF – No TBNG - Yes	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes
Lewis’s Woodpecker ( <i>Melanerpes lewis</i> )	BHNF, TBNG	Open or park-like ponderosa pine forests are major breeding habitat. Attracted to burned-out stands of Douglas-fir, mixed conifer, juniper, and riparian and oak woodlands, but is also found in deciduous forests, especially riparian cottonwoods (WGFD 2010).	BHNF – Yes TBNG – No	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG - Yes

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Biological Assessments and Biological Evaluations

**TABLE E-4  
REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS**

SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
Long-billed Curlew ( <i>Numenius americanus</i> )	BHNF, TBNG	Grassland types ranging from moist meadow grasslands to agricultural areas to dry prairie uplands, usually near water. Prefers a complex of shortgrass prairies, agricultural fields, wet and dry meadows and prairies, and grazed mixed-grass and scrub communities. Nests on the ground in habitat that usually includes: grass less than 30 centimeters (12 inches) high; bare ground; shade; abundant invertebrate prey; and a minimum of 40 hectare (100 acres) of suitable habitat (WGFD 2010).	BHNF – No TBNG – No	BHNF – No TBNG – Yes	BHNF – No TBNG - Yes
Black-backed Woodpecker ( <i>Picoides arcticus</i> )	BHNF	Highly associated with ponderosa pine forests that are recently burned or have high infestations of bark beetle. Healthy ponderosa pine forests with dense mature or late successional structure also important (USFS 2010).	Yes	Yes	Yes
Flammulated Owl ( <i>Otus flammeolus</i> )	BHNF, TBNG	Semi-arid open oak and ponderosa pine forests with a mix of large old trees, thickets, and openings, and a high diversity of arthropod prey (McCallum 1994a).	BHNF – No TBNG - No	BHNF – Yes TBNG - No	BHNF – Yes TBNG - No
Brewer's Sparrow ( <i>Spizella breweri</i> )	TBNG	Sagebrush specialist. Sagebrush shrublands with abundant, scattered shrubs and short grass. May also be found in mountain mahogany, rabbit brush, pinyon-juniper, or bunchgrass grasslands (WGFD 2010).	Yes	Yes	Yes

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Biological Assessments and Biological Evaluations

<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
Northern Leopard Frog ( <i>Lithobates pipiens</i> )	BHNF, TBNG	In or near permanent water in the plains, foothills, and montane zones comprised of swampy cattail marshes on the plains and beaver ponds in the foothills and montane zones (WGFD 2010).	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG - Yes
Wood Frog ( <i>Lithobates sylvaticus</i> )	TBNG	Beaver ponds, slowly moving streams, small lakes, wet meadows, and willow thickets in the montane zones. Populations are usually found around 9,000 feet in elevation (WGFD 2010).	No	No	No
Black Hills Red-bellied Snake ( <i>Storeria occipitomaculata pahasapae</i> )	BHNF	Mesic sites such as wetlands, riparian areas, and wet meadows. Hibernacula located within rock fissures (USFS 2000).	Yes	Yes	Yes
Bluehead Sucker ( <i>Catostomus discobolus</i> )	TBNG	Mainstream and tributaries of large rivers. Large adults are associated with deep pools, undercut banks, moderate to fast current velocities, and rocky substrates (WGFD 2010).	Yes	Yes	Yes
Mountain Sucker ( <i>Catostomus platyrhynchus</i> )	BHNF, TBNG	Cool, clear mountain streams from three to 12 meters in width. May also be found in larger rivers, lakes, and reservoirs (USFS 2005).	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG – No	BHNF – Yes TBNG - No
Lake Chub ( <i>Couesius plumbeus</i> )	BHNF, TBNG	Typically found in lakes and streams with cool waters and clean gravel or cobble substrates. Within South Dakota, restricted to Deerfield Reservoir (Isaak et al. 2003).	BHNF – Yes TBNG - Yes	BHNF – Yes TBNG – Yes	BHNF – Yes TBNG - Yes

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Biological Assessments and Biological Evaluations

<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
Plains Minnow ( <i>Hybognathus placitus</i> )	BHNF TBNG	Large, turbid prairie streams and rivers. Prefers slow water and side-pool habitat with sand or silt bottoms. Tolerant of high water temperatures and low oxygen make them able to inhabit intermittent pools (WGFD 2010).	BHNF – No TBNG - Yes	BHNF – No TBNG -Yes	BHNF – No TBNG -Yes
Sturgeon Chub ( <i>Hybopsis gelida</i> )	BHNF TBNG	Free flowing turbid rivers. Rarely in tributary streams. Typically associated with hard substrates, shallow water, and high current velocity (WGFD 2010).	BHNF – No TBNG - Yes	BHNF – No TBNG -Yes	BHNF – No TBNG -Yes
Finescale Dace ( <i>Phoxinus neogaeus</i> )	BHNF, TBNG	Range-wide habitat includes pools of boggy headwaters, creeks and small rivers, lakes and ponds, and often common in beaver ponds usually over silt and near vegetation (USFS 2010). This species has not been reported in the analysis area.	BHNF – No TBNG – Yes	BHNF – No TBNG – Yes	BHNF – No TBNG - Yes
Flathead Chub ( <i>Platygobio gracilis</i> )	TBNG	Main channels of sandy, turbid streams with small substrates, deep water, and woody debris (WGFD 2010).	Yes	Yes	Yes
Northern Redbelly Dace ( <i>Phoxinus eos</i> )	BHNF	Uncommon species found in small, localized areas of clear, cool water such as springs, seeps, beaver ponds, and spring-fed lakes (Stasiak 2006)	No	No	No
Cooper’s Rocky Mountainsnail ( <i>Oreohelix strigosa cooperi</i> )	BHNF	Cooper’s snail is found on calcareous soils primarily forested areas of higher elevation limestone outcrops. <i>Oreohelix</i> have been observed in a variety of litter types in the Black Hills, including coniferous needles litter, deciduous litter and areas of thin litter (Anderson 2005).	Yes	Yes	Yes

<b>TABLE E-4 REGION 2 SENSITIVE WILDLIFE SPECIES CONSIDERED FOR ANALYSIS</b>					
SPECIES	FOREST	HABITAT DESCRIPTION	OCCUR IN ANALYSIS AREA	SUITABLE HABITAT PRESENT	ANALYSIS PROVIDED
Regal Fritillary ( <i>Speyeria idalia</i> )	BHNF	Open prairies. In South Dakota, most likely to be found in native tall-grass prairies composed of big bluestem ( <i>Andropogon gerardii</i> ), western wheatgrass ( <i>Pascopyrum smithii</i> ), and green needlegrass ( <i>Stipa viridula</i> ). Continuous prairie greater than 1,000 acres may be required for stable populations (Royer and Marrone 1992).	No	Yes	Yes
Ottoe Skipper ( <i>Hesperia ottoe</i> )	BHNF	Requires relatively non-degraded, native mixed prairie and tall grass prairie. Usually associated with purple coneflower, little bluestem, big bluestem, and side-oats gramma (Selby 2005)	No	No	No

## DETERMINATIONS SUMMARY

### FLORA

#### Federally-Listed Plant Species

##### Black Hills National Forest

No federally-listed plant species are known to occur in the South Dakota analysis area for this proposed Project. Therefore, implementation of Alternative 1 (No Action), Alternative 2 (Proposed Action Alternative) and Alternative 3 (Proposed Action with Route Modifications) would have “**no effect**” on federally-listed plant species.

##### Thunder Basin National Grassland / BLM

The Ute ladies’-tresses orchid is a federally-protected plant species that may occur in the Wyoming analysis area for this project. Implementation of Alternative 1 (No Action) would have “**no effect**” on this species. Implementation of Alternatives 2 or 3 would have little to no direct impacts on this species based on the lack of known occurrences or suitable habitat in the analysis area. Indirect effects that could occur under implementation of Alternatives 2 or 3, but are unlikely based on the lack of known occurrences or suitable habitat in the analysis area, include potential habitat degradation from increased invasive and noxious weeds and erosion-related sedimentation. Implementation of Alternatives 2 or 3 “**may affect, but is not likely to adversely affect**” this species, based on discountable effects.

#### Region 2 Sensitive Plant Species

Appendix E  
Biological Assessments and Biological Evaluations

Under Alternative 1 (No Action), there would be no new or different impacts on sensitive plant species occurring or potentially occurring on the BHNG or TBNG. Under Alternatives 2 or 3, there would be the potential for various direct and indirect effects on sensitive plant species on the BHNH and TBNG. Potential effects could include direct injury or removal as part of surface disturbing activities; alteration or removal of suitable habitats; reduced survivability and habitat suitability caused by increases in the spread and establishment of noxious weed species; and the increased risk of wildfire.

**Table E-5** presents the determinations by alternative for the sensitive plant species that were analyzed in the BHNH BE. **Table E-6** presents the determinations by alternative for the sensitive plant species that were analyzed in the TBNG BE.

<b>TABLE E-5 DETERMINATIONS FOR SENSITIVE PLANT SPECIES ON THE BHNH</b>			
SPECIES	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Iowa moonwort ( <i>Botrychium campestre</i> )	No Impact	MAII	MAII
Slender moonwort ( <i>Botrychium lineare</i> )	No Impact	MAII	MAII
Foxtail sedge ( <i>Carex alopecoidea</i> )	No Impact	MAII	MAII
Lesser yellow lady's slipper ( <i>Cypripedium parviflorum</i> ) (SYN= <i>C. calceolus</i> )	No Impact	MAII	MAII
Groundcedar ( <i>Lycopodium complanatum</i> ) (SYN= <i>Diphasiastrum complanatum</i> )	No Impact	MAII	MAII
Large roundleaf orchid ( <i>Platanthera orbiculata</i> ) (SYN= <i>Habaneria orbiculata</i> )	No Impact	MAII	MAII
Sageleaf willow ( <i>Salix candida</i> )	No Impact	MAII	MAII
Autumn willow ( <i>Salix serissima</i> )	No Impact	MAII	MAII
Bloodroot ( <i>Sanguinaria canadensis</i> )	No Impact	MAII	MAII
Narrowleaf sphagnum ( <i>Sphagnum angustifolium</i> )	No Impact	MAII	MAII
American cranberry bush ( <i>Viburnum opulus</i> var. <i>americanum</i> )	No Impact	MAII	MAII

**MAII** – May adversely impact individuals but is not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing.

<b>TABLE E-6 DETERMINATIONS FOR SENSITIVE PLANT SPECIES ON THE TBNG</b>			
SPECIES	ALTERNATIVE 1	ALTERNATIVE 2	ROUTE ALTERNATIVE 3
Barr's milkvetch ( <i>Astragalus barrii</i> )	No Impact	MAII	MAII
Prairie dodder ( <i>Cuscuta plattensis</i> )	No Impact	No Impact	No Impact
Dakota buckwheat ( <i>Eriogonum visherii</i> )	No Impact	No Impact	No Impact
Woolly twinpod ( <i>Physaria didymocarpa</i> var. <i>lanata</i> )	No Impact	MAII	MAII

**TABLE E-6  
DETERMINATIONS FOR SENSITIVE PLANT SPECIES ON THE TBNG**

SPECIES	ALTERNATIVE 1	ALTERNATIVE 2	ROUTE ALTERNATIVE 3
Largeflower Tritoleia ( <i>Triteleia grandiflora</i> )	No Impact	No Impact	No Impact

**MAII** – May adversely impact individuals but is not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing.

## WILDLIFE

### Federally-Listed Wildlife Species

#### Black Hills National Forest

No federally-listed wildlife species are expected to occur in the South Dakota analysis area, except for the northern long-eared bat. Based on the lack of occurrence in the analysis area and the lack of designated critical habitat in the analysis area, implementation of Alternative 1, 2, or 3 would have “**no effect**” on the whooping crane, least tern, rufa red knot, Sprague’s pipit, and black-footed ferret.

Implementation of Alternative 2 or 3 is “**not likely to jeopardize the continued existence**” of the northern long-eared bat. No critical habitat has yet been identified, so none would be affected. This determination considers the potential for injury or death to foraging or roosting bats, the lack of disturbance to known caves or mines in the Analysis Area that may support hibernating bats, and the unlikelihood that implementation would introduce or exacerbate diseases within the local population, including WNS. This species is likely to persist because Alternatives 2 and 3 are consistent with Forest Plan direction (US Forest Service 2006). If the project is modified in a manner that causes effects not considered, or if new information becomes available that reveals that the action may affect the northern long-eared bat in a manner or to an extent not previously considered, a new or revised BA/BE would be required.

#### Thunder Basin National Grassland / BLM

The Greater Sage-grouse is listed as a candidate species and was the only federally-listed wildlife species evaluated for potential effects in the Wyoming analysis area. Impacts to Greater Sage-grouse as the result of implementation of Alternative 3 (Proposed Action with Route Modifications) could include loss of habitat, disturbance from construction related activities, injury or mortality, increased risk of avian-powerline collision, increased potential for spread and establishment of noxious weeds, habitat fragmentation, and increased predation. While construction of the proposed ROW and transmission line may impact individual Greater Sage-grouse, implementation of Alternative 3 would not likely impact population trends observed throughout the Powder River Basin or the analysis area. Alternative 3 includes measures to reduce potential impacts to Greater Sage-grouse through the use of general mitigation measures, Greater Sage-grouse species specific mitigation measures, and routing through the least amount of Core Area and incorporating a low number of leks within four miles. However, because the Proposed Action would occur in occupied Greater Sage-grouse habitat outside of the Core Area, and because of the currently declining trends of Greater Sage-grouse populations on NFS lands and across northeastern Wyoming, implementation of the Proposed Action would not likely jeopardize the continued existence of Greater Sage-Grouse as a Candidate Species based on applied mitigation. Mitigation efforts described above and in **Appendix B** will reduce impacts of the Proposed Action to the point that the Proposed

Action will not contribute to a net loss in habitat for sage grouse, or contribute to the direct, indirect, or cumulative impacts.

Route Modification 3a (Fiddler) was designed to avoid disturbance-related impacts to two Greater Sage-grouse leks (Upton Fairview and Jessee leks) and to grouse that use these leks and the surrounding habitats. Route Modification 3a is a proposed one-mile deviation north of the proposed ROW. Implementation of Alternative 3 and this included route modification would increase the distance between construction, operation and maintenance activities and these two occupied leks, thus reducing the potential for disturbance and potential impacts on the Greater Sage-grouse.

## Region 2 Sensitive Wildlife Species

Effects determinations were assigned to BHNF and TBNG sensitive wildlife species determined to have the potential to occur in the analysis area or to be affected by the proposed project. These determinations considered implementation of Forest Plan direction, as well as project design features and mitigation measures. **Table E-6** presents the effects determinations for BHNF and TBNG sensitive wildlife species by alternative.

<b>TABLE E-6 DETERMINATIONS FOR SENSITIVE WILDLIFE SPECIES ON THE BHNF AND TBNG</b>				
<b>Species Name</b>	<b>Forest</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Townsend's Big-Eared Bat ( <i>Corynorhinus townsendii</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Hoary Bat ( <i>Lasiurus cinereus</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Fringed Myotis ( <i>Myotis thysanodes</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Spotted Bat ( <i>Euderma maculatum</i> )	TBNG	No Impact	MAII	MAII
Black-Tailed Prairie Dog ( <i>Cynomys ludovicianus</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
American Marten ( <i>Martes americana</i> )	BHNF	No Impact	MAII	MAII
Rocky Mountain Bighorn Sheep ( <i>Ovis canadensis canadensis</i> )	BHNF	No Impact	MAII	MAII
Swift Fox ( <i>Vulpes velox</i> )	TBNG	No Impact	MAII	MAII
Northern Goshawk ( <i>Accipiter gentilis</i> )	BHNF	No Impact	MAII	MAII
Grasshopper Sparrow ( <i>Ammodramus savannarum</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Sage Sparrow ( <i>Amphispiza belli</i> )	TBNG	No Impact	MAII	MAII
Burrowing Owl ( <i>Athene cunicularia</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Ferruginous Hawk ( <i>Buteo regalis</i> )	TBNG	No Impact	MAII	MAII

Appendix E  
Biological Assessments and Biological Evaluations

**TABLE E-6  
DETERMINATIONS FOR SENSITIVE WILDLIFE SPECIES ON THE BHNF AND TBNG**

Species Name	Forest	Alternative 1	Alternative 2	Alternative 3
McCown's Longspur ( <i>Calcarius mccownii</i> )	TBNG	No Impact	MAII	MAII
Chestnut-collared longspur ( <i>Calcarius ornatus</i> )	TBNG	No Impact	MAII	MAII
Greater Sage-Grouse ( <i>Centrocercus urophasianus</i> )	TBNG	No Impact	MAII	MAII
Mountain Plover ( <i>Charadrius montanus</i> )	TBNG	No Impact	MAII	MAII
Northern Harrier ( <i>Circus cyaneus</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
American Peregrine Falcon ( <i>Falco peregrinus anatum</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Lewis's Woodpecker ( <i>Melanerpes lewis</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Long-billed Curlew ( <i>Numenius americanus</i> )	TBNG	No Impact	MAII	MAII
Black-backed Woodpecker ( <i>Picoides arcticus</i> )	BHNF	No Impact	MAII	MAII
Flammulated Owl ( <i>Otus flammeolus</i> )	BHNF	No Impact	MAII	MAII
Brewer's Sparrow ( <i>Spizella breweri</i> )	TBNG	No Impact	MAII	MAII
Northern Leopard Frog ( <i>Lithobates pipiens</i> )	BHNF TBNG	No Impact No Impact	MAII MAII	MAII MAII
Black Hills Red-bellied Snake ( <i>Storeria occipitomaculata pahasapae</i> )	BHNF	No Impact	MAII	MAII
Bluehead Sucker ( <i>Catostomus discobolus</i> )	TBNG	No Impact	No Impact	No Impact
Mountain Sucker ( <i>Catostomus platyrhynchus</i> )	BHNF	No Impact	MAII	MAII
Lake Chub ( <i>Couesius plumbeus</i> )	BHNF TBNG	No Impact No Impact	MAII No Impact	MAII No Impact
Plains Minnow ( <i>Hybognathus placitus</i> )	TBNG	No Impact	No Impact	No Impact
Sturgeon Chub ( <i>Hybopsis gelida</i> )	TBNG	No Impact	No Impact	No Impact
Finescale Dace ( <i>Phoxinus neogaeus</i> )	TBNG	No Impact	No Impact	No Impact
Flathead Chub ( <i>Platygobio gracilis</i> )	TBNG	No Impact	No Impact	No Impact

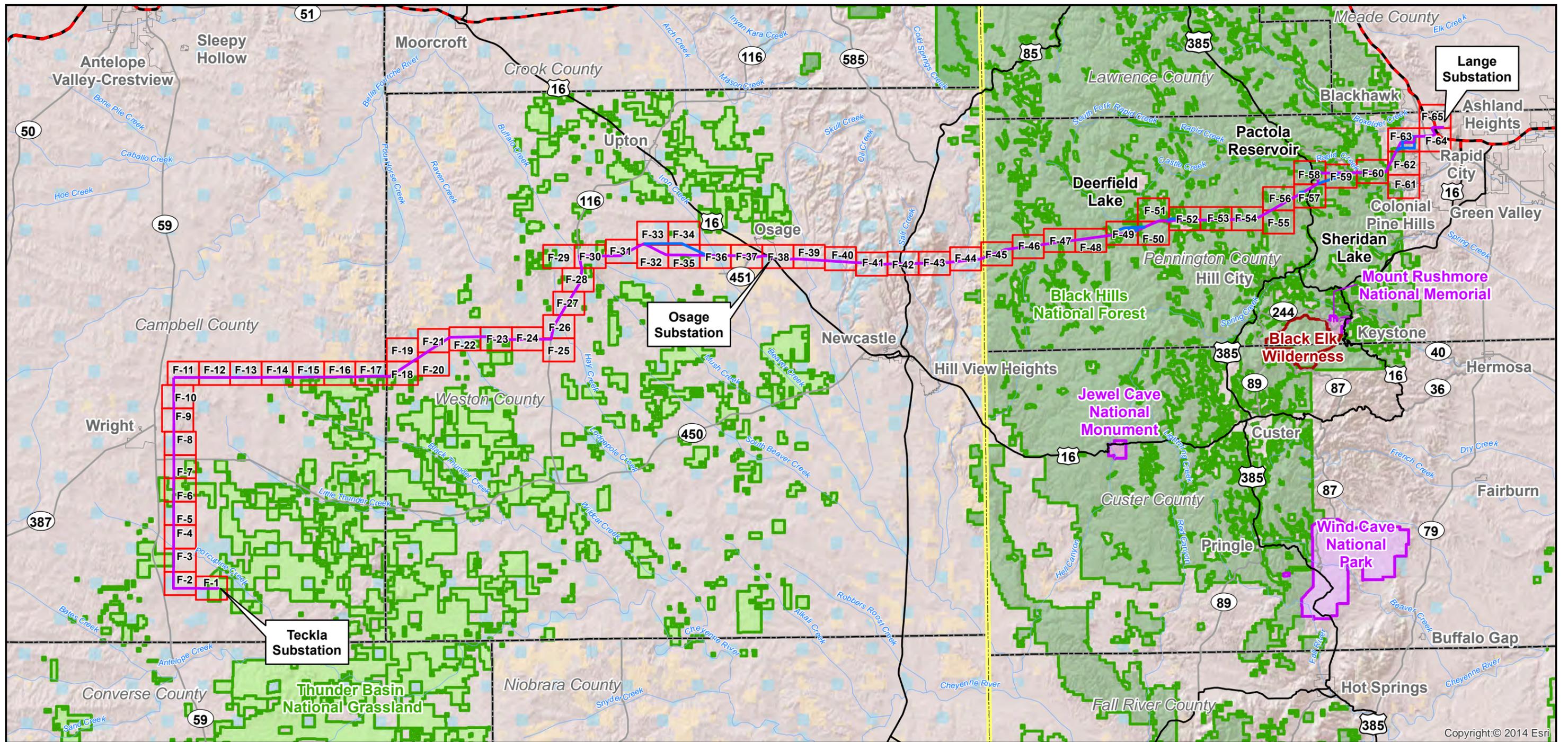
**TABLE E-6  
DETERMINATIONS FOR SENSITIVE WILDLIFE SPECIES ON THE BHNF AND TBNG**

Species Name	Forest	Alternative 1	Alternative 2	Alternative 3
Cooper's Rocky Mountain Snail ( <i>Oreohelix strigosa cooperi</i> )	BHNF	No Impact	MAII	MAII
Regal Fritillary ( <i>Speyeria idalia</i> )	BHNF	No Impact	MAII	MAII

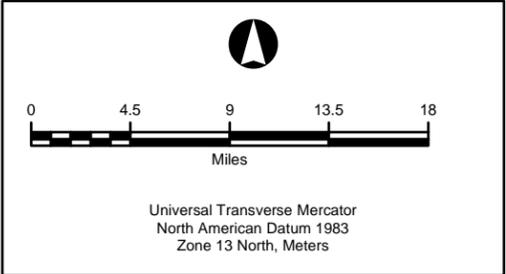
**MAII** – May adversely impact individuals but is not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing.

**APPENDIX F**

**MAPS OF PROPOSED PROJECT  
AND ALTERNATIVES**



Legend			
	Proposed Action		Mapbook Page
	Site Specific Design Modification		State Boundary
	Interstate		County Boundary
	US Highway		City or Town
	State Highway		Federal Wilderness Area
	Stream		Bureau of Land Management Land
			Thunder Basin National Grassland
			U.S. Forest Service Land
			National Park Service Land

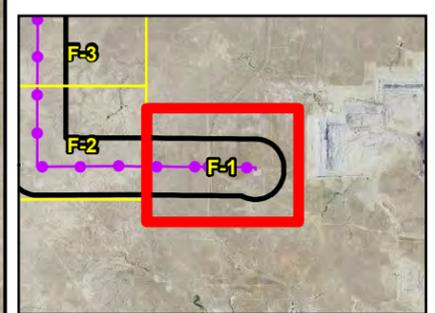
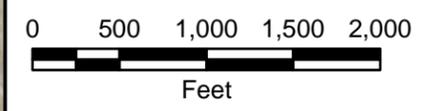


<b>Teckla – Osage – Rapid City 230 kV Transmission Line</b>		
<b>APPENDIX F MAPBOOK KEY</b>		
Map Extent: South Dakota and Wyoming		
Date: 11-05-14	Author: mc	
G:\Projects\SD-WY\Mapbook Key_110514		

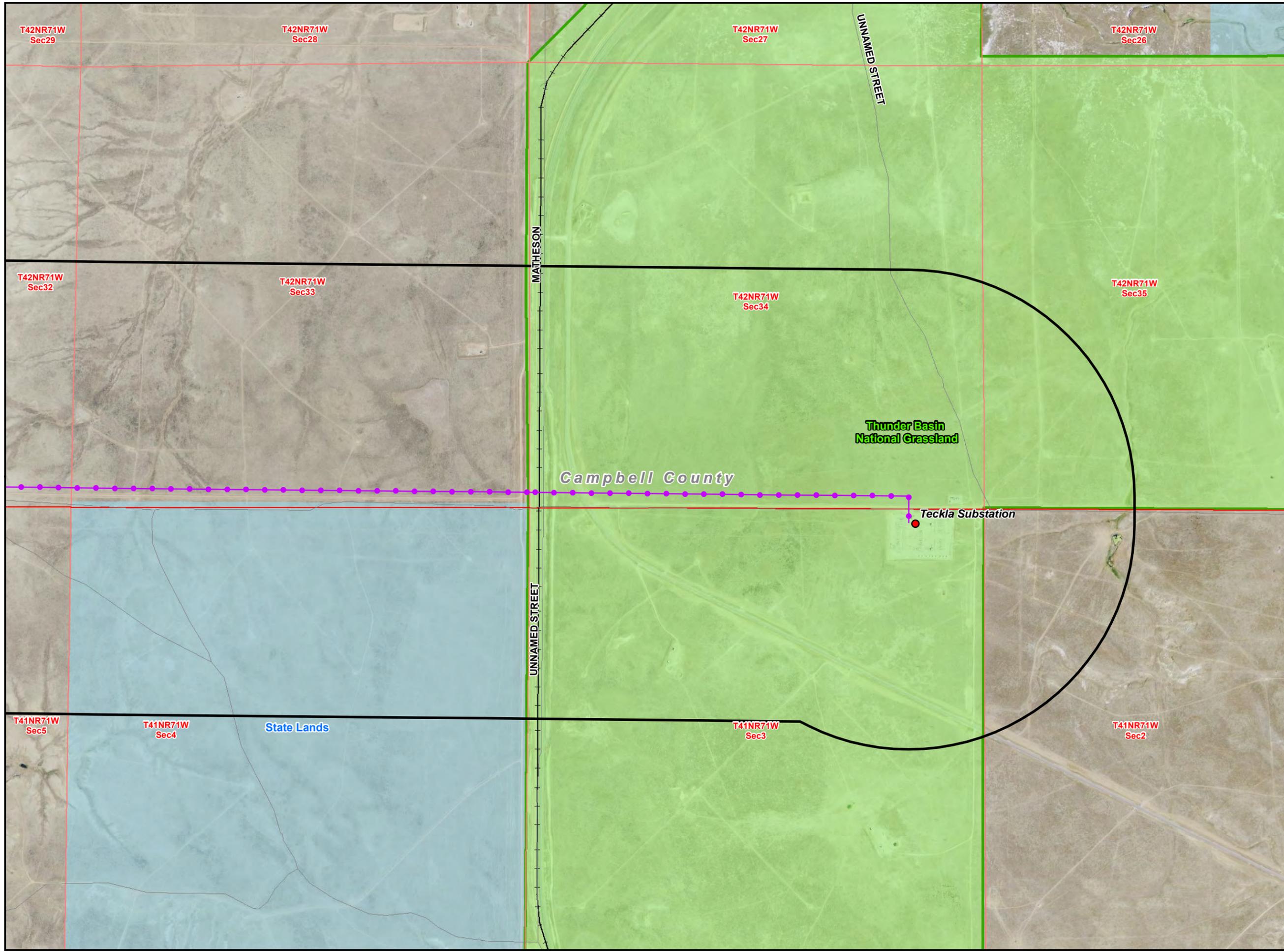
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



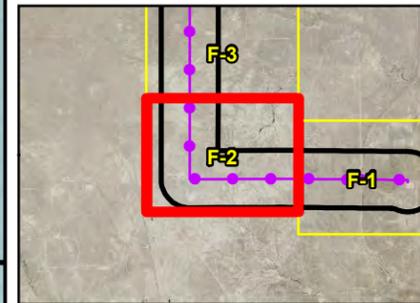
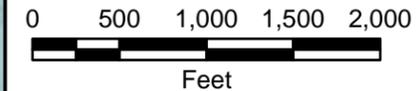
Local Inset Map  
**Figure F-1** 11-05-14



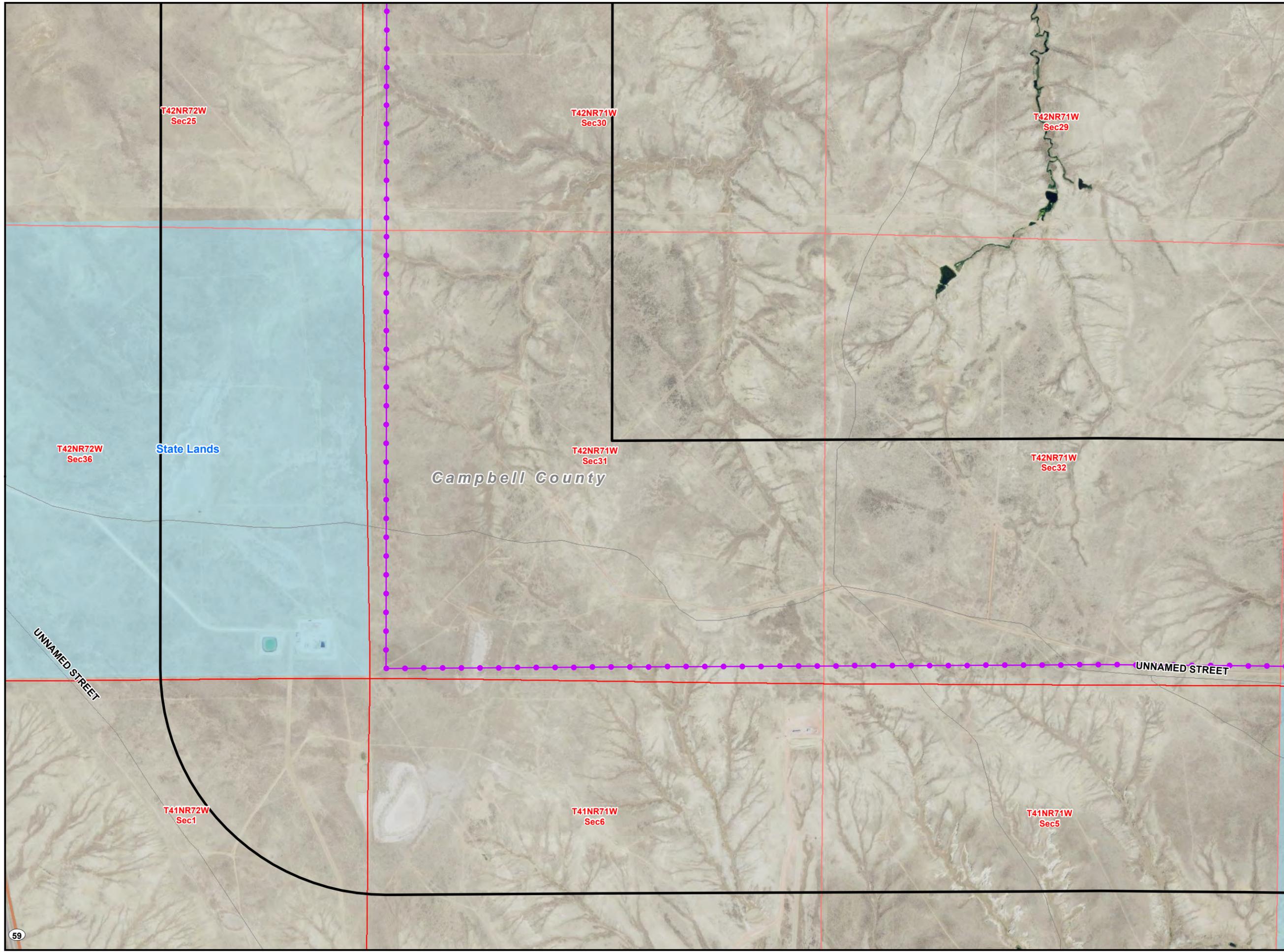
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



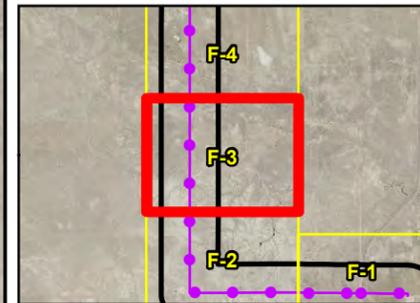
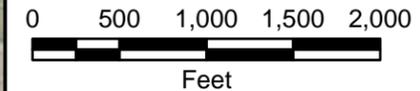
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**Figure F-2** 11-05-14



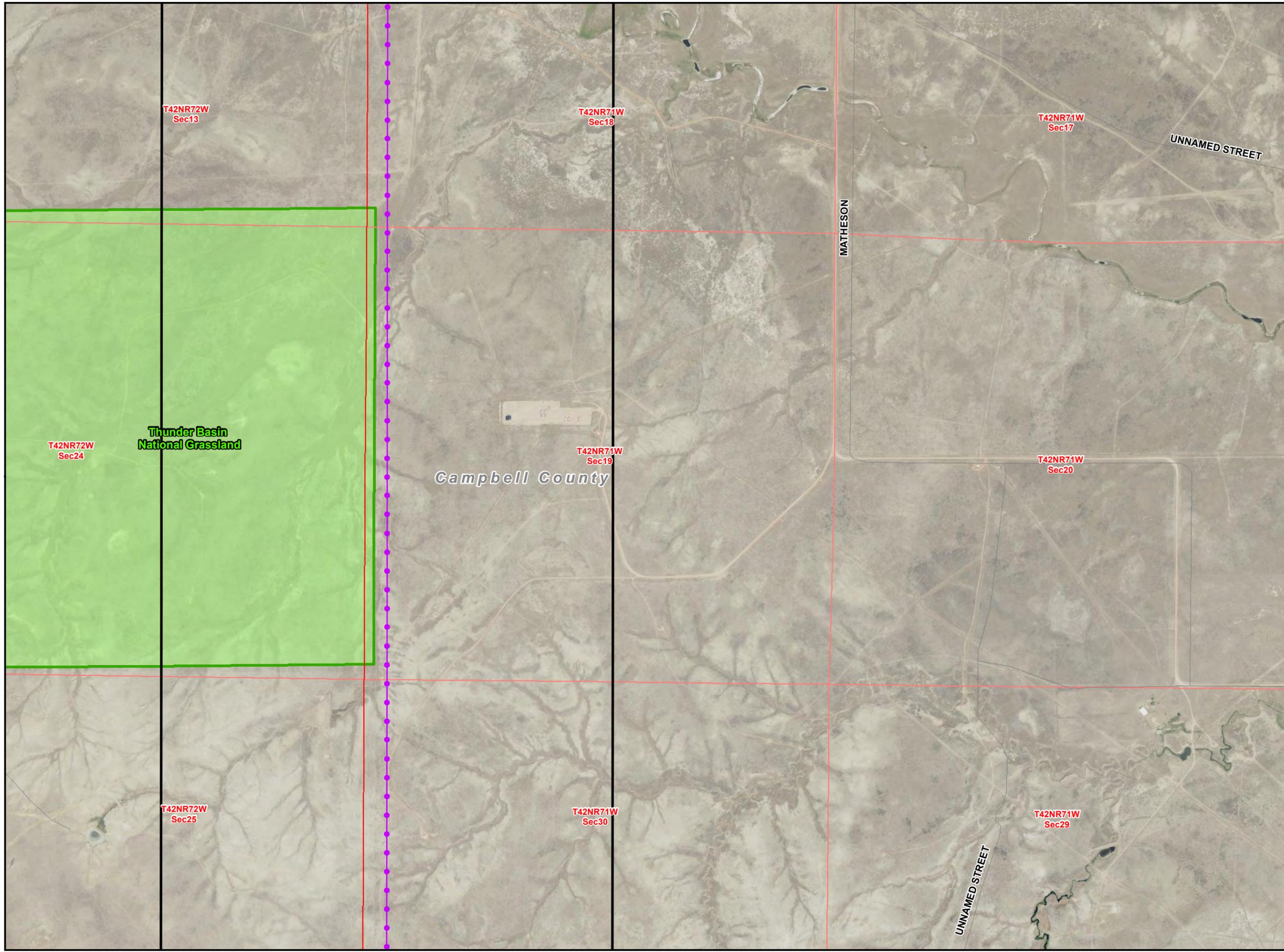
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



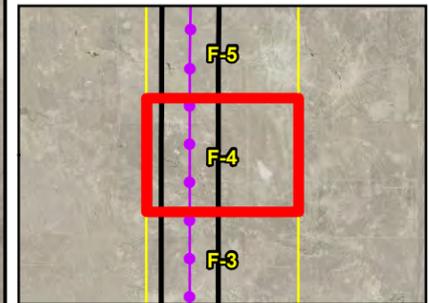
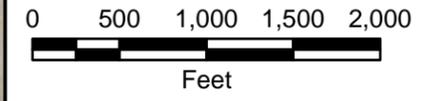
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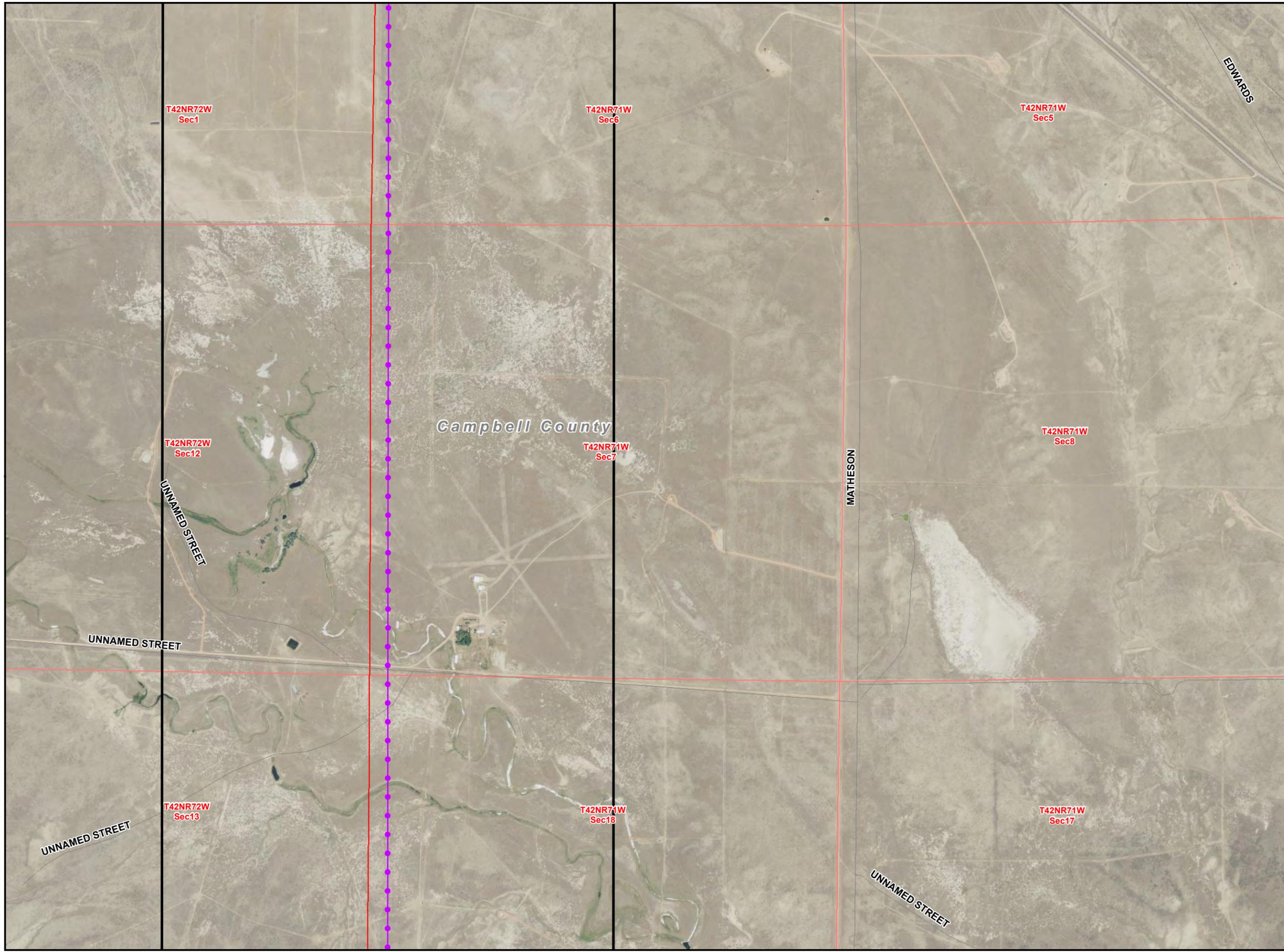
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
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- Jurisdictional Land Ownership**
- Bureau of Land Management Land
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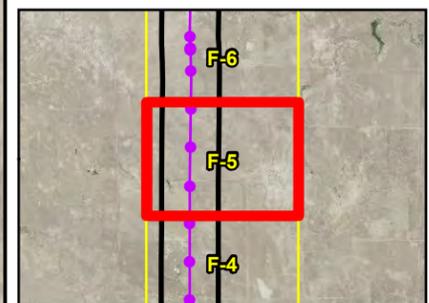
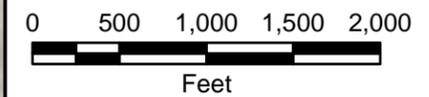
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**Figure F-4** 11-05-14



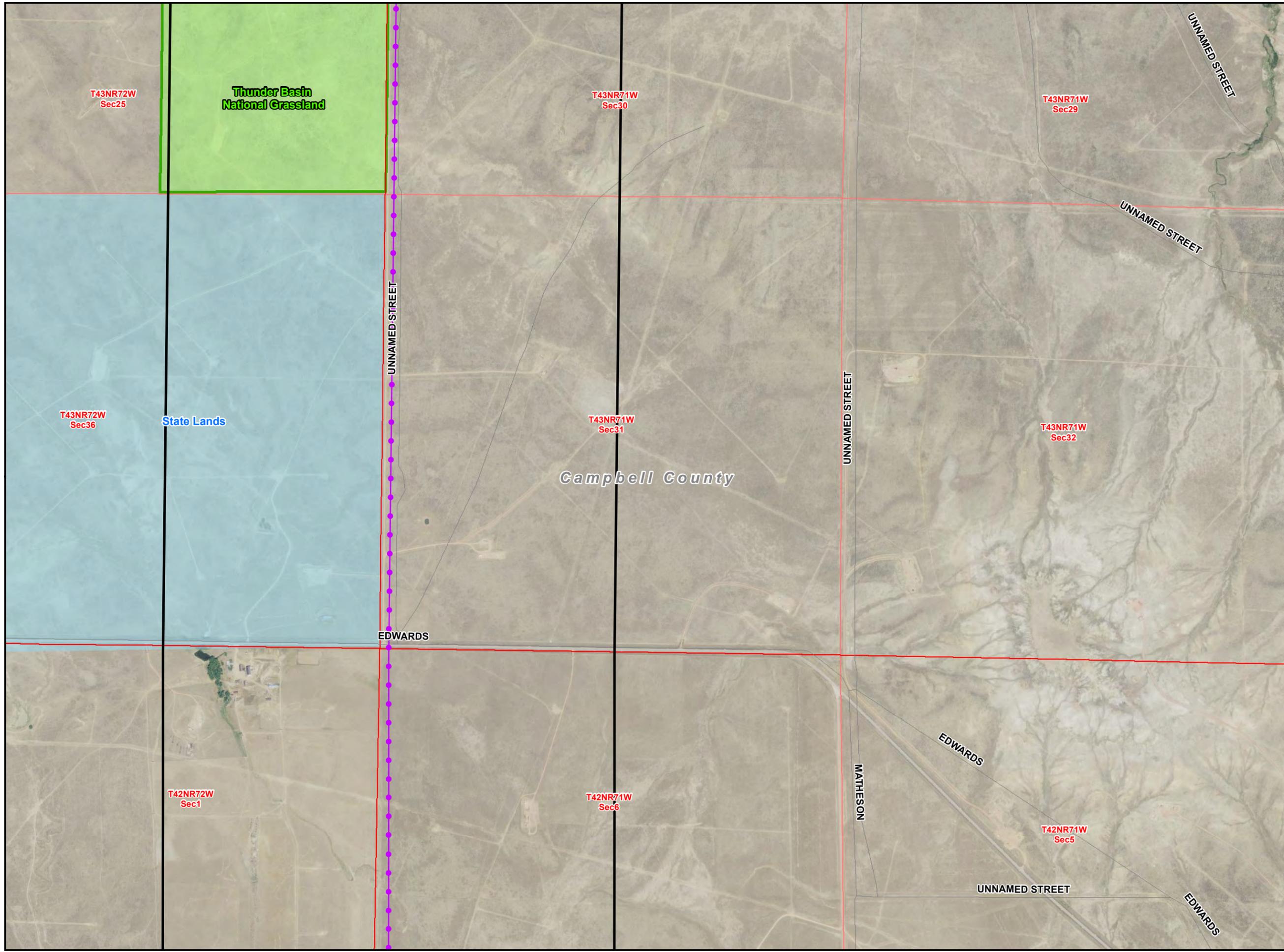
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
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- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
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- State Land



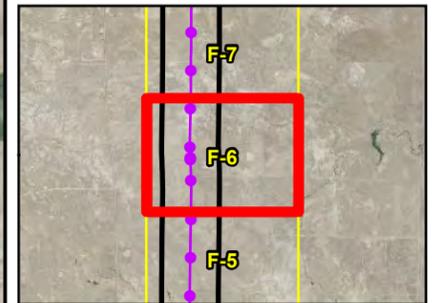
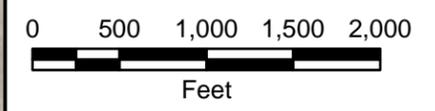
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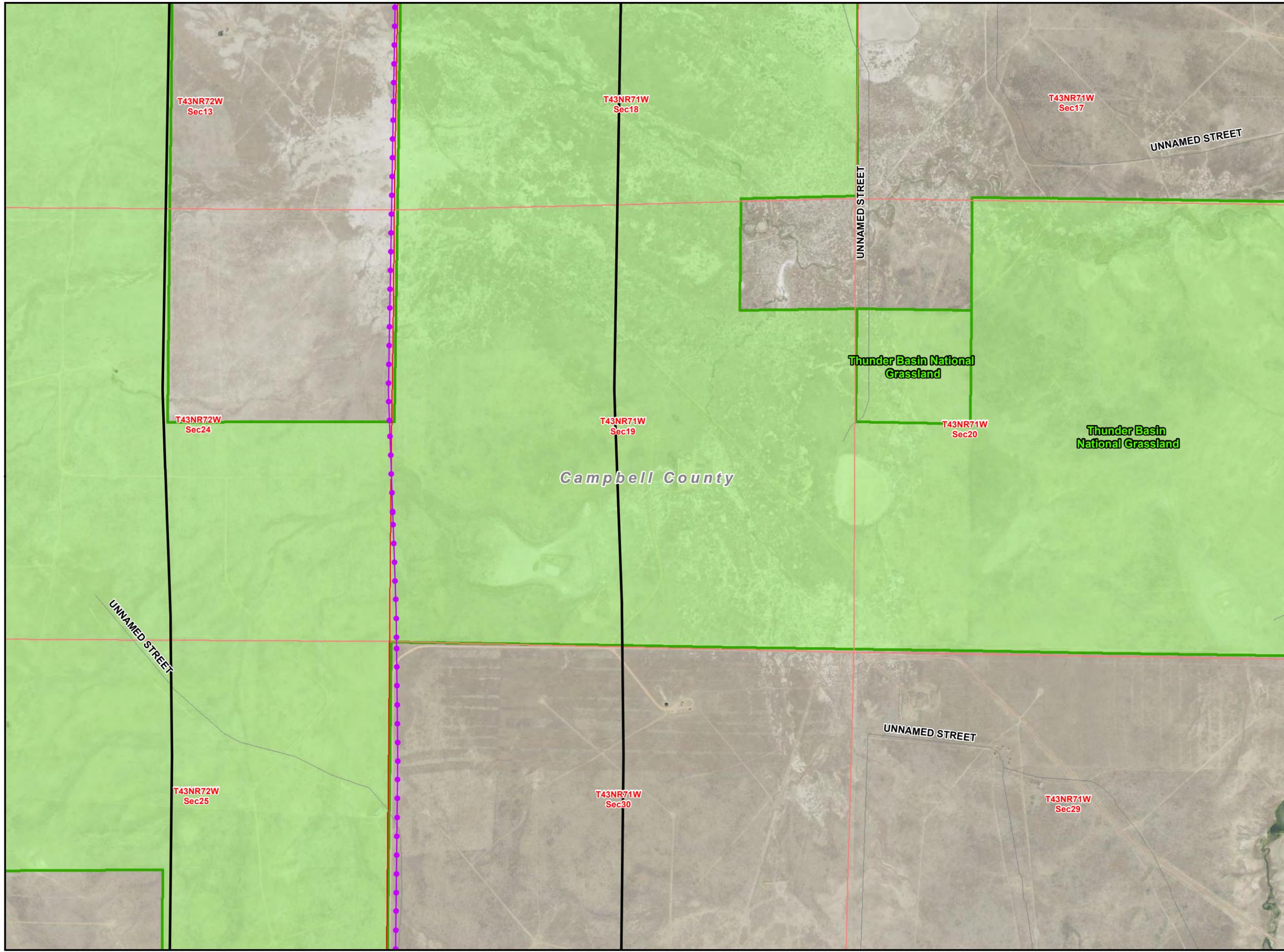
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
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- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



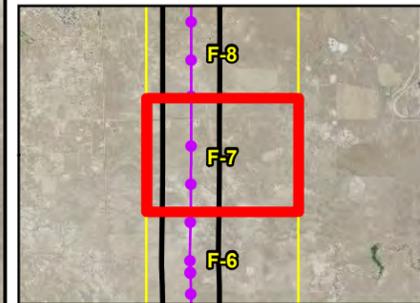
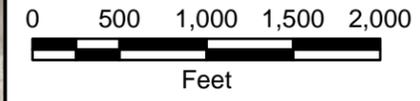
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**Figure F-6** 11-05-14



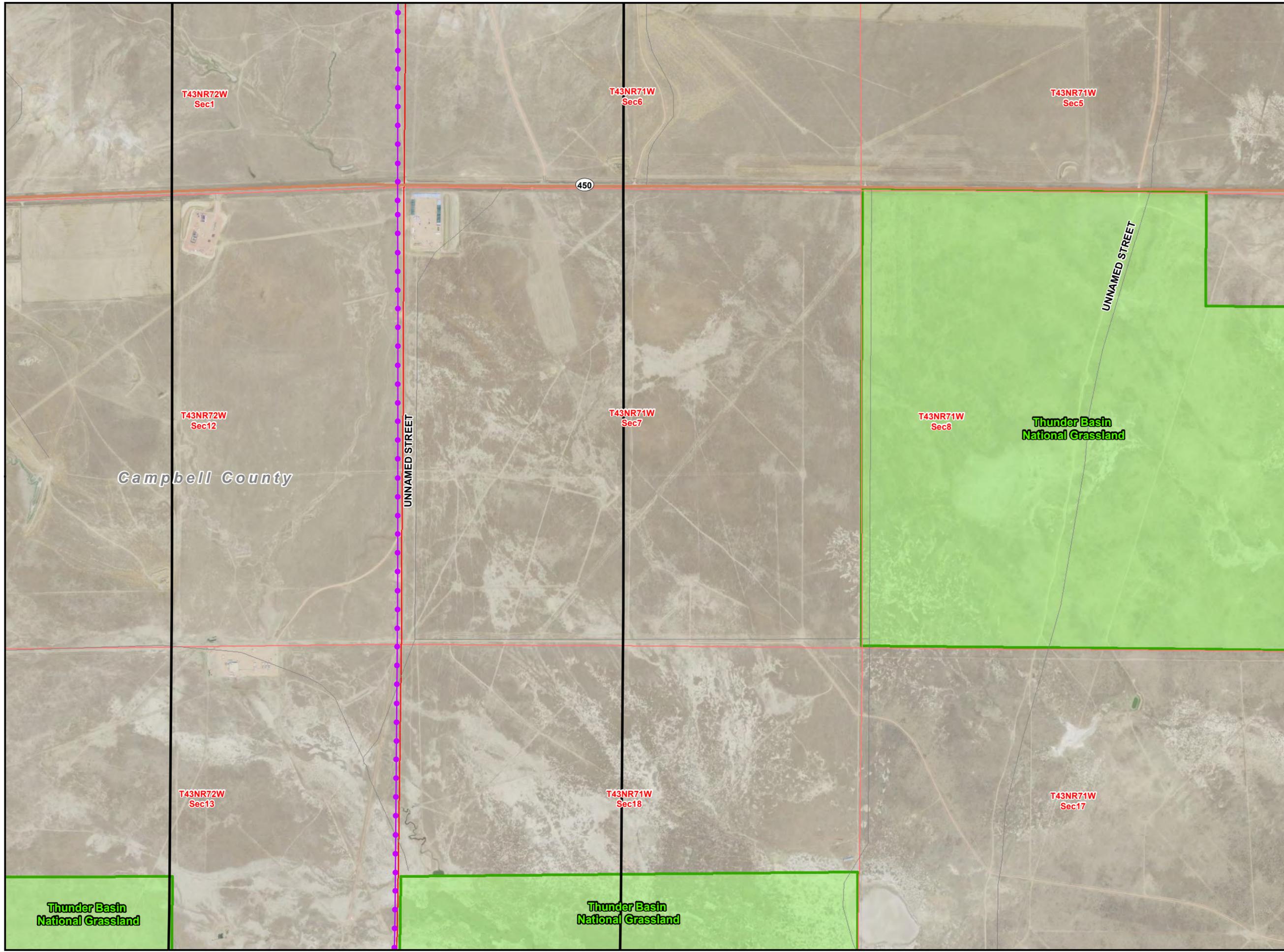
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
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- Bureau of Land Management Land
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- Thunder Basin National Grassland
- State Land



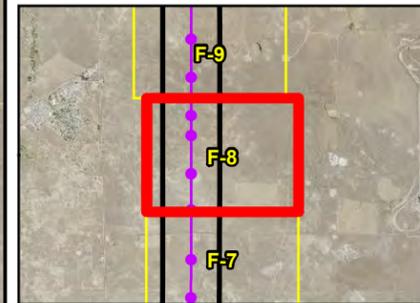
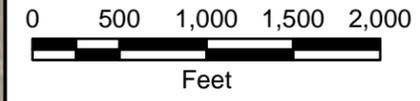
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**Figure F-7** 11-05-14



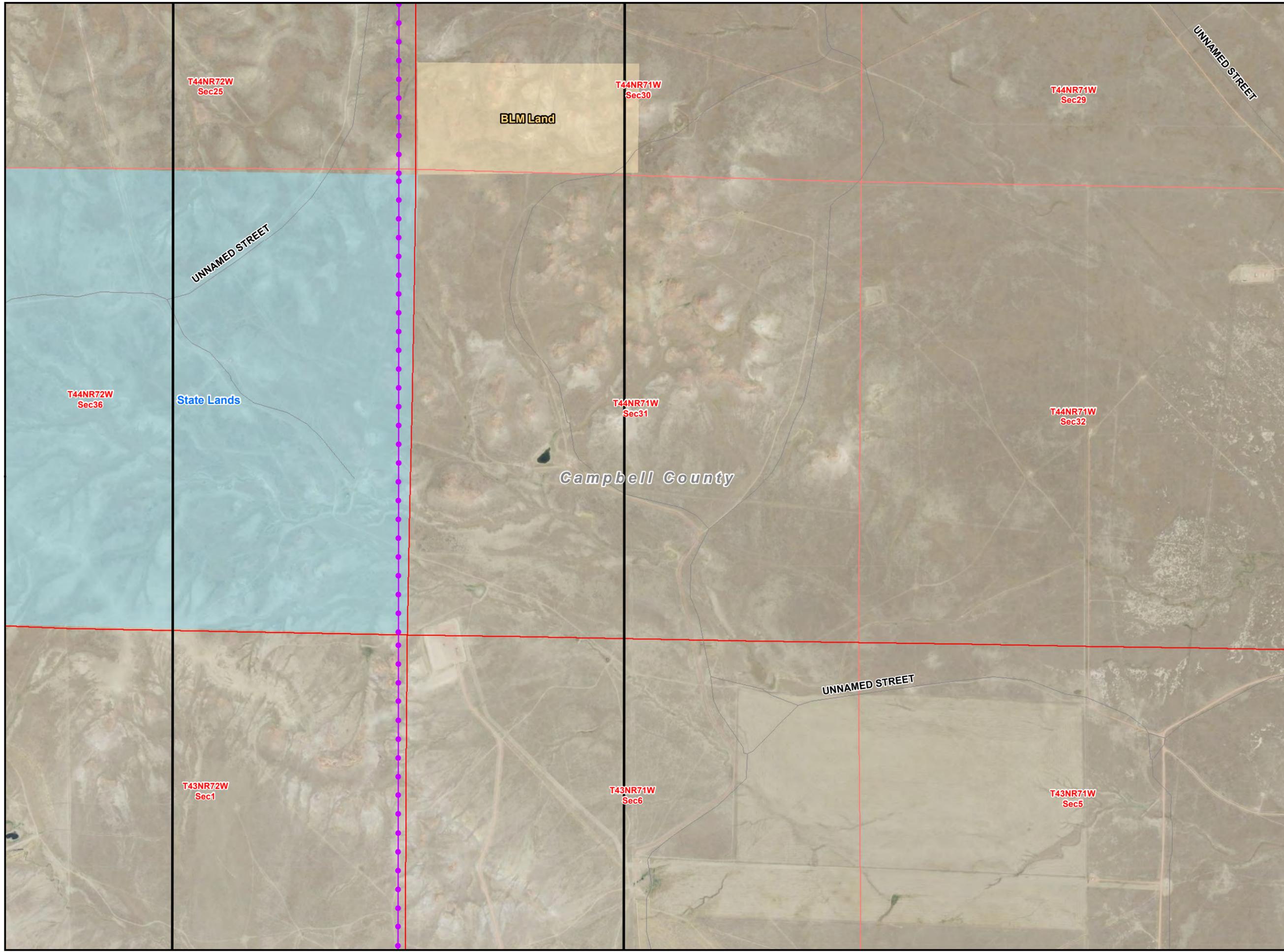
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
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-  City or Town
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-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



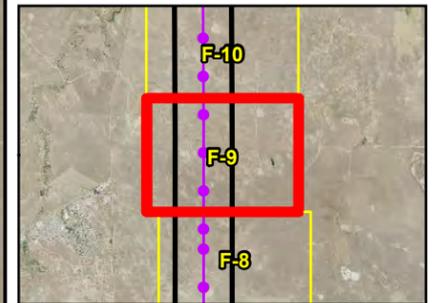
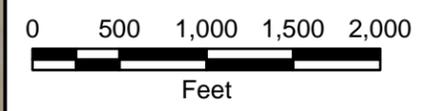
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**Figure F-8** 11-05-14



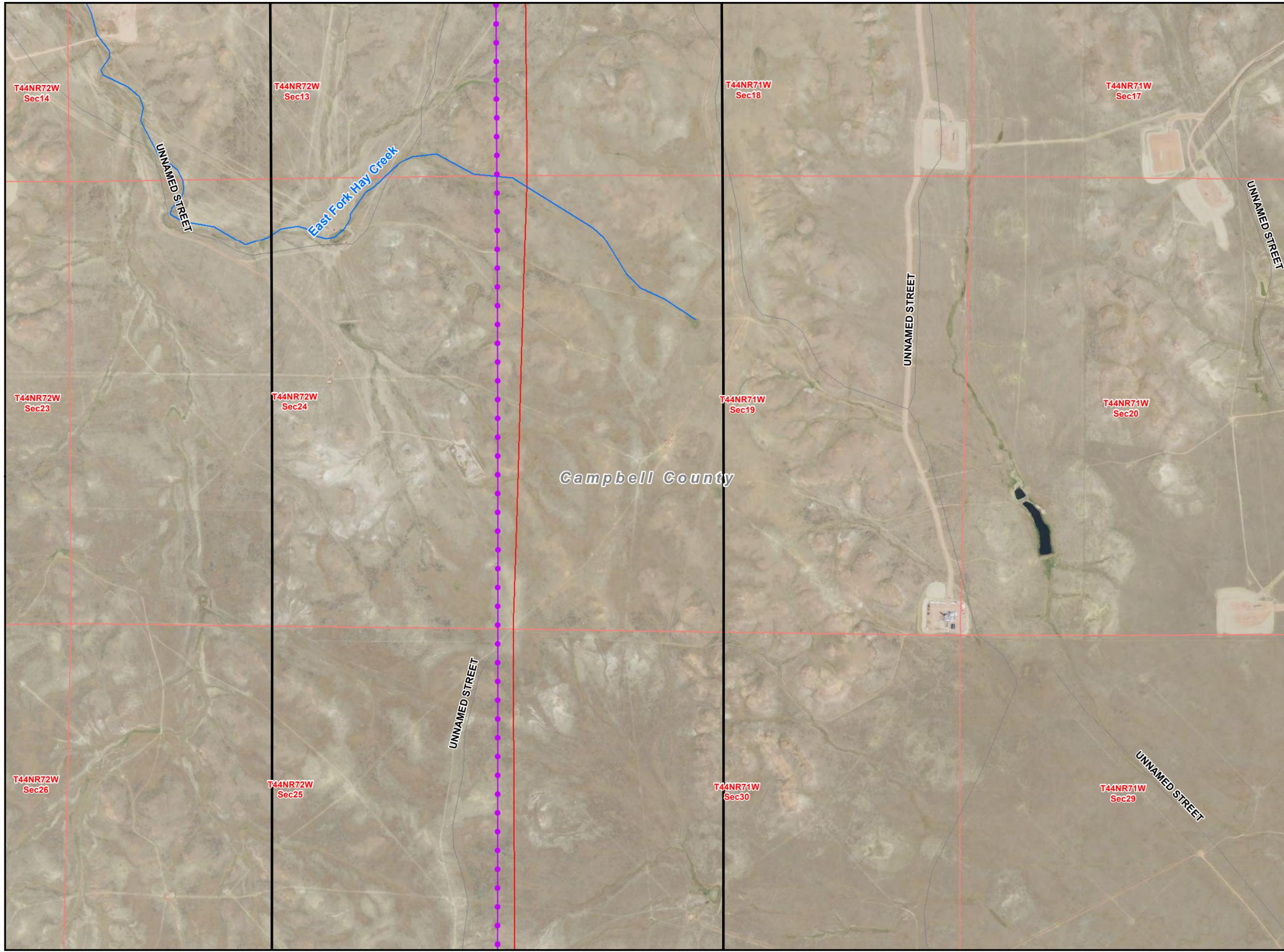
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
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- Thunder Basin National Grassland
- State Land



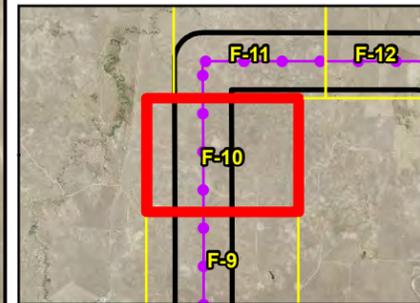
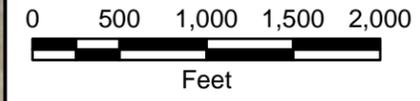
Local Inset Map  
**Figure F-9** 11-05-14



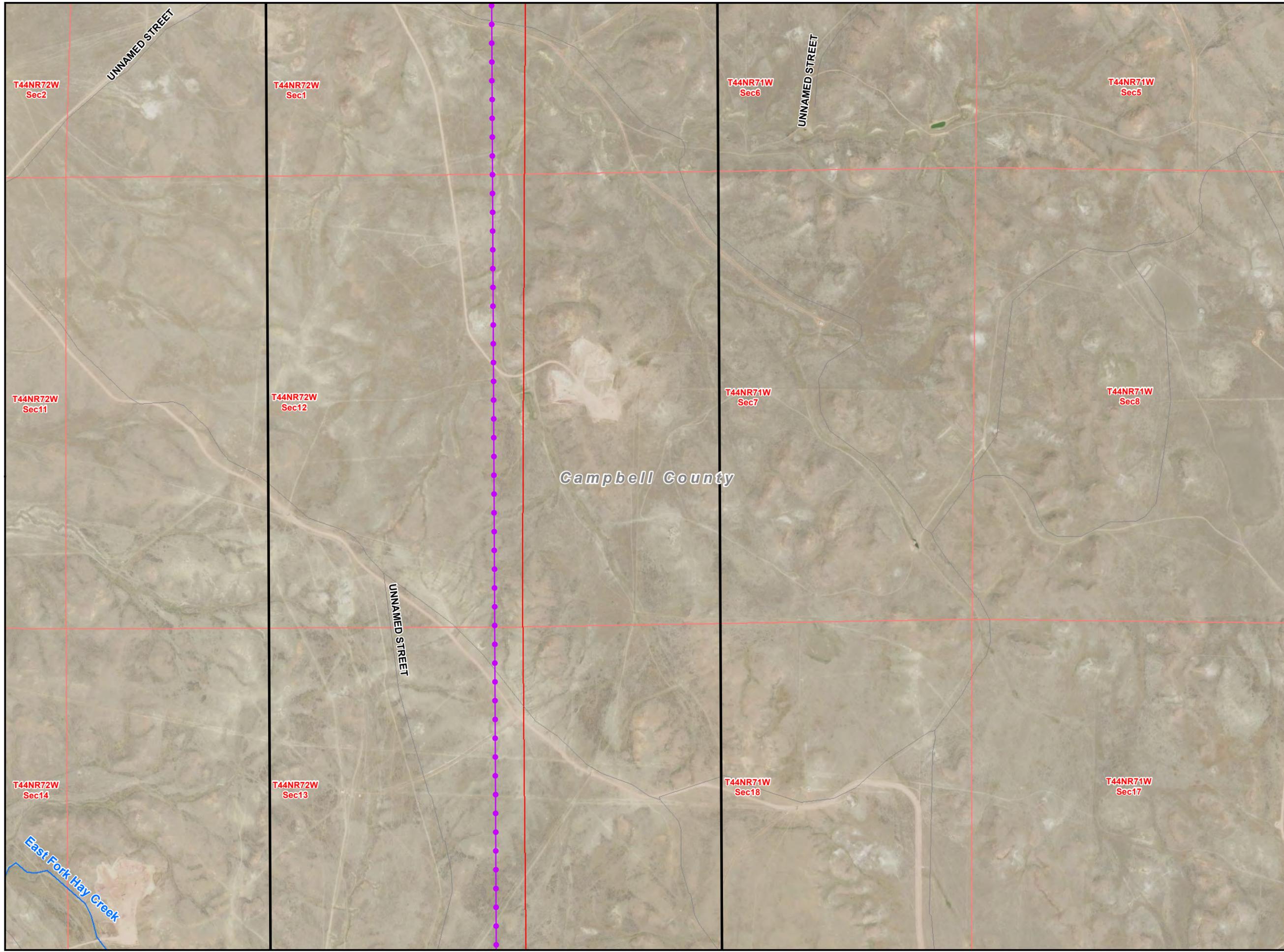
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

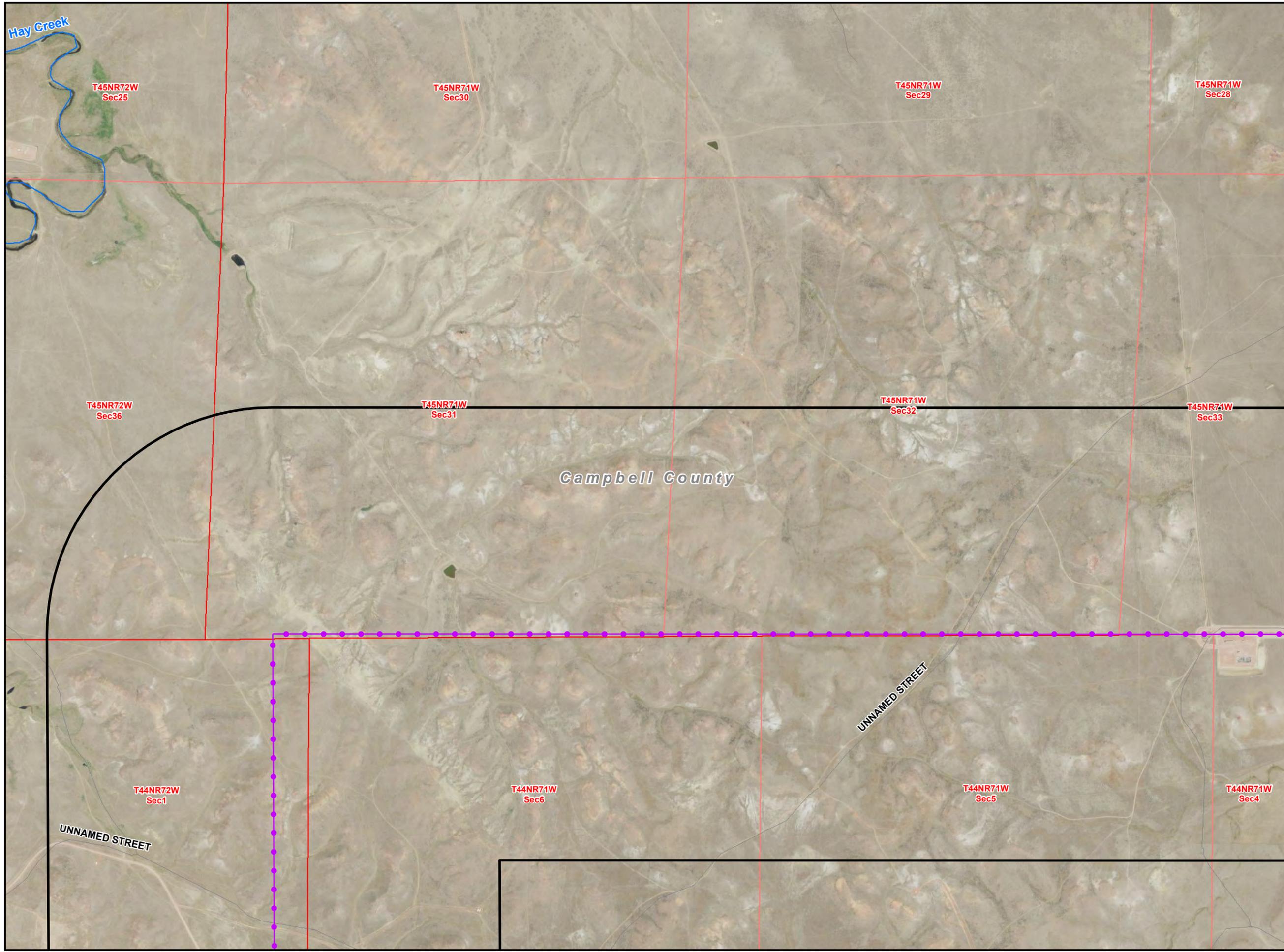
- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



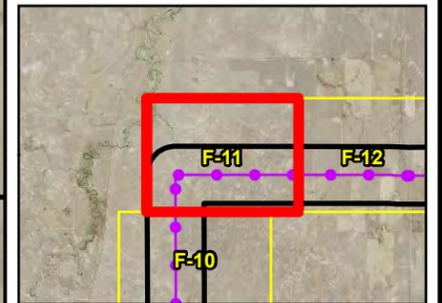
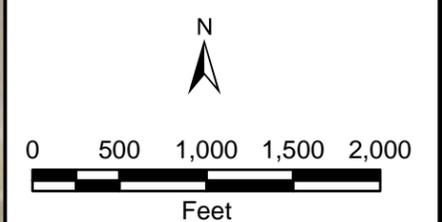
Local Inset Map  
**Figure F-10** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**



- LEGEND**
- Existing Substation
  - ✱ Point of Interest
  - Proposed Action
  - Site Specific Design Modification
  - 1/2 Mile Buffer
  - Existing ROW/ Overland Travel
  - Overland Travel Not In ROW
  - Existing Road- May Need To Be Improved
  - New Spur Road
  - Interstate
  - US Highway
  - State Highway
  - Major Road
  - Railroad
  - Stream
  - State Boundary
  - County Boundary
  - City or Town
  - Major Water Body
  - Township/ Range Boundary
  - Section Boundary
  - Jurisdictional Land Ownership
  - Bureau of Land Management Land
  - U.S. Forest Service Land
  - Thunder Basin National Grassland
  - State Land

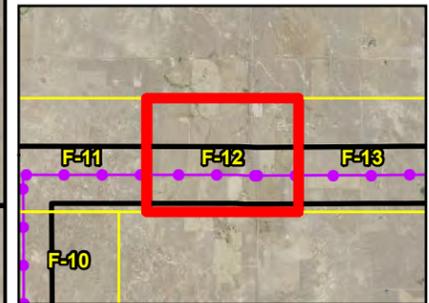
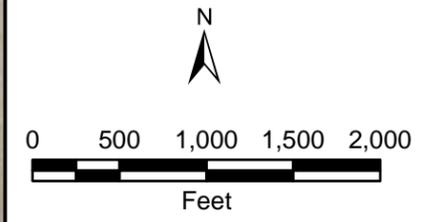


Local Inset Map  
**Figure F-11** 11-05-14

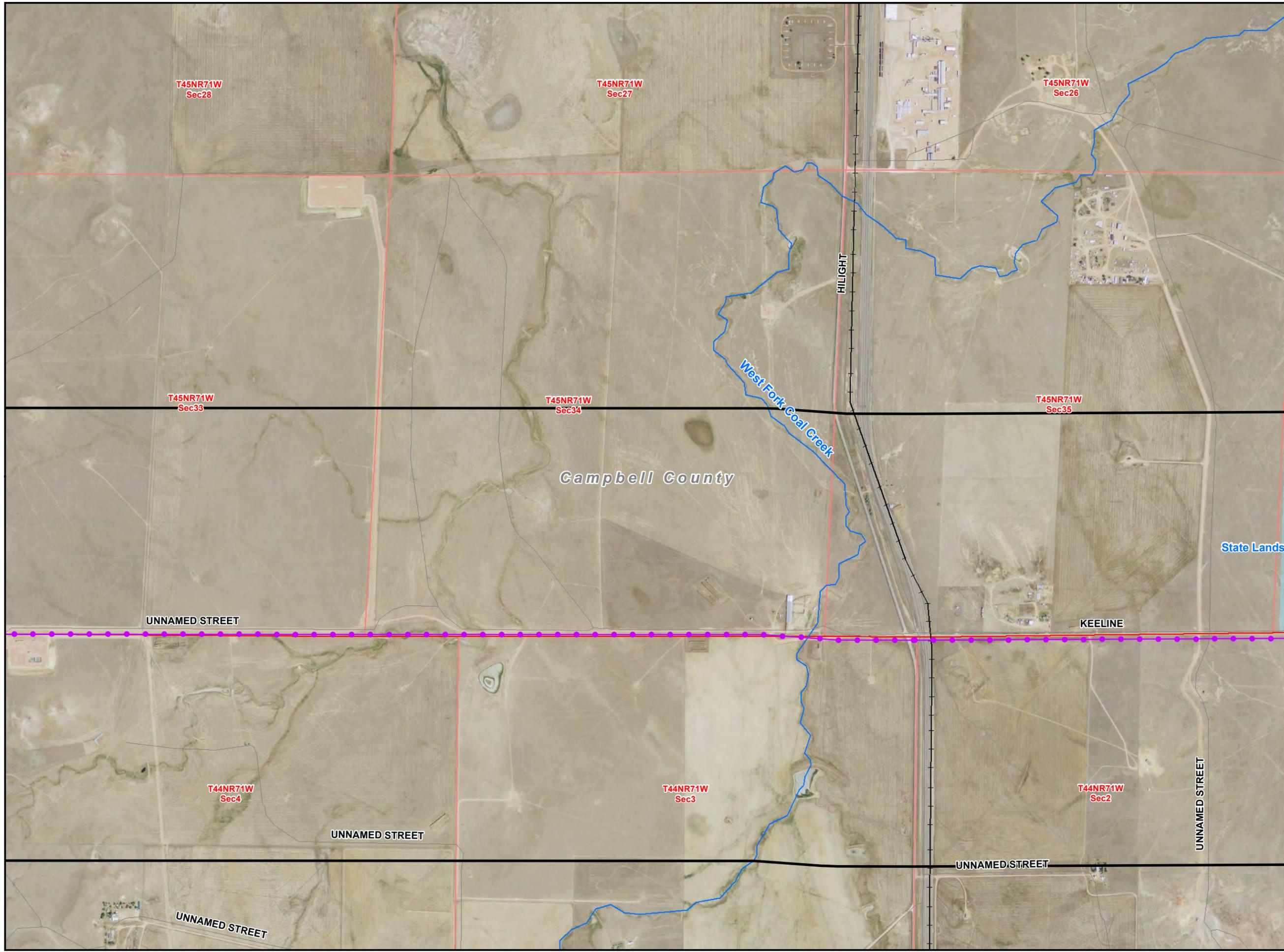
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



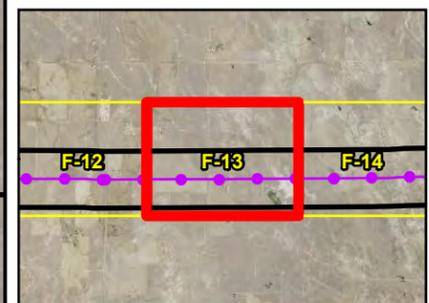
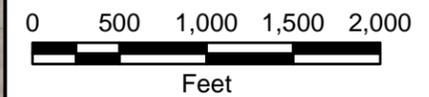
**Local Inset Map  
Figure F-12** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**

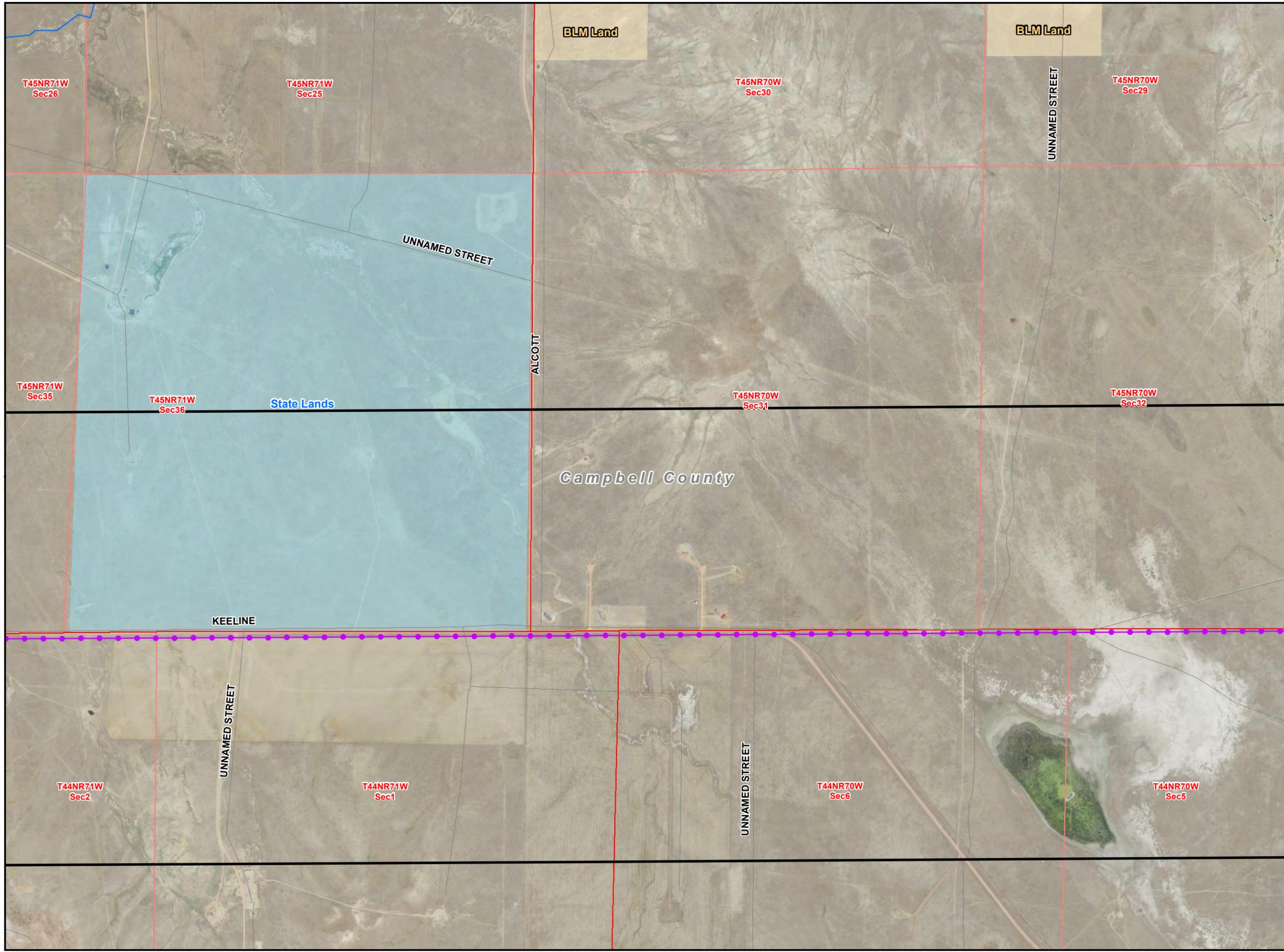
**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



Local Inset Map  
**Figure F-13**

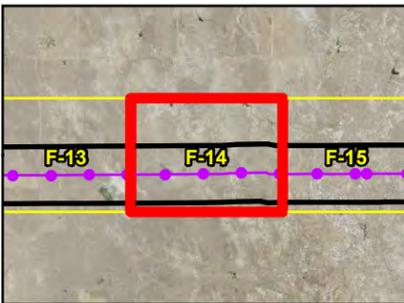
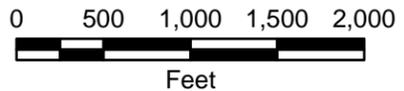
11-05-14



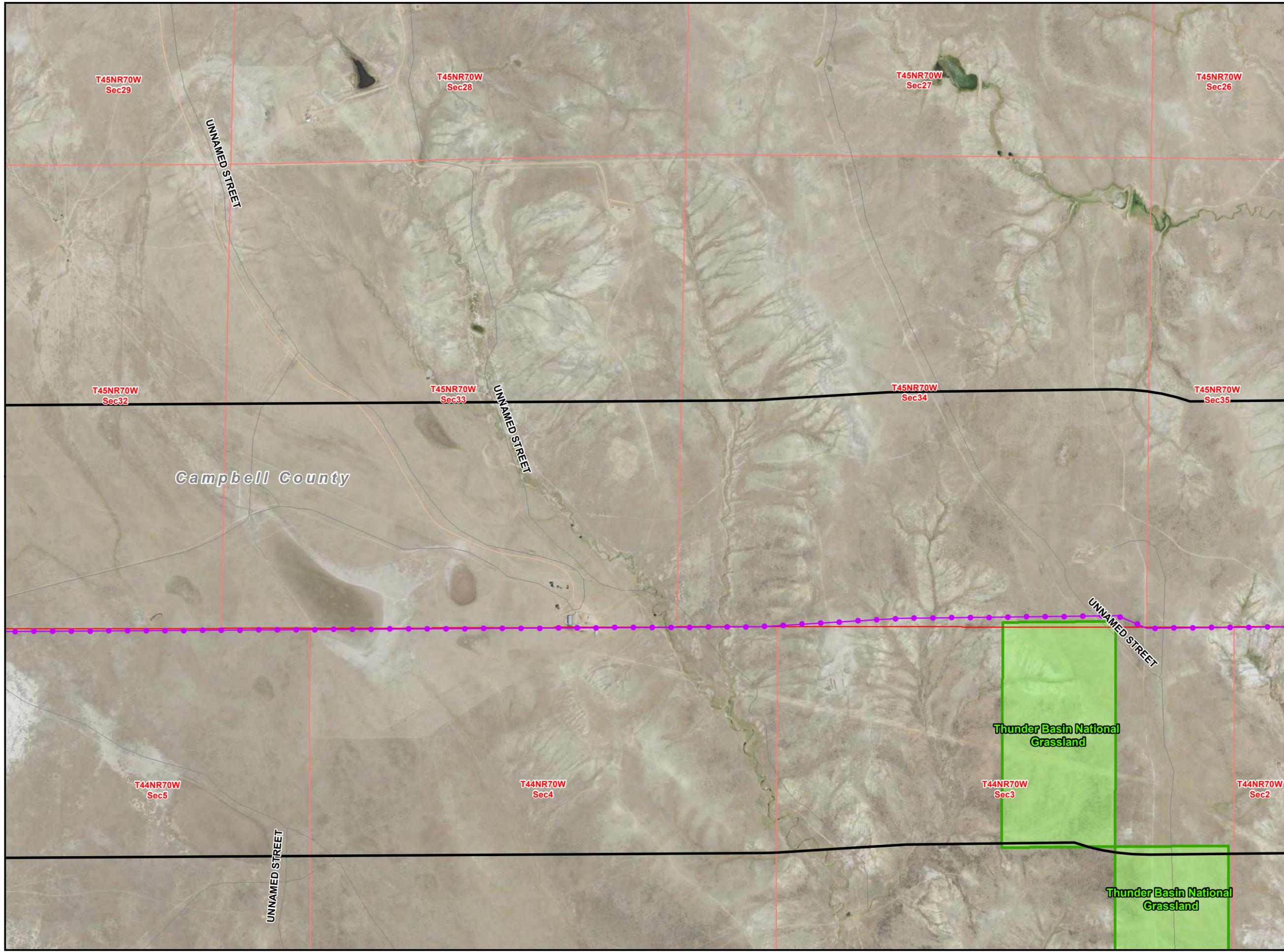
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



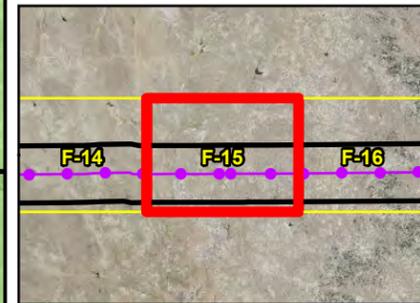
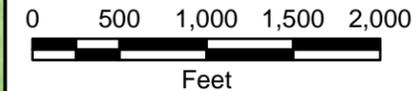
Local Inset Map  
**Figure F-14** 11-05-14



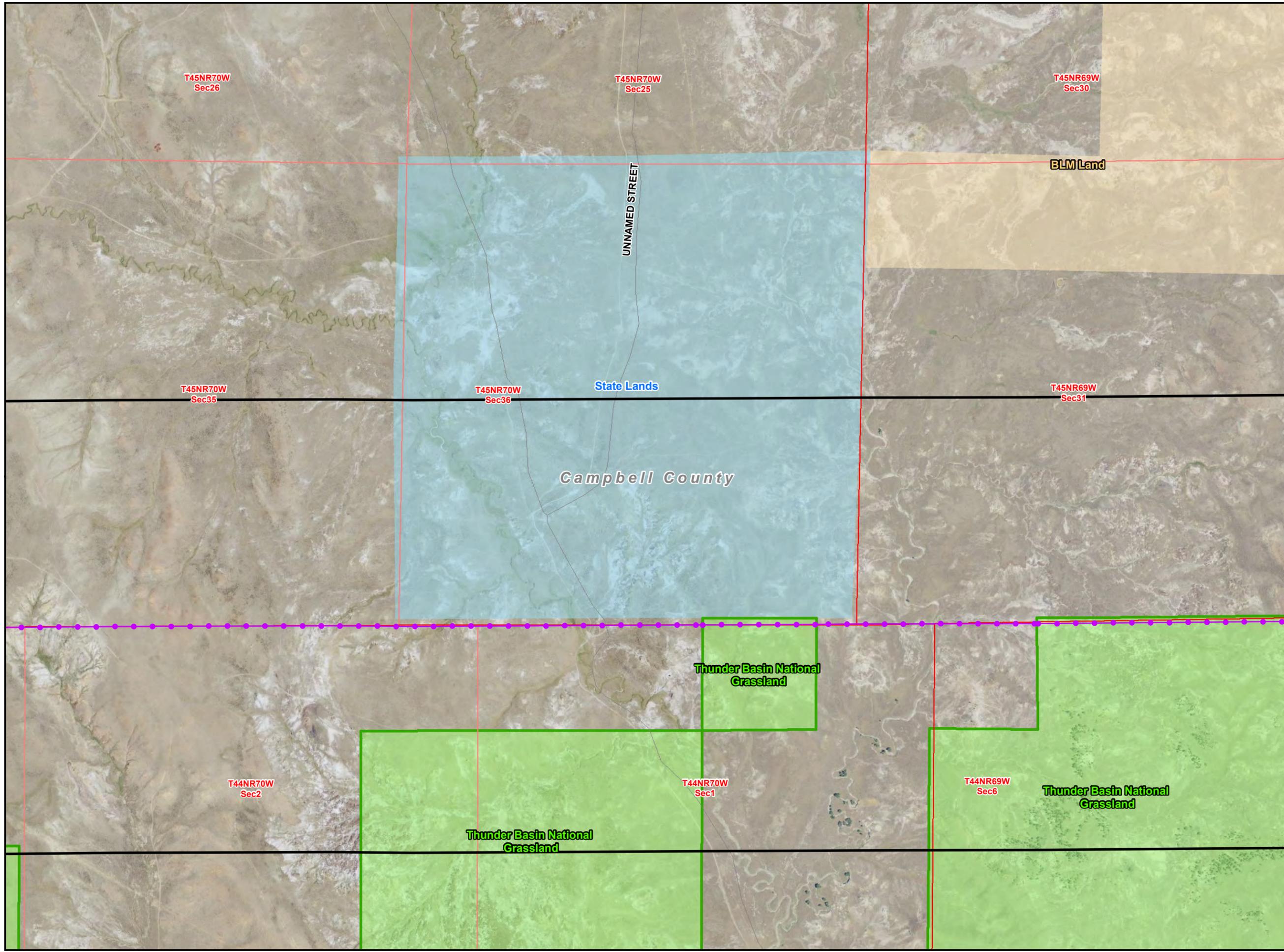
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



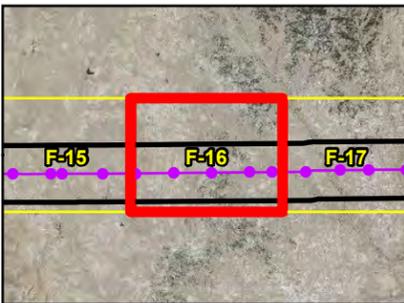
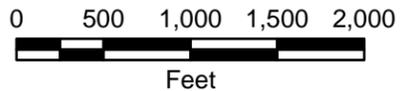
Local Inset Map  
**Figure F-15** 11-05-14



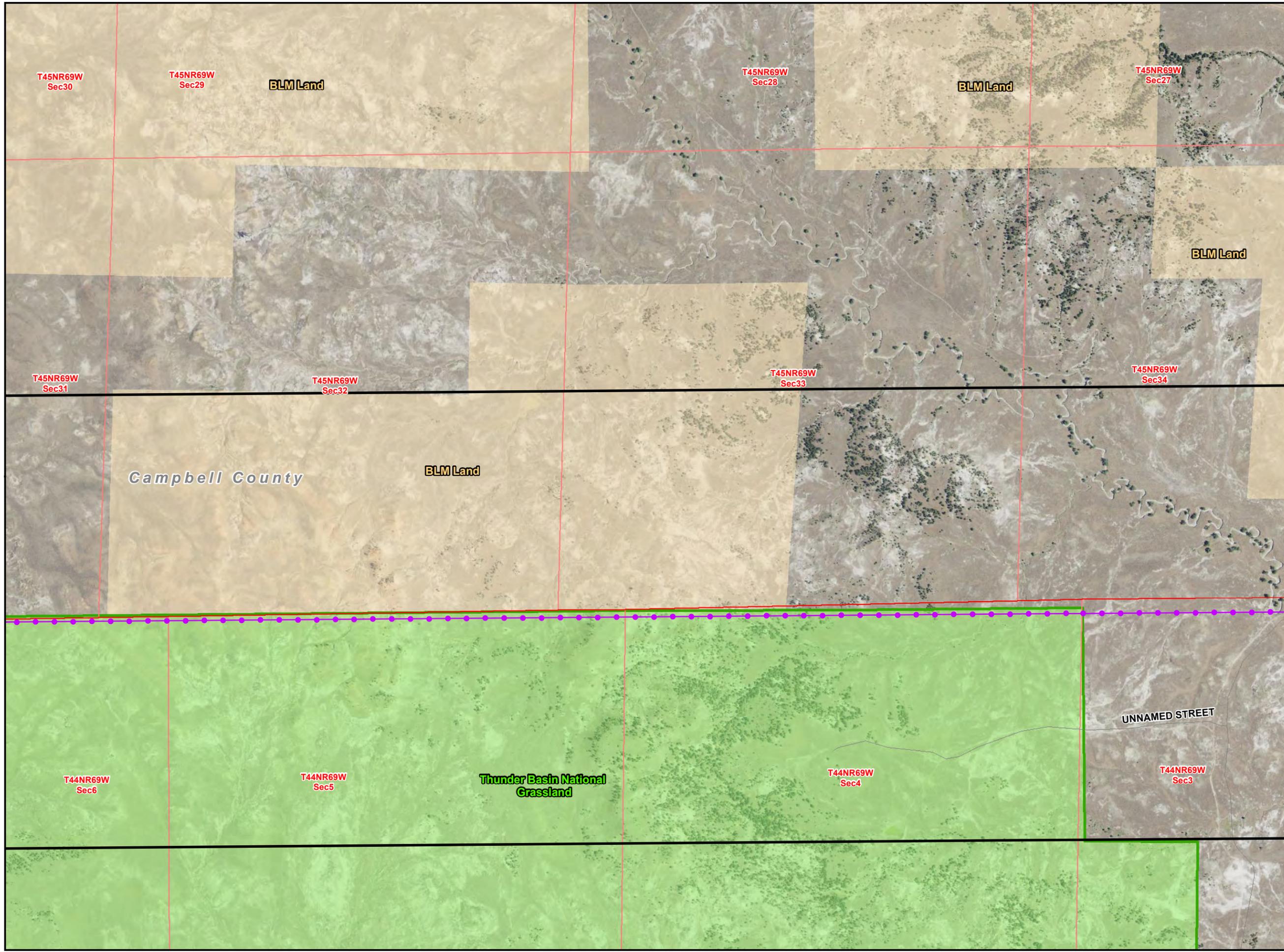
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



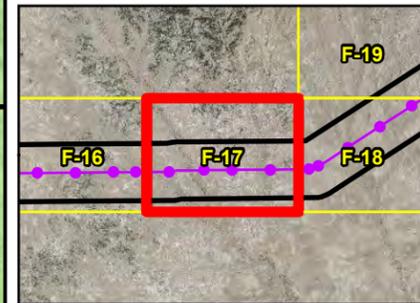
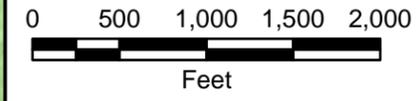
Local Inset Map  
**Figure F-16** 11-05-14



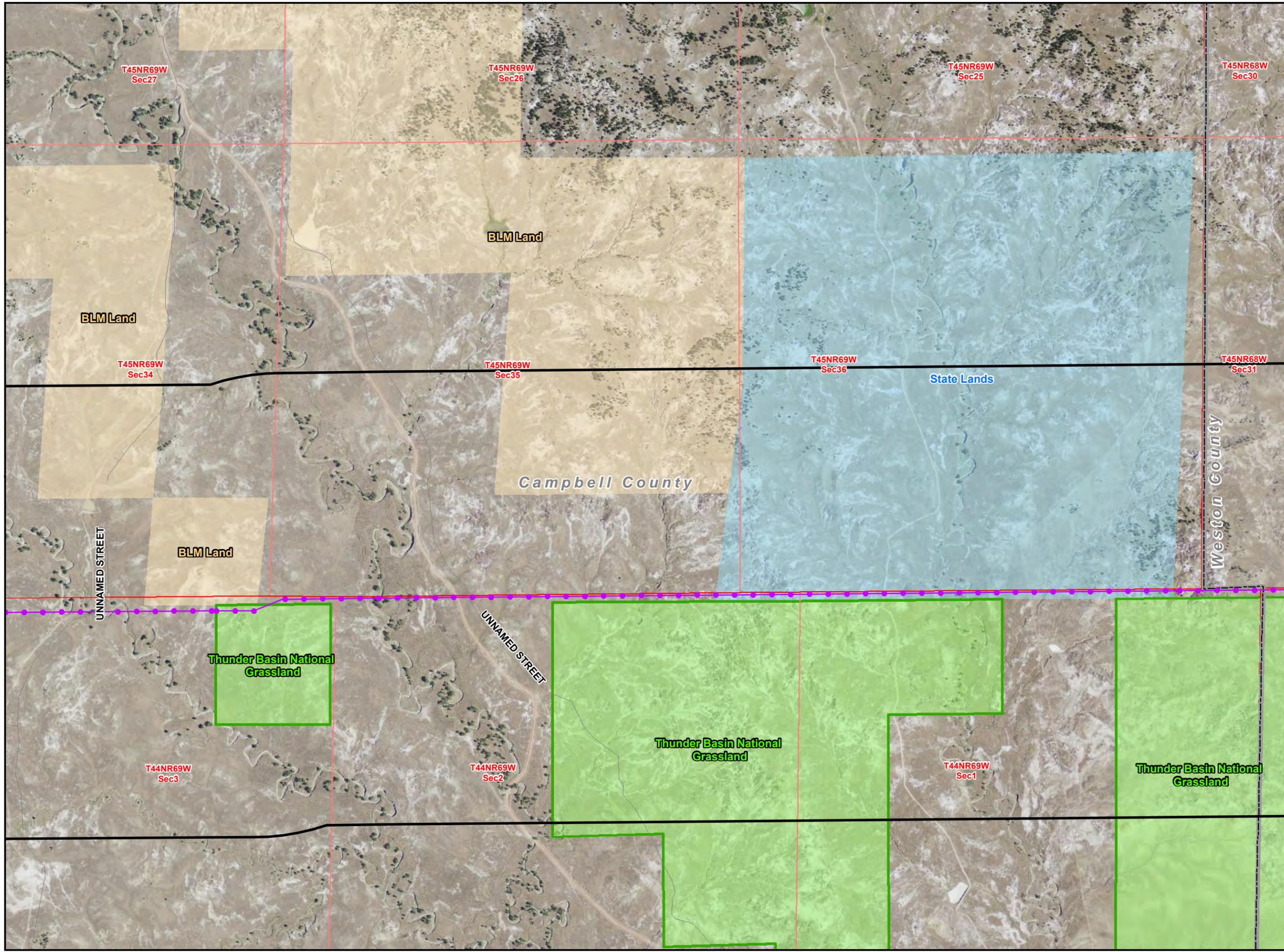
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



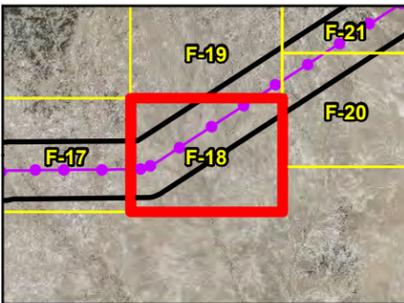
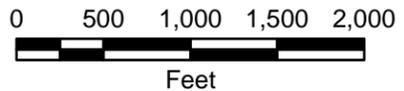
Local Inset Map  
**Figure F-17** 11-05-14



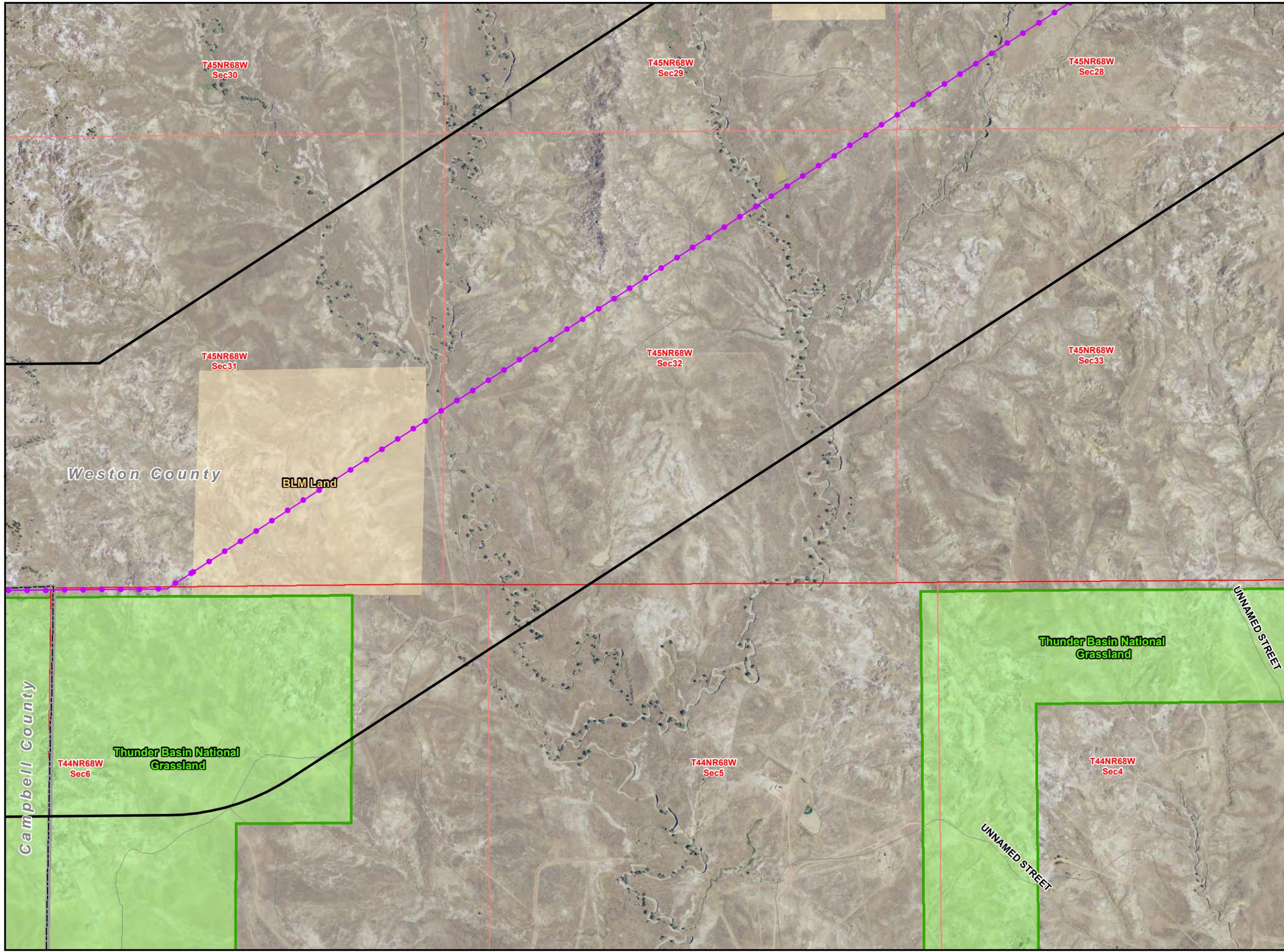
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



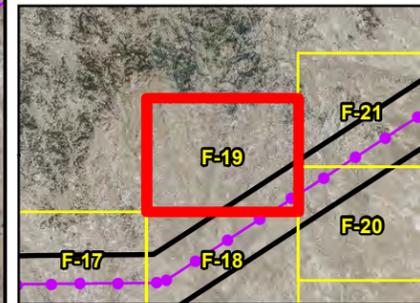
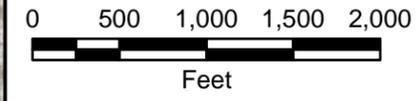
Local Inset Map  
**Figure F-18** 11-05-14



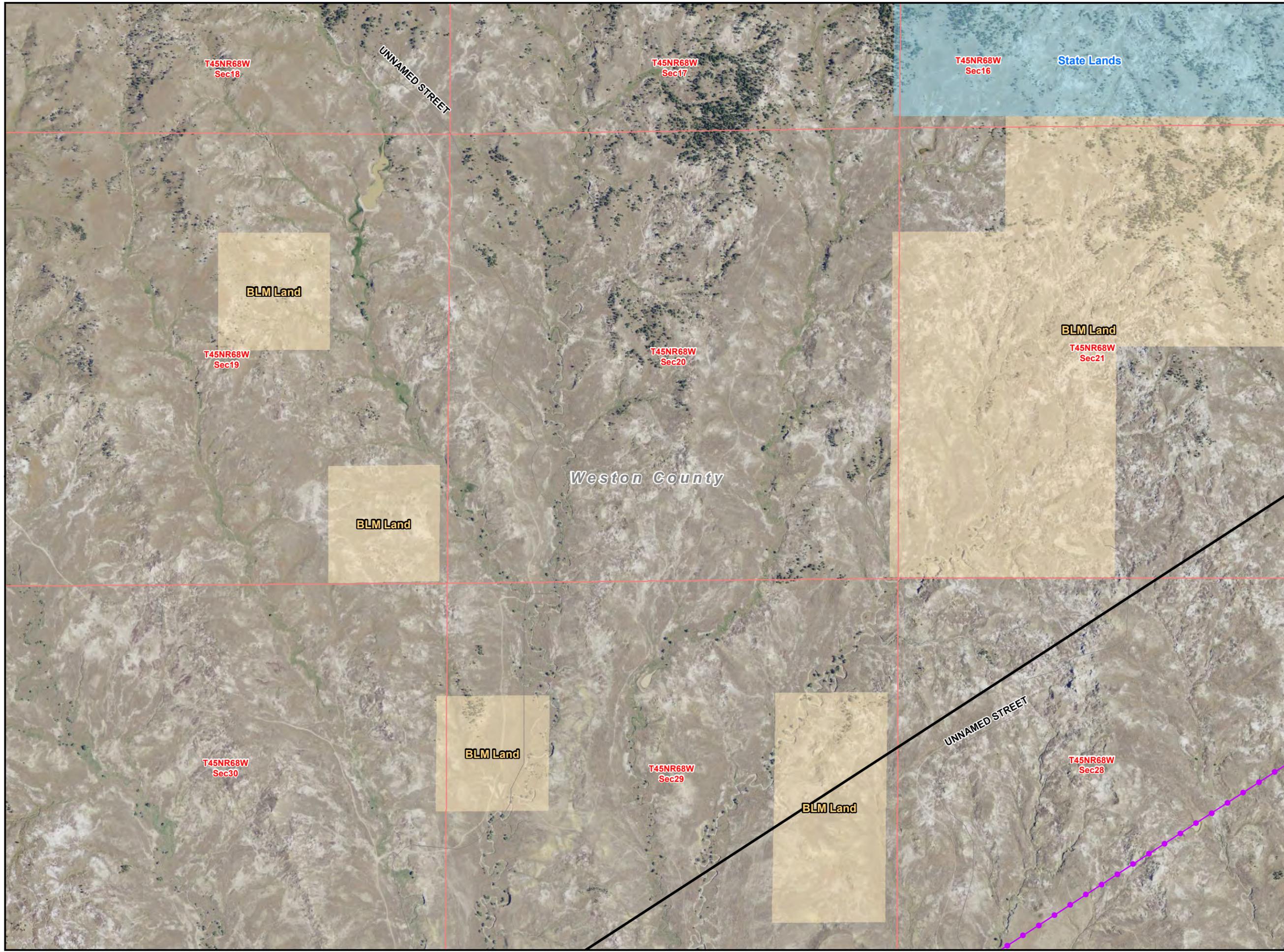
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



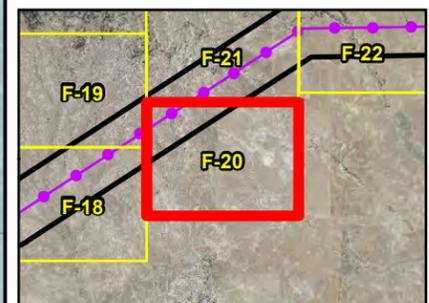
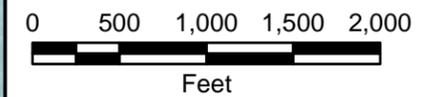
Local Inset Map  
**Figure F-19** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**

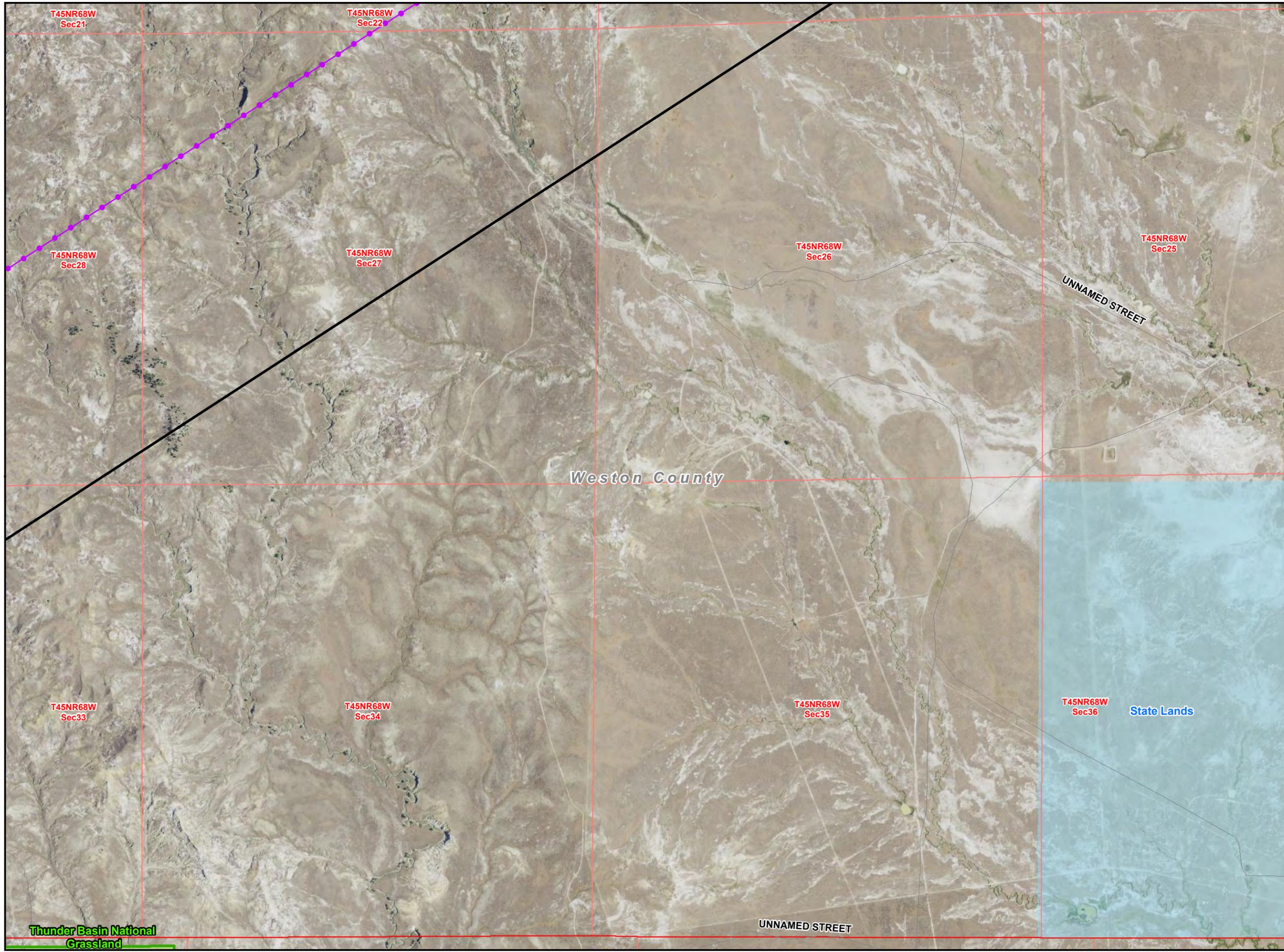
**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
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- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



Local Inset Map  
**Figure F-20**

11-05-14



Weston County

State Lands

Thunder Basin National  
Grassland

UNNAMED STREET

UNNAMED STREET

T45NR68W  
Sec21

T45NR68W  
Sec22

T45NR68W  
Sec28

T45NR68W  
Sec27

T45NR68W  
Sec26

T45NR68W  
Sec25

T45NR68W  
Sec33

T45NR68W  
Sec34

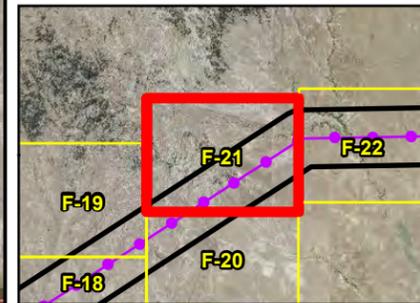
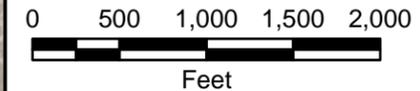
T45NR68W  
Sec35

T45NR68W  
Sec36

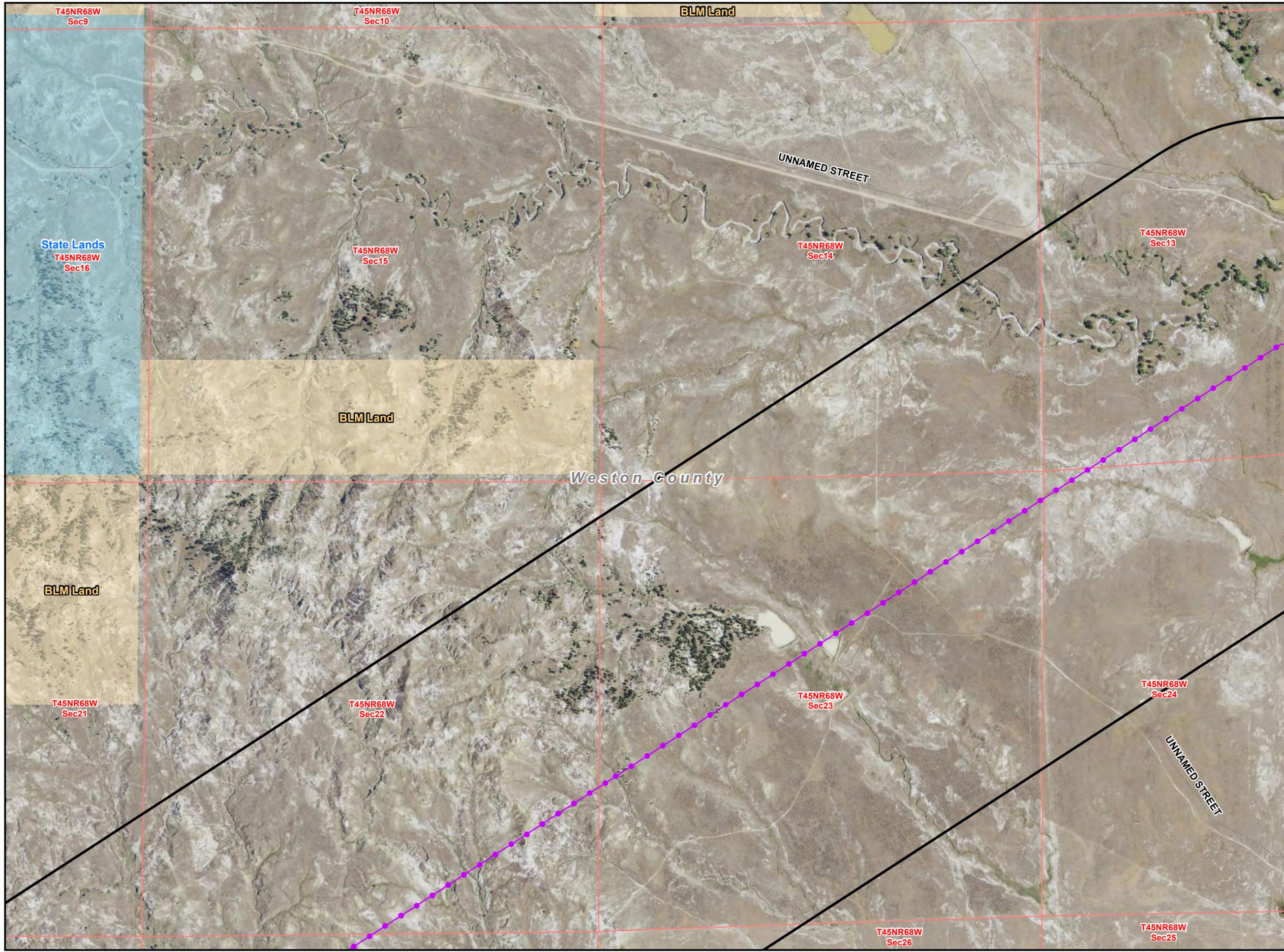
# Teckla – Osage – Rapid City 230 kV Transmission Line

## LEGEND

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
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- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



Local Inset Map  
Figure F-21 11-05-14



BLM Land

T45NR68W  
Sec10

T45NR68W  
Sec9

State Lands  
T45NR68W  
Sec16

T45NR68W  
Sec15

UNNAMED STREET

T45NR68W  
Sec14

T45NR68W  
Sec13

BLM Land

Weston County

BLM Land

T45NR68W  
Sec21

T45NR68W  
Sec22

T45NR68W  
Sec23

T45NR68W  
Sec24

UNNAMED STREET

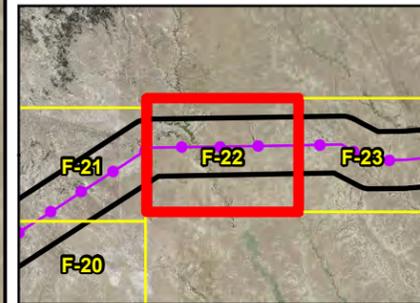
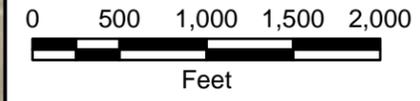
T45NR68W  
Sec26

T45NR68W  
Sec25

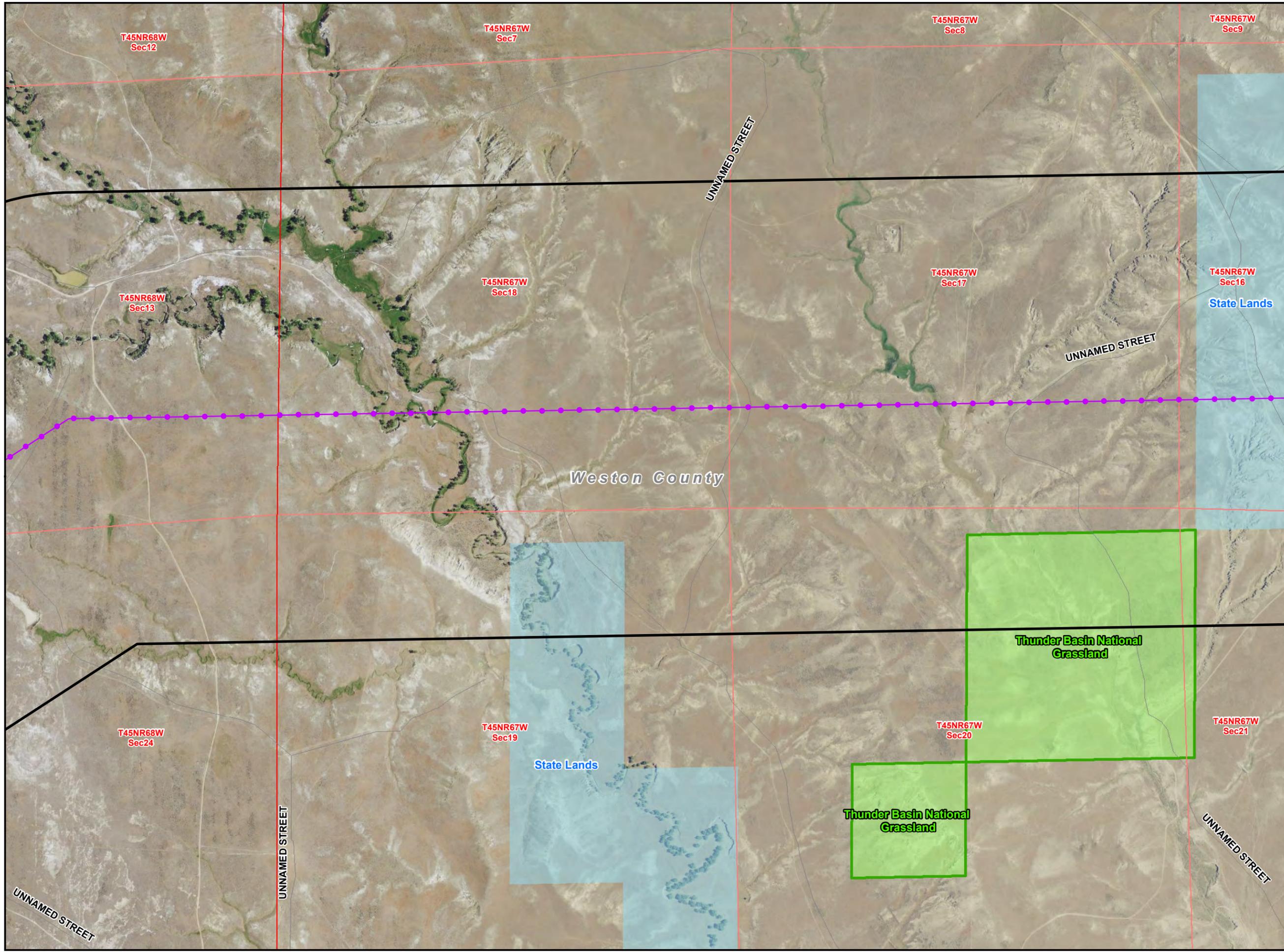
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
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- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



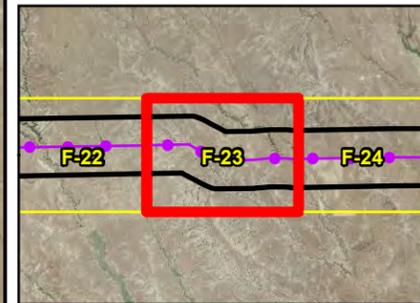
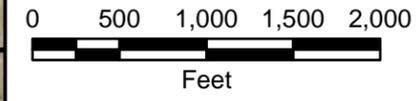
Local Inset Map  
**Figure F-22** 11-05-14



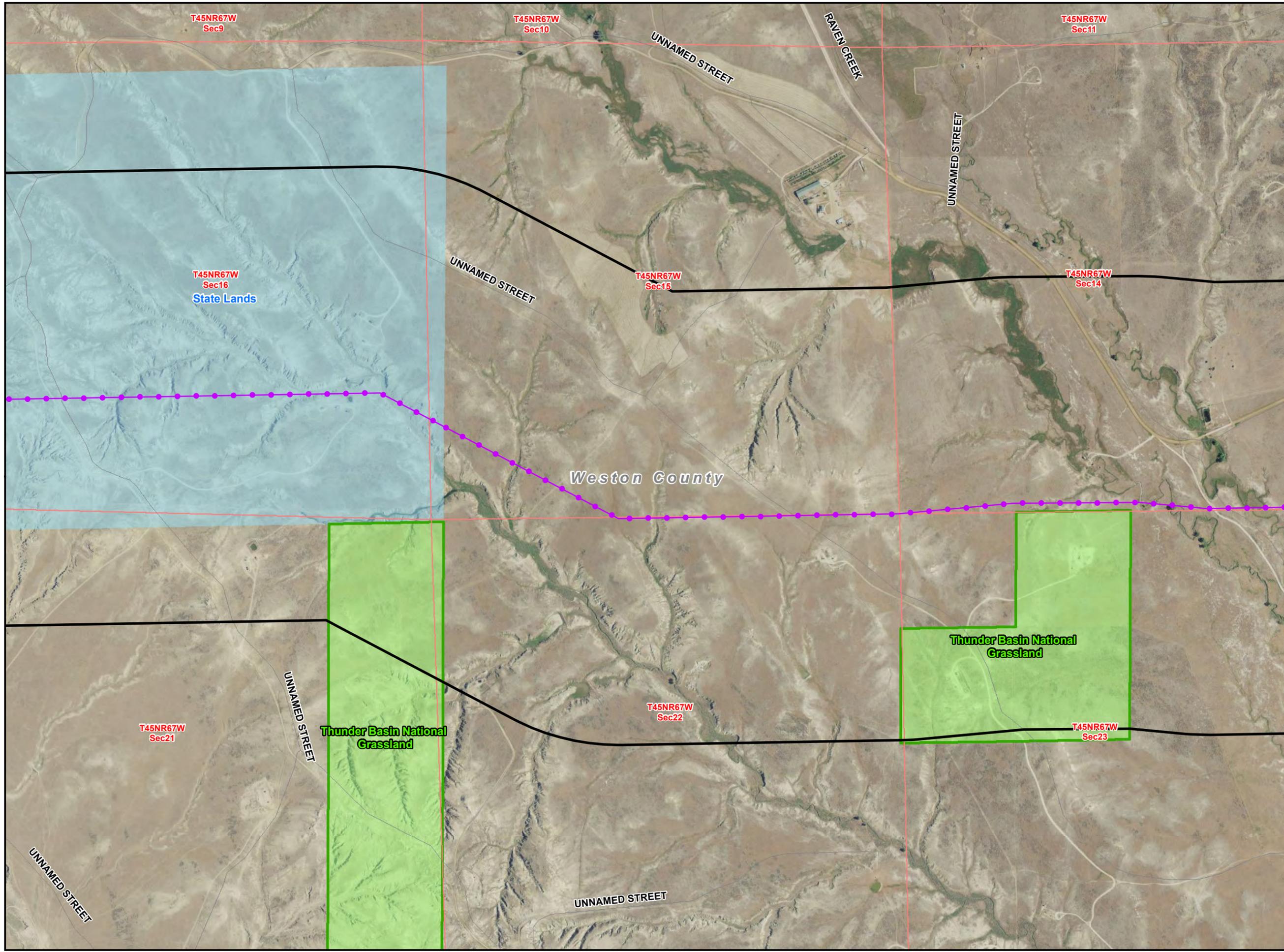
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
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-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



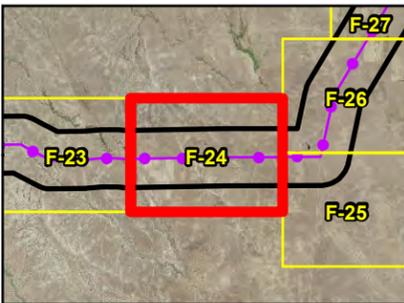
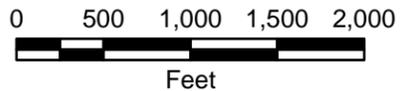
Local Inset Map  
**Figure F-23** 11-05-14



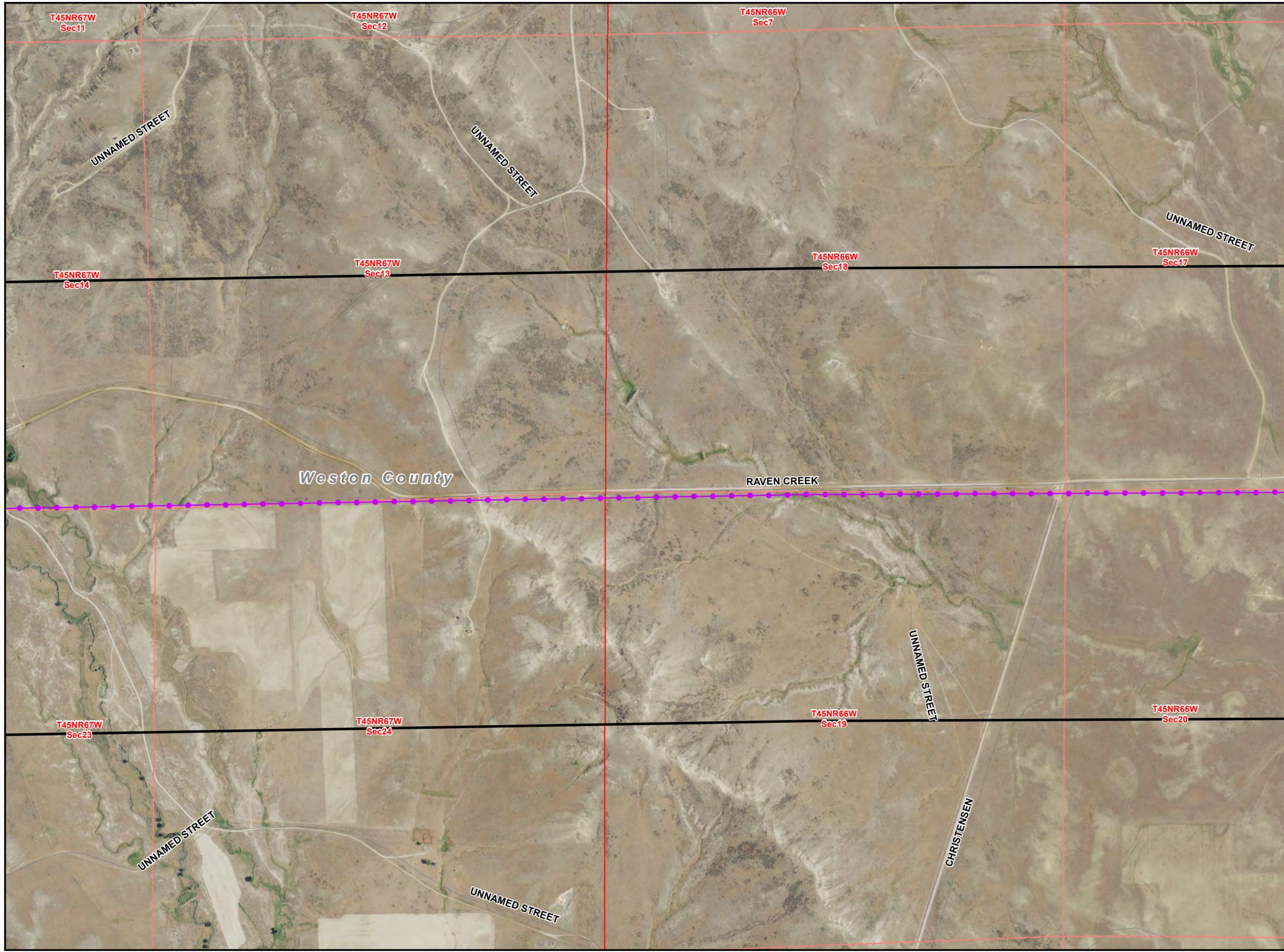
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

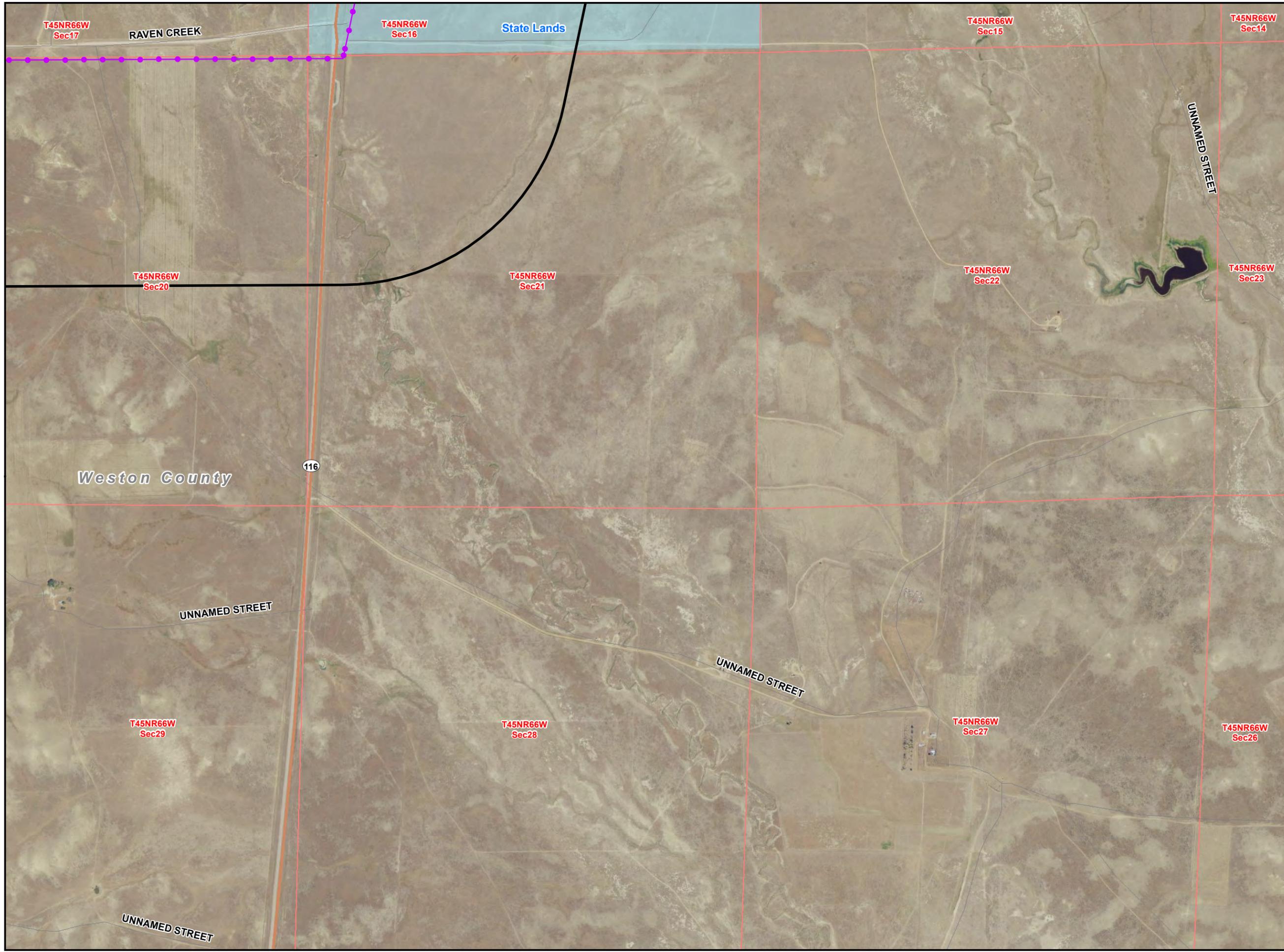
-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
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-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



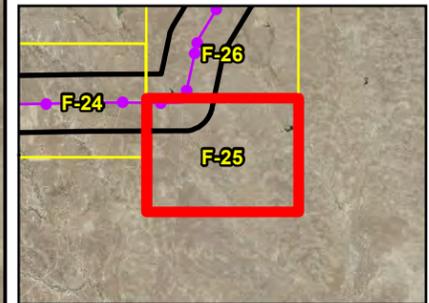
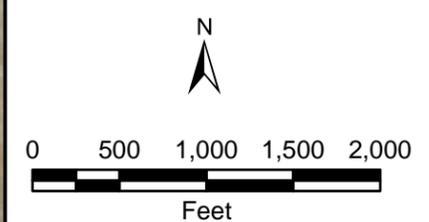
Local Inset Map  
**Figure F-24** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**



- LEGEND**
- Existing Substation
  - ✱ Point of Interest
  - Proposed Action
  - Site Specific Design Modification
  - 1/2 Mile Buffer
  - Existing ROW/ Overland Travel
  - Overland Travel Not In ROW
  - Existing Road- May Need To Be Improved
  - New Spur Road
  - Interstate
  - US Highway
  - State Highway
  - Major Road
  - Railroad
  - Stream
  - State Boundary
  - County Boundary
  - City or Town
  - Major Water Body
  - Township/ Range Boundary
  - Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
  - U.S. Forest Service Land
  - Thunder Basin National Grassland
  - State Land

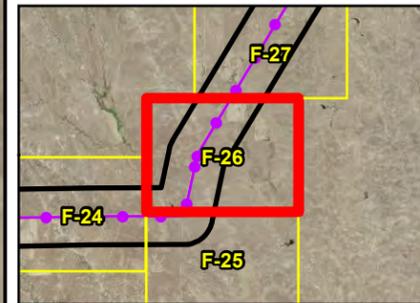
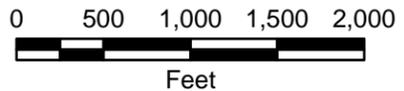


Local Inset Map  
**Figure F-25** 11-05-14

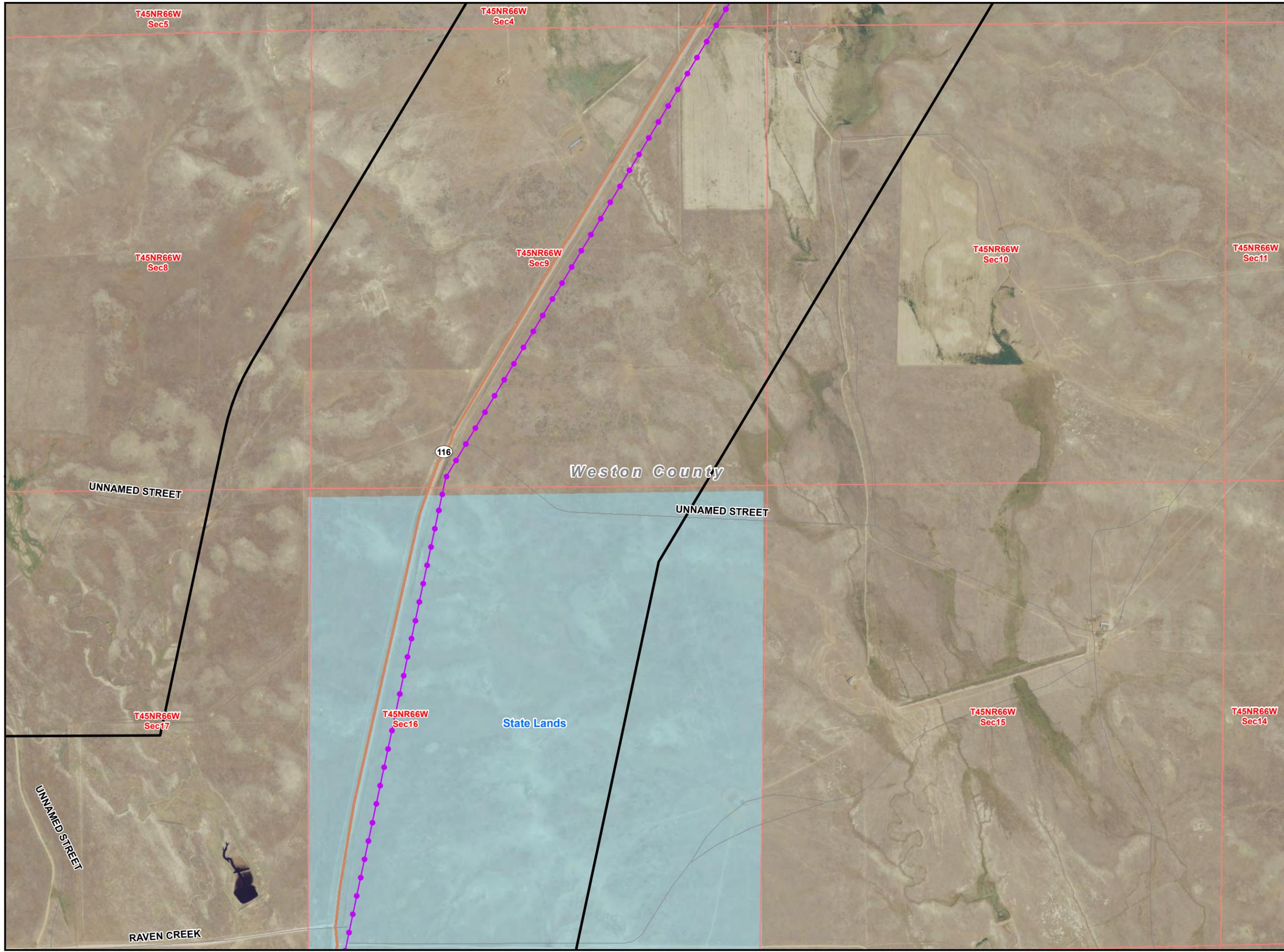
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



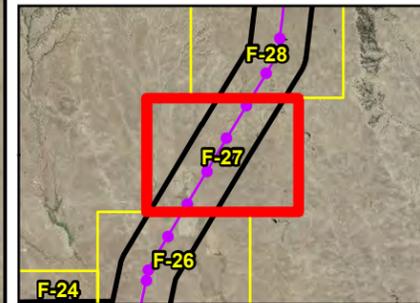
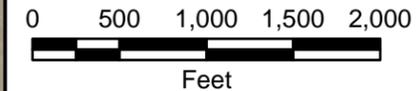
Local Inset Map  
**Figure F-26** 11-05-14



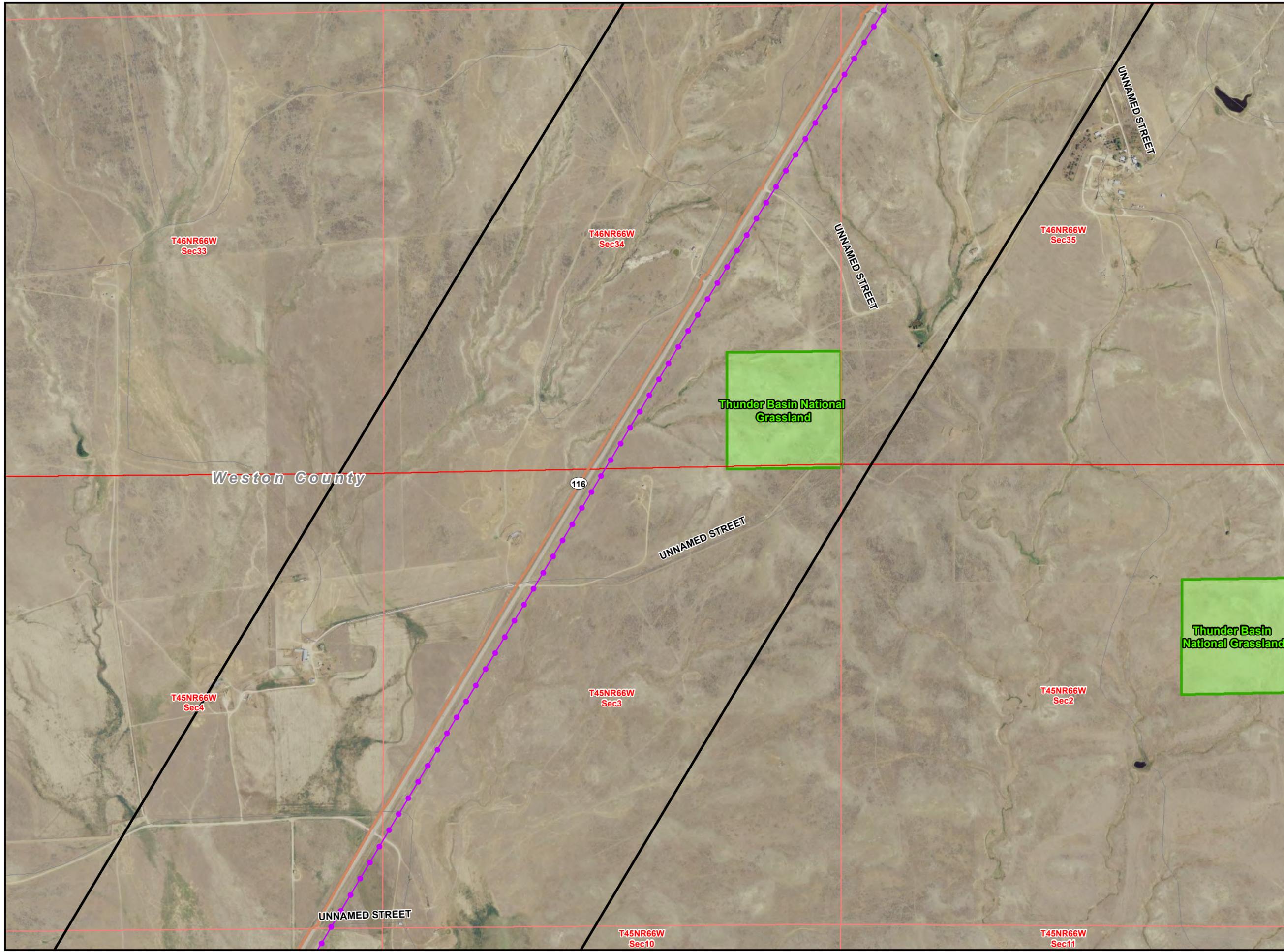
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



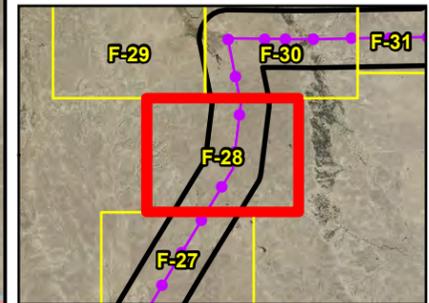
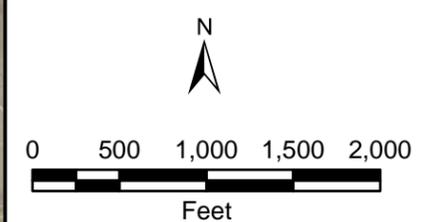
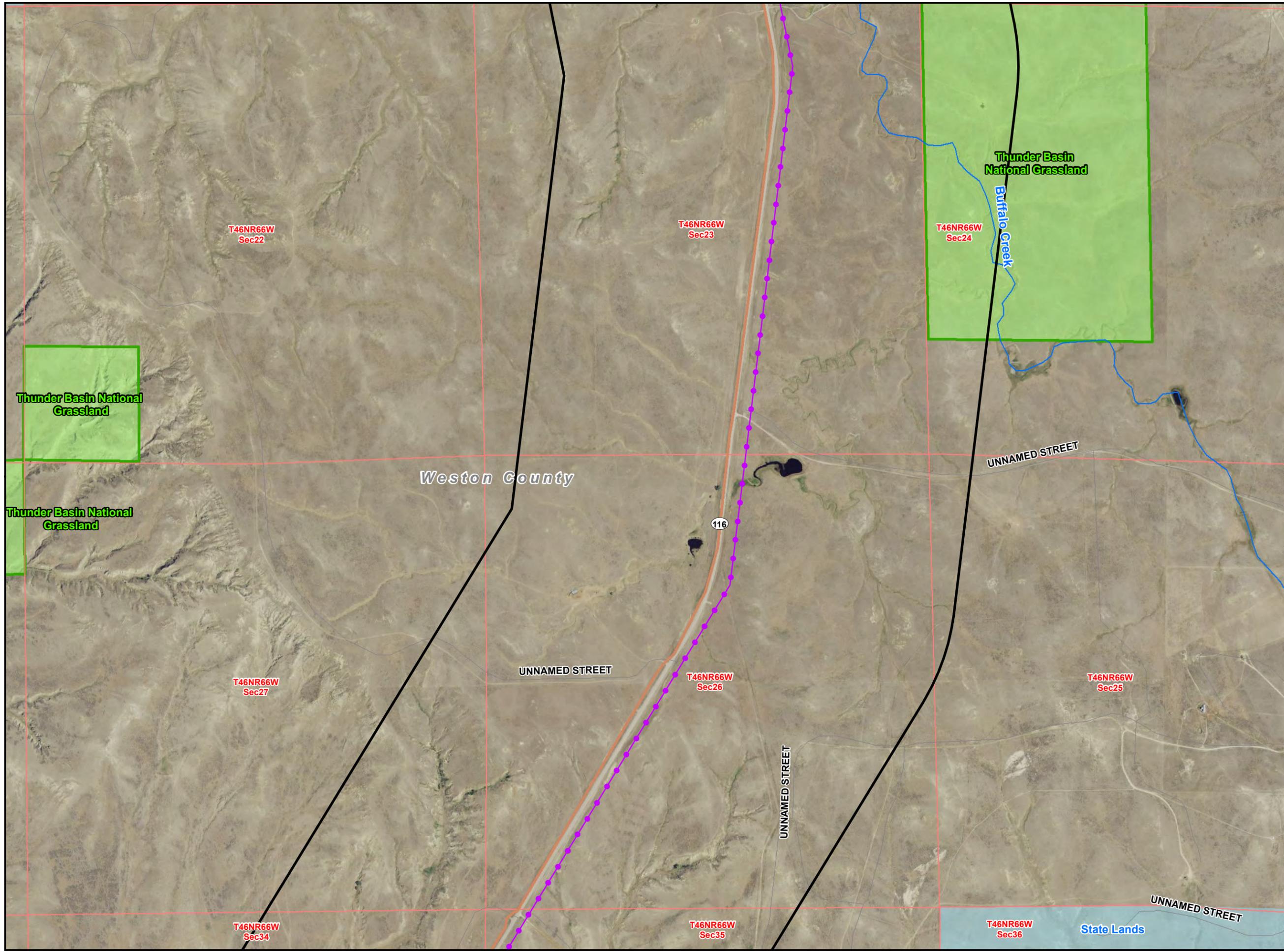
Local Inset Map  
**Figure F-27** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land

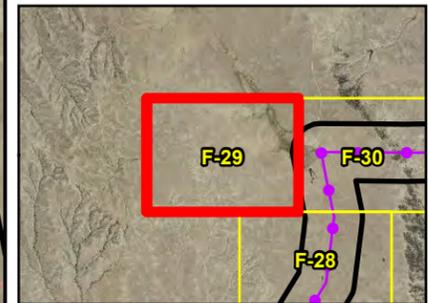
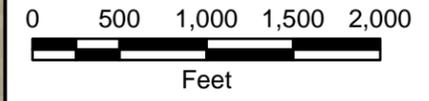


**Local Inset Map  
Figure F-28** 11-05-14

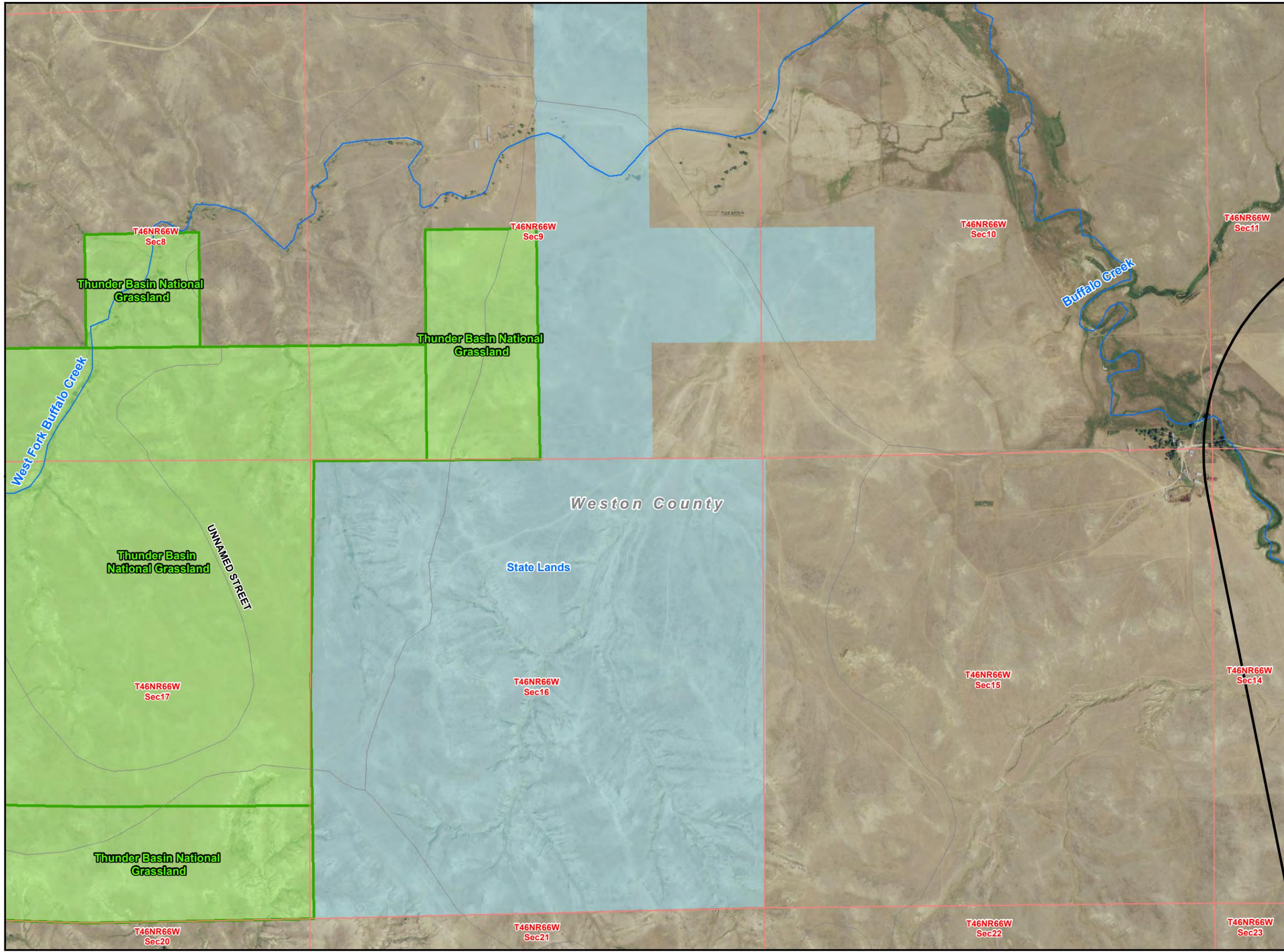
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
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- State Highway
- Major Road
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- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



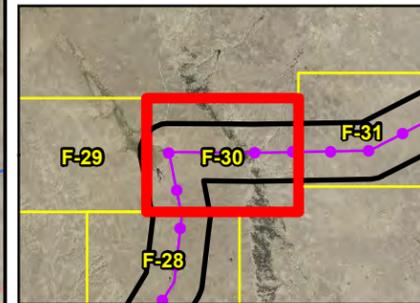
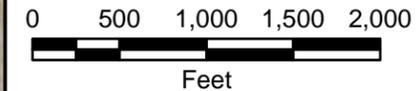
Local Inset Map  
**Figure F-29** 11-05-14



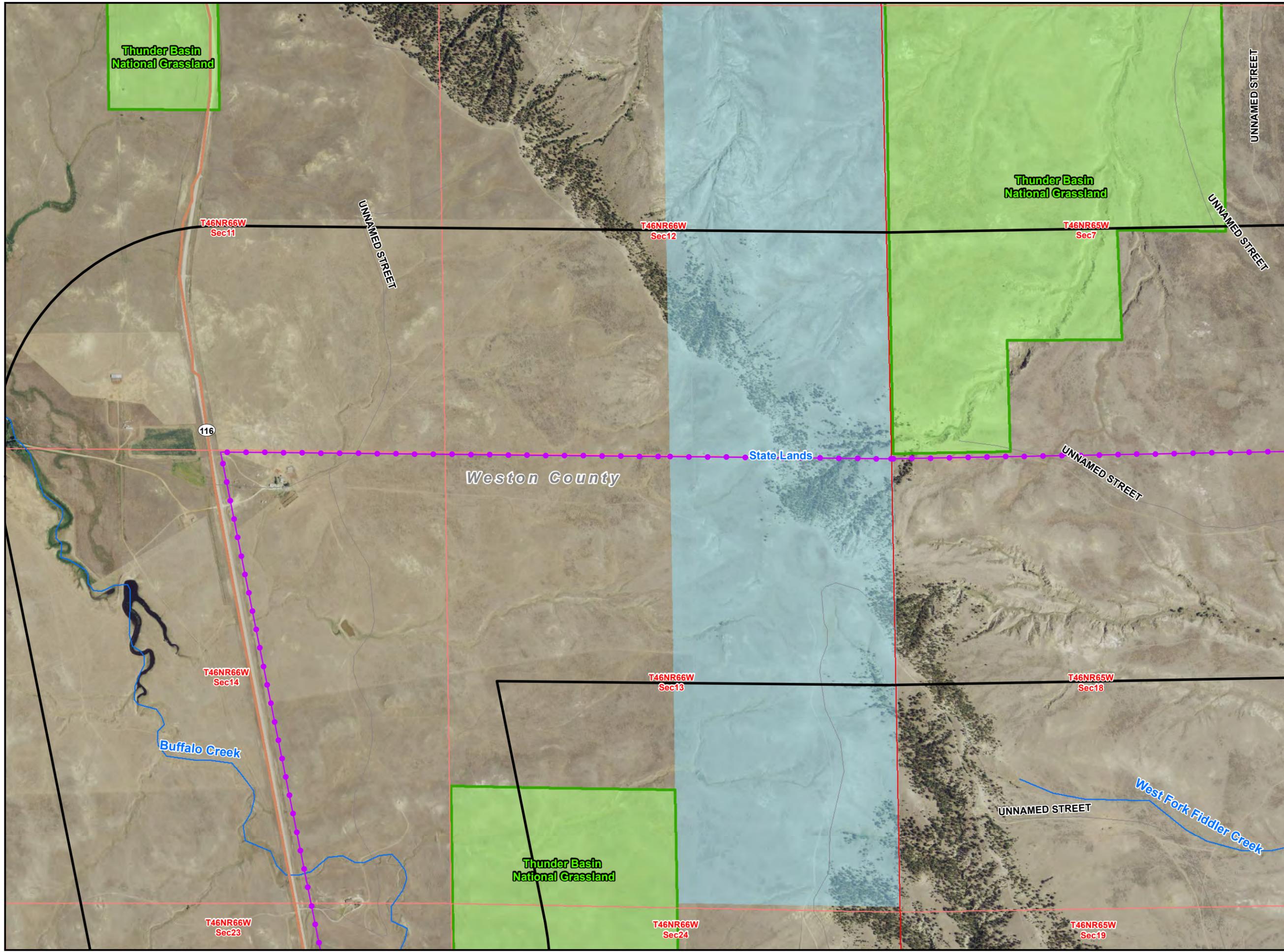
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
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- Major Road
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- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



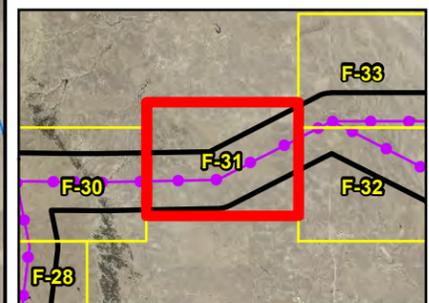
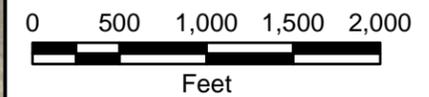
Local Inset Map  
**Figure F-30** 11-05-14



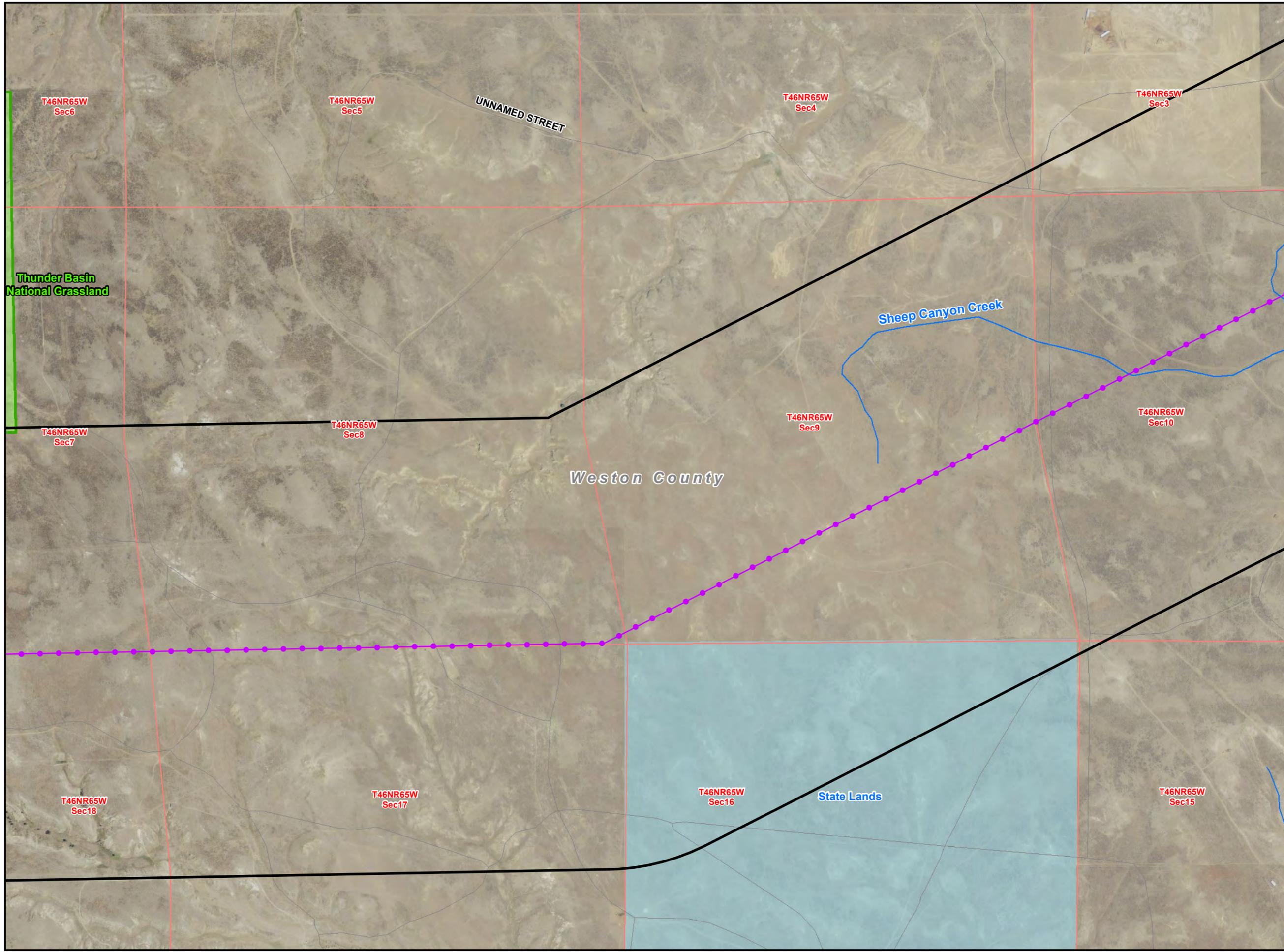
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
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- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



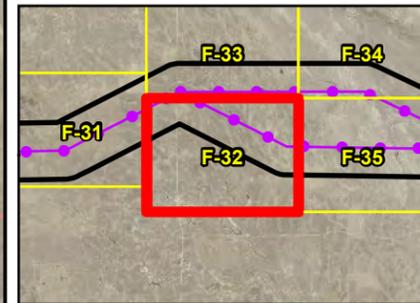
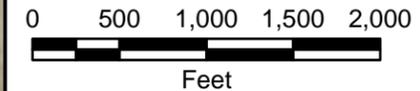
Local Inset Map  
**Figure F-31** 11-05-14



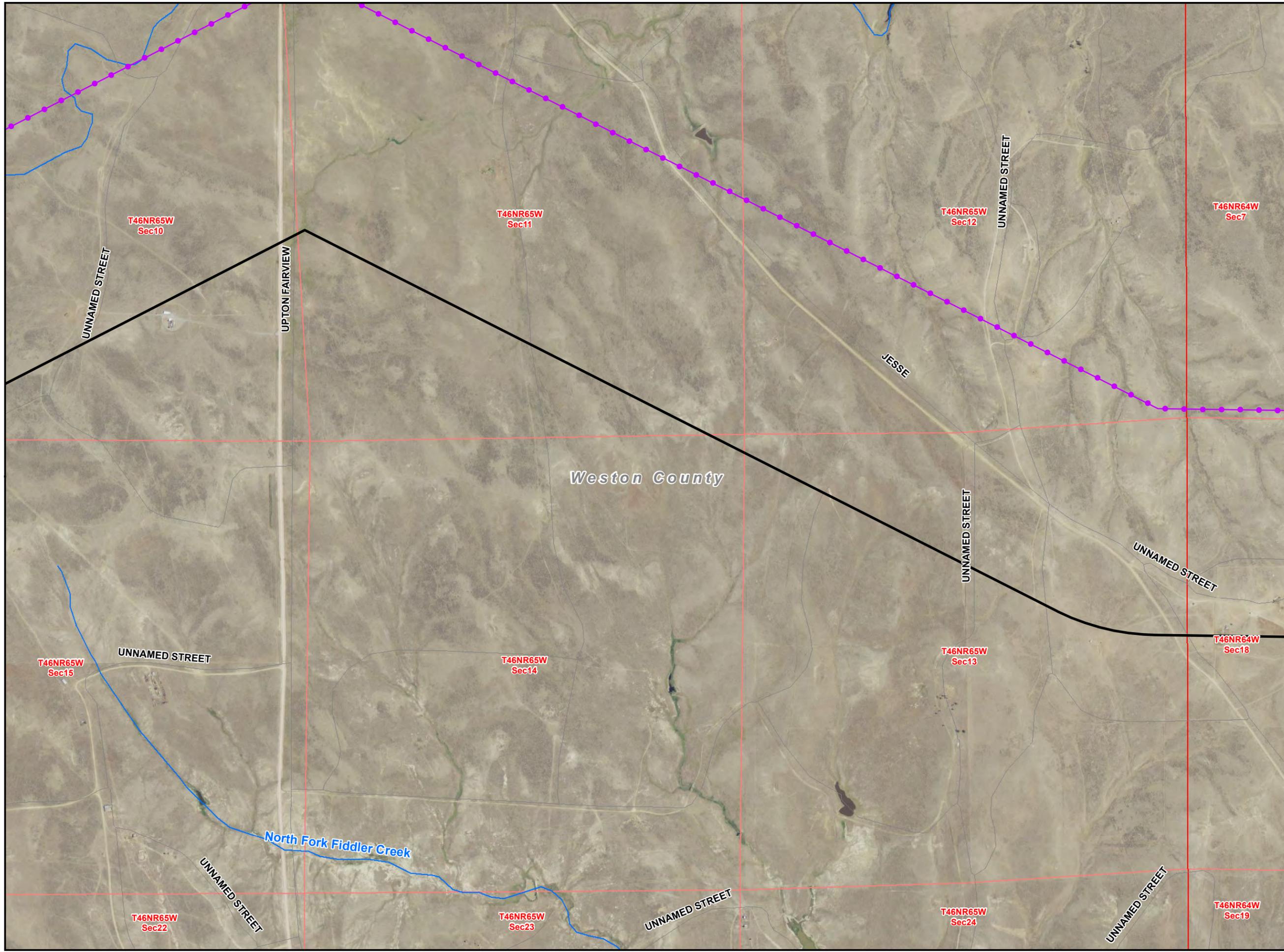
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



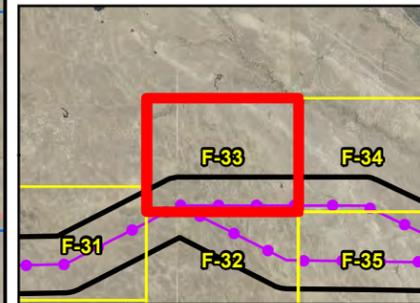
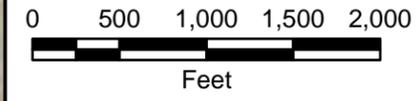
Local Inset Map  
**Figure F-32** 11-05-14



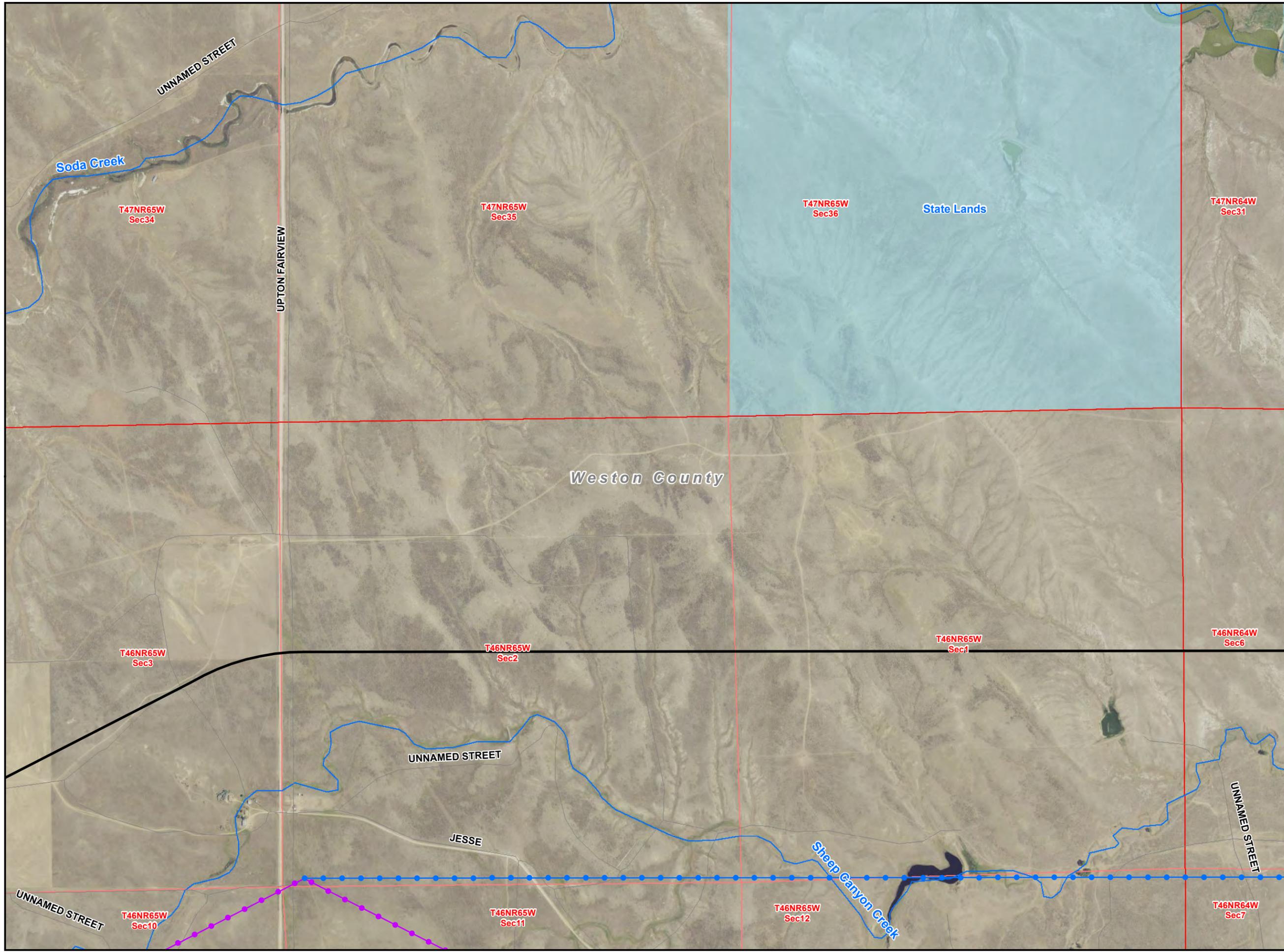
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
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- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



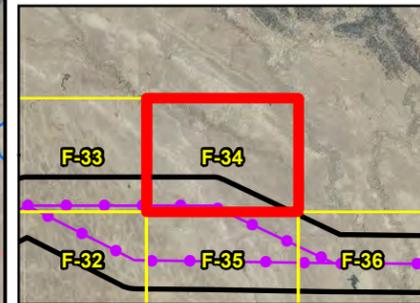
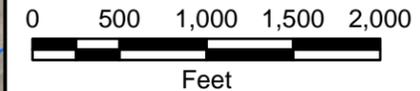
Local Inset Map  
**Figure F-33** 11-05-14



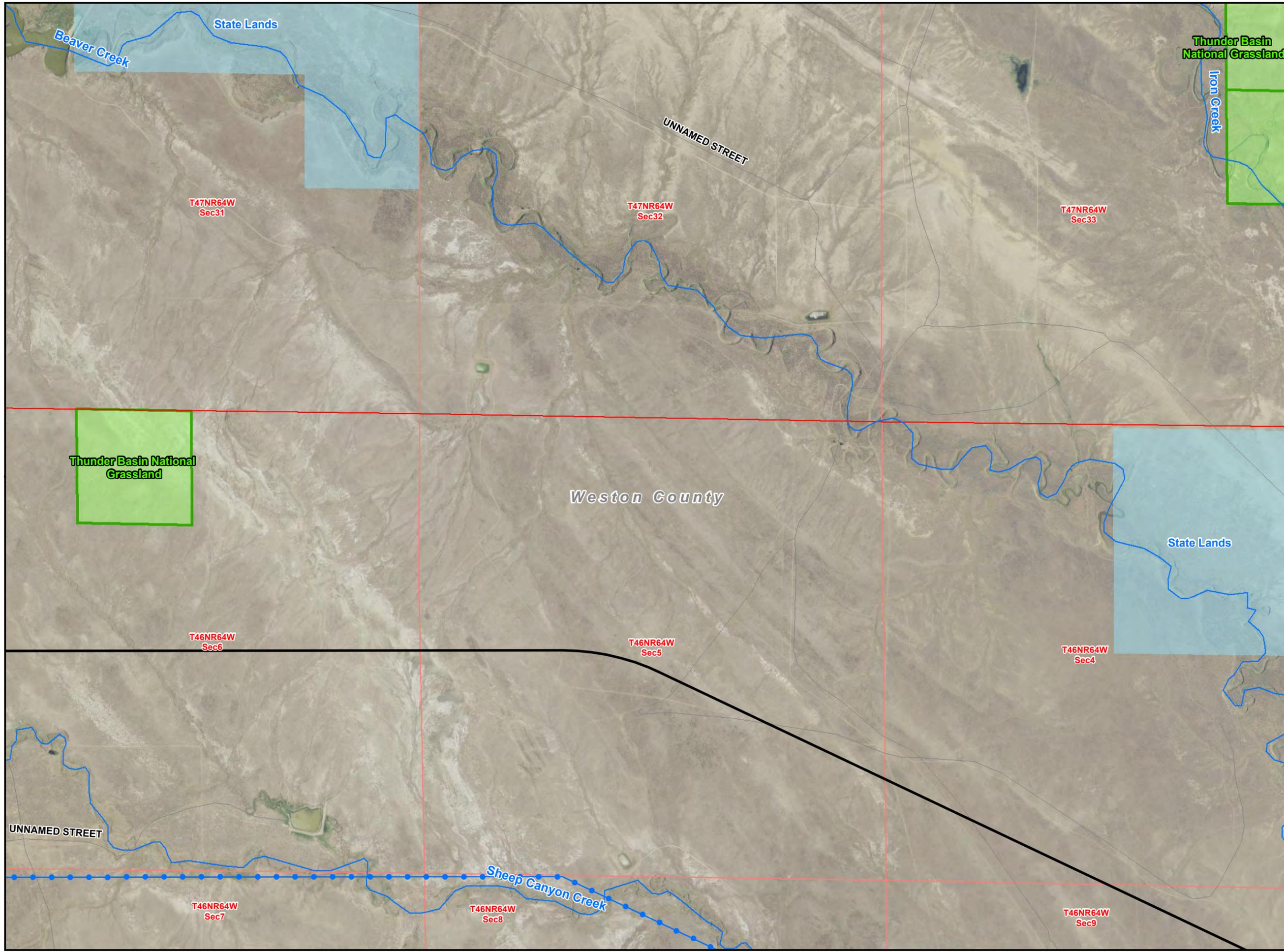
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
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- State Highway
- Major Road
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- Stream
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- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



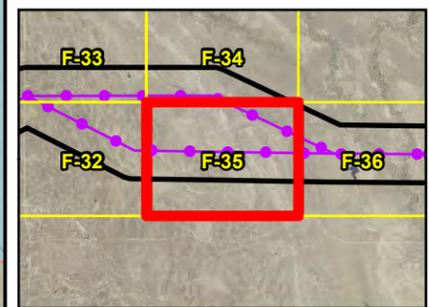
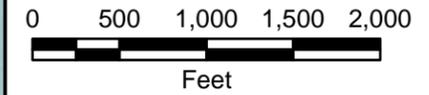
Local Inset Map  
**Figure F-34** 11-05-14



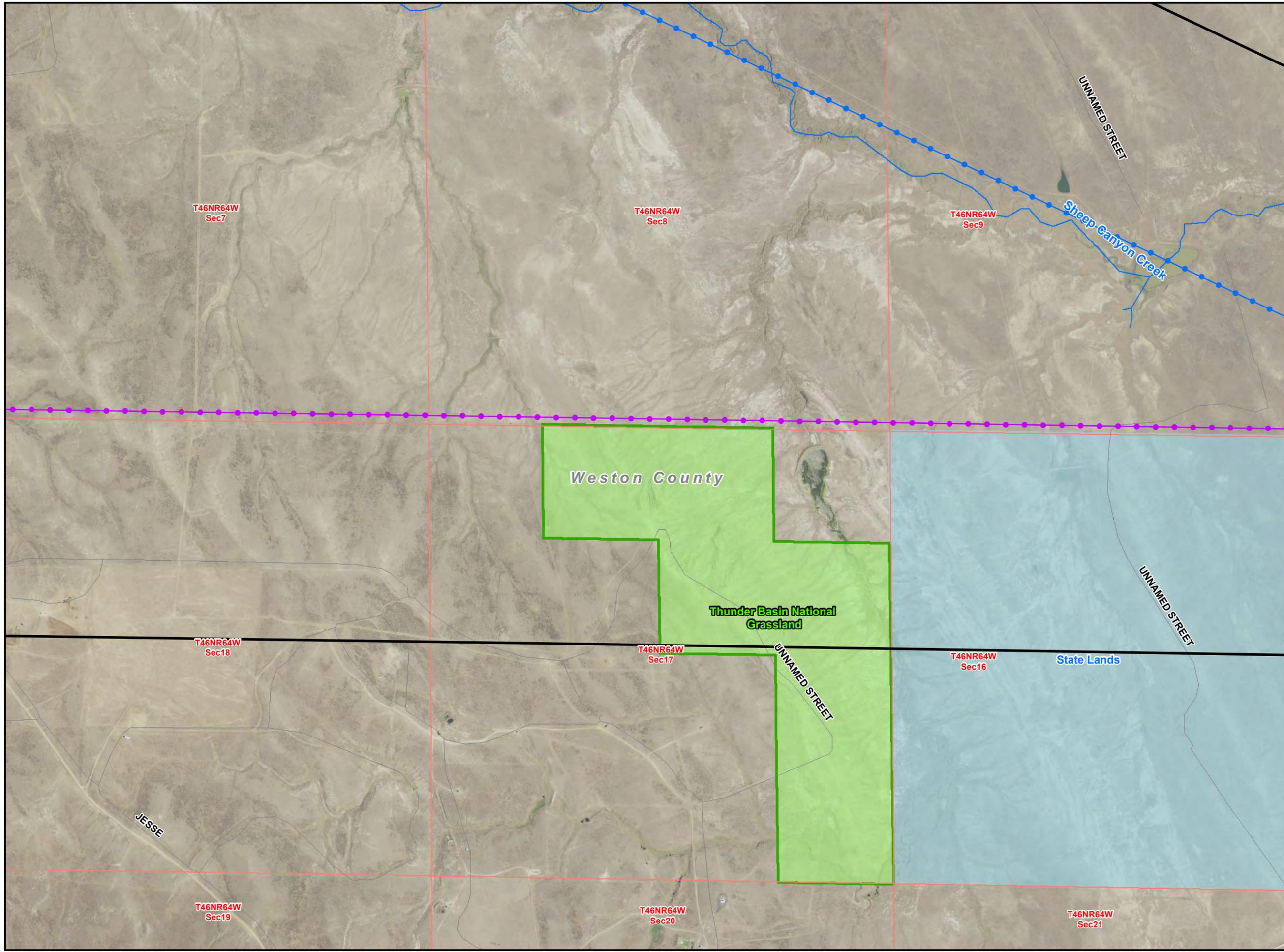
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
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- State Highway
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- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



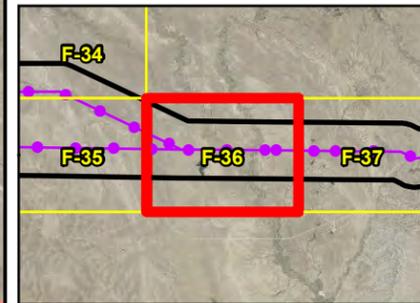
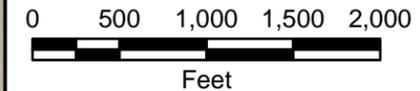
Local Inset Map  
**Figure F-35** 11-05-14



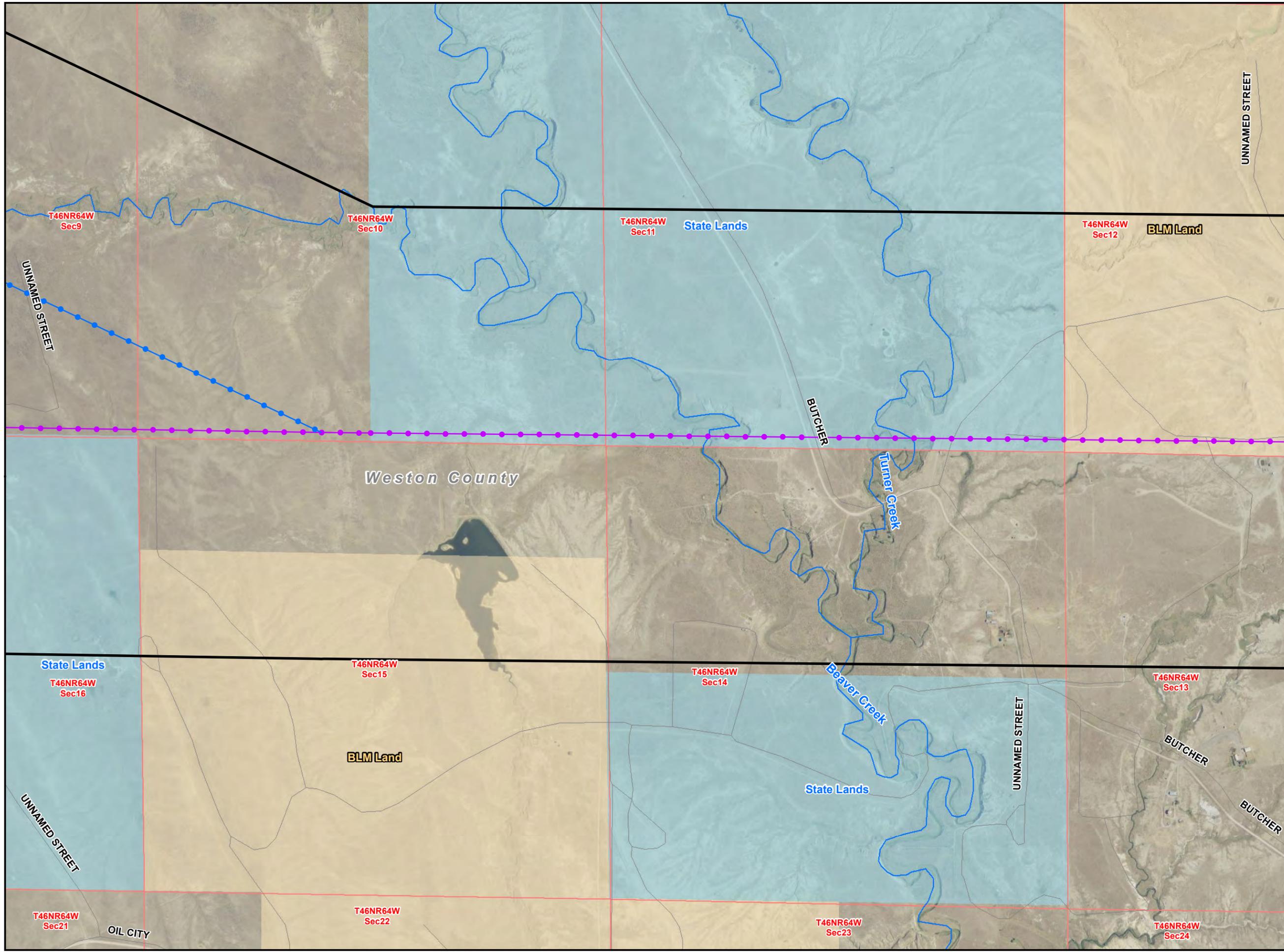
# Teckla – Osage – Rapid City 230 kV Transmission Line

## LEGEND

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



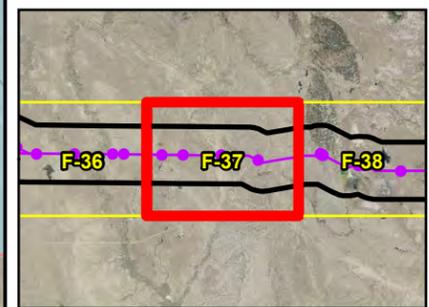
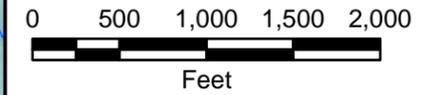
Local Inset Map  
**Figure F-36** 11-05-14



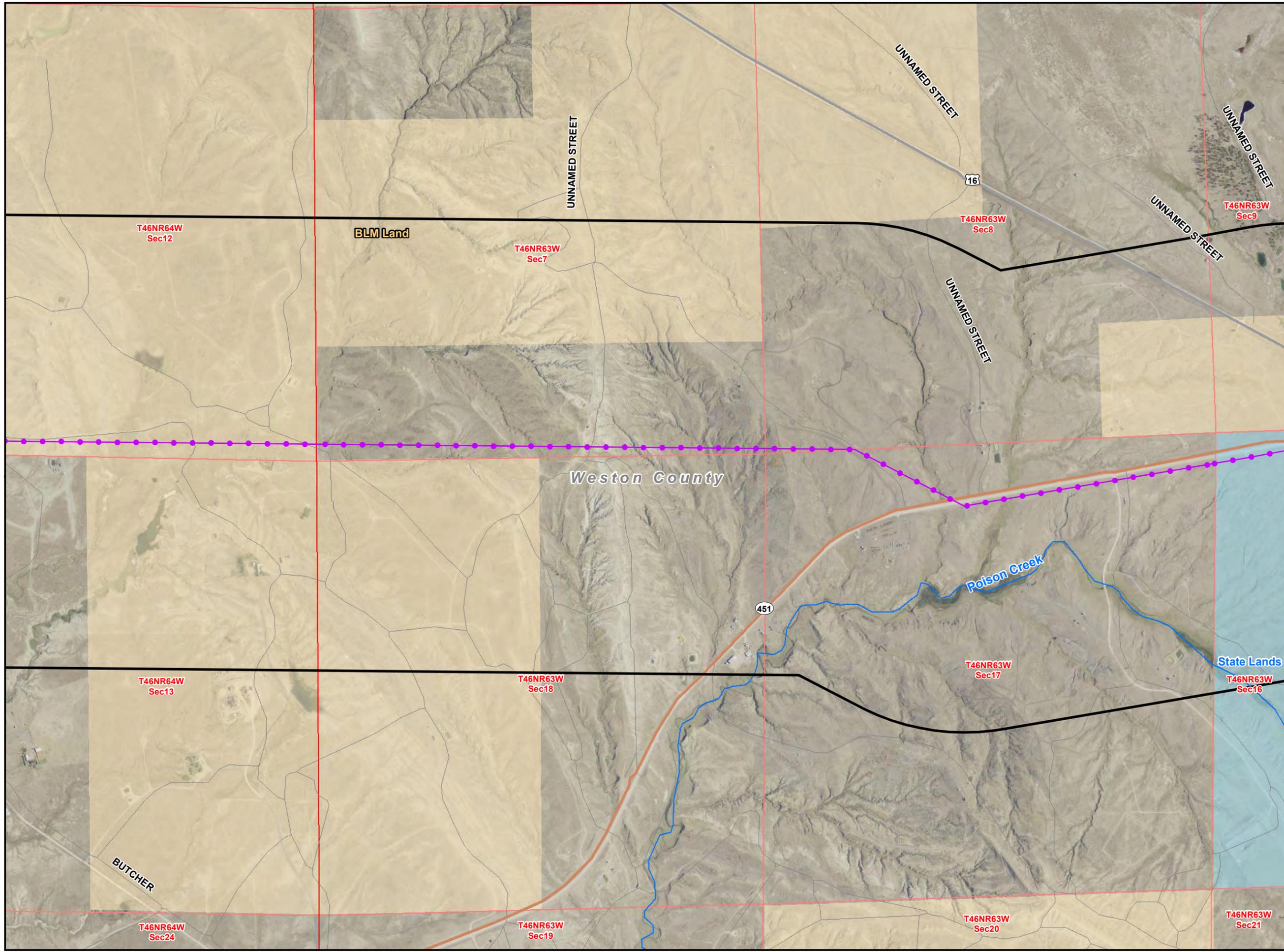
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



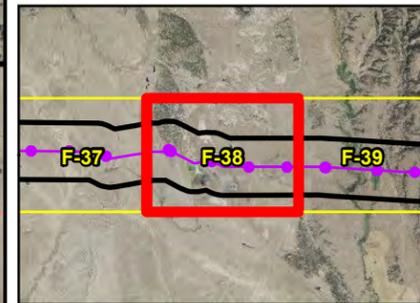
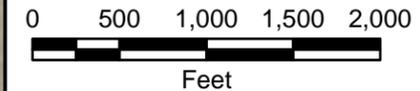
Local Inset Map  
**Figure F-37** 11-05-14



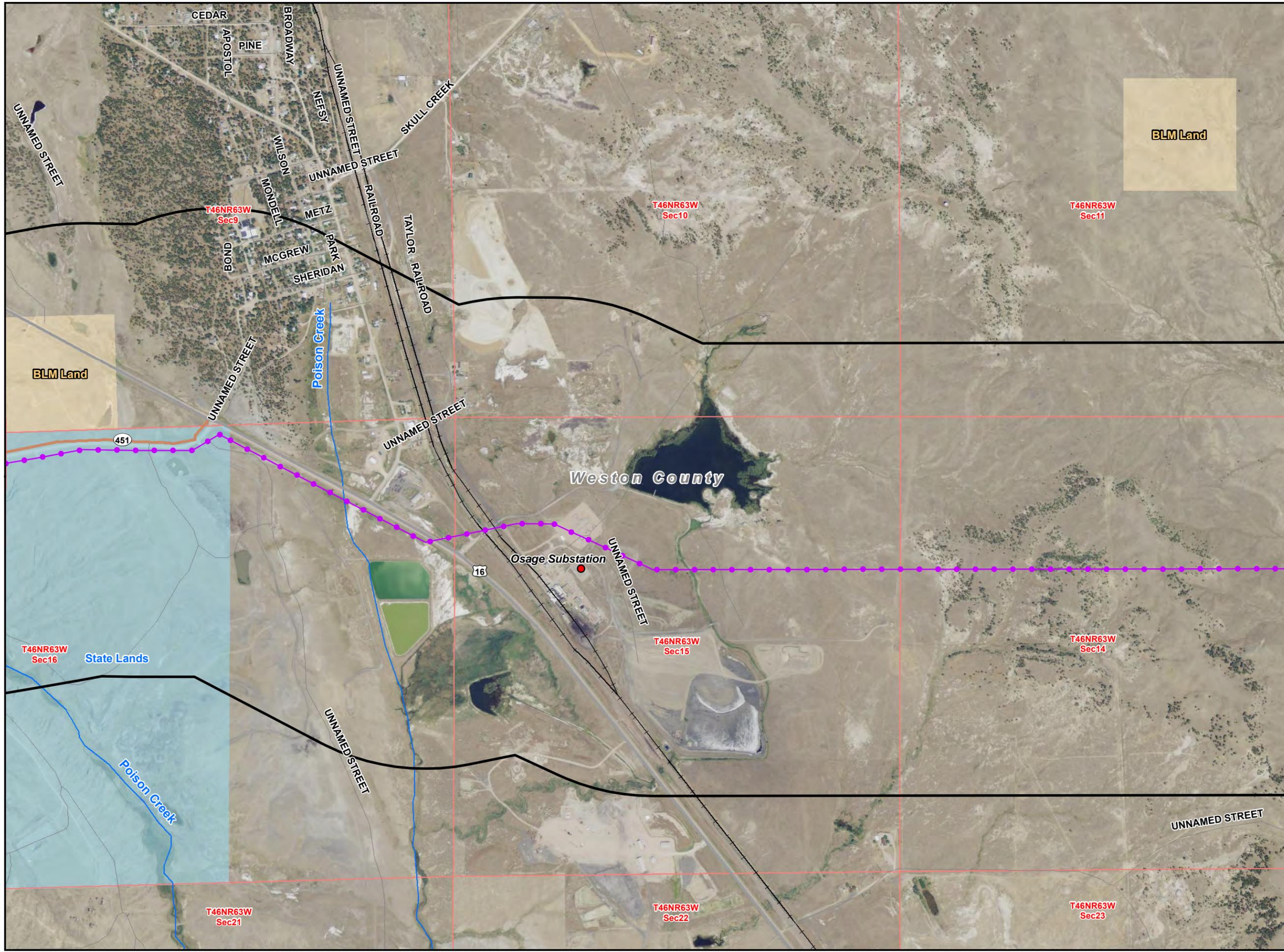
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
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- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



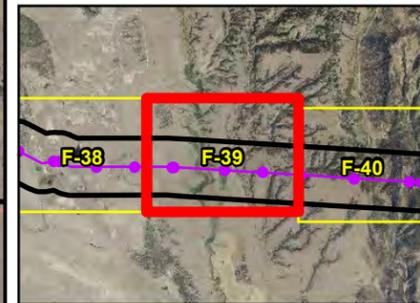
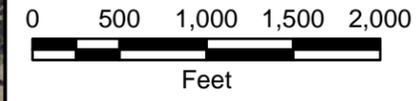
Local Inset Map  
**Figure F-38** 11-05-14



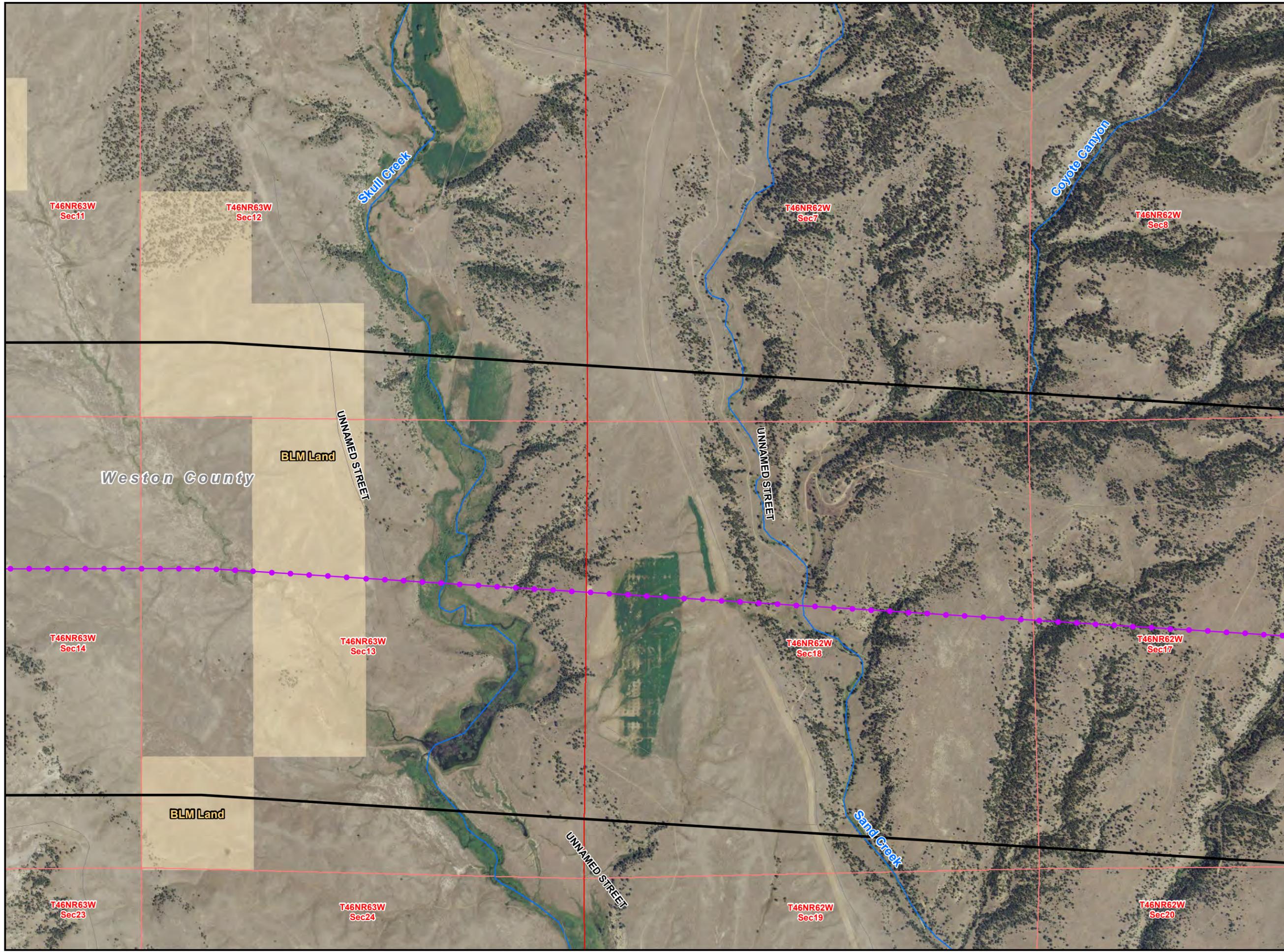
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
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- Thunder Basin National Grassland
- State Land



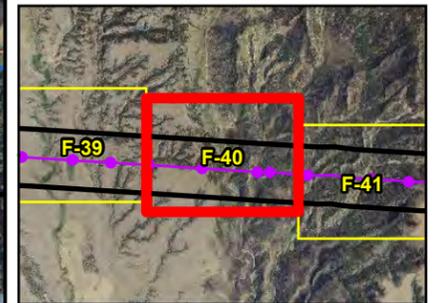
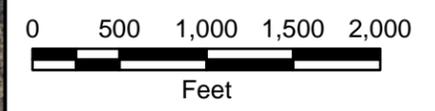
Local Inset Map  
**Figure F-39** 11-05-14



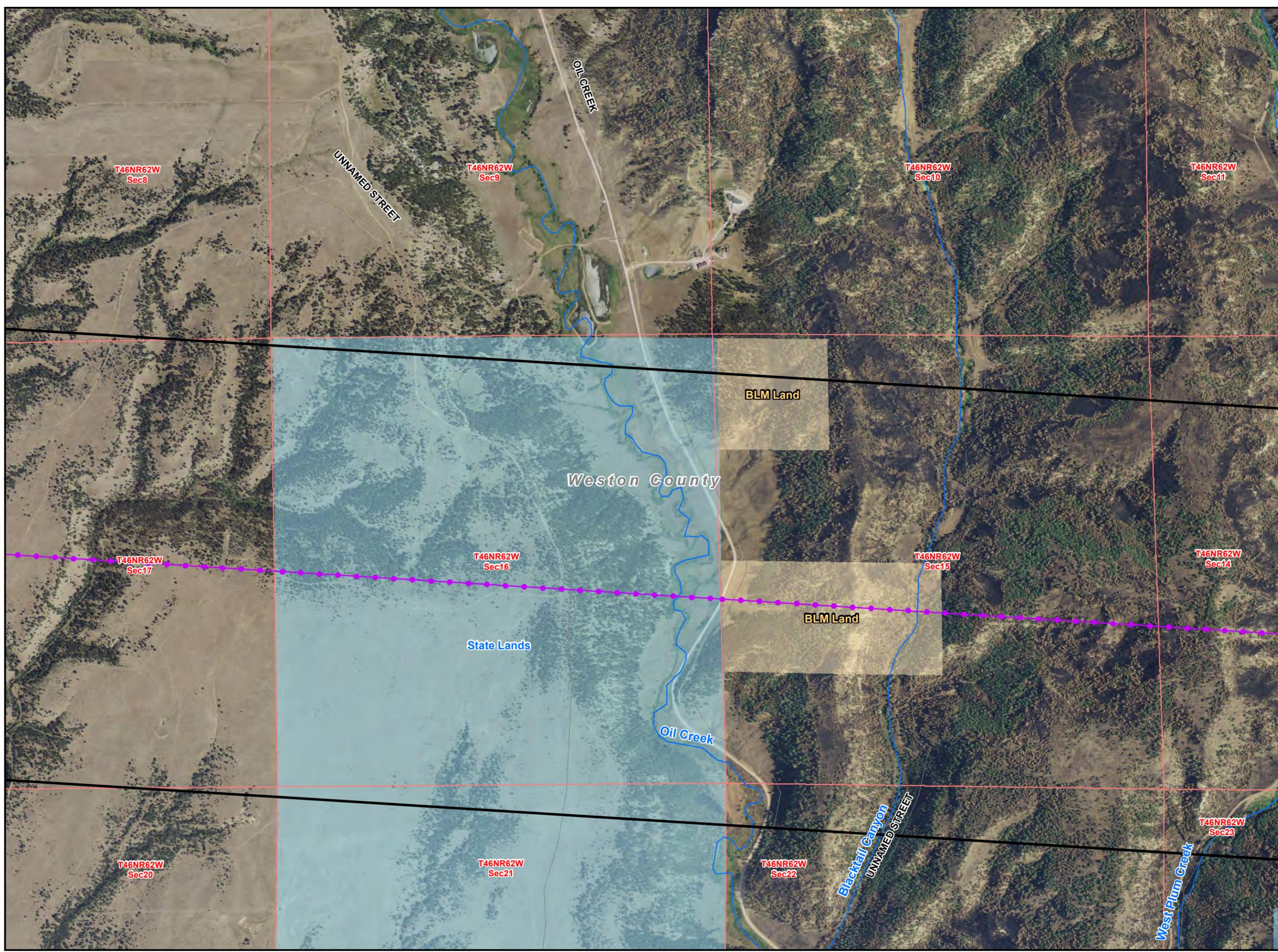
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
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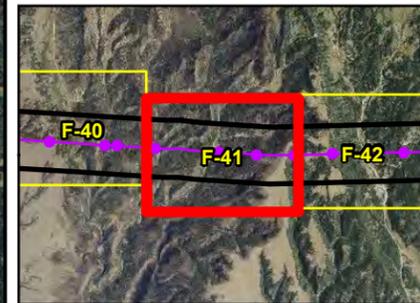
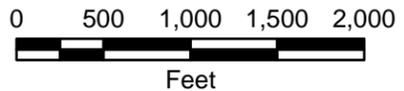
Local Inset Map  
**Figure F-40** 11-05-14



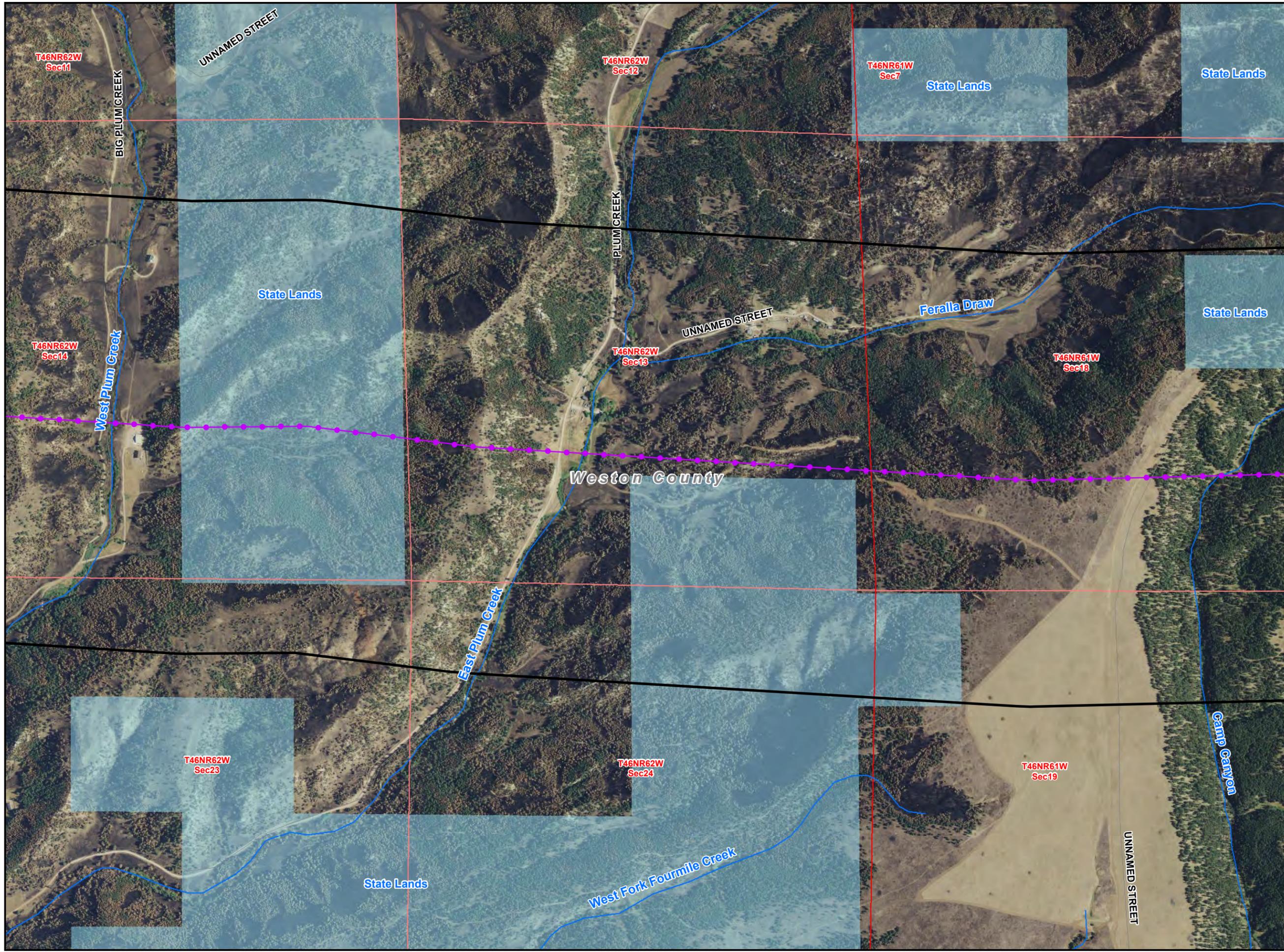
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
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-  State Highway
-  Major Road
-  Railroad
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-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



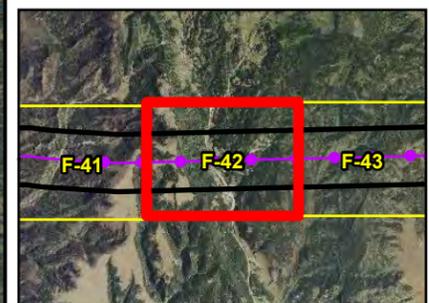
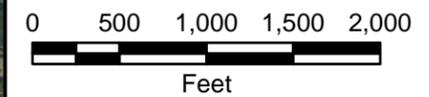
Local Inset Map  
**Figure F-41** 11-05-14



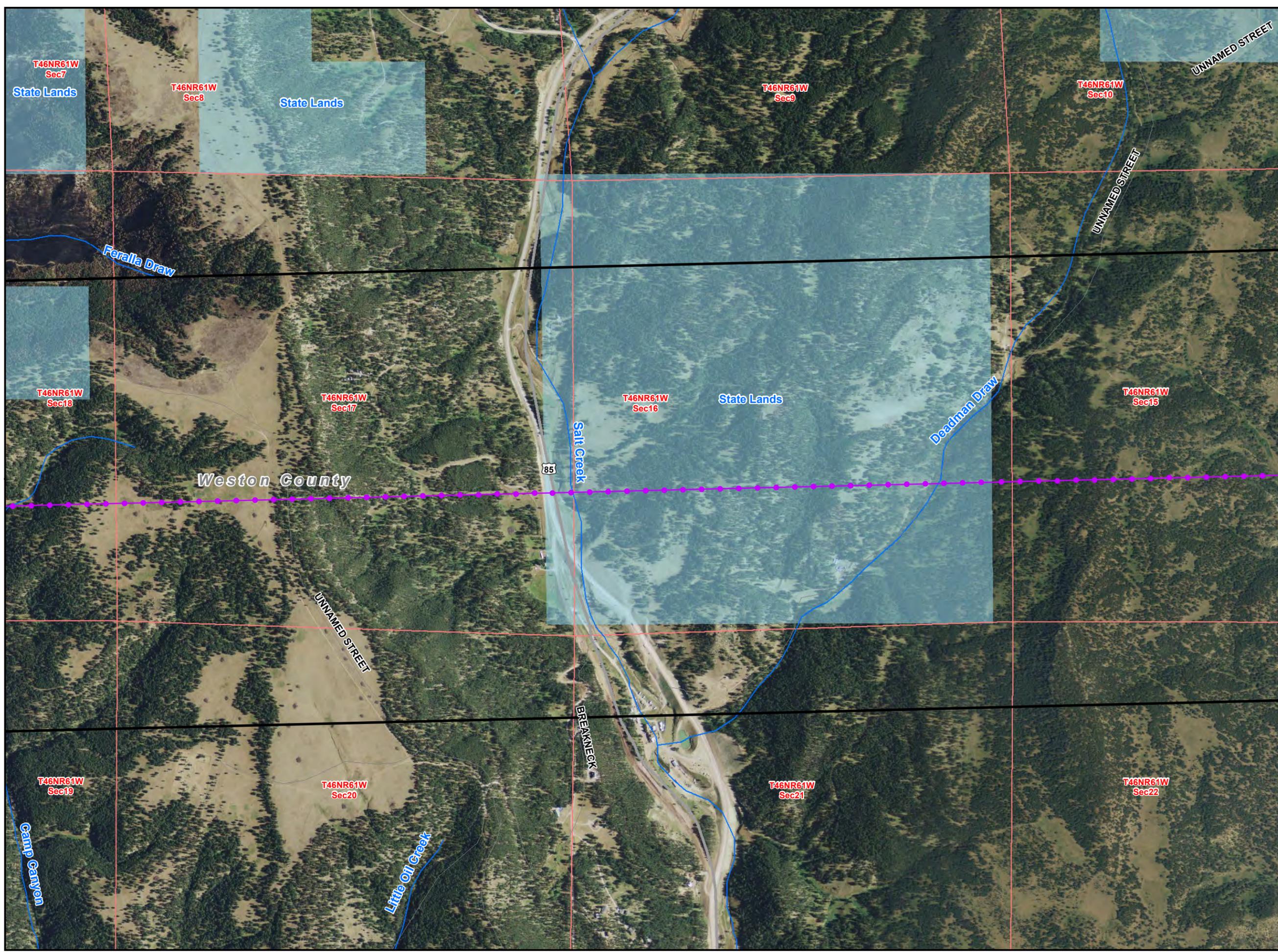
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

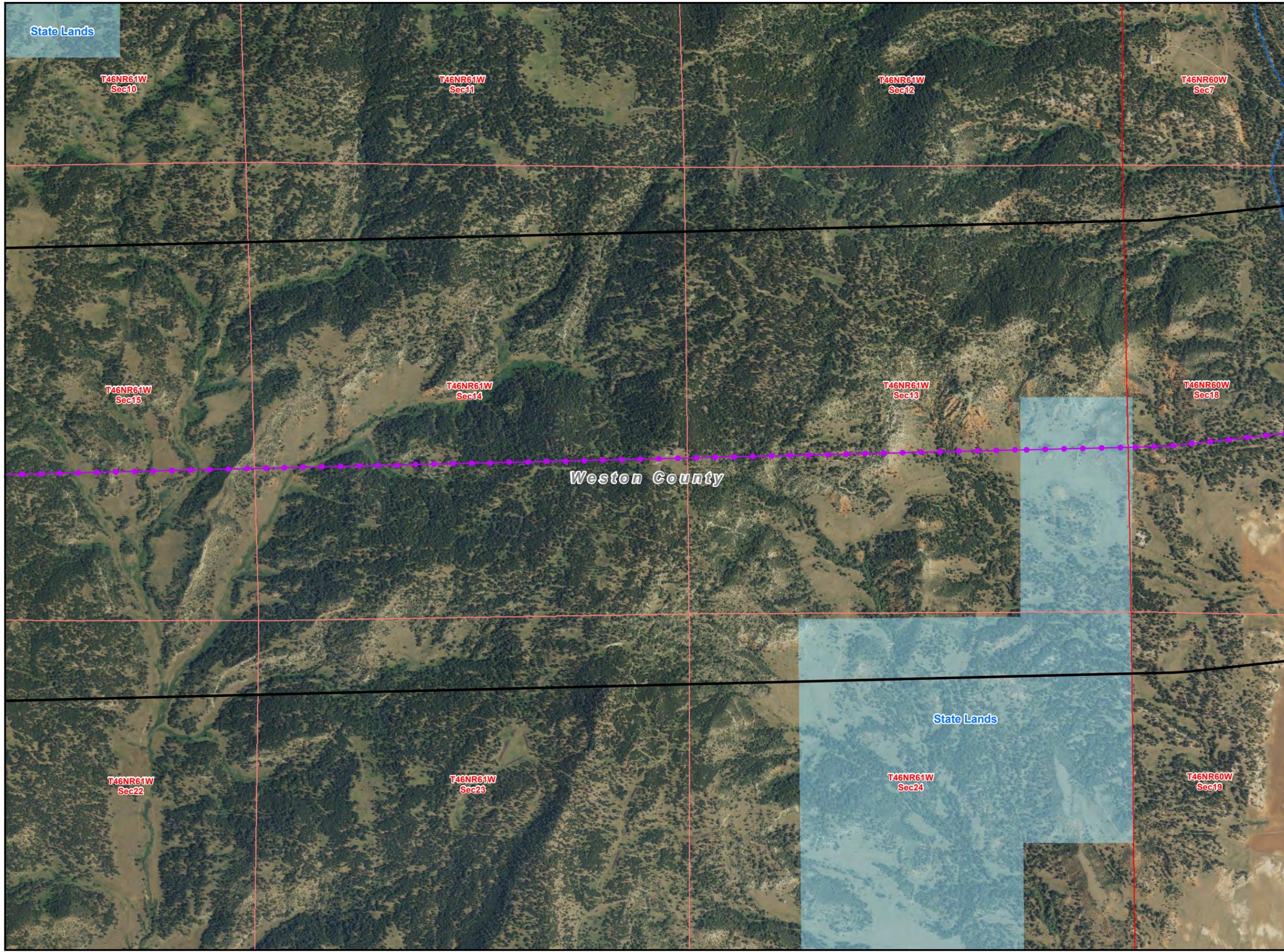
- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
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- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



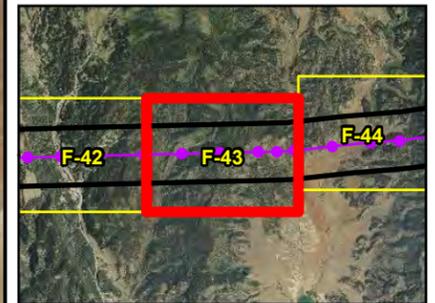
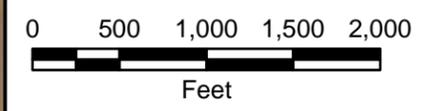
Local Inset Map  
**Figure F-42** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**



- LEGEND**
- Existing Substation
  - ✱ Point of Interest
  - Proposed Action
  - Site Specific Design Modification
  - 1/2 Mile Buffer
  - Existing ROW/ Overland Travel
  - Overland Travel Not In ROW
  - Existing Road- May Need To Be Improved
  - New Spur Road
  - Interstate
  - US Highway
  - State Highway
  - Major Road
  - Railroad
  - Stream
  - State Boundary
  - County Boundary
  - City or Town
  - Major Water Body
  - Township/ Range Boundary
  - Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
  - U.S. Forest Service Land
  - Thunder Basin National Grassland
  - State Land

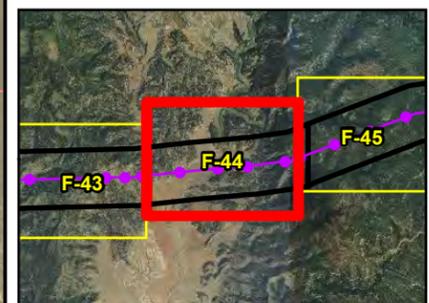
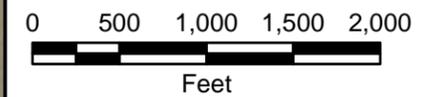


Local Inset Map  
**Figure F-43** 11-05-14

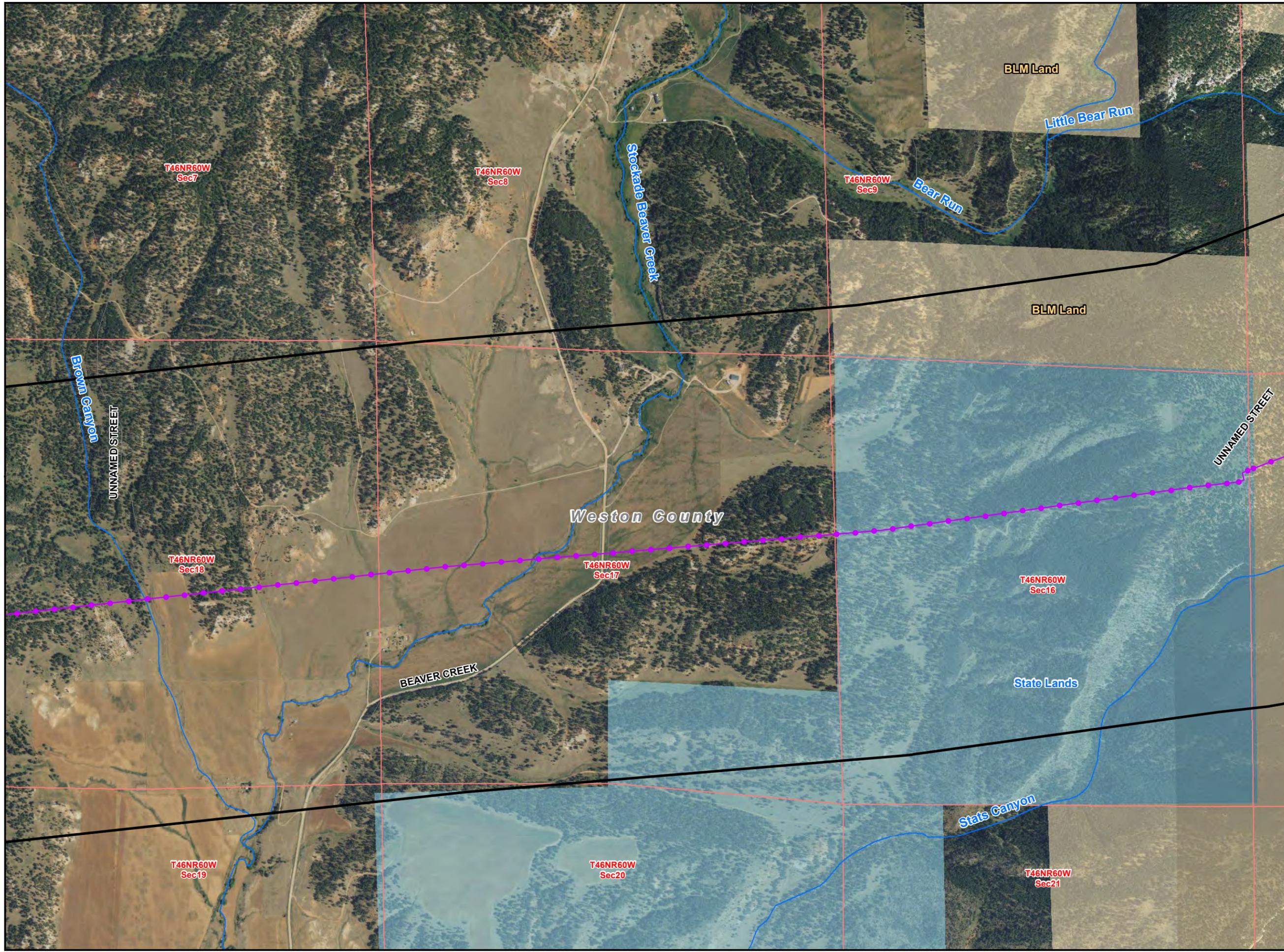
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



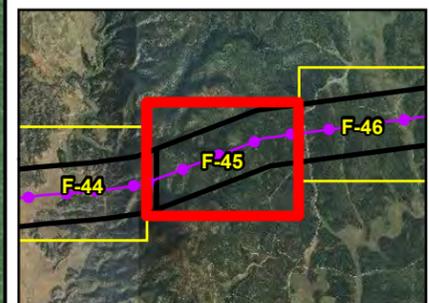
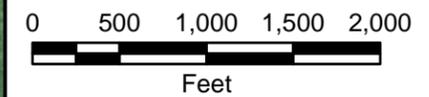
Local Inset Map  
**Figure F-44** 11-05-14



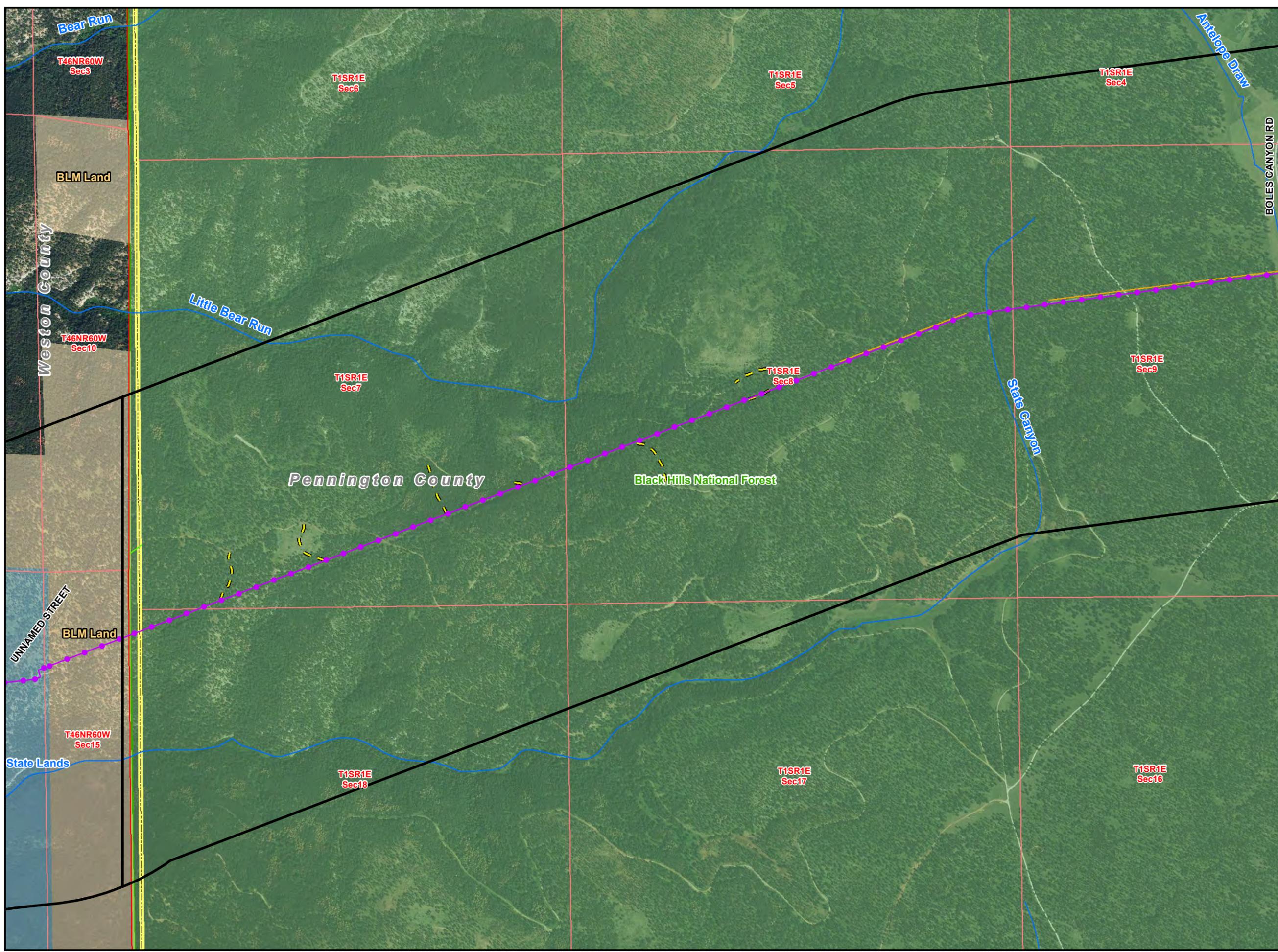
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- - - New Spur Road
- - - Interstate
- US Highway
- State Highway
- Major Road
- + + + Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



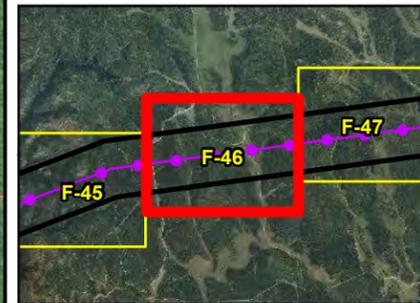
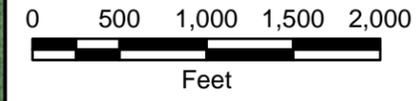
Local Inset Map  
**Figure F-45** 11-05-14



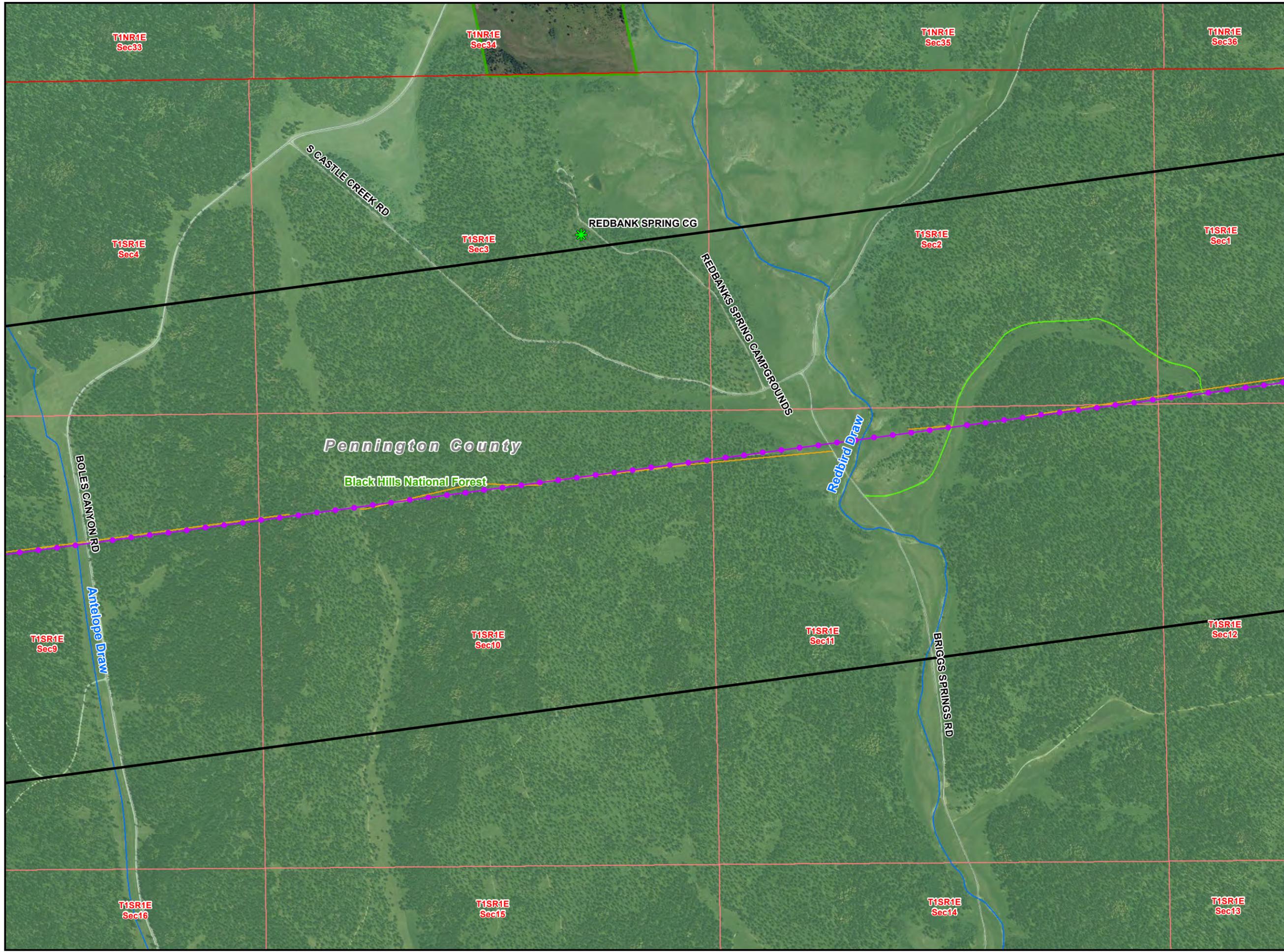
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



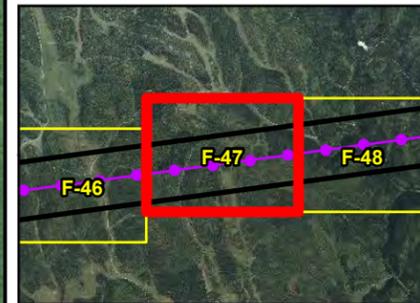
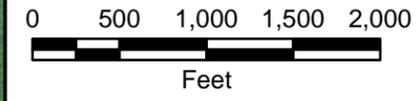
Local Inset Map  
**Figure F-46** 11-05-14



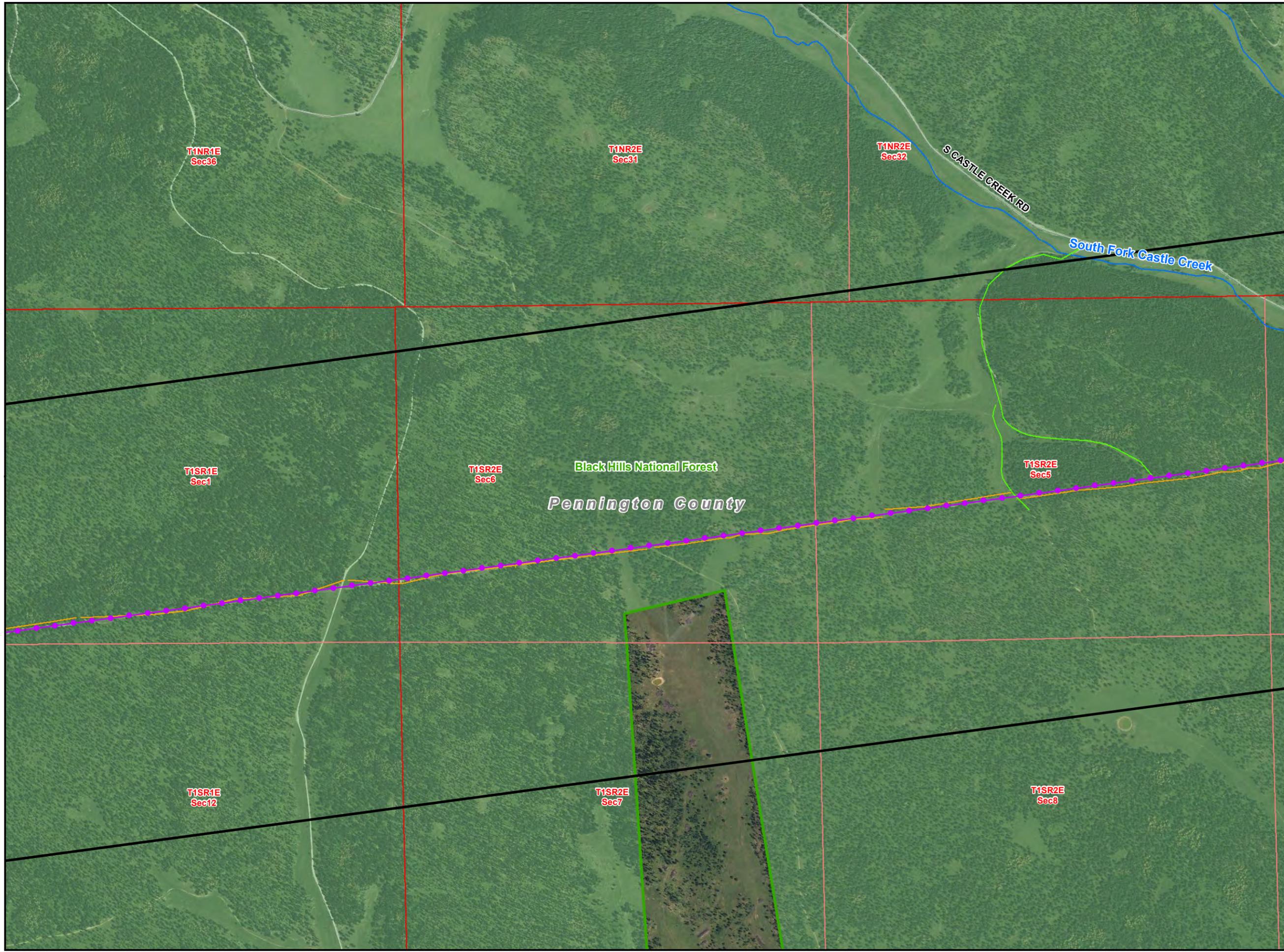
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



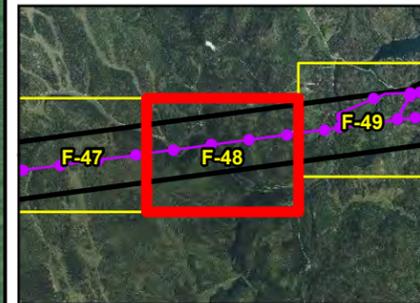
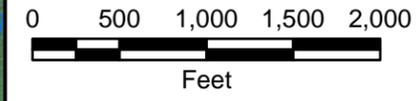
Local Inset Map  
**Figure F-47** 11-05-14



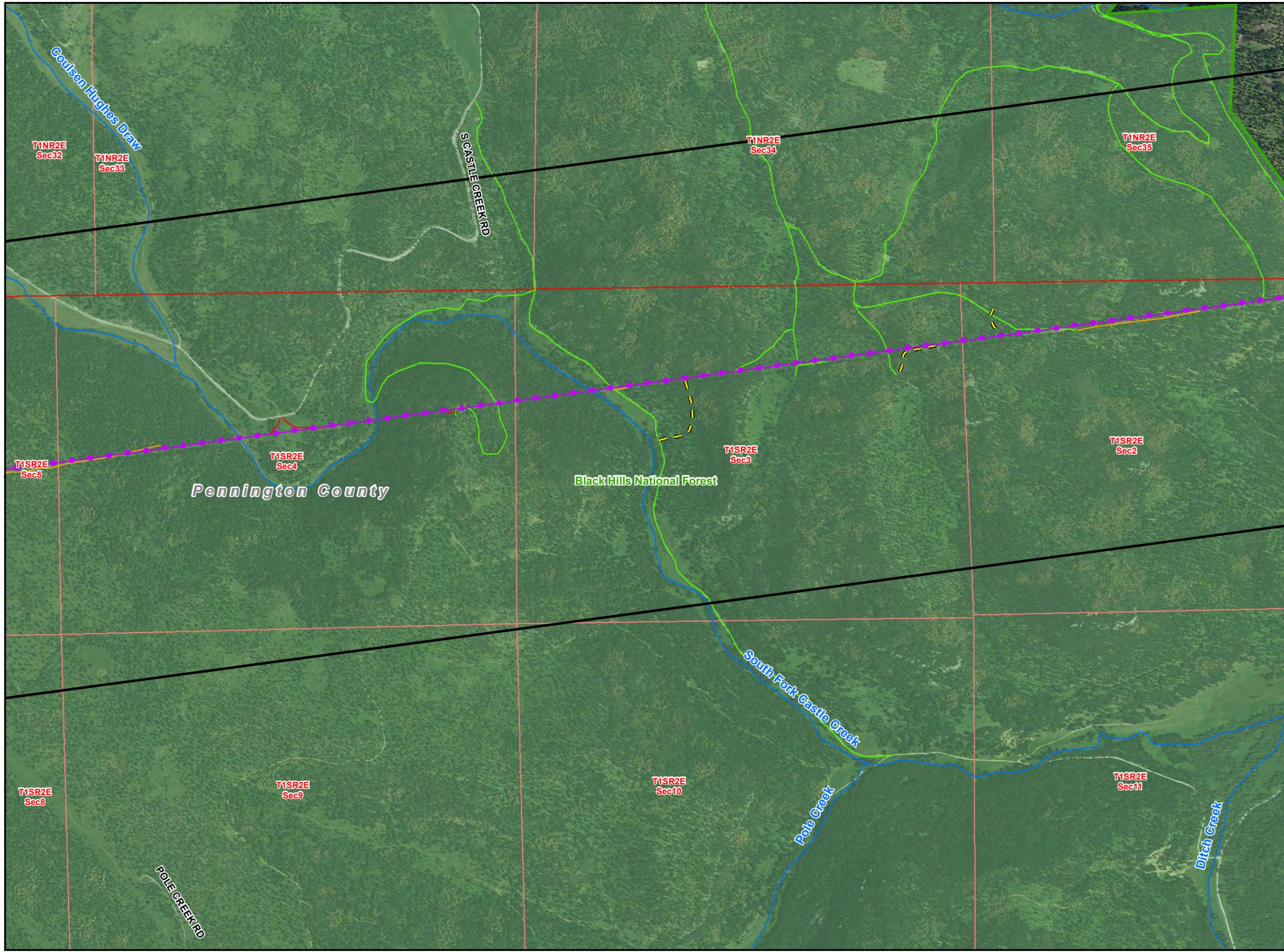
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- - - New Spur Road
- - - Interstate
- US Highway
- State Highway
- Major Road
- + + + Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



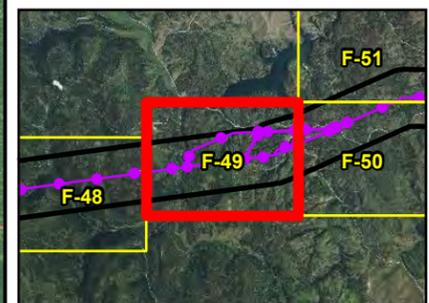
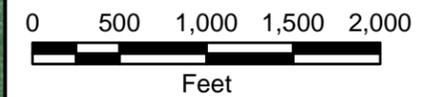
Local Inset Map  
**Figure F-48** 11-05-14



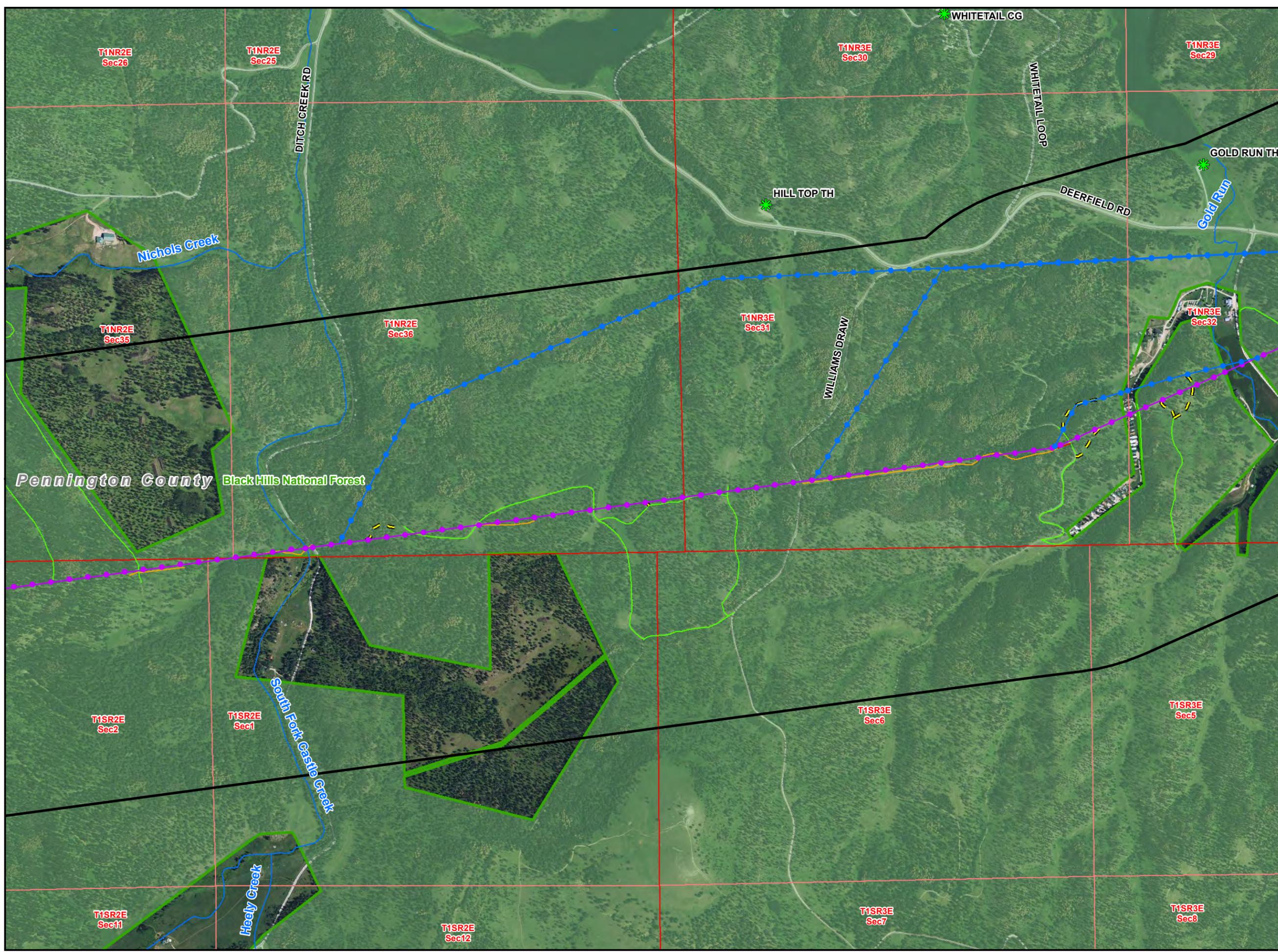
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

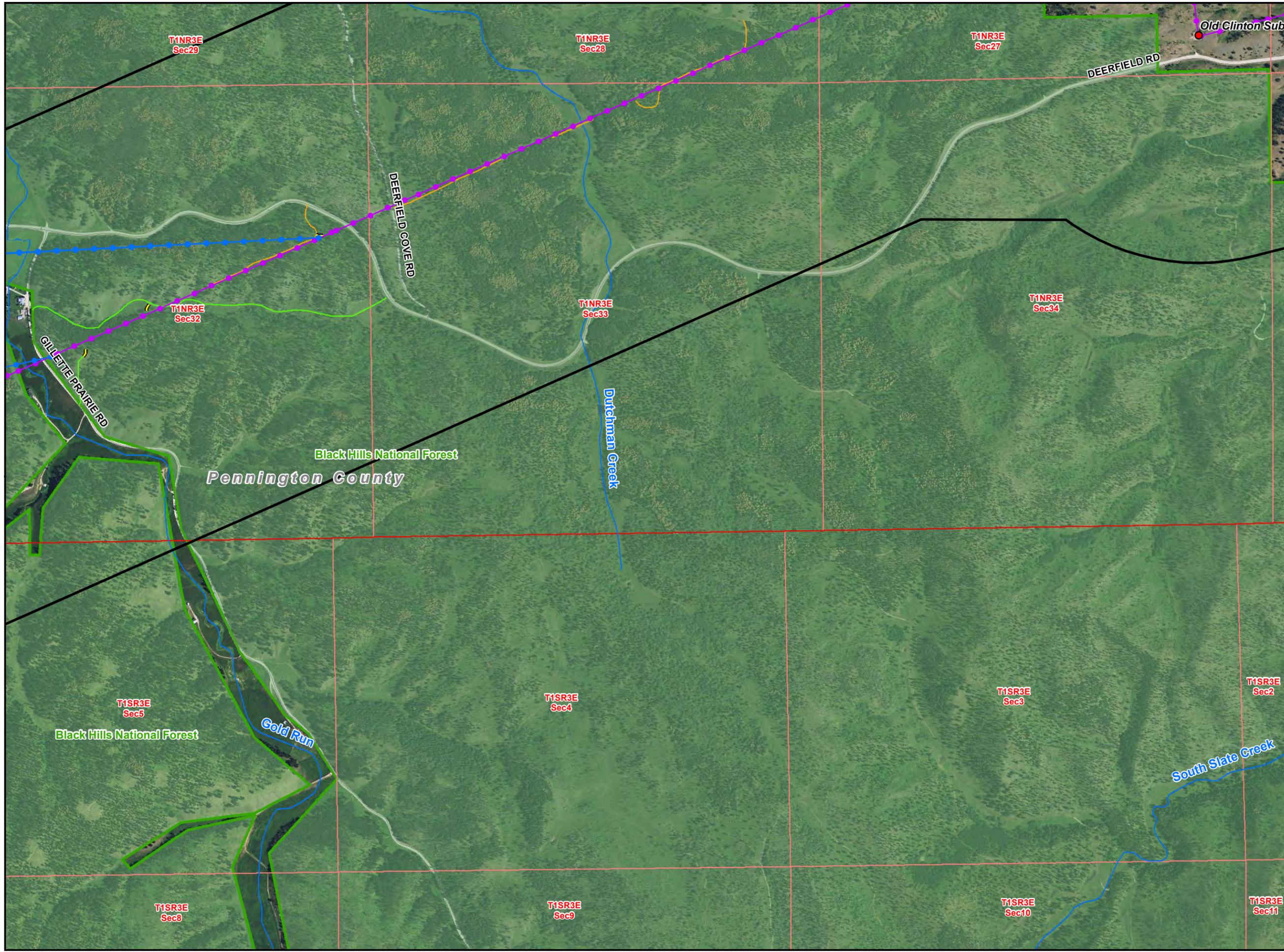
- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



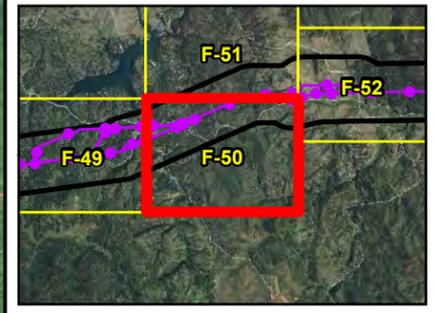
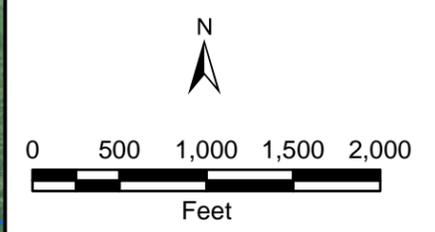
Local Inset Map  
**Figure F-49** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**



- LEGEND**
- Existing Substation
  - ✱ Point of Interest
  - Proposed Action
  - Site Specific Design Modification
  - 1/2 Mile Buffer
  - Existing ROW/ Overland Travel
  - Overland Travel Not In ROW
  - Existing Road- May Need To Be Improved
  - New Spur Road
  - Interstate
  - US Highway
  - State Highway
  - Major Road
  - Railroad
  - Stream
  - State Boundary
  - County Boundary
  - City or Town
  - Major Water Body
  - Township/ Range Boundary
  - Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
  - U.S. Forest Service Land
  - Thunder Basin National Grassland
  - State Land

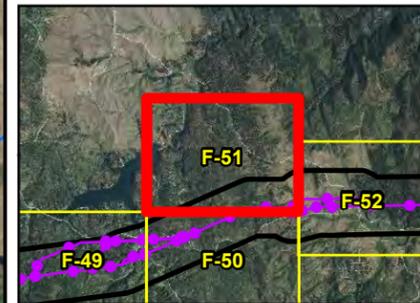
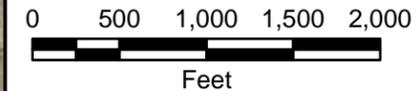


**Local Inset Map  
Figure F-50** 11-05-14

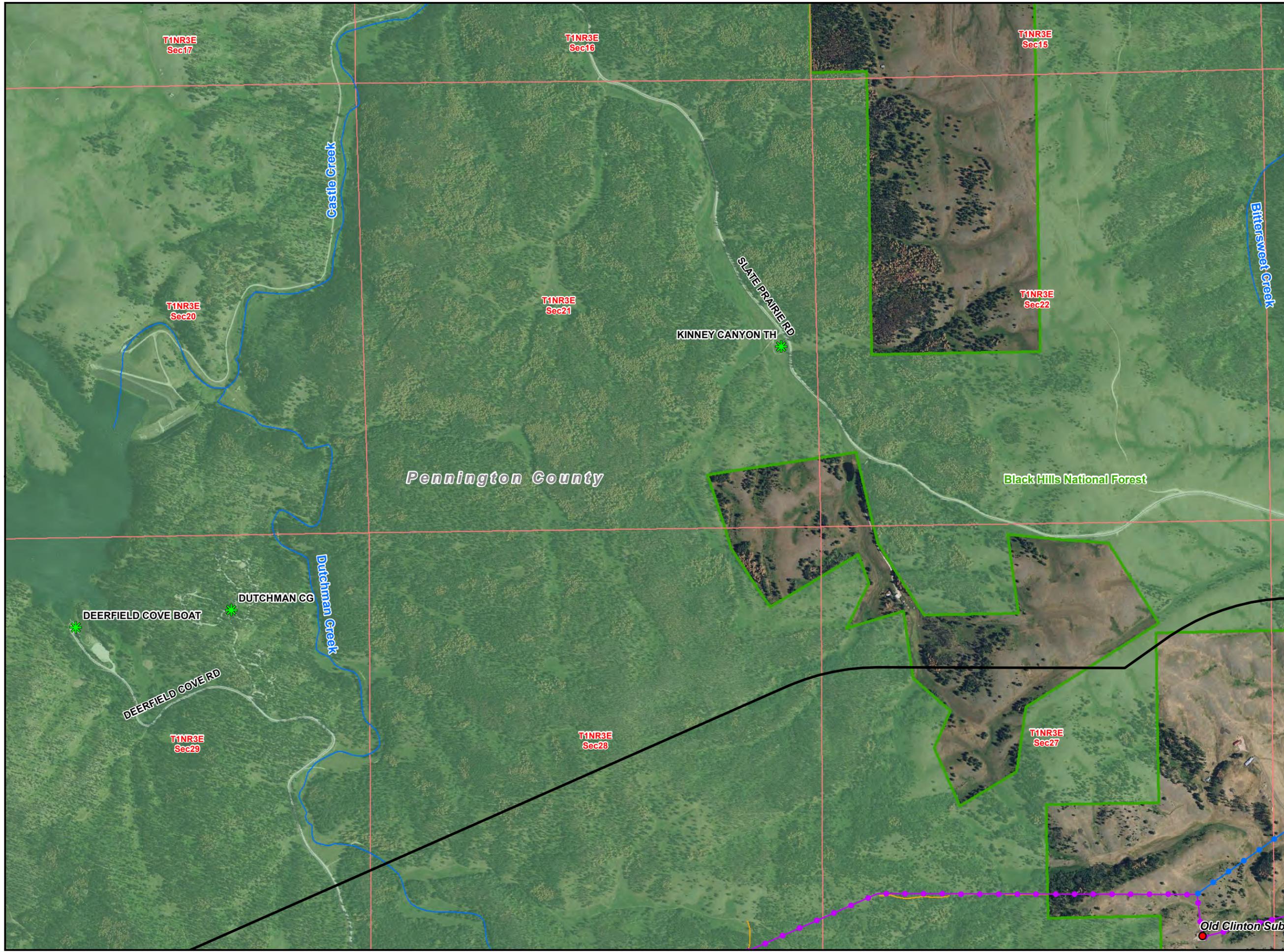
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



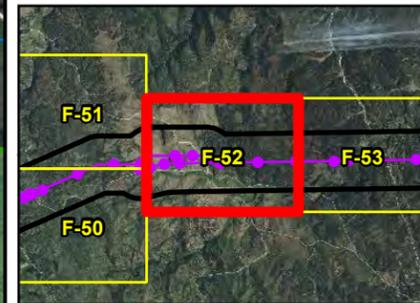
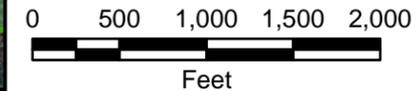
Local Inset Map  
**Figure F-51** 11-05-14



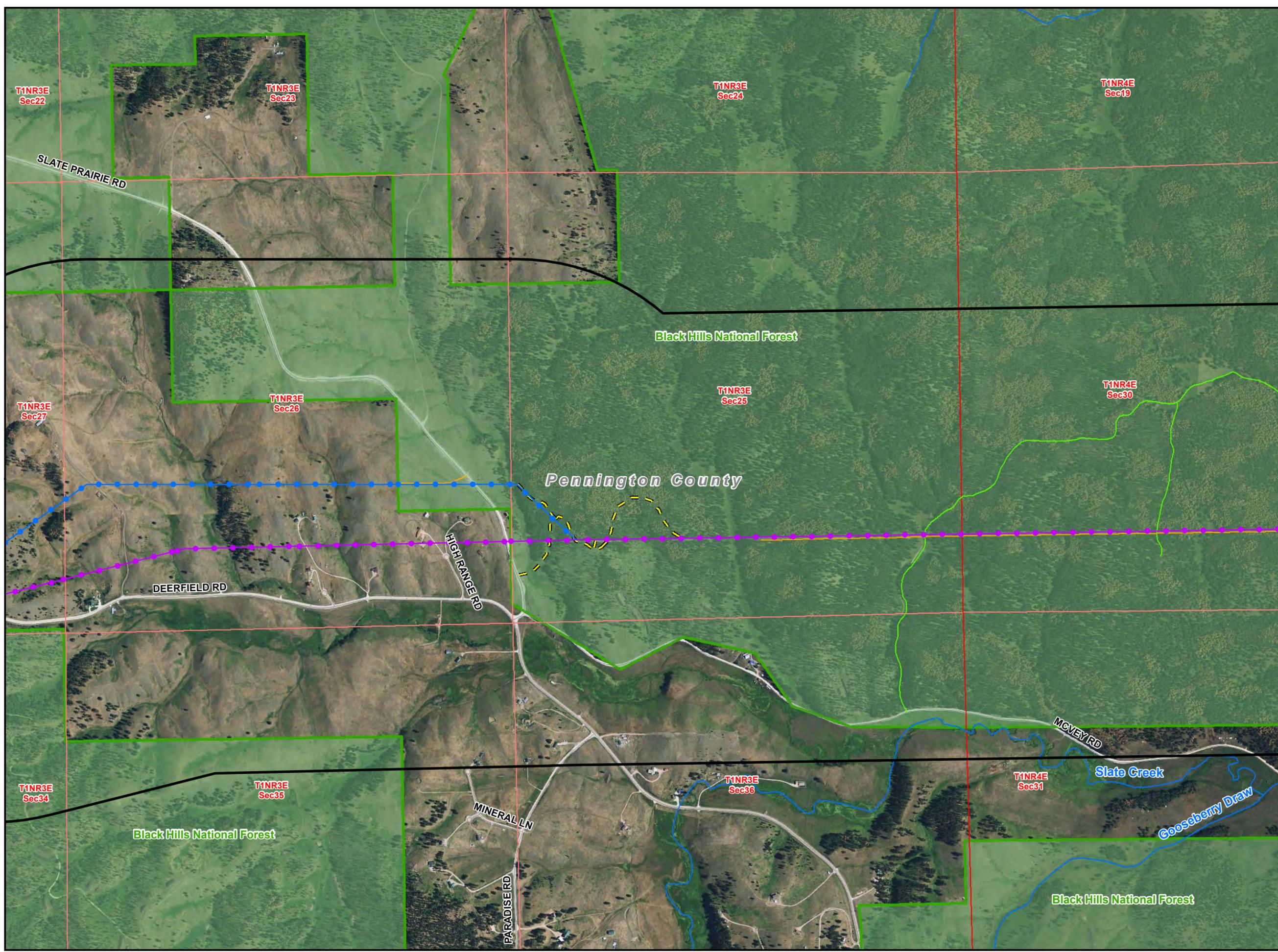
# Teckla – Osage – Rapid City 230 kV Transmission Line

## LEGEND

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



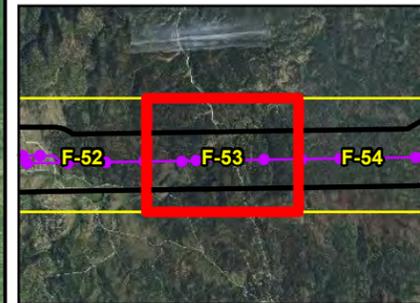
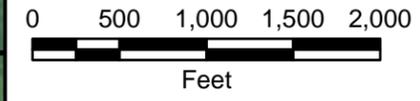
Local Inset Map  
**Figure F-52** 11-05-14



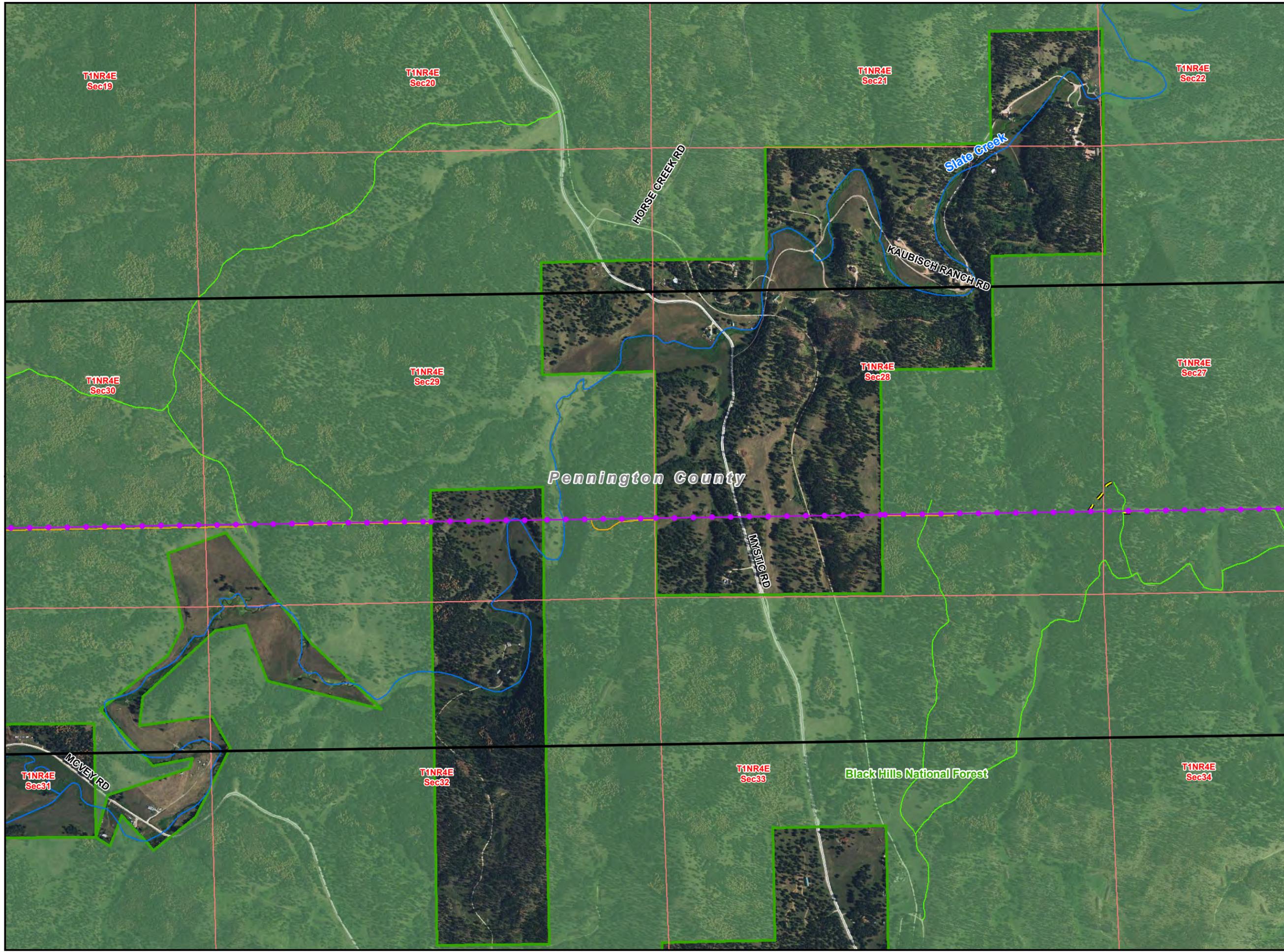
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



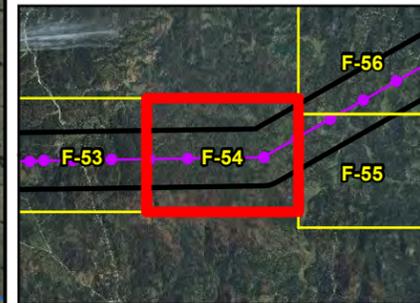
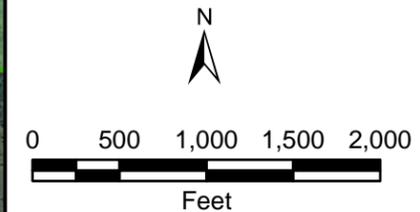
Local Inset Map  
**Figure F-53** 11-05-14



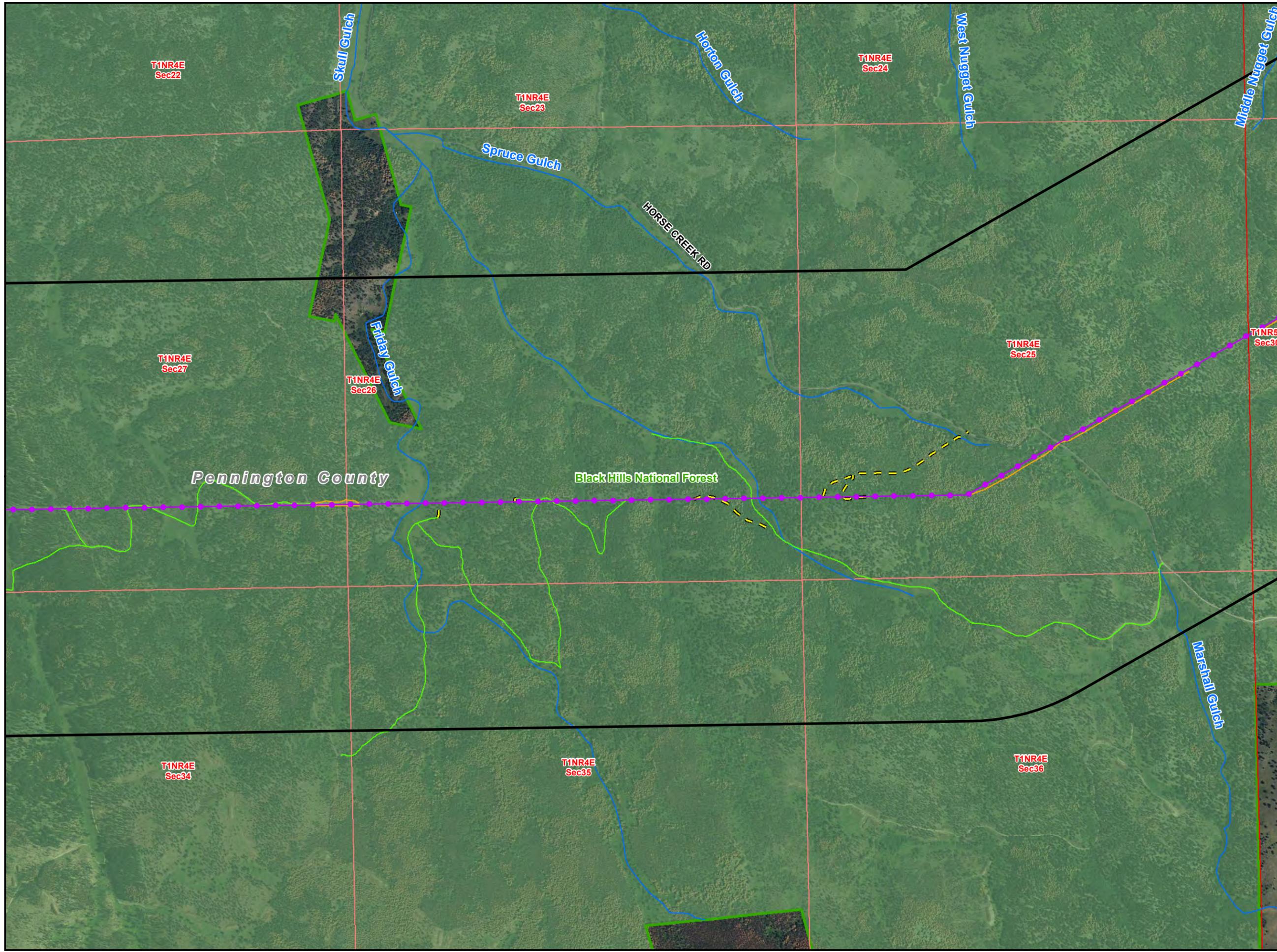
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



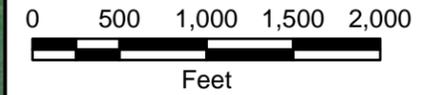
Local Inset Map  
**Figure F-54** 11-05-14



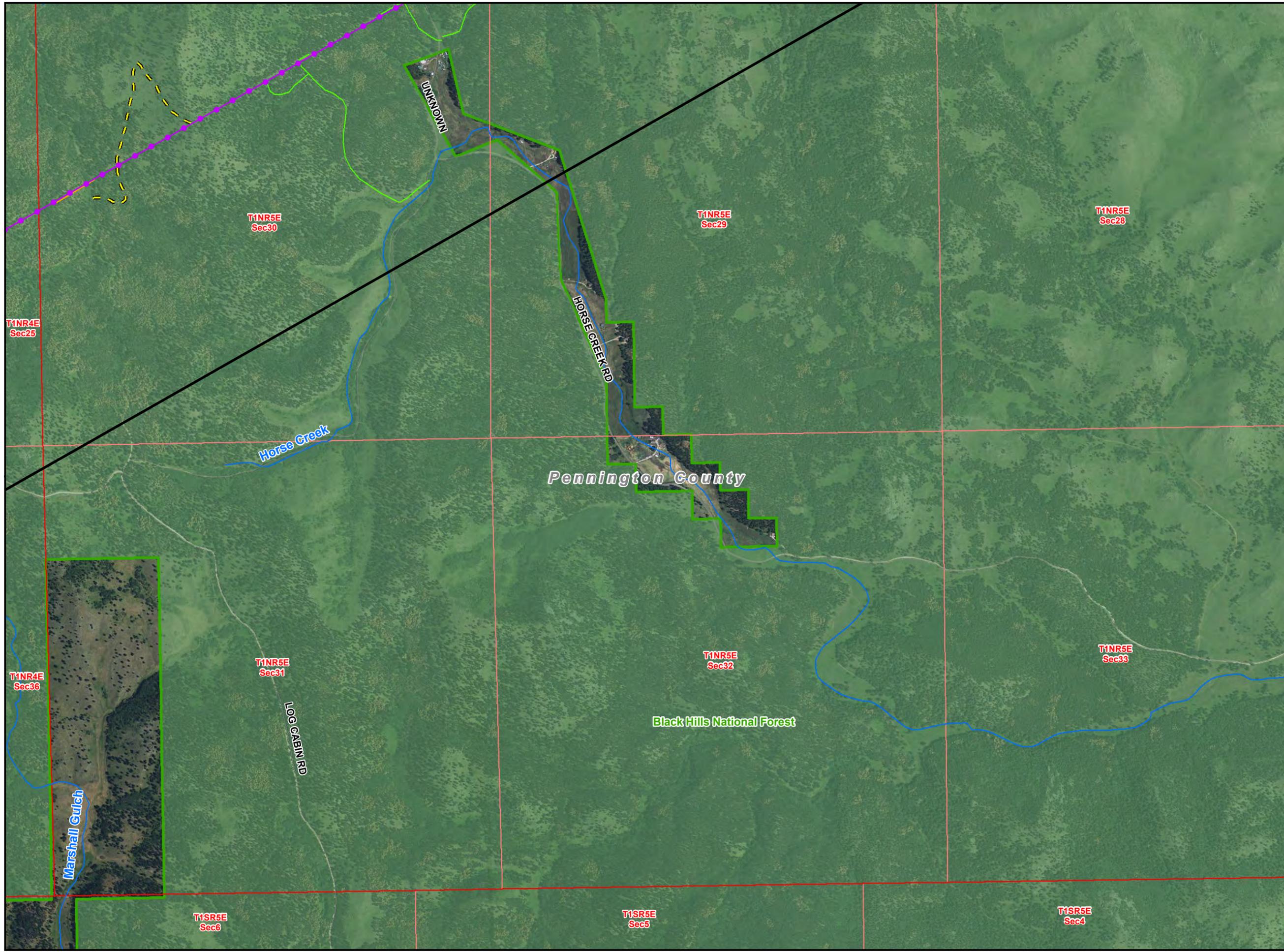
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



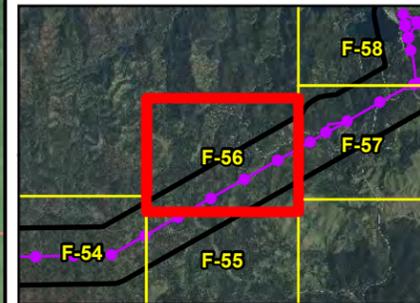
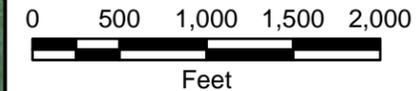
Local Inset Map  
**Figure F-55** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



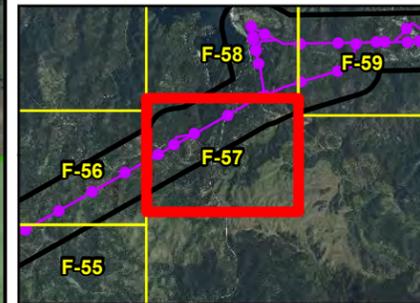
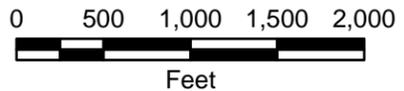
Local Inset Map  
**Figure F-56** 11-05-14



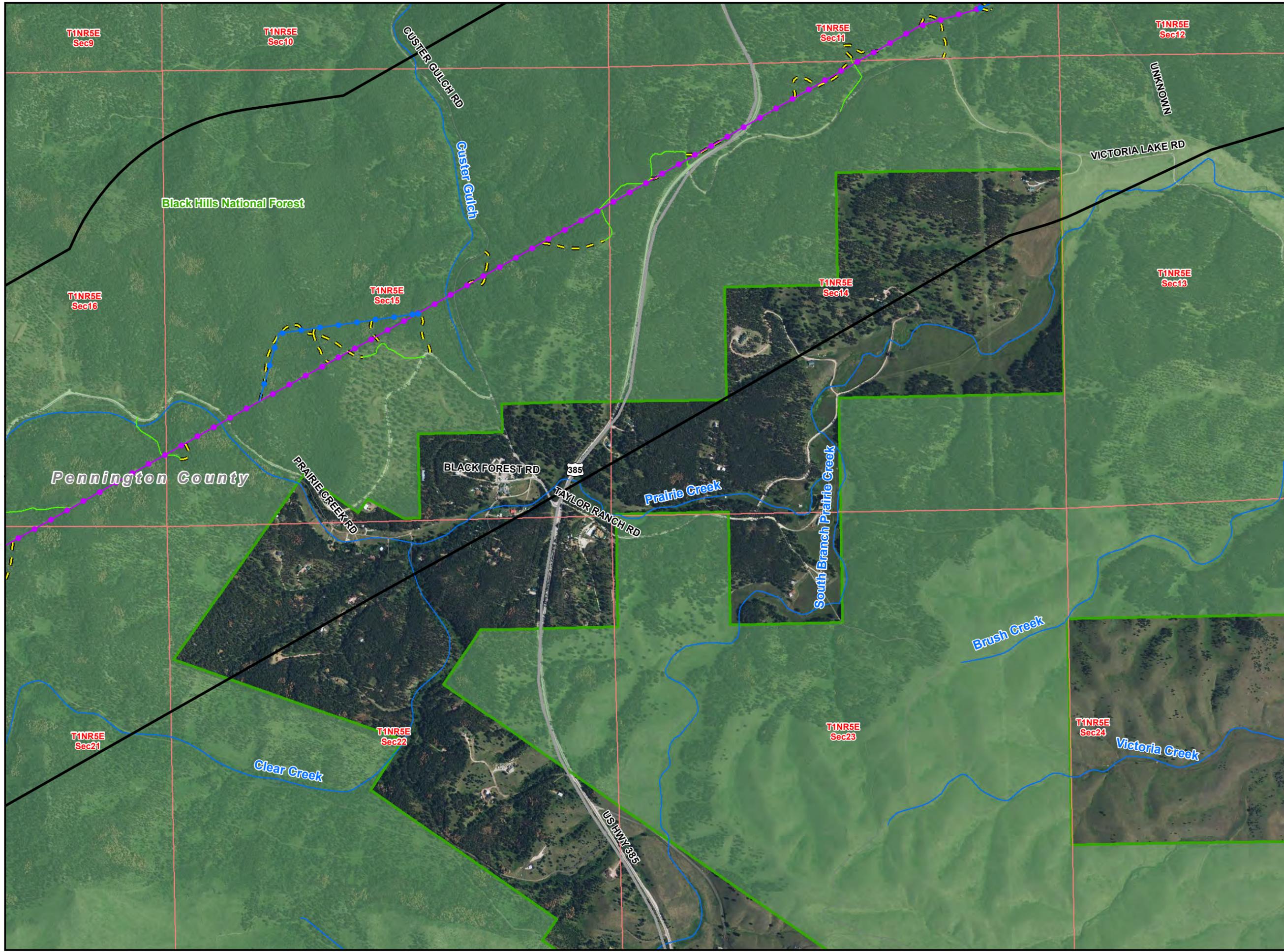
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



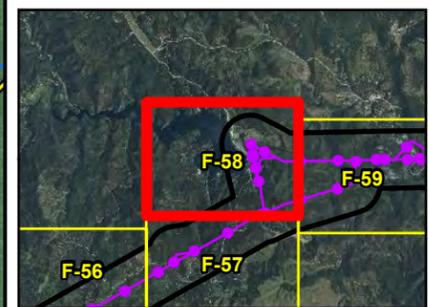
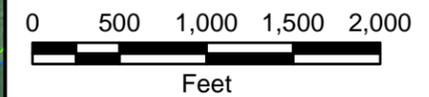
Local Inset Map  
**Figure F-57** 11-05-14



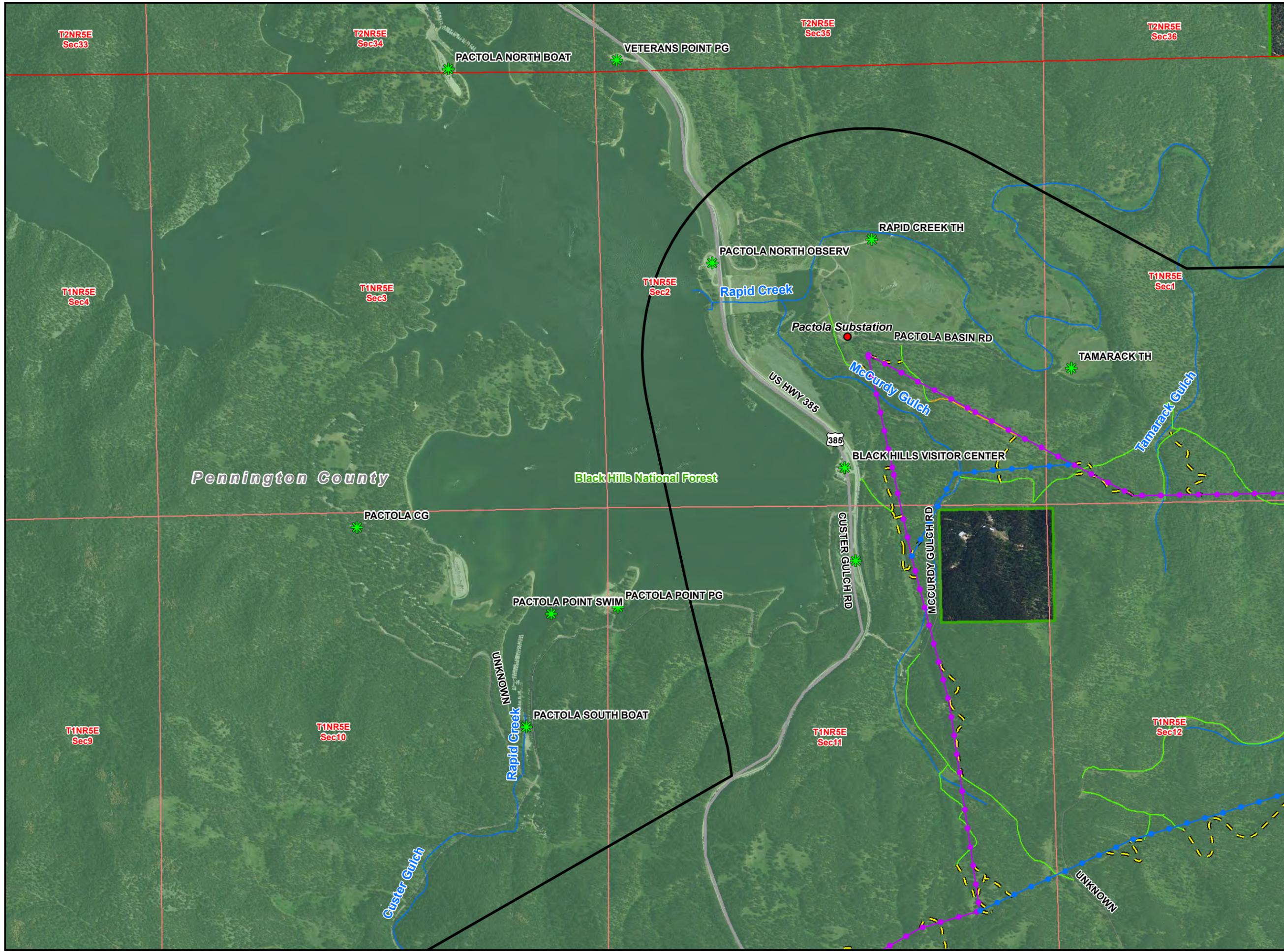
# Teckla – Osage – Rapid City 230 kV Transmission Line

## LEGEND

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



Local Inset Map  
Figure F-58 11-05-14



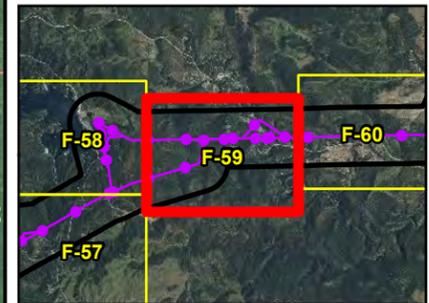
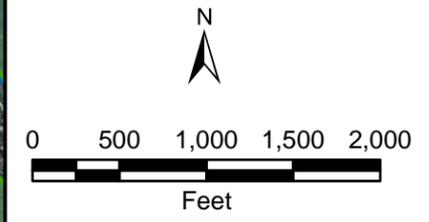
Pennington County

Black Hills National Forest

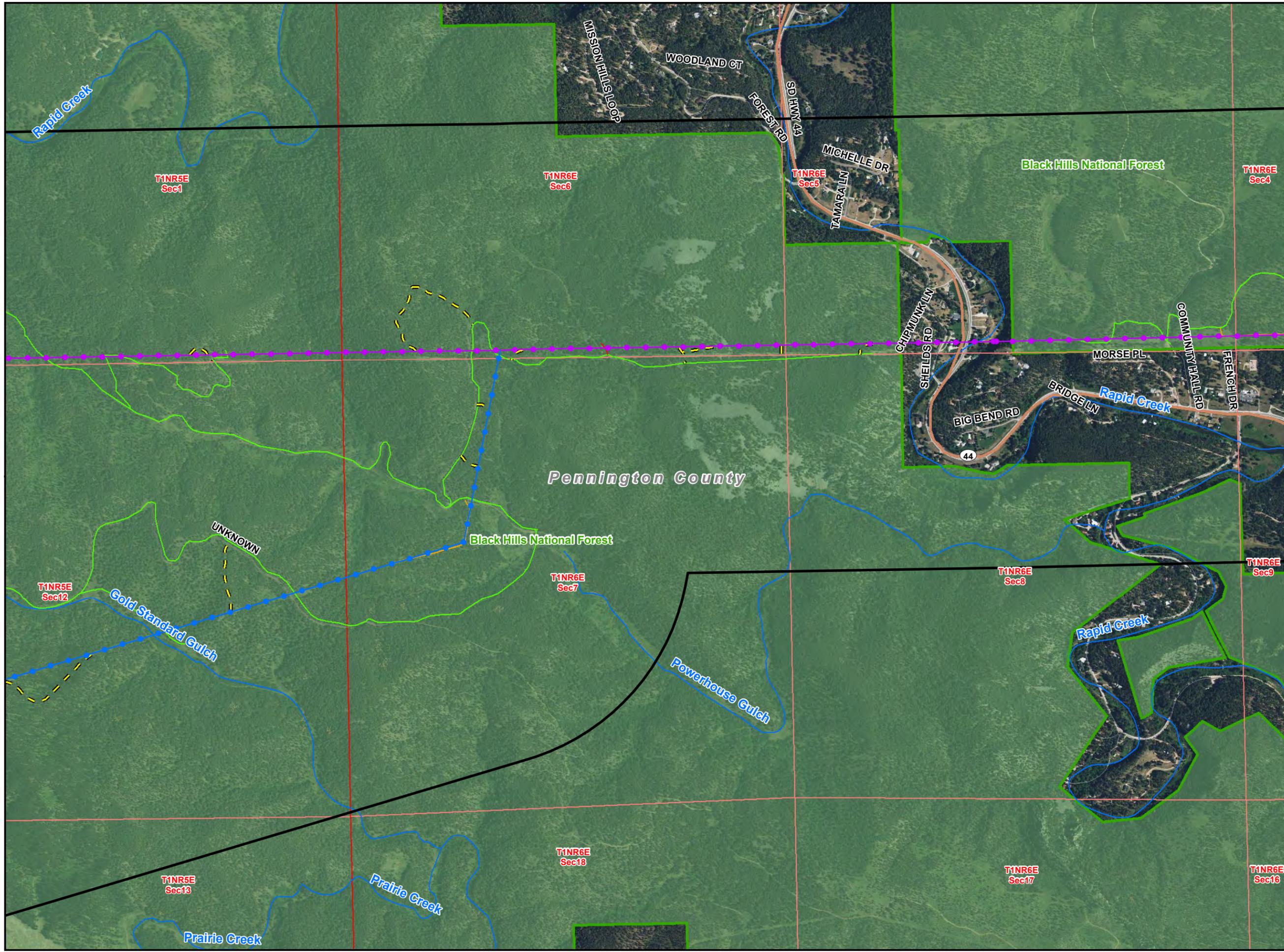
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



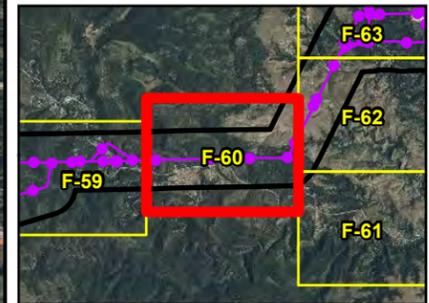
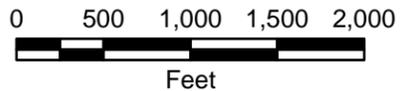
Local Inset Map  
**Figure F-59** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

-  Existing Substation
-  Point of Interest
-  Proposed Action
-  Site Specific Design Modification
-  1/2 Mile Buffer
-  Existing ROW/ Overland Travel
-  Overland Travel Not In ROW
-  Existing Road- May Need To Be Improved
-  New Spur Road
-  Interstate
-  US Highway
-  State Highway
-  Major Road
-  Railroad
-  Stream
-  State Boundary
-  County Boundary
-  City or Town
-  Major Water Body
-  Township/ Range Boundary
-  Section Boundary
- Jurisdictional Land Ownership**
-  Bureau of Land Management Land
-  U.S. Forest Service Land
-  Thunder Basin National Grassland
-  State Land



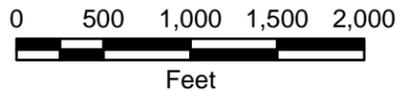
Local Inset Map  
**Figure F-60** 11-05-14



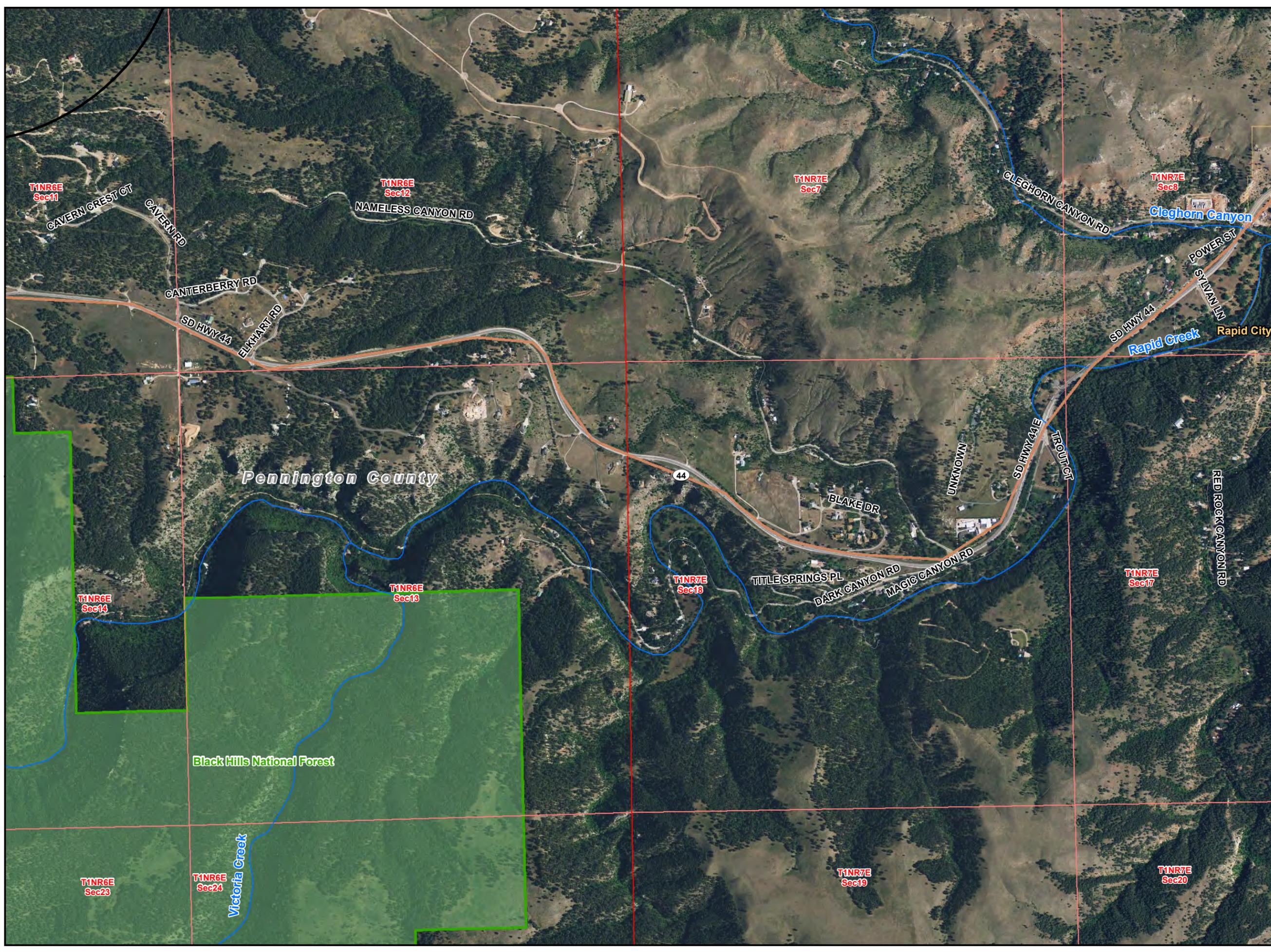
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



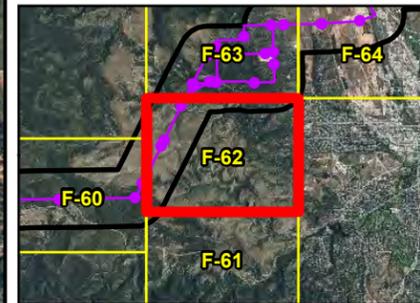
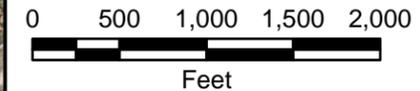
Local Inset Map  
**Figure F-61** 11-05-14



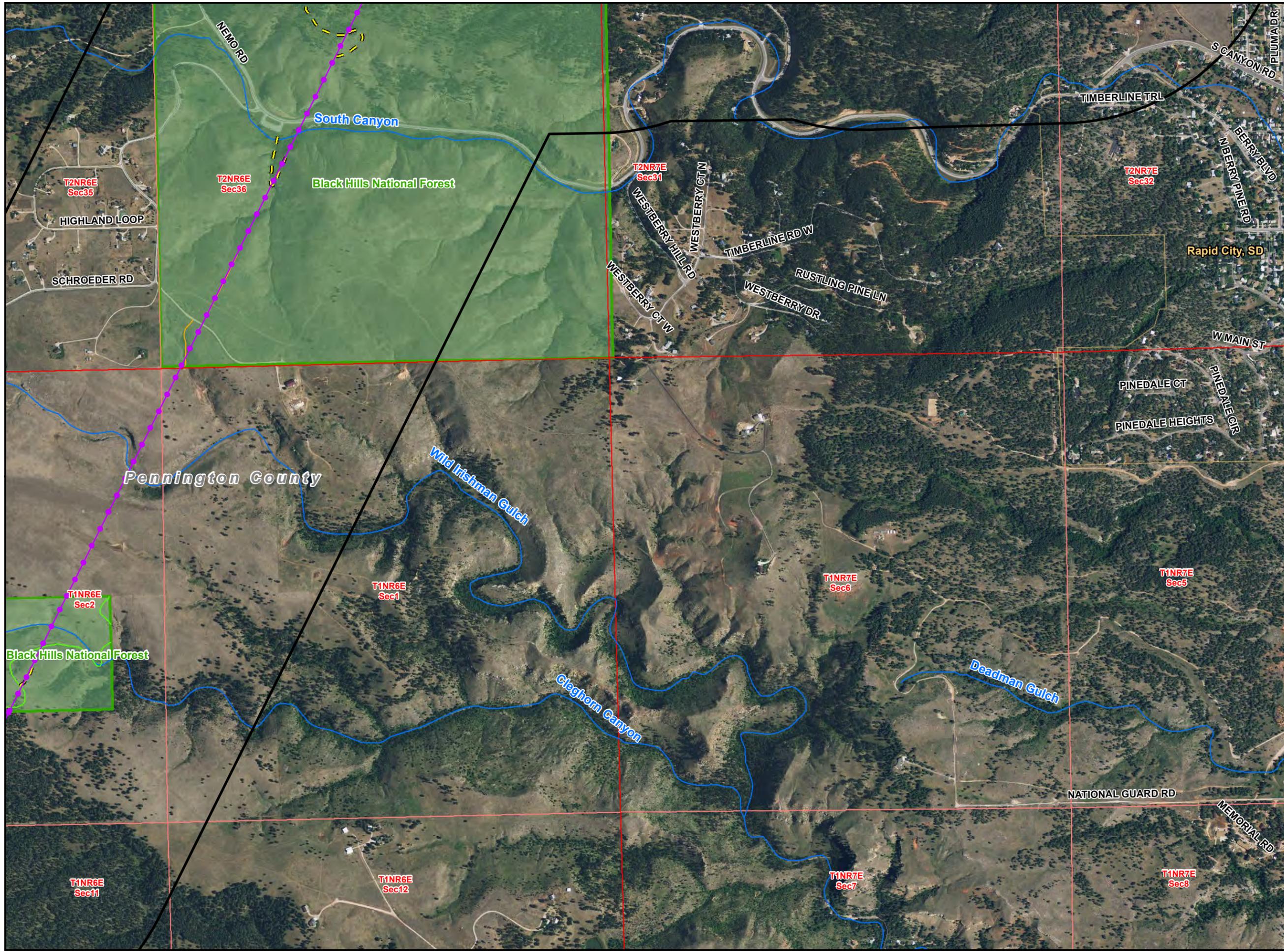
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



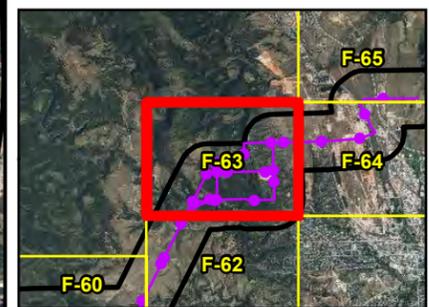
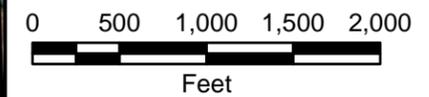
Local Inset Map  
**Figure F-62** 11-05-14



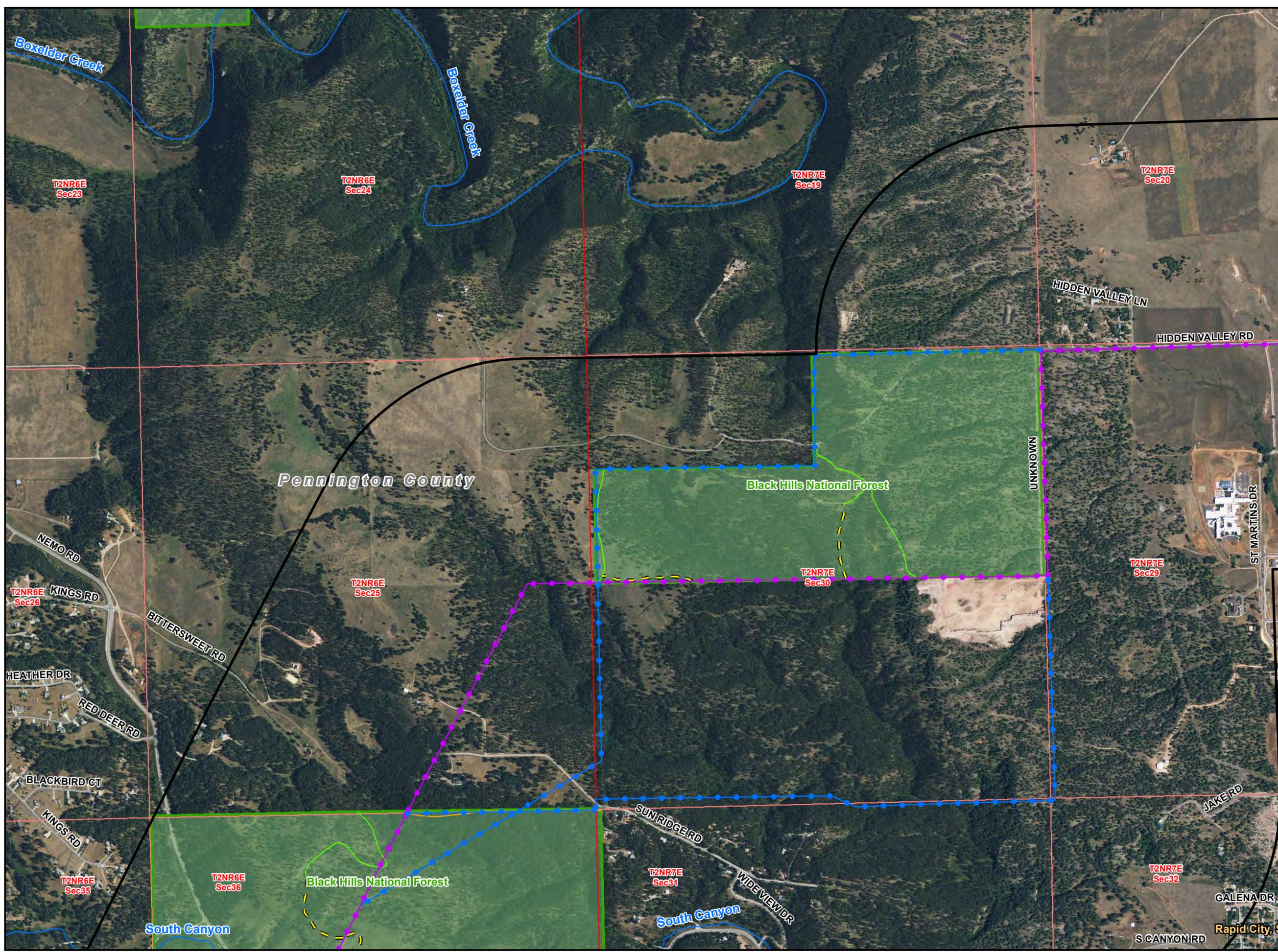
**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



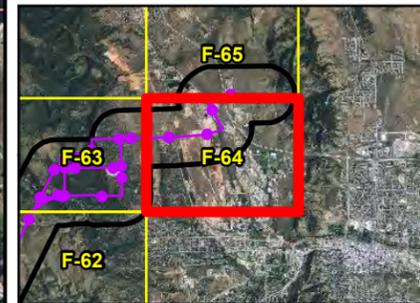
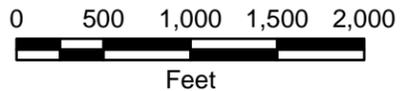
Local Inset Map  
**Figure F-63** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



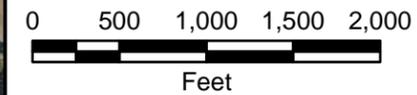
Local Inset Map  
**Figure F-64** 11-05-14



**Teckla – Osage – Rapid City  
230 kV Transmission Line**

**LEGEND**

- Existing Substation
- ✱ Point of Interest
- Proposed Action
- Site Specific Design Modification
- 1/2 Mile Buffer
- Existing ROW/ Overland Travel
- Overland Travel Not In ROW
- Existing Road- May Need To Be Improved
- New Spur Road
- Interstate
- US Highway
- State Highway
- Major Road
- Railroad
- Stream
- State Boundary
- County Boundary
- City or Town
- Major Water Body
- Township/ Range Boundary
- Section Boundary
- Jurisdictional Land Ownership**
- Bureau of Land Management Land
- U.S. Forest Service Land
- Thunder Basin National Grassland
- State Land



Local Inset Map  
**Figure F-65** 11-05-14

