



U.S. Department of Interior

Bureau of Land Management
Cody, WY and Billings, MT Field Offices

Belfry to Clark Electrical 69 kV Transmission Line Project

Environmental Assessment

**Prepared by:
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**BLM
Case File No. WYW-16298
MTM-95236**

**BLM EA No. WY-020-E06-120
MT-010-06-15**

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1.0 INTRODUCTION

1.1 About This Document

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This EA is tiered to the U. S. Bureau of Land Management (BLM) Cody Resource Area Resource Management Plan (Cody RMP), BLM Billings Resource Area Resource Management Plan (Billings RMP), and associated environmental analyses and decision documents.

This EA is not a decision document. The EA is being prepared to evaluate effects on all federal and nonfederal lands in the potentially affected area. The purpose of this document is to disclose the potential effects and consequences of the Proposed Action and alternatives to it. The Proposed Action involves an approximately 10.2 mile of right-of-way (ROW) for an aboveground electrical 69 kilovolt (kV) transmission line across public lands in Wyoming and Montana. The responsible line officers will make decisions based on consideration of the purpose and need for the project, the effects of alternatives, and public involvement. A decision document in the form of a Decision Record will be prepared by the BLM for the ROW grant proposal. The BLM is responsible for authorizing construction, operation, and maintenance of transmission lines and roads on public lands.

The responsible officials from the BLM will document his or her decision in a decision document after a 30-day public review of this EA. For this project, the responsible officials are BLM Field Managers.

Tiering is in accordance with Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations (CFR) 1502.20 and 1508.28), which allow the responsible officials to focus on site-specific issues that are within the scope of a broader plan, program, or analysis that is already approved. This EA discloses the direct, indirect, and cumulative environmental effects that would result from the Proposed Action and alternatives. The document is organized into six main parts:

1. *Chapter 1 – Introduction:* This chapter includes a brief description of the applicant's proposal, scope of the analysis, information on the history of the project proposal, and the purpose of and need for the project. This chapter also details how the BLM informed the public of the proposal and how the public responded. Key issues that focus the analysis are identified in this chapter.
2. *Chapter 2 – Alternatives, Including the Proposed Action:* This chapter provides a more detailed description of the applicant's Proposed Action, as well as alternatives. These alternatives were developed based on issues raised by the public and other agencies. This discussion also includes Project Design Features (PDFs) that would minimize adverse impacts and capitalize on beneficial opportunities.
3. *Chapter 3 - Affected Environment:* This chapter describes the environmental setting and resources in and around the project area. This chapter is organized into sections based on environmental resources.

4. *Chapter 4 – Environmental Consequences:* This section describes the environmental consequences of implementing the Proposed Action and alternatives including the potential direct, indirect, and residual affects organized into resource sections, followed with a summary of the cumulative environmental impacts associated with each alternative.
5. *Chapter 5 - Members of the BLM Interdisciplinary Team,* as well as a list of agencies or persons consulted during the preparation of the EA are listed, followed by the References Cited in the EA.
6. *Appendices:* The appendices contain photos of the project area (Appendix A) and diagrams of the proposed electrical line structures (Appendix B).

All documents incorporated by reference in this EA that support the analysis presented in this document are contained in the project file located at the BLM CYFO, 1002 Blackburn Avenue, Cody, Wyoming 82414.

1.2 Purpose for Proposed Action

On June 16, 2006, Beartooth Electric Cooperative, Inc. (Beartooth) filed applications (BLM Case File Nos. WYW-162998 and MTM-95236) to obtain a BLM ROW grant to construct, operate, and maintain approximately 10.2 miles of aboveground electrical 69 kilovolt (kV) transmission line across public lands managed by BLM in Wyoming and Montana. The ROW would have a varying width of 50-100 feet depending on the pole structure used for a total of 79 acres. The entire project consists of approximately 21.6 miles with a 50-100 foot width for a total of 178 acres of 69 kV transmission line located on both public lands managed by BLM and private and state-owned lands in Montana and Wyoming. The proposed Beartooth electrical line would start at the existing Belfry power substation in Carbon County, Montana and traverse south and southwesterly to a new substation (Chance Substation) on private land in Park County, Wyoming.

The purpose of the proposed electrical line is to interconnect a new 69 kV transmission system between the existing Belfry power substation in Belfry, Montana, and a new substation in Clark, Wyoming. This new transmission line would enable distribution of Beartooth's generated electric power to Wyoming customers.

1.3 Need for Proposed Action

The proposed electrical line would help fulfill the need for additional reliable power near Clark, Wyoming. This need is based on the existing electrical loads and requests for new residential and industrial service in the area. The proposed electrical line would allow Beartooth to distribute additional megawatts of power south from Belfry, Montana, and provide for the growing energy needs in the Clark area.

1.4 Scope of This EA

Scope consists of the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). The scope of this analysis is limited to the activities of the electric line and access road construction, operation, and maintenance associated with Beartooth's Belfry to Clark electrical

69 kV transmission line project. Analysis of land availability for oil and gas leasing and potential development of ancillary facilities (e.g. compressor stations and pipelines), requests for new residential or industrial electrical service, or residential development (subdivisions) in the Clark area are beyond the scope of this EA and will not be addressed or discussed. Construction of the Chance Substation on private property and the four new distribution feeders which would be installed out of the new substation to serve the area, although outside of the scope of this analysis, will be discussed to some extent within the document due to public interest.

This proposal was requested by the filing of ROW grant applications with the BLM to allow transmission construction and associated activity. Construction activities authorized under the BLM permitting processes are limited by regulation to federal lands only. Potential effects of the proposed electrical line construction activity or inclusions of on adjacent state or private lands will be evaluated and displayed, and protections relative to those lands and landholders will be addressed to the extent possible in order to provide the public with a clear picture of the entire Proposed Action. However, it is important to note that there is no right of entry or occupancy for electric line construction relating to private or state land via this authorizing process.

Any proposed action or alternative considered in this EA must be implementable. Whether the proposed action presented here is implementable, as described in Chapter 2, is dependent upon the applicant's ability to secure all necessary ROW easements across affected non-federal lands. Should ROW access across non-federal lands be denied, the proposed action would not be implementable as presently described. Therefore, any decision made by BLM to approve the ROW location on federal lands will be conditioned to require amendment of the ROW location on federal lands, including subsequent environmental analysis, if the required ROW easement across affected non-federal lands is denied. The Decision Record will also emphasize that the federal decision does not convey or support any claim to right of entry or occupancy of non-federal lands based on the location of the ROW grant on federal lands.

1.5 Conformance with Land Use Plans

Land use plans establish management direction for BLM Field Offices. The Cody Field Office (CYFO) and Billings Field Office (BIFO) implement their RMPs as required by law and regulation. RMPs establish sideboards for the development of alternatives to the Proposed Action. Within these sideboards, the CYFO and BIFO developed alternatives and PDFs that responded to specific issues and concerns.

1.5.1 Cody Resource Area Resource Management Plan and Record of Decision

The portion of the Proposed Action located within CYFO jurisdiction is subject to the Cody Resource Area RMP (BLM 1988a) and record of decision (ROD), approved in June 1990 (BLM 1990). The plan and decision were reviewed, and a determination was made that this Proposed Action conforms to Land Use Plan decisions and guidelines, as required by the 1976 Federal Land Policy and Management Act (FLPMA) under 43 CFR 1600. The PDFs developed for this analysis are in accordance with applicable RMP guidance and would be implemented as part of the BLM ROW Terms and Conditions.

Under the Cody RMP, most of the planning area is open for location of utility and transportation systems. The lands and realty management objectives, according to the Cody RMP, are to support the goals and objectives of other resource programs for managing public lands and respond to public demand for land use authorizations. Development of the Proposed Action and associated Plan of Development (POD; Beartooth 2005) are in conformance with RMP decisions. The project area is predominately managed as Visual Resource Management (VRM) Class II and III areas (BLM 1990). Surface-disturbing activities are allowed in Class II VRM areas as long as adverse impacts can be mitigated or avoided. While there are ROW avoidance areas identified in the RMP, such as avoiding aboveground transmission facilities along major transportation routes to protect scenic quality, PDFs such as structure placement and color make mitigation possible. Likewise, the achievement of the Wyoming Standards for Healthy Rangelands would not be adversely affected by the development of this project (BLM 1995).

1.5.2 Billings Resource Area Resource Management Plan and Record of Decision

The portion of the Proposed Action located within the BIFO jurisdiction, is subject to the Billings Resource Area RMP (BLM 1983) and the ROD signed in September 1984 (BLM 1984). Development of the Proposed Action and associated POD (Beartooth 2005) are in conformance with RMP decisions as are the PDFs developed for this analysis.

There are no areas that are sensitive to oil and gas leasing, wild horse management, grazing, off-road vehicle use, wilderness designation, or coal leasing within the project area (BLM 1984). The achievement of the Montana Standards for Healthy Rangelands would not be adversely affected by the development of the proposed electric line (BLM 2006b). The Billings RMP does not specifically address transmission line ROWs. ROWs are considered on a case-by-case basis for most areas covered by the RMP, with the exception of designated exclusion and avoidance areas. Applicants are encouraged to utilize de facto corridors such as oil and gas pipelines and existing roads.

1.6 Relationship to Statutes and Regulations

The BLM issues ROWs on public lands under the authority of FLPMA. ROW applications and associated PODs are subject to standard approval procedures, as outlined in ROW grant regulations codified in Title 43 of the CFR 2800. The POD submitted to the BLM in association with the proposed electrical line project provides sufficient detail to assess the technical adequacy of and environmental impacts associated with the Proposed Action, including provisions for least-impact methodology and adequate protection of natural and cultural resources, land uses, and other environmental issues of concern. The POD also includes measures for reclamation of disturbed lands.

The BLM believes that it is important for ROW projects to be consistent with county land use plans (Park and Carbon County), county zoning and regulations, and other applicable state and local government programs and plans, although these plans do not directly apply to public lands in the legal sense. The Park and Carbon County plans encourage the support for residential and industrial electrical service within their planning goals and objectives. The Proposed Action spans across the Clark and Cody-Powell Rural planning areas. Land crossed by the Proposed

Action is considered conservation and low-intensity rural land, both of which are indicated to be suitable for electrical lines.

With regard to planning and zoning, Carbon County requires road cut and approach permits, and Park County requires a Special Use Permit prior to construction. Implementation of the Chance Substation falls within a specific allowed use under Park County regulations, and the Planning and Zoning permit application for this facility has been submitted by Beartooth. In addition to permitting the action through the BLM and affected counties, Beartooth would obtain necessary permits required for construction prior to the start of construction.

The Proposed Action was reviewed for consistency with all applicable legislation and regulations. The project was found to meet applicable guidelines and does not include any of the conditions for denial of the application, as detailed in CFR 2804.26. Reasons for denial of a ROW application are as follows;

- The proposed ROW would be inconsistent with the purpose for which public lands are administered.
- The proposed ROW would not be in the public interest.
- The applicant is not qualified.
- The ROW would be inconsistent with the act under which the ROW is authorized or other applicable laws.
- The applicant cannot or does not demonstrate the technical and financial capacity to complete the project.

This EA was prepared in accordance with the requirements of NEPA and other applicable statutes and regulations. Impacts to the entire proposed route, including federal, private, and state lands, have been considered. Portions of the Proposed Action that would be located on private and state lands are not subject to BLM ROW authorization.

1.7 Scoping and Public Involvement

Scoping is an important part of the NEPA process and is used to determine the scope of issues to be addressed and identify the key issues related to a proposed action (40 CFR 1500.7). The scoping process can involve federal, state, and local government agencies, resource specialists, industry representatives, local interest groups, and members of the public. Scoping is an interdisciplinary process.

Scoping was conducted primarily through meetings, phone conversations, written comments, and field observations, and assessments between the BLM CYFO and BIFO, Beartooth, and HDR Engineering (HDR). Public notification and education were also integrated with scoping. A scoping notice was sent out on October 16, 2006 to local residents and interest groups in and around the Belfry to Clark 69 kV Transmission Line and Chance Substation project area, briefly describing the Proposed Action. Three comments, one each from the Wyoming Game and Fish Department; Wyoming Department of Transportation, and Carbon County Board of Commissioners were received from the public during scoping. The issues addressed in these

comments are discussed below (Section 1.8). All correspondence is retained in the project file on record at the CYFO.

1.8 Issues

Guided by the appropriate management plans, the CYFO and BIFO developed the Proposed Action and PDF to address the issues raised during the scoping process. The issues were categorized as either key issues that would drive Alternative development or as issues that would not result in the development of an Alternative to the proposal, but that would be considered, analyzed, and disclosed in the Environmental Consequences chapter (Chapter 4). The three comment letters received through scoping and public involvement raised four non-key issues. The non-key issues are presented below:

ISSUE 1: Sensitive Wildlife Resources

Scoping Response: Potential impact on greater sage-grouse leks

Comment Response: The BLM is obligated to protect federally listed, as well as sensitive species, and determine if agency actions are likely to affect these species. Of these species, greater sage-grouse are known to occur in the vicinity of the project area and are a species of primary concern. Disturbance from project activities could directly and indirectly impact these species. Wildlife resources in the project area are addressed in Chapter 3 - Affected Environment and are analyzed in detail in and Chapter 4 - Environmental Consequences. PDFs (Section 2.2) that are required Terms and Conditions of the ROW grant have been developed to ensure adequate protection for sage-grouse and other wildlife species.

ISSUE 2: Water Quality

Scoping Response: Potential impact to aquatic conditions

Comment Response: The issue of water quality is analyzed in detail in Chapter 3 - Affected Environment and Chapter 4 - Environmental Consequences. The POD, Proposed Action, and PDFs that are required Terms and Conditions have been developed to ensure that best management practices are followed to minimize impact to the aquatic environment.

ISSUE 3: Placement of Electrical Line

Scoping Response: The Beartooth Electrical crossing of Wyoming Highway 120 must be perpendicular and outside of the highway ROW

Comment Response: The POD, Proposed Action, and PDFs that are required Conditions of Approval have been developed to ensure that Wyoming Department of Transportation and National Electrical Safety Code regulations are met. The issue of visual resources and placement of the electrical line is analyzed in detail in Chapter 3 - Affected Environment and Chapter 4 - Environmental Consequences.

ISSUE 4: Carbon County Permits

Scoping Response: Carbon County road cut and approach applications must be submitted and approved prior to construction

Comment Response: The acquisition of permits is not an environmental issue analyzed within Chapters 3 or 4 of the EA. However, mandatory Park and Carbon County permits are addressed in Chapter 1, Section 1.6 Relationship to Statutes and Regulations. All necessary permits required for construction would need to be obtained by Beartooth prior to the start of construction. The BLM approval process is contingent upon applicant obtaining all necessary permits prior to ground disturbing activities.

2.0 ALTERNATIVES

The purpose and need for the proposed Belfry to Clark electrical 69 kV transmission line and Chance Substation is to interconnect the Belfry Substation generating facility to the new Chance Substation in order to provide safe and reliable electrical power to customers in the Clark area. Beartooth has developed the Proposed Action to meet these needs. Several alternative routes and an alternative structure design for the electric line were considered as alternatives, but were dropped from detailed study for various reasons. All considered alternatives are listed below.

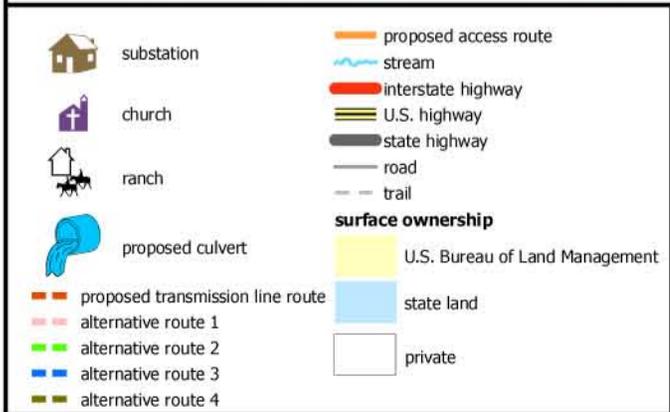
2.1 Alternatives Considered But Eliminated from Detailed Analysis

The Belfry Substation presently serves its respective area with three 24.9/14.4 kV distribution feeders off a 3.75 megavolt ampere (MVA) 50 kV to 24.9 kV transformer. The south feeder, which presently feeds the Clark area, is stepped down to 12.5 kV at the Montana-Wyoming border. Additional load growth, including the addition of a 1200 kilowatt (kW) gas plant, the development of an oil field in Badger Basin, and an increase in subdivisions for residential consumers, requires major improvements to the electrical system to prevent excessive voltage drop.

Originally, the analysis considered tapping electricity from the Northwestern Energy 50 kV transmission line to the north as well as the Western Area Power Administration (Western) 69 kV transmission line to the south. While the Western line is slated for future conversion to 115 kV, the Northwestern Energy tap point was chosen due to length of new transmission line required and cost.

The analysis also considered converting the remainder of the Belfry south feeder to 14.9/14.4 kV. This option involved extensive distribution reconductoring, reinsulating, and multi-phasing, as well as, the addition of voltage regulators and a new transformer. Even with these improvements, there would be no room for additional growth. In addition, the cost of this option was very close to the cost of a new substation and transmission line. Therefore, this option was eliminated from further consideration.

As the electrical line necessarily has to go from the Belfry Substation to the proposed Chance Substation to transport electricity to a growing market within the immediate vicinity of the project area, all alternatives considered were variations of this Proposed Action. Four potential alternative electrical line routes were considered as part of the preliminary engineering/design process. These routes varied in length and cost and were all contingent of easements through private property. The proposed electrical line route and the alternatives considered but eliminated from detailed analysis are depicted in **Figure 2-1**.



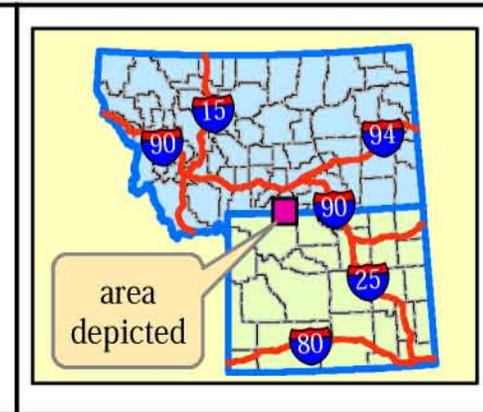
Belfry to Clark Electrical 69 kV Transmission Line Project
 BLM Case File No WYW-16298 and No MTM-95236

Park County, Wyoming and Carbon County, Montana

Detailed maps are available from the Cody Field Office

Figure 2-1

Projection: NAD 1983, UTM Zone 12 North



2.1.1 Alternative Route 1

Alternative Route 1 would involve rebuilding an existing Northwestern Energy 24.9 kV distribution line along a route which generally follows the west side of Montana State Highway 72 to the Wyoming border. Rebuilding this distribution line would involve building the new 69 kV transmission line in the same ROW as the 24.9 kV distribution line, underbuilt on the same poles as the 69 kV transmission line. Additional ROWs would have to be purchased due to the higher voltage of the line. The beginning (North) segment of this route would require new ROWs through cultivated farm land to the transmission tap point common with the Proposed Action and Alternative Route 2 in T. 8 S., R. 22 E., sec. 12. The ending (South) segment of this route would require new ROW in mostly cultivated farm land extending to the proposed substation in T. 57 N., R. 101 W., sec. 7. The South segment of the route from the Wyoming border south is generally common with the South segment of Alternative Route 3.

The length of Alternative Route 1 is approximately 20.0 miles and 50-100 feet in width, with the majority of the line being in cultivated farm land. Due to the inability to obtain easements from private landowners without condemnation, this alternative was eliminated from consideration. The total probable cost for this alternative, including condemnation and ROW acquisition, is \$4,250,000, which represents an increase of \$1,450,000 over the cost of the Proposed Action estimated at \$2,800,000.

2.1.2 Alternative Route 2

Alternative Route 2 begins at the same tap point (T. 8 S., R. 22 E., sec. 12) as Alternative Route 1. Alternative Route 2 would involve building a new line along the east side of the Clarks Fork River Valley and east side of Highway 72, in the hillside area, to avoid the cultivated farm land. Alternative Route 2 begins in T. 8 S., R. 22 E., sec. 12, at the tap point and ends in T. 57 N., R. 101 W., sec. 7 at the proposed substation. One mile of the route at the beginning is common with Alternative Route 1 and 0.5 mile is common with the Proposed Action at the end.

The length of Alternative Route 2 is approximately 19.0 miles and 50-100 feet in width. The inability to obtain easements for the line and construction access roads from private landowners without condemnation resulted in this alternative being eliminated from consideration. The total probable cost for Alternative Route 2, including condemnation and ROW acquisition, is \$3,600,000, which represents an increase of \$800,000 over the cost of the Proposed Action estimated at \$2,800,000.

2.1.3 Alternative Route 3

Alternative Route 3 begins at a tap point located in T. 8 S., R.22 E., sec. 15 and would involve building a new line along the west side of the Clarks Fork River Valley and west of Highway 72. The beginning segment of the line to T. 9 S., R. 22 E., sec. 31 at the Wyoming border would be located in the hillside area to avoid the cultivated farm land. The remaining line segment to the proposed substation is common to the Alternative Route 1, which is generally in cultivated farm land.

This alternative route length is approximately 17.0 miles and 50-100 feet in width. The inability to obtain easements for the line and construction access roads from private land owners without

condemnation resulted in this alternative being eliminated from consideration. The total probable cost for this alternative, including condemnation and ROW acquisition, is \$3,800,000, which represents an increase of \$1,000,000 over the cost of the Proposed Action estimated at \$2,800,000.

2.1.4 Alternative Route 4

Alternative Route 4 generally follows the route for the Proposed Action with the exception of a segment of line between T. 58 N., R. 100 W., sec. 19 to T. 57 N., R. 101 W., sec. 3. This segment of Route 4 would require construction of numerous access roads on private land. The inability to obtain easements from private landowners without condemnation and the difficult nature of the terrain resulted in the Alternate Route 4 segment being eliminated from consideration. The total line length of the proposed route with this alternative route segment considered is approximately 21.0 miles and 50-100 feet in width. The total probable cost for this alternative, including condemnation and ROW acquisition, is \$3,200,000, which represents an increase of \$400,000 over the cost of the Proposed Action estimated at \$2,800,000.

2.2 Proposed Action Alternative

The Proposed Action would be the issuance of a ROW on public lands managed by BLM for construction of the approximately 10.2 mile-long 69 kV transmission line in Wyoming and Montana. The new 69 kV transmission line (BLM ROW Case #ID WYW-162998, MTM-95236) would be constructed beginning at the existing Belfry power substation located in Carbon County, Montana (T. 8 S., R. 22 E., sec. 7), and ending at a new substation (Chance Substation) located on private land in Clark, Park County, Wyoming (T. 57 N., R. 101 W., sec. 7) (**Figure 2-2**). The length of the ROW would total approximately 21.6 miles with a varying width of 50-100 feet for a total of 178 acres. Approximately 7.5 miles (56 acres) of the electrical line would be located on public lands under the jurisdiction of the BLM's BIFO. Approximately 2.7 miles (23 acres) of the proposed electrical line would be located on public lands under the jurisdiction of the BLM's CYFO.

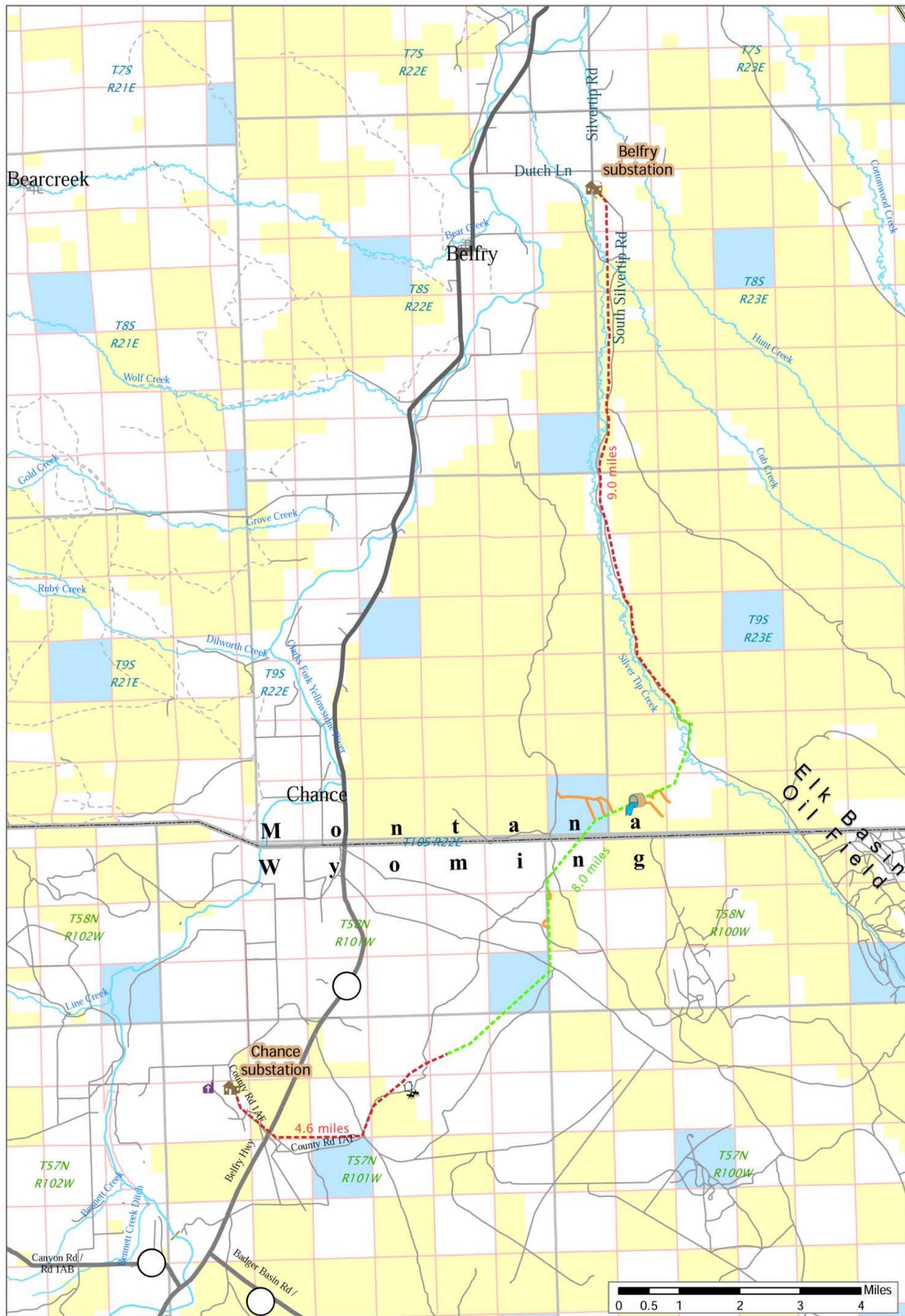
Additionally, BLM would authorize temporary use of approximately 1.2 miles (1.0 miles in Montana and 0.2 miles in Wyoming) of existing and proposed roads/trails outside the ROW on BLM lands for access during construction (4 to 6 months). The authorization for temporary road access would affect a corridor about 25 feet wide to total approximately four acres.

Those sections of BLM public lands in Montana and Wyoming in which the electrical transmission line and access roads would transect are identified in **Table 2-1**.

| Table 2-1 Legal Descriptions and Surface Area for Proposed ROW on Public Land in Montana and Wyoming | | | | | | | | |
|--|----------|-------|---------|-----|-----|------------|-------------|--------------------|
| Montana | | | | | | ROW | | |
| Ownership | Township | Range | Section | Qtr | Qtr | Width (ft) | Length (ft) | Description |
| BLM | 8 S | 23 E | 7 | SW | NW | 50 | 1677 | line (single pole) |
| | | | 18 | NW | SW | 50 | 1322 | line (single pole) |
| | | | | SW | SW | 50 | 1323 | line (single pole) |
| | | | 19 | NW | NW | 50 | 1321 | line (single pole) |
| | | | | SW | NW | 50 | 1322 | line (single pole) |
| | | | | NW | SW | 50 | 658 | line (single pole) |
| | | | | NE | SW | 50 | 682 | line (single pole) |
| | | | | SE | SW | 50 | 152 | line (single pole) |
| | | | | SW | SW | 50 | 1184 | line (single pole) |
| | | | 30 | NW | NW | 50 | 1324 | line (single pole) |
| | | | | SW | NW | 50 | 1332 | line (single pole) |
| | | | | NW | SW | 50 | 1336 | line (single pole) |
| | | | | SW | SW | 50 | 1306 | line (single pole) |
| | | | 31 | NW | SW | 50 | 1389 | line (single pole) |
| | | | | SW | SW | 50 | 382 | line (single pole) |
| | | | | NW | NW | 50 | 1340 | line (single pole) |
| | | | | SW | NW | 50 | 1431 | line (single pole) |
| | 9 S | 23 E | 18 | NE | NW | 50 | 1489 | line (single pole) |
| | | | | SE | NW | 50 | 632 | line (single pole) |
| | | | | SW | NE | 50 | 692 | line (single pole) |
| | | | | NW | SE | 50 | 1372 | line (single pole) |
| | | | | SW | SE | 50 | 1323 | line (single pole) |
| | | | 19 | NW | NE | 50 | 1570 | line (single pole) |
| | | | | SW | NE | 50 | 135 | line (single pole) |
| | | | | SE | NE | 50 | 1493 | line (single pole) |
| | | | | NE | SE | 50 | 740 | line (single pole) |
| | | | 20 | NW | SW | 50 | 942 | line (single pole) |
| | | | | SW | SW | 50 | 531 | line (single pole) |
| | | | | SW | SW | 100 | 975 | line (H-frame) |
| | | | 29 | NW | NW | 100 | 323 | line (H-frame) |
| | | | | NE | NW | 100 | 1641 | line (H-frame) |

| Table 2-1 Legal Descriptions and Surface Area for Proposed ROW on Public Land in Montana and Wyoming | | | | | | | | |
|---|-----------------|--------------|----------------|------------|------------|-------------------|--------------------|--------------------|
| Montana | | | | | | ROW | | |
| Ownership | Township | Range | Section | Qtr | Qtr | Width (ft) | Length (ft) | Description |
| | | | 31 | NE | NE | 100 | 431 | line (H-frame) |
| | | | | SE | NE | 100 | 1009 | line (H-frame) |
| | | | | SE | NE | 25 | 2318 | access road |
| | | | | SW | NE | 100 | 1441 | line (H-frame) |
| | | | | SW | NE | 25 | 206 | access road |
| | | | | SW | NE | 25 | 1436 | access road |
| | | | | SE | NW | 100 | 822 | line (H-frame) |
| | | | | SE | NW | 25 | 250 | access road |
| | | | | SE | NW | 25 | 198 | access road |
| | | | | NE | SW | 100 | 620 | line (H-frame) |
| | | | | NW | SW | 100 | 1306 | line (H-frame) |
| | | | | NW | SW | 25 | 646 | access road |
| | | | | SW | NW | 25 | 326 | access road |
| Total | 10 S | 22 E | 1 | Lot | 2 | 100 | 438 | line (H-frame) |
| | | | | | | | 44,786 | |
| Wyoming | | | | | | ROW | | |
| Ownership | Township | Range | Section | Qtr | Qtr | Width (ft) | Length (ft) | Description |
| BLM | 58 N | 100 W | 30 | Lot | 1 | 100 | 1313 | line (H-frame) |
| | | | | Lot | 1 | 25 | 927 | access road |
| | | | | Lot | 2 | 100 | 1313 | line (H-frame) |
| | | | | Lot | 2 | 25 | 168 | access road |
| | | | | Lot | 3 | 100 | 1327 | line (H-frame) |
| | | | | Lot | 3 | 25 | 158 | access road |
| | | | | Lot | 4 | 100 | 1327 | line (H-frame) |

| Wyoming | | | | | | ROW | | |
|--------------|----------|-------|---------|-----|-----|------------|-------------|--------------------|
| Ownership | Township | Range | Section | Qtr | Qtr | Width (ft) | Length (ft) | Description |
| | 57 N | 101 W | 10 | SE | NW | 50 | 611 | line (single pole) |
| | | | | SW | NW | 50 | 1490 | line (single pole) |
| | | | | NW | SW | 50 | 493 | line (single pole) |
| | | | 8 | SE | SE | 50 | 1313 | line (single pole) |
| | | | | SW | SE | 50 | 1317 | line (single pole) |
| | | | | SE | SW | 50 | 1612 | line (single pole) |
| | | | | SW | SW | 50 | 572 | line (single pole) |
| | | | | NW | SW | 50 | 1187 | line (single pole) |
| | | | 7 | NE | NE | 50 | 576 | line (single pole) |
| Total | | | | | | | 15,704 | |



- | | |
|---------------------------------|--------------------------------|
| proposed transmission line | proposed access route |
| single pole (50 foot width ROW) | interstate highway |
| H-frame (100 foot width ROW) | U.S. highway |
| substation | state highway |
| church | road |
| Mount Carmel Youth Ranch | trail |
| proposed culvert | stream |
| | surface ownership |
| | U.S. Bureau of Land Management |
| | state land |
| | private |

**Belfry to Clark Electrical 69 kV
 Transmission Line Project**
*BLM Case File № WYW-16298
 and № MTM-95236*
 Park County, Wyoming and Carbon County, Montana
 Detailed maps are available from the Cody Field Office

Figure 2-2

 Projection:
 NAD 1983, UTM Zone 12 North



The remainder of the proposed electrical line would be located on private and state lands for a total length of 11.0 miles (104 acres). The total probable cost for the proposed line route, including ROW acquisition, is \$2,800,000. The following is a summary of proposed electrical line characteristics on both BLM and non- BLM lands:

- Transmission Line: 21.6 miles total length (12.4 miles in Montana and 9.2 miles in Wyoming)
- Access roads: 5.0 miles total length (3.5 miles in Montana and 1.5 miles in Wyoming).
- ROW width desired: 50 feet (13.6 miles of single-pole construction with distribution underbuild at 325 feet average span) to 100 feet (8.0 miles of multiple-pole H-frame construction with no underbuild at 700 feet average span).
- Chance Substation: 69 kV to 12.5 kV. 1.6 acre of private land in Wyoming (fenced area of 0.3 acres [150 feet x 80 feet]).

Disturbance Summary

The Proposed Action would involve the following short-term and long-term surface disturbances. Short-term disturbance (0 to 365 days) would be associated with the construction and reclamation phases of the project life. Short-term disturbance associated with the ROW would affect approximately 79 acres on public lands managed by BLM, or 44 percent of the total anticipated disturbed area for the proposed project. Reclamation would occur after the structures are installed and the line is constructed. Long-term disturbance (1 to 30 years) covers the remainder of the life of the project and represents the total surface disturbance that would remain after successful reclamation has been completed. Long-term disturbance of public lands managed by BLM would consist of approximately four acres associated with access roads and less than 0.01 acre associated with transmission poles and a proposed culvert. This estimated long-term disturbance on public lands represents approximately 25 percent of the total long-term project surface disturbance.

Site-specific disturbance is the area of actual surface disturbance anticipated from the Proposed Action. While short-term disturbance (79 acres) associated with the proposed ROW on BLM managed lands could affect an area 50 to 100 feet wide, site-specific disturbance would more accurately estimate the area of actual disturbance. Site-specific disturbance along the electrical line route would be limited to an area approximately eight feet wide used for vehicle access to transport materials and construct the line in addition to small landings (pull sites) needed to install structures on uneven terrain. Site-specific disturbance on BLM lands would account for approximately 11 acres or 15 percent of the total proposed short-term disturbance. A summary of short-term, long-term, and site-specific disturbance is provided in **Table 2-2**.

| Table 2-2 Summary of Short-term, Long-term, and Site-Specific Disturbance Related to the Proposed Action | | | | | |
|---|------|---|---------------------|---|------------------|
| | # | Potential Surface Disturbance on BLM Lands | | Potential Surface Disturbance on Non-BLM Lands | |
| | | Short-term | Long-term | Short-term | Long-term |
| Access roads | | | | | |
| Montana | 3 | | 3 acres | | 8 acres |
| Wyoming | 2 | | 1 acre | | 4 acre |
| Total | 5 | | 4 acres | | 12 acres |
| ROW | | | | | |
| Montana | | 56 acres | | 39 acres | |
| Wyoming | | 23 acres | | 60 acres | |
| Total | | 79 acres | | 99 acres | |
| Site-Specific within ROW | | | | | |
| Poles | | | | | |
| Montana | 201 | | 0.01 acre | | 0.01 acre |
| Wyoming | 116 | | 0.01 acre | | 0.01 acre |
| Total | 317 | | 0.02 acre | | 0.02 acre |
| Landings | | | | | |
| Total | 1215 | 1 acre | | | |
| Culvert | | | | | |
| Montana | 1 | | 400 ft ² | | |
| Wyoming | | | | | |
| Total | 1 | | 400 ft ² | | |
| Access within ROW | | | | | |
| Montana | | 7 acres | | 5 acres | |
| Wyoming | | 3 acres | | 6 acres | |
| Total | | 10 acres | | 12 acres | |

2.2.1 Description of Electrical Transmission Line Construction Methodology Proposed

Construction

ROW

Electrical line construction would commence as soon as all permits and the ROW authorization have been secured, a Notice to Proceed is obtained from the BLM, and weather conditions permit. Approximately four to six months would be required for construction of all facilities. The locations of all poles, anchors, and access roads would be staked, and existing underground facilities would be marked within the ROW prior to construction.

The ROW would have a variable width (50 to 100 feet) depending on the structures used. The proposed electrical line would consist of two different structure types: new single-pole and H-frame structures. Diagrams of the structures are provided in **Appendix B**. The first 9.0 miles south from the Belfry Substation and last 4.6 miles into the Chance Substation would utilize standard Rural Utilities Service (RUS) single-pole structures with three-phase 24.9 kV construction underbuild (Exhibit #2, Appendix B). The structures would be spaced approximately 325 feet apart and would require 50 feet of ROW. Additional ROW extending up to 80 feet would be required at line angles to accommodate structure guying. The 8.0 miles

between the single-pole sections, which is rougher terrain requiring longer spans, would utilize standard RUS two-pole 69 kV H-frame structures and three-pole angle and deadend structures with no distribution underbuild (Exhibit #3-5, Appendix B). The H-frame structures would be approximately 700 feet apart and would require 100 feet of long-term ROW (see Table 2-2). Transmission poles will be treated wood and allowed to weather to natural brown and gray colors.

The following are the general steps in the electrical line construction process:

- Deliver material and transport to structure locations
- Install structures, guys, and anchors
- String conductor
- Energize lines
- Reclamation and re-vegetation (where needed)

Surveying and/or construction activities would cease during periods when the soil is too wet to adequately support the necessary equipment. Construction activities would not continue until soil conditions improve. All construction materials would be hauled to the job by truck and transported to the individual structure locations. Structures would be set in such a manner as to cause the least interference with the normal use of the land crossed by the ROW. In steeply sloping areas, the contractor may need to level small landings to set the poles. Vegetation would only be cleared in the immediate vicinity of the pole locations.

A combination of wheeled auger truck, tracked auger vehicle, or backhoe would be used to dig holes to set poles. The holes would be set seven to 12 feet deep depending on the pole height. The structures would be framed near their setting location and set with either a line truck or an all-terrain crane. After the pole is placed in the hole, the original soil would be backfilled and tamped, leaving a small berm at the base of the pole to shed water. The guy anchors installed would be power-installed screw anchors, which are screwed directly into undisturbed soil with negligible surface impact. The transmission and distribution conductors would be strung in by ground crews or with the use of a helicopter depending on the contractor's preference. The conductor would be installed by first installing a pulling rope in sheaves. The conductor would then be pulled in from the reel end locations throughout the line.

The construction workforce is expected to number approximately 25 persons at the peak of construction. No temporary work camps are proposed. **Table 2-3** provides a list of potential construction equipment to be used on the project.

| Table 2-3 Potential Construction Equipment to be Used on the Proposed Beartooth Electrical Line | |
|--|--|
| Number of vehicles | Type of Vehicle |
| 2 | 18-Wheel Trucks (to deliver and transport material) |
| 4 | Bucket Trucks |
| 2 | Backhoes |
| 2 | Line Trucks |
| 10 | Pickup Trucks |
| 3 | Tracked Vehicles (i.e. Track Hoe, Caterpillar, etc.) |
| 1 | Helicopter (if necessary) |
| 1 | 20-Ton Wheeled Crane |

Access Roads/Temporary Use Permit

Most equipment and vehicular access to the project area would be confined to existing roads and the established ROW corridor. Where existing access roads do not provide adequate access to the ROW, proposed two-track roads would provide for travel across undisturbed areas. Proposed and existing temporary access routes are identified in Figure 2-1. These new access routes would require minimal improvement (minor blade work). The routes would be utilized during construction and for future unscheduled maintenance, but would not be meant for regular use. Aside from the installation of a culvert and fill material to provide access through a small drainage, no major reconstruction or rerouting of roads is necessary.

Chance Substation and Staging Areas

Construction of the Chance Substation and staging area is not part of the Proposed Action and is outside of the scope of analysis of this EA; however, information is provided so that the reader can fully understand the project. The substation would be constructed approximately 50 feet north of County Road 1AF and approximately 1.1 miles northwest of Wyoming Highway 120 in T. 57 N., R. 101 W., sec. 7. The substation would be built on a 1.6 acre site on private property. The fenced area of the substation would be 150 feet x 80 feet or 0.3 acre. All permanent aboveground substation facilities would be constructed with galvanized steel. The major equipment in the substation would consist of a 69 kV deadend structure, 7.5 MVA 69X50kV to 12.5 kV transformer, a metering structure, four distribution bays, and a control building for instrumentation and controls. The new distribution lines would tie into the existing distribution system in the area by replacing an existing overhead line near the substation with three underground lines at various lengths from 0.25 mile to 0.5 mile which would tie into other overhead distribution lines. Also, the existing overhead distribution line in the same area as the proposed electrical line would be removed and underbuilt on the new electrical line.

The two staging areas would be located on private lands within the boundaries of the Chance and Belfry Substations. Beartooth does not anticipate the need for any staging areas outside the ROW on BLM lands during construction.

Operation and Maintenance of Facilities

A term of 30 years is requested for the proposed electrical line ROW, which would be in operation year-round. All activities associated with the construction, operation, and termination of the project would be within the authorized limits of the ROW. Once the electrical line and substation are energized, the only activity along the ROW by Beartooth personnel would involve regularly scheduled inspection and repairing damage to structures. Generally, the electrical line would be inspected annually or biannually by foot, air, and/or from existing roads with binoculars to check for damage. The five access routes would only be used if the inspections revealed necessary structure maintenance due to storm damage, equipment failure, etc. Access along the ROW after rehabilitation would be discouraged.

Restoration and Termination

Following completion of the electrical line, the ROW traversed by the construction personnel would be restored in accordance with BLM requirements or that of the landowner or the state. Any disturbed areas would be reclaimed and reseeded to blend into the surrounding terrain.

Weed control would be addressed as needed and as described in Section 2.2.2, *Project Design Features That Are Part of the Proposed Action*.

The area of potential short-term disturbance within the ROW on BLM surface is approximately 79 acres. Site specific ground disturbance from construction of the electrical line and access roads should be minimal. Within that ROW area, actual site-specific disturbance, approximately 11 acres, would be limited to primarily the width of vehicles necessary to transport materials and construct the line, as well as, small landings (pull sites) to install structures on uneven terrain. This area would be reclaimed to its original condition as much as possible following construction. Prior to commencement of seeding operations, the seed bed would be prepared by disking or hand raking on the contour to a depth of four to six inches. The entire disturbed area would be uniformly covered with depressions constructed perpendicular to the natural flow of water to facilitate the capture of moisture and subsequent promotion of revegetation success.

Long-term disturbance within the ROW would essentially be limited to the diameter of each pole and the installation of a culvert and fill material in one location or approximately 0.02 acres. No topsoil would be stockpiled or replaced as pole footprints and existing soil would be used for backfill. Disturbed areas around poles would be contoured to the original topography as much as possible. Long-term disturbance associated with access roads to the ROW (mowing and/or blading) would account for approximately four acres on BLM land. Any damage to the access roads beyond normal construction vehicle travel would be recontoured and reseeded. Access to and along the ROW after rehabilitation would be discouraged. Beartooth would assist the BLM to restrict access. Possible access controls may include berms, gates, signs, and/or fencing. Final cleanup would include removal and disposal of all construction-related trash, excess construction materials, and excess rock and soil.

Water control structures (waterbars, straw bales, etc.) are not likely to be required because of the limited disturbance area around the pole footprints. If soil erosion is evident around poles due to ground disturbance, appropriate erosion control techniques would be used. These may include straw bales, sandbag dikes, small areas of rip-rap, or other techniques.

2.2.2 Project Design Features That Are Part of the Proposed Action

Safety and Waste Issues

1. Beartooth has developed an emergency response plan to cover various safety issues.
2. Signs shall be posted on each pole and other appropriate points for transmission identification, and to list emergency telephone numbers, as well as the BLM case number assigned to this project.

Wildlife Resources

3. Year-round, no vehicle activities may occur within 220 feet of raptor nests to protect their structural integrity.
4. The transmission line would be constructed in accordance with the Avian Power Line Interaction Committee (APLIC) Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC 2006).

5. Surface disturbing activities would not occur within 0.25 mile of any identified mountain plover or long-billed curlew nests between April 15 and July 15, as per U.S. Fish and Wildlife Mountain Plover Survey Guidelines (USFWS 2001). If project work is conducted prior to July 15th, Beartooth would have mountain plover and long-billed curlew nesting surveys conducted by a BLM approved biologist. Surveys would be conducted no longer than one week prior to any surface disturbing activity. This applies to Wyoming T. 57 N. R. 100 W. sec. 7 and sec. 10.
6. In accordance with the Cody RMP ROD in Wyoming, surface disturbing activities would be restricted within 0.75 mile or the visual horizon (whichever is closer) of active raptor nests between February 1 through July 31 (or until the young have fledged). In Montana, surface disturbing activities would be restricted within 0.5 mile of active raptor nests between March 1 through August 1 in accordance the 1994 Montana Statewide Oil and Gas FEIS and Amendment of the Powder River and Billings Resource Management Plans. If needed, specific dates for particular species would be defined at the time of a proposed action, and would be based on the most recent nesting data. The size of the buffer zone would be determined case by case by the BLM Authorized Officer (AO), who would consider topography and raptor prey habitat surrounding the nest site.
7. As per the Cody RMP ROD and 1994 Montana Statewide Oil and Gas FEIS and Amendment of the Powder River and Billings Resource Management Plans, surface occupancy or use within 0.25 mile of sage/sharp-tailed grouse strutting/dancing grounds would be restricted or prohibited unless the applicant and the AO arrive at an acceptable plan for mitigation of anticipated impacts. Surface-disturbing activities would be restricted within a 2.0-mile radius of the center of active grouse leks between March 1st and June 15th. This applies to Wyoming T. 58 N. R. 100 W. sec. 30 and T. 58 N. R. 101 W. sec. 25 and Montana T. 8 S., R. 23 E., sec. 20 and T. 9 S., R. 22 E. sec. 11.
8. Raptor-deterrent perches would be used on electrical line structures within 0.5 mile of active sage-grouse leks to minimize raptors perching in the immediate area of the lek and reduce the potential for increased raptor predation during the sage grouse breeding season.
9. Gray wolves and grizzly bears could potentially occur within the project area. Such occurrences are highly unlikely and, if they are observed, these species are expected to move on through the area in a brief time period. No suitable or important foraging or cover habitat for these species is found in the project area. The project proposal should have no affect on either grizzly bears or gray wolves. If these species are observed, BLM would be immediately notified, and Beartooth employees would not engage in any actions that could result in harm, harassment, or conflict with these species.

Cultural/Historical Resources

1. Known cultural resource sites on federal and private lands associated with the electrical transmission line ROW would be avoided or operations would proceed incorporating recommendations detailed to the degree specified in the completed Class III Cultural Resource Inventories of Beartooth's electrical line in Park and Carbon Counties, Wyoming. This includes the recommendation of placing all transmission line poles 100 feet outside of any historic site eligible for listing with the NRHP.

2. Vehicle/equipment traffic on federal lands shall be confined to the proposed ROW and roads and trails which have been inventoried for cultural resources and which are free of significant or unevaluated cultural resources.
3. The holder of this authorization shall immediately bring to the attention of the AO any objects or resources of cultural value discovered as a result of operations under this authorization. The holder shall suspend all activities in the vicinity of such a discovery until notified to proceed by the AO.
4. The operator/holder is responsible for informing all persons associated with this project that they may be subject to prosecution for knowingly damaging, altering, excavating, or removing any archaeological, historical, or vertebrate fossil objects or site. If archaeological, historical, Native American, or vertebrate fossil materials are discovered, the operator/holder is to suspend all operations that further disturb such materials and immediately contact the AO. Operations are not to resume until written authorization to proceed is issued by the AO.
5. The AO will evaluate, or will have evaluated, such discoveries not later than five working days after being notified, and will determine what action shall be taken with respect to such discoveries. The appropriate measures to mitigate adverse effects to significant cultural or paleontological resources will be decided by the AO after consulting with the holder
6. The operator/holder is responsible for the cost of any investigations necessary for the evaluation, and any mitigative measures required by the AO. The AO will provide technical and procedural guidelines for the conduct of evaluation and mitigation. Upon verification from the AO that the required evaluation and/or mitigation has been completed, the operator will be allowed to resume operations.

Paleontology

1. If any fossils are discovered along the ROW during construction activities, then all activity in the area would cease, and the AO would be notified immediately. Significance would be assessed within an agreed timeframe. Operations would resume only upon written notification by the AO.

Visual Resources

1. To help mitigate visual scarring, Beartooth would seed all disturbed areas that were previously vegetated on BLM-administered lands along the electrical line ROW. Re-vegetation would be coordinated with the BLM and accomplished using best management practices, including mulching.
2. All aboveground facilities at the Chance Substation (private land) would be painted with a color that blends with the surrounding area.
3. The proposed electrical line would cross perpendicular to the Wyoming Highway 120 outside the highway ROW. Low sag clearance would meet or exceed National Electrical Safety Code regulations.
4. No poles, guys, anchors, or any associated appurtenances would be located within the Highway 120 ROW.

Recreation/Wilderness

1. Beartooth would avoid, to the maximum extent possible, working in the immediate vicinity of hunters known to be utilizing the area should construction occur during hunting season.
2. Beartooth would require all crew members to wear orange/yellow safety vests to make them easily visible to all hunters for safety purposes.
3. Beartooth would designate a contact person to resolve any issues that may arise during hunting season.

Water Quality – Surface

1. Beartooth's electrical line structures would be placed outside streambeds or drainage channels in such a way that the surface water channels would be spanned. Access to the structures would be limited to the side of the water features where the structure is located so that no drainages would be physically crossed by construction equipment.
2. If soil erosion is evident from drilling foundation holes, access roads, the proposed culvert, or contaminant spills that could impact water quality locally, Beartooth would implement appropriate erosion control techniques which could include: temporary berms, silt fencing, sediment traps, straw bale barriers, seed reclamation and/or mulching.

Air Quality

1. Beartooth would use dust suppression techniques (water spraying) as necessary during construction to minimize fugitive dust emissions.

Vegetation

1. Beartooth would seed all disturbed areas that were previously vegetated and that are located in federal lands with the following seed mixture and methods:

| Sagebrush-Grassland Vegetation Type | |
|--|-------------------------------------|
| Species | Drilled Rate Pounds/Acre PLS |
| bluebunch wheatgrass | 3 |
| green needle grass | 3 |
| western wheatgrass | 3 |
| Indian ricegrass | 3 |
| sand dropseed | 4 |
| blue flax | 1 |
| Total | 17 |

2. Seed would be hand broadcast or drilled on the contour with a seed drill equipped with a depth regulator in order to insure even depths of planting not to exceed 0.5 inch. If broadcast, the seed rate of pounds/acre would be double the above drilled rate. Spring seeding would be completed after the frost has left the ground and prior to June 15th. If needed, fall seeding would be completed after September 15 and prior to ground frost.
3. It is anticipated that few areas would require mulching. Where used, certified weed-free straw mulch would be applied at a rate of 2,000 pounds per acre. Straw mulch would be crimped into the soil. Hydro-mulch may also be used as appropriate.

4. The seeding would be repeated until a satisfactory stand, as determined by the AO, is achieved. The BLM would evaluate reseeding success after completion of the first full growing season following reseeding.
5. Removal of large trees is not anticipated with project construction. In areas where blading is unnecessary, shrubs will be mowed rather than removed. In bladed areas, shrubs will be mulched into the ROW to help stabilize the soil.

Noxious and Invasive Plants

1. To prevent the introduction of weeds along the electric line ROW, Beartooth shall thoroughly power-wash (use of steam or air cleaning methods would also be acceptable) all field vehicles and construction equipment before transporting them to the project area. Should crew members encounter existing noxious weeds within the project area; equipment and/or vehicles exposed to the weeds would be washed prior to entry into other areas. Any existing noxious weeds encountered and identified as such would be reported to allow for treatment prior to initiation of disturbing activities to prevent spread of weed seed or vegetative parts.
2. Beartooth shall be responsible for future weed control on disturbed areas within the limits of the ROW. Beartooth would consult with BLM and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations). Beartooth would comply with the applicable federal and state laws and regulations concerning the use of herbicides. The AO would approve any use of pesticides in advance.

Access

1. County/state roads and the electrical line ROW would be used to transport crews and equipment needed for project construction. All activities associated with the construction, operation, and/or termination of the ROW would be conducted within the authorized limits of the ROW.
2. Beartooth would repair or provide other containment measures for any cut or damaged fences resulting from the proposed electrical ROW.
3. To limit the amount of time necessary for construction in any given area, open holes would be limited to that which can be successfully backfilled and compacted in a 10-day period. Construction holes left open over night would be covered. Covers would be secured in place and be strong enough to prevent livestock or wildlife from falling into holes.

Livestock/Range

1. Beartooth is charged with the responsibility of notifying grazing lessees prior to entering their allotments. Affected grazing lessees are listed in Section 3.12 (Table 3-10).
2. Beartooth would make every effort to avoid disturbing or altering fences. Gates shall be used when possible. Gates must be closed immediately after passing through them. If a fence must be crossed, it shall be let down or cut (as determined by the grazing lessee or owner/operator), crossed, and immediately put back up. The wires shall be stretched to the original tension from the nearest brace or gate panel.

3. Any and all facilities damaged, destroyed, or removed in connection with the construction of the electric line shall be immediately restored to original condition or replaced with a similar facility.
4. Rehabilitation sites along proposed access roads on public lands in Montana would be fenced as needed to would exclude cattle for two grazing seasons.
5. Beartooth's operations would comply with and would not compromise the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for the Public Lands Administered by the BLM in the State of Wyoming and Montana.

Native American Religious Concerns

1. The area under consideration does not contain known areas or locations of religious or cultural concern to Native Americans. However, if areas subsequently identified or become known through the Native American notification or consultation process, they would be considered during the implementation phase. The operator/holder/BLM will take no action that would adversely affect these areas or locations without consultation with the appropriate Native Americans.
2. If human remains are discovered or suspected, the holder shall suspend operations immediately, physically guard the area, and notify the BLM immediately.

Soils

1. Cleanup and restoration would occur as soon as practical, weather permitting, after the electrical line is in place along the ROW. All disturbed areas that were previously vegetated on BLM-administered lands would be seeded with the seed mixture detailed in the POD. All preparations of the land, seeding methodologies, densities, and schedules would be accomplished as outlined in the POD (Beartooth 2005).
2. No construction or routine maintenance activities would be performed when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of four inches deep, the soil shall be deemed too wet to adequately support construction equipment.
3. Construction or routine maintenance activities would not be performed when the soil is frozen, except when such activities are necessary and when their impacts can be mitigated or avoided.
4. Beartooth shall conduct all activities associated with the construction, operation, and termination of the ROW grant within the authorized limits of the ROW. Existing roads would be used to reduce surface disturbance and compaction.

General

1. A term of 30 years is being requested for the ROW grant. Prior to termination of the ROW, Beartooth shall contact the BLM to arrange a joint inspection of the ROW. This inspection would be held to agree to an acceptable termination (rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, recounting, top-soiling, or seeding. The BLM must approve the plan in writing prior to commencement of any termination activities.

2. Beartooth shall protect all survey monuments found within the ROW. Survey monuments include, but are not limited to, General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, Beartooth shall immediately report the incident, in writing, to the AO and the respective installing authority if known. Where General Land Office or BLM ROW monuments or references are obliterated during operations, Beartooth shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references. Beartooth shall record such survey in the appropriate county and send a copy to the AO. If the Bureau cadastral surveyors or other federal surveyors are used to restore the disturbed survey monument, Beartooth shall be responsible for the survey cost.
3. All transmission line industry standards would be adhered to for material, construction, operation and maintenance, and termination practices.

2.3 No Action Alternative

The No Action Alternative is required by NEPA analysis to provide a baseline for impact analysis. No other alternatives are necessary in order to respond to unresolved conflicts concerning alternative uses of available resources (BLM 1988b). Under the No Action alternative, the ROW described in the Proposed Action which comprises approximately 10.2 miles of the 21.6-mile Belfry to Clark 69 kV electric project route would not be authorized on BLM-managed lands. Without authorization for construction on BLM lands, the electrical line could not be completed, and the project would not occur as proposed. Existing land and resource use activities within the project area would continue. The Affected Environment descriptions presented in Chapter 3 of this EA, thus, also constitute the effects of the No Action alternative, unless otherwise noted.

Implementation of the No Action alternative would preclude most of the impacts to the environment associated with the Proposed Action alternative. However, if this alternative were implemented, other sources of power would have to be developed and interconnected to Beartooth's electrical system to meet the energy needs identified in Chapter 1. Development of these other energy sources would create their own environmental impacts to the region.

The No Action alternative would not meet the purpose and need identified for this project and, therefore, is not considered a reasonable option; however, it remains in consideration to provide a baseline for comparison of the effects of the other alternative.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

This section summarizes the presently existing physical, biological, social, and economic environments of the potentially affected project area. The existing environment is termed "affected" environment under NEPA, and is referenced as such throughout this document. Only resources potentially affected are identified and analyzed in detail in order to focus on the relevant resources of concern and key issues. The level of detail is commensurate with the amount of information necessary to understand the effects of the actions. The summaries are based on the resource issues disclosed in Chapter 1.0.

Critical elements of the human environment (identified by the BLM NEPA Handbook H-1790-1), as well as non-critical elements, their status in the project area, and whether or not they would be affected by the Proposed Action are listed in **Table 3-1** below.

| Table 3-1 Elements of the Human Environment | | |
|--|----------------------------------|------------------------|
| Element¹ | Determination² | Addressed in EA |
| Access | PI | Yes |
| Air Quality | NI | Yes |
| Areas of Critical Environmental Concern | NP | Yes |
| Cultural/Historical Resources | PI | Yes |
| Environmental Justice | NI | Yes |
| Farmlands (prime or unique) | NI | Yes |
| Floodplains | PI | Yes |
| Forestry | NI | No |
| Fuels/Fire Management | NI | No |
| Geology/Minerals/Paleontology | PI | Yes |
| Invasive, Non-native Species | PI | Yes |
| Land and Realty Authorizations | PI | Yes |
| Livestock Grazing/Range Health | PI | Yes |
| Native American Religious Concerns | NP | Yes |
| Noise | NI | No |
| Recreation | PI | Yes |
| Socioeconomics | PI | Yes |
| Soils | PI | Yes |
| Threatened, Endangered or Candidate Species of Plants and Animals (Federally Listed by FWS) | PI | Yes |
| Vegetation (w/ other special status species) | PI | Yes |
| Visual Resources | PI | Yes |
| Wastes (hazardous or solid, under RCRA and CERCLA) | NI | Yes |
| Water Quality (surface and groundwater resources and drinking water) | PI | Yes |
| Wetlands, Riparian Zones | PI | Yes |

| Element¹ | Determination² | Addressed in EA |
|---|----------------------------------|------------------------|
| Wild and Scenic Rivers | NP | Yes |
| Wild Horses and Burros | NP | No |
| Wilderness | NP | Yes |
| Wilderness Characteristics | NP | No |
| Wildlife and Fish (w/ other special status species) | PI | Yes |

¹ Critical elements of the environment which must be addressed in the EA are in boldface

² Determinations

NP = Not present in the area impacted

NI = Present, but not affected to a degree that detailed analysis is required

PI = Present with potential for impact – analyzed in EA

All critical elements are addressed in the EA at least briefly in accordance with BLM NEPA guidance. Non-critical elements that are not present within the project area and/or would be unaffected by the Proposed Action, as indicated in the table above, were eliminated from further analysis during the preparation of this EA. Each critical element and each element that would be affected or could potentially be affected by the Proposed Action is addressed in the sections that follow.

3.1 Geology

The Proposed Action is located on the northwestern edge of the Bighorn Basin. The Beartooth Mountains, part of the Beartooth Uplift, border the west side of the Bighorn Basin. The Clarks Fork of the Yellowstone River runs along the foot of the mountains beyond the western boundary of the project area. Much of the project area occupies a remnant portion of the Beartooth Uplift isolated by the Clarks Fork. The landform consists of a highly incised anticline ridge composed of alternating beds of sedimentary bedrock. The lateral slopes of the ridge are highly eroded, hosting steep-sided canyons and coulees. Deposition is minimal in the upland setting, with the exception of narrow alluvial benches in the bottoms of drainages. The crests of the landforms frequently have outcrops of sandstone and regolith, forming small cliffs or escarpments above the steep slopes (Greystone 2005b). The uplands lay between two minor basins, Elk Basin to the east and Badger Basin to the southwest. The southwestern portion of the electrical line traverses the Badger Basin, which contains residual outwash deposits from the adjoining uplifted landforms. Topography in the Badger Basin consists of low ridges, rolling hills, intermittent drainages, and localized badland formations.

Based on U.S. Geological Survey data, (USGS 1998; 1994a) the bedrock in the project area primarily (89 percent) consists of young Tertiary sediments within the Paleocene Fort Union Formation. The Fort Union Formation outcrops primarily to the west and contains both the Tongue River and Lebo Members. Additional underlying formations impacted by the Proposed Action include the Upper Cretaceous Bearpaw Shale (four percent), Lance (Hell Creek) Formation (two percent), and Lennap (Fox Hills) Sandstone (two percent). Quaternary alluvium overlies these bedrock units at the surface along recent and present-day drainages and floodplains and comprises approximately three percent of the project area. A description of each formation is given below (Lopez 2000).

The Fort Union Formation is composed of variegated sandstones, siltstones, mudstones, carbonaceous shales, and lignituous to bituminous coal beds. This formation is considered a major aquifer. The Tongue River Member of the Fort Union Formation contains grayish sandstone interbedded with brownish-gray carbonaceous shale and siltstone and minor, thin coal beds. Sandstones from this member commonly form ridges and support growths of pine trees. The thickness of this unit varies from 500 to 700 feet. The Lebo Member contains predominantly dark-gray to olive shale; locally yellowish-gray claystone; and thin, yellowish-gray, interbedded sandstones and siltstones. It typically forms smooth grassy slopes below the Tongue River Member. The thickness of this unit varies from 200 to 250 feet.

The Cretaceous Lance Formation (also known as Hell Creek Formation) is composed of thick sequences of bedded to massive sandstone, medium-gray fissile shale, variegated siltstones and mudstones, and thin carbonaceous shales. Sandstone beds may locally form ridges and support growths of pine trees. The total thickness of this formation is about 350 feet.

The Cretaceous Lennap Sandstone (also known as the Fox Hills Sandstone) is composed of shaley sandstones interbedded with thin mudstones at the base and grades upward into a massive yellowish-tan to brownish-tan sandstone. This formation is locally very thin and may be mapped as the uppermost portion of the Bearpaw Shale.

The Cretaceous Bearpaw Shale is composed of dark-gray fissile to massive mudstones, commonly weathering dark brownish-gray. Brownish-gray calcareous concretions and nodules are common. The middle part of the formation contains numerous thin, greenish-gray bentonite beds. Near the top of the formation, thin silicified hematite-stained sandstone beds are common. The thickness of the formation is 200 to 800 feet, thinning to the west.

Quaternary alluvium consists of surface exposures of gravel, sand, silt, and clay that occur along active or recent channels and floodplains of rivers, creeks, and ephemeral tributaries. Most sediment occurring in tributaries draining areas underlain by Cretaceous sandstone and shale consists of sand, silt, and clay.

3.1.1 Minerals

The Bighorn Basin has a high potential for the occurrence of hydrocarbons such as oil and gas. Mineral resources extracted near the project area include conventional oil and gas, coal, bentonite, salable minerals such as sand and gravel, and locatable minerals such as gold and iron.

Oil and Gas

The State of Wyoming produced approximately 44.6 million barrels of oil and 1.99 billion cubic feet of gas during 2005 (Wyoming Oil and Gas Conservation Commission (WOGCC) 2006). Park County produced approximately 8 percent of Wyoming's total oil (3.6 million barrels) and 0.5 percent of the state's total gas (10.1 million cubic feet [mcf]) (WOGCC 2006). A search of WOGCC records (2006) for all sections crossed by the proposed electric line found that 12 conventional gas and oil wells (T. 57 N., R. 101 W., sec. 7 and 8, and T. 58 N., R. 100 W., sec. 20) lie within 1.0 mile of the proposed transmission line in Wyoming. Of these 12 wells, none are producing gas or oil. About 386 conventional wells are located within 6.0 miles of the Proposed Action (in T. 58 N., R. 100 W., T. 58 N., R. 101 W., T. 57 N., R. 100 W., and T. 57 N.,

R. 101 W.). Most of these wells (227) are located east of the project area in T. 58 N., R. 100 W., within the Elk Basin Oil Field.

According to records of the Montana Board of Oil and Gas Conservation (MBOGC), total production in Montana during 2005 was 2.7 million barrels of oil and 9.05 mcf of gas (MBOGC 2006). Carbon County produced approximately 17.1 percent (468 thousand barrels) of Montana's total oil and 19.6 percent (1.8 million cubic feet [mcf]) of the state's total gas (MBOGC 2006). In Montana, 47 conventional wells are located within 1.0 mile of the Proposed Action, 218 wells are located within 6.0 miles (T. 8 S., R. 22 E., T. 8 S., R. 23 E., T. 9 S. R. 22 E., T. 9 S., R. 23 E.) (MBOGC 2006). Most of these wells are producing and are associated with the Elk Basin Oil Field in T. 9 S., R. 23 E. There are no coal bed methane wells in the project area according to state oil and gas databases (MBOGC 2006, WOGCC 2006).

Coal Resources

Wyoming is the biggest coal producer in the U.S. (404,319 thousand short tons), accounting for about 26 percent of the total U.S. coal production in 2005, while Montana coal production in the same year accounted for approximately three percent of the total U.S. coal (40,354 thousand short tons) (EIA 2006). There are no surface or underground coal mines currently in operation in Park County, Wyoming or Carbon County, Montana. However, Silvertip Coal Field lies approximately 3.0 miles east of the Proposed Action and contains coal from the shale member of the Eagle Formation. Small quantities of coal have been produced for local domestic use in the past. The potential for renewed development is unlikely (BLM 1983), as coal production in the Silvertip Field may conflict with production in the Elk Basin Oil Field.

Bentonite

Bentonite, a group of clay minerals which have hundreds of industrial applications ranging from oil exploration to cattle feed, occur in bedded sedimentary rocks deposited during the Cretaceous Period. Wyoming and Montana are major suppliers of bentonite. Valuable bentonite beds have been found in Carbon County, Montana; however, these resources are not within the project area (BLM 1983). The nearest bentonite occurrence in Wyoming is approximately 10 miles west of the proposed Chance Substation in T. 57 N., R. 101 W. (Neal et al. 1990).

Salable Minerals

Common variety minerals, such as sand, gravel, and rock, located on public lands are sold by BLM at fair market value where the sale of these mineral materials would not conflict with RMP guidance or other resource values. Construction aggregate is the fourth most important mineral product (by value) produced in Wyoming after oil and gas, coal, and trona (WSGS 2005a).

Sand and gravel are produced from terrace and alluvial deposits occurring near rivers and larger tributary streams in Wyoming and Montana. Sand and gravel deposits consisting of alluvium may be found in alluvial fans or terrace deposits in the project area. Gravel pits have been developed on public lands in Carbon County, Montana (BLM 1983), but not within the Beartooth electrical line project area.

Locatable Minerals

The *General Mining Law of 1872* makes federal minerals available by location except for those minerals specifically available through lease or sale (such as coal, oil and gas, and oil shale). Locatable minerals (such as iron, copper, asbestos, gold, and jade) are not known to occur within the project area. Historically, one placer gold mine (T. 8 S., R. 22 E., sec. 13) occurred within 2.0 miles of the project; however, this mine is classified as unknown status due to inability to locate the site (Montana Bureau of Mines and Geology 2006); therefore, locatable minerals are not discussed further in this EA.

3.1.2 Paleontological Resources

No previously discovered paleontological sites were identified in the Beartooth electrical line project area. In Montana, a small portion of the proposed route crosses the Lance Formation (Kl) and the Bearpaw Shale (Kb) in T. 9 S., R. 23 E., sec. 29 and 32. These two formations have high paleontological importance and are known to contain significant vertebrate fossils. The Lance Formation has produced important terrestrial vertebrate specimens including a multitude of dinosaurs, reptiles, and primitive mammals. The Bearpaw Shale has yielded important marine reptile specimens, commonly discovered in concretions. However, because these formations are not extensively exposed in outcrop at the surface within the project area, no paleontological field surveys were conducted.

The Lance Formation does not occur on the Wyoming side of the project area. The only bedrock formation of potential importance in this part of Wyoming is the Fort Union Formation (Tf). Vertebrate specimens of paleontological importance have been discovered in the Fort Union Formation (Tf), although they are typically sparse, fragmentary, and isolated discoveries. Common specimens have included reptiles, mammals, and fish. Like the formations on the Montana side, the Fort Union is not extensively exposed in outcrops at the surface and no paleontological field surveys were conducted.

3.1.3 Geologic Hazards

Abandoned underground mines have not been identified in the project area. No known or suspected active faults with a surficial expression occur in Park or Carbon County. The project area is situated east of seismically active areas in Montana and Wyoming that contain evidence of Quaternary faulting. The nearest fault lines are more than 4.0 miles east of the project in Wyoming in T. 58 N., R. 100 W. (USGS 1994b). The landslide hazard nearest to the project area is approximately 1.3 miles southwest of the proposed route in T. 57 N., R. 102 W., sec. 13 in Wyoming (WSGS 2005b). Slope gradients within the Beartooth electrical line project area are relatively moderate, thereby reducing the likelihood that unstable soils may move.

3.2 Air Quality

The project area is designated as a Class II airshed under federal and state air quality regulations (BLM 1983). Within this airshed, air quality meets federal and state Class II air quality standards for nitrogen dioxide (NO₂), carbon monoxide (CO), ozone (O₃), particulate matter with a nominal diameter less than 10 micrometers (PM₁₀), and sulfur dioxide (SO₂).

There are no Environmental Protection Agency (EPA)-listed Clean Air Act non-attainment areas within Carbon County, Montana or Park County, Wyoming (EPA 2006). Non-attainment areas exist within Montana and Wyoming (**Table 3-2**); however, these areas are not close enough in proximity to significantly affect the air quality of the project area.

| Table 3-2 Non-Attainment Areas within Montana and Wyoming | | |
|--|--|-------------------------------------|
| Pollutants | Non-attainment Areas Montana | Non-attainment Areas Wyoming |
| Sulfur Dioxide | Yellowstone County and Lewis and Clark County | |
| Carbon Monoxide | Missoula County | |
| Small particulates (<2.5 micrometers) | Lincoln County | |
| Large particulates (<10 micrometers) | Lincoln, Flathead, Lake, Missoula, Sanders, Silver Bow, and Rosebud County | Sheridan County |
| Lead | Lewis and Clark County | |

Source: EPA 2006

3.3 Water Quality

The project area is part of the Yellowstone River Basin. Major tributaries to the Yellowstone River include the Clarks Fork Yellowstone River, Bighorn River, Tongue River, and Powder River. Most water used in the basin is surface water withdrawn to irrigate fields located primarily in the river valleys and nearby areas. Surface water resources present within the project area include Silver Tip Creek and numerous ephemeral drainages located on BLM-managed public lands. Water from Silver Tip Creek flows into the Clarks Fork northeast of Belfry, Montana and then approximately 65.0 miles north to its confluence with the Yellowstone River near Laurel, Montana.

The primary aquifers in the Bighorn Basin (structural basin in which the Yellowstone River Basin is located) are unconsolidated deposits of Quaternary age and rocks of lower Tertiary, Mesozoic, and Paleozoic age. Rural residents often depend on shallow wells (less than 500 feet) that are completed in aquifers in Quaternary unconsolidated deposits or lower Tertiary consolidated sedimentary rocks. A small proportion of ground water found in both near surface and deep aquifers in the Yellowstone River Basin is used for irrigation of agricultural land and as an important source of water for livestock. Municipal water supplies consume surface and ground water in the basin, mostly for the city of Billings, Montana.

The quality of surface water and ground water in the basin is affected by natural factors and nonpoint sources such as geology and point-source contaminants such as pesticide residue.

3.4 Soils

Soils in the project area support vegetation/forage for livestock grazing and wildlife. Past soil disturbances include construction and operation of roads, oil and gas pipelines, and electrical and telephone lines. Current soil productivity varies depending on local factors such as soil depth, texture, slope, topographic aspect, and permeability in combination with grazing pressures and precipitation.

According to the Montana National Resource Conservation Service (NRCS) data (2006), 18 soil units occur within 1.0 mile of the Montana portion of the proposed electrical line (**Table 3-3**). Approximately 36 percent of this project area is composed of sandstone and soils associated with rock outcrops and hills which have slopes of ≥ 25 percent and shallow soils (10 to 20 feet). Approximately 6.5 percent of the project area consists of moderately sloped (8 to 15 percent) hills with deep soils. The remainder of the project area generally consists of gently sloping plains, alluvial fans, and stream terraces with moderately deep to deep soils. Of the 18 soils types present in the vicinity of the project area, none comprise more than 10.6 percent of the project area. The most common soil texture is moderately fine clay loams and silty clay loams (34 percent), followed by fine clay soils (28 percent), moderately coarse sandy loams (25 percent), and medium course loams (two percent). All the soils are well drained, and none of the soil types meet hydric criteria for wetlands.

There are 30 soils units within 1.0 mile of the Wyoming portion of the proposed electrical line (NRCS 2007). Details on these soil types are presented in **Table 3-3**. The four main soil types which comprise approximately 67 percent of the area are Persayo-Greybull clay loams (20.7 percent), Chipeta-Persayo-Rock outcrop complex (17.2 percent), Youngston-Uffens complex (20 percent), and Worland-Oceanet sandy loams (12.7 percent). Approximately 36 percent of the project area in Wyoming has slopes of less than 10 percent with deep soils found mostly in alluvial fan and fan remnants. The remainder of the Wyoming portion of the project area has slopes of 0 to 45 percent with moderately deep to deep soils found in hills and ridges. The most common soil texture is moderately fine clay loams (26.5 percent), followed by moderately fine to moderately coarse clay loams and fine sandy loams (24.3 percent), and fine to moderately fine silty clay and silty clay loams (21.4 percent). Ninety-six percent of the soils are well drained. Of the remaining four percent, 2.9 percent (Fluvaquents and Fluvents-Fluvaquents complex soil types) are poorly drained or somewhat poorly drained and meet hydric criteria for wetlands. These hydric soils are associated with Big Sand Coulee on private property in T. 57 N., R. 101 W., sec. 3 and 10.

| Table 3-3 Soil Types within 1.0 Mile of the Proposed Electrical Line in Montana and Wyoming | | | | | | |
|--|-----------------|----------------|-----------------|--------------|--------------------------------------|--|
| Soil Unit Type | Acreeage | Percent | Slope(%) | Depth | Texture | Description |
| Montana | | | | | | |
| Rock outcrop-Travessilla complex, steep (RM) | 1000.4 | 18.2% | 25-70 | 10-20" | Moderately Coarse | Residuum from calcareous sandstone found in plains |
| Sandstone outcrop (SA) | 597.2 | 10.9% | | | | Rock outcrop |
| Heldt silty clay loam, saline (Hw) | 583.3 | 10.6% | 0-6 | >60" | Moderately Fine | Alluvium found in alluvial fans, stream terraces |
| Midway-Travessilla association – steep (MT) | 543.0 | 9.9% | 25-45 | 10-20" | Fine | Residuum from shale found in hills on plains |
| Bowbac loam (Bc) | 439.0 | 8.0% | 4-8 | 20-40" | Moderately Fine | Fractured sandstone residuum found on plains |
| Midway-Travessilla, hilly (MR) | 435.4 | 7.9% | 15-25 | 10-20" | Fine | Residuum from shale found in hills on plains |
| Travessilla silt loam, sloping (TY) | 368.3 | 6.7% | 4-8 | 10-20" | Moderately Coarse | Residuum from calcareous sandstone found in plains |
| Torchlight clay (TW) | 358.1 | 6.5% | 8-15 | >60" | Fine | Saline alluvium found in alluvial fans |
| Heldt silty clay loam (Ht) | 248.0 | 4.5% | 2-4 | >60" | Moderately Fine | Alluvium found in alluvial fans and stream terraces |
| Allentine clay loam (At) | 210.1 | 3.8% | 2-4 | >60" | Fine | Alluvium found in valley floors |
| Colby silt loam (Cg) | 130.8 | 2.4% | 4-8 | >60" | Medium | Silty alluvium or loess found in alluvial fans and stream terraces |
| Heldt silty clay loam (Hu) | 130.8 | 2.4% | 4-8 | >60" | Moderately Fine | Alluvium found in alluvial fans, stream terraces |
| Trona ravelly silty clay loam (TV) | 125.0 | 2.3% | 2-4 | >60" | Moderately Fine | Alluvium found in stream terraces |
| Heldt silty clay loam (HS) | 114.6 | 2.1% | 0-2 | >60" | Moderately Fine | Alluvium found in alluvial fans, stream terraces |
| Haverson-Heldt silty clay loams (Hn) | 76.9 | 1.4% | 0-4 | >60" | Moderately Fine to Moderately Coarse | Loamy alluvium found in flood plains |
| Bowbac-Travessilla complex (Bm) | 76.9 | 1.4% | 4-8 | 20-40" | Moderately Fine to Moderately Coarse | Fractured sandstone residuum found in plains |
| Bowbac-Torchlight (BT) | 43.6 | 0.8% | 2-8 | 20-40" | Moderately Fine to Fine | Fractured sandstone residuum found in plains |
| Bowbac loam (Bb) | 21.1 | 0.4% | 2-4 | 20-40" | Moderately Fine | Fractured sandstone residuum found in plains |
| Total Montana | 5502.3 | 100.0% | | | | |

| Table 3-3 Soil Types within 1.0 Mile of the Proposed Electrical Line in Montana and Wyoming | | | | | | |
|--|----------------|----------------|-----------------|--------------|--------------------------------------|--|
| Soil Unit Type | Acreage | Percent | Slope(%) | Depth | Texture | Description |
| Wyoming | | | | | | |
| Persayo-Greybull clay loams (371AD) | 1270.51 | 20.7% | 0-30 | 10-20" | Moderately Fine | Residuum from shale found in hills and ridges |
| Chipeta-Persayo-Rock outcrop complex (374BE) | 1051.43 | 17.2% | 3-45 | 10-20" | Fine to Moderately Fine | Residuum from shale and/or colluvium derived from shale found in hills and ridges |
| Youngston-Uffens complex (601) | 1013.97 | 16.6% | 0-6 | >60" | Moderately Fine to Moderately Coarse | Alluvium derived from igneous, metamorphic and sedimentary rock or from sodic sandstone and shale found in hills and ridges |
| Worland-Oceanet sandy loams (372AD) | 776.91 | 12.7% | 0-30 | 10-40" | Medium Coarse | Residuum from sandstone and shale and/or alluvium from sandstone and shale found in hills and ridges |
| Stutzman silty clay loam (41A) | 283.57 | 4.6% | 0-3 | >60" | Fine | Alluvium derived from igneous, metamorphic and sedimentary rock found in alluvial fans and fan remnants |
| Wapiti-Keeline complex (342AD) | 231.44 | 3.8% | 0-30 | >60" | Moderately Coarse to Coarse | Alluvium derived from igneous, metamorphic, sedimentary, or sandstone rock and/or eolian deposits derived from igneous, metamorphic, sedimentary, or sandstone rock found in hills |
| Shingle-Thedalund-Midway complex (350) | 224.71 | 3.7% | 0-30 | 10-40" | Moderately Fine | Residuum from shale or sedimentary rock and/or alluvium from sedimentary rock found in hills and ridges |
| Wapiti gravelly sandy loam (422) | 204.55 | 3.3% | 0-60 | >60" | Coarse | Alluvium derived from igneous, metamorphic and sedimentary rock and/or eolian deposits derived from igneous, metamorphic and sedimentary rock found in hills |
| Winnett-Arvada-Ulm loams (340) | 133.03 | 2.2% | 0-10 | 20-40" | Fine to Moderately Fine | Clayey alluvium derived from shale found in hills and ridges |
| Midway-Shingle-Rock outcrop complex (377) | 126.14 | 2.1% | 0-60 | 6-20" | Fine to Moderately Fine | Residuum from shale found in hills and ridges |
| Fluvents-Fluvaquents complex (248) | 119.89 | 2.0% | 0-5 | >60" | Moderately Fine to Moderately Coarse | Alluvium derived from igneous, metamorphic and sedimentary rock found in drainages and flood plains |
| Kishona loam (37A) | 99.16 | 1.6% | 0-3 | >60" | Moderately Fine | Alluvium derived from sedimentary rock found in alluvial fans and fan remnants |

| Table 3-3 Soil Types within 1.0 Mile of the Proposed Electrical Line in Montana and Wyoming | | | | | | |
|--|-----------------|----------------|-----------------|--------------|--------------------------------------|--|
| Soil Unit Type | Acreeage | Percent | Slope(%) | Depth | Texture | Description |
| Youngston clay loam (43AC) | 90.52 | 1.5% | 0-10 | >60" | Moderately Fine to Moderately Coarse | Alluvium derived from igneous, metamorphic and sedimentary rock found in hills |
| Youngston clay loam (43A) | 73.82 | 1.2% | 0-3 | >60" | Moderately Fine to Moderately Coarse | Alluvium derived from igneous, metamorphic and sedimentary rock found in alluvial fans and fan remnants |
| Tipperary loamy sand (46AD) | 62.62 | 1.0 % | 0-20 | >60" | Coarse | Sandy eolian deposits and/or alluvium found in hills |
| Fluvaquents (5U) | 57.96 | 0.9% | 0-6 | >60" | Moderately Fine to Moderately Coarse | Alluvium derived from igneous, metamorphic and sedimentary rock found in flood plains |
| Kamm-Clapper complex (215AB) | 53.31 | 0.9% | 0-6 | >60" | Moderately Coarse to Coarse | Found in flood plains and drainageways or alluvial fans and fan remnants |
| Lostwells sandy clay loam (68B) | 44.87 | 0.7% | 3-6 | >60" | Moderately Fine to Moderately Coarse | Alluvium derived from sandstone and shale found in alluvial fans and fan remnants |
| Apron sandy loam (42AC) | 42.91 | 0.7% | 0-10 | >60" | Moderately Coarse | Alluvium derived from sandstone found in hills |
| Lostwells sandy clay loam (68A) | 41.98 | 0.7% | 0-3 | >60" | Moderately Fine to Moderately Coarse | Alluvium derived from sandstone and shale found in alluvial fans and fan remnants |
| Apron sandy loam (42B) | 30.90 | 0.5% | 3-6 | >60" | Moderately Coarse | Alluvium derived from sandstone found in alluvial fans and fan remnants |
| Kishona loam (37B) | 26.91 | 0.4% | 3-6 | >60" | Moderately Fine | Alluvium derived from sedimentary rock found in alluvial fans and fan remnants |
| Youngston clay loam (43B) | 24.20 | 0.4% | 0-10 | >60" | Moderately Fine to Moderately Coarse | Alluvium derived from igneous, metamorphic and sedimentary rock found in alluvial fans and fan remnants |
| Youngston and Lostwells soils, wet (45AB) | 16.76 | 0.3% | 0-6 | >60" | Moderately Fine to Medium | Alluvium derived from igneous, metamorphic and sedimentary rock or from sandstone and shale found in alluvial fan and fan remnants |
| Kamm loam (213A) | 9.97 | 0.2% | 0-3 | >60" | Medium to Coarse | Found in flood plains and drainageways |
| Deaver Loam (73AD) | 4.01 | 0.1% | 0-6 | 20-40" | Fine | Residuuum from shale found in hills and ridges |

| Soil Unit Type | Acreage | Percent | Slope(%) | Depth | Texture | Description |
|---------------------------------------|----------------|----------------|-----------------|--------------|---------------------------|---|
| Copeman fine sandy loam (18A) | 3.69 | 0.1% | 0-3 | >60" | Moderately Fine to Coarse | Alluvium derived from igneous, metamorphic and sedimentary rock found in alluvial fan and fan remnants |
| Stutzman silty clay loam (41B) | 1.86 | 0.0% | 3-6 | >60" | Moderately Fine | Alluvium derived from igneous, metamorphic and sedimentary rock found in alluvial fans and fan remnants |
| Keeline sandy loam (25A) | 1.57 | 0.0% | 0-3 | >60" | Moderately Coarse | Alluvium derived from sandstone and/or eolian deposits from sandstone found in alluvial fans and fan remnants |
| Torrifluvents and Torriorthents (108) | 0.74 | 0.0% | 0-90 gullied | >60" | N/A | Alluvium derived from igneous, metamorphic and sedimentary rock found in flood plains and drainageways |
| Total Wyoming | 6123.91 | 100.00% | | | | |

Source: NRCS 2007 and NRCS Montana 2006

Notes:

Data sets are 1:24,000 scale.

3.5 Vegetation

3.5.1 General Vegetation

The project area is dominated by desert shrublands and low cover grasslands. Annual precipitation averages five to nine inches in the project area. Land cover data (1:100,000 scale) from the Gap Analysis Project data from Wyoming (WY-GAP 1996) indicate that the dominant plant community types within one mile of the proposed electrical line and access roads are Wyoming big sagebrush (56 percent), desert shrub (21 percent), saltbrush fans and flats (11 percent), and irrigated cropland (11 percent). Lands classified as irrigated cropland in the project area may include some areas with riparian type tree species such as cottonwood (*Populus* spp.) or boxelder (*Acer negundo*). All irrigated cropland in the project area occurs on private land along Big Sand Coulee in T. 57 N., R. 101 W., sec. 3 and 10 and along a state ditch in T. 57 N., R. 101 W., sec. 7.

The National Land Cover Dataset for Montana (1:100,000; USGS 2000) indicates that the dominant plant community types in the portion of the project area within Montana within one mile of the proposed electrical line and access roads are shrubland (86 percent), low cover grasslands (15 percent), and croplands/pasture (one percent). Cropland or pasture is found in the northern end of the project area on private lands in T. 8 S., R. 22 E., sec. 1 and 12, along the Clarks Fork and Silver Tip ditch. Vegetation cover types from both datasets are described in **Table 3-4**.

3.5.2 Non-native Invasive Species and Noxious Weeds

In recognition of the economic and ecological impacts of weeds, the States of Wyoming and Montana have passed designated county and state weed lists (Wyoming Weed and Pest Council 2006, Montana Noxious Weed Program 2005). Noxious and/or invasive species which could potentially occur within the project area or near the proposed Chance Substation and access roads are presented in **Table 3-5**. Montana's weed species are categorized as either 1 or 2. Category 1 noxious weeds are currently established within Carbon County and are generally widespread in many counties of the state. Management criteria include awareness and education, containment, suppression of existing infestations, and prevention of new infestations. These weeds are capable of rapid spread and render land unfit or greatly limit beneficial uses. Category 2 noxious weeds have recently been introduced into the county or are rapidly spreading from their current infestation sites.

| Table 3-4 Land Cover Data from the Gap Analysis Project in Wyoming and Montana | | | | |
|---|------------------------------|----------------|----------------------|---|
| State | Vegetation cover type | Acres* | %Project Area | Description |
| Wyoming | Wyoming big sagebrush | 3,459.6 | 56.4% | Wyoming big sagebrush (<i>Artemisia tridentata</i> ssp. <i>Wyomingensis</i>) comprises more than 25 percent of the total vegetative cover. Areas with mixed grasses are classified as Wyoming big sagebrush if the sagebrush patches occupy more than 50 percent of the total ground cover |
| Wyoming | Desert shrub | 1,298.6 | 21.2% | Shrub cover is dominated by Shadscale saltbrush (<i>Atriplex confertifolia</i>) but can be a mixture of Gardner's saltbush (<i>Atriplex gardneri</i>), black greasewood (<i>Sarcobatus vermiculatus</i>), and/or desert cushion plants (<i>Aster brachyactis</i>). |
| Wyoming | Saltbrush fans and flats | 694.4 | 11.3% | This vegetation type occurs in areas where Gardner's saltbush (<i>Atriplex gardneri</i>) comprises more than 75 percent of the total vegetative cover. These relatively pure saltbush stands are often sparsely vegetated with bare soil constituting most of the land surface. |
| Wyoming | Irrigated Crop | 679.4 | 11.1% | Row crops, irrigated pastureland, and hayfields and associated farm or ranch facilities and shelter belts. Throughout the state near riparian zones and on alluvial plains of lowlands. |
| | Total Wyoming | 6,132.1 | 100.0% | |
| Montana | Shrubland | 7000.8 | 84.2% | Shrubland - Areas dominated by shrubs; shrub canopy accounts for 25 to 100 percent of the cover. Shrub cover is generally greater than 25 percent when tree cover is less than 25 percent. Shrub cover may be less than 25 percent in cases when the cover of other life forms (e.g. herbaceous or tree) is less than 25 percent and shrub cover exceeds the cover of the other life forms. |
| Montana | Grasslands/Herbaceous | 1219.7 | 14.7% | Grasslands/Herbaceous - Areas dominated by upland grasses and forbs. In rare cases, herbaceous cover is less than 25 percent, but exceeds the combined cover of the woody species present. These areas are not subject to intensive management, but they are often utilized for grazing. |
| Montana | Pasture/Hay | 65.3 | 0.8% | Pasture/Hay - Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops. |
| Montana | Row Crops | 13.1 | 0.2% | Row Crops - Areas used for the production of crops, such as corn, soybeans, vegetables, tobacco, and cotton. |
| Montana | Small Grains | 19.8 | 0.2% | Areas used for the production of graminoid crops such as wheat, barley, oats, and rice. |
| | Total Montana | 8,319 | 100% | |

Source: Fisher et al.1998; USGS 2000; WY-GAP 1996

Notes:

GAP data is 1:100,000 scale. Acreage is based on a one-mile buffer around the proposed Beartooth electrical line and temporary access road.

| Location | Common Name | Scientific Name | Category |
|----------------------|---------------------------------|---|-----------------|
| Carbon County, MT | Canada Thistle | <i>Cirsium arvense</i> | 1 |
| | Field Bindweed | <i>Convolvulus arvensis</i> | 1 |
| | Whitetop or Hoary Cress | <i>Cardaria draba</i> | 1 |
| | Leafy Spurge | <i>Euphorbia esula</i> | 1 |
| | Russian Knapweed | <i>Centaurea repens</i> | 1 |
| | Spotted Knapweed | <i>Centaurea maculosa</i> | 1 |
| | Dalmatian Toadflax | <i>Linaria dalmatica</i> | 1 |
| | Sulfur (Erect) Cinquefoil | <i>Potentilla recta</i> | 1 |
| | Common tansy | <i>Tanacetum vulgare</i> | 1 |
| | Ox-eye Daisy | <i>Chrysanthemum leucanthemum</i> L. | 1 |
| | Houndstongue | <i>Cynoglossum officinale</i> L. | 1 |
| | Yellow toadflax | <i>Linaria vulgaris</i> | 1 |
| | Purple Loosestrife [Lythrum] | <i>Lythrum salicaria</i> , <i>L. virgatum</i> | 2 |
| | Tall Buttercup | <i>Ranunculus acris</i> L. | 2 |
| Tamarisk [Saltcedar] | <i>Tamarix</i> spp. | 2 | |
| Park County, WY | Black henbane | <i>Hyoscyamus niger</i> L. | |
| | Bull thistle | <i>Cirsium vulgare</i> (Savi) Tenore | |
| | Common mullein | <i>Verbascum Thapsus</i> | |
| | Flixweed | <i>Descurainia sophia</i> | |
| | Redstem filaree | <i>Erodium cicutarium</i> (L.) L'Her. Ex Ait. | |
| | Showy Milkweed | <i>Asclepias speciosa</i> | |
| | Chicory | <i>Cichorium intybus</i> | |
| | Lanceleaf Sage | <i>Salvia reflexa</i> | |

Park County, WY data source: Wyoming Weed and Pest Council 2006

Carbon County, MT data source: Montana Noxious Weed Program 2005

3.5.3 Threatened, Endangered, and Sensitive Species

There are four federally listed threatened and endangered plant species that have been documented in Wyoming and Montana: blowout penstemon (*Penstemon haydenii*), Ute ladies'-tresses (*Spiranthes diluvialis*), water howellia (*Howellia aquatalis*), and Spalding's catchfly (*Silene spaldingii*); however, there are no documented populations within the project area. The nearest known population of blowout penstemon is southern Wyoming (Carbon County). Potential habitat for blowout penstemon consists of sandy aprons or the lower half of steep sandy slopes deposited at the base of granitic or sedimentary mountains or ridges (Fertig 2001). The nearest known populations of Ute ladies'-tresses are southwestern Montana (Beaverhead, Broadwater, Gallatin, Jefferson, and Madison Counties), and eastern Wyoming (Converse, Goshen, Laramie, and Niobrara Counties) (Fertig et al. 2005). Potential habitat for Ute ladies'-tresses consists of moist to very wet meadows along streams or stream meanders in areas below 7,000 feet in elevation that retain ample groundwater. Water howellia is a Pacific Northwest endemic found in western Montana (Swan Valley in Lake and Missoula Counties). Potential habitat for water howellia consists of small vernal wetlands with firmly consolidated bottoms including shallow, low-elevation glacial pothole ponds and former river oxbows with margins of deciduous trees and shrubs. Spalding's catchfly is restricted to remnants of the Palouse Prairie grasslands found in northwestern Montana (Flathead, Lake, Lincoln, and Sanders counties; MNHP 2007). These mesic grasslands in Montana are usually associated with rough fescue, Richardson's needlegrass and Idaho fescue (MNHP 2007).

Four additional plant species potentially present within Park County, Wyoming, and 24 plant species in Carbon County, Montana, have been designated as "sensitive species" by the BLM. These species and habitat types in which they are found are listed in Table 3-6. Review of the documented habitat requirements of each of these species suggests that no potential habitat for any of the species is contained within the Beartooth electrical line project area.

| Species Common Name | Scientific Name | Habitat |
|-------------------------------------|---|--|
| Persistent sepal yellowcress | <i>Rorippa calycina</i> (Engelm.) Rydb. | Riverbanks and shorelines, usually on sandy soils near the high water line between 4,300 to 6,800 feet in elevation. Documented in Park County, but not Carbon County. |
| Evert' s Wafer Parsnip | <i>Cymopterus evertii</i> | Course volcanic soils or sandstone outcrops dominated by cushion plants or sparse shrublands in openings with juniper at 5,900 to to 9,000 feet |
| Absaroka Beardtongue | <i>Penstemon absarokensis</i> | Sparsely vegetated openings on steep slopes of loose volcanic rubble or dry volcanic rock outcrops 5,920 to 10,000 feet |
| Shoshonea | <i>Shoshonea pulvinata</i> | Shallow, stony calcareous soils of exposed limestone outcrops, ridgetops, and talus slopes at 5,900 to 9,200 feet |
| Musk-root | <i>Adoxa moschatellina</i> | Vernally moist places in the mountains at the bottom of undisturbed, open rock slides that have cold air drainage |
| Daggett rock cress | <i>Arabis demissa</i> | Pryor Mtn foothills in canyon bottoms and outwash plains with dry, stony soils derived from limestone |
| Sweetwater milkvetch | <i>Astragalus aretioides</i> | Regional endemic from Pryor Mtns. Exposed ridges and slopes in foothills. Soils usually derived from limestone or calcareous sandstone. |
| Geyer's milkvetch | <i>Astragalus geyeri</i> | Sandy soils on alluvial plains and terraces |
| Gray's milkvetch | <i>Astragalus grayi</i> | Open soil in sagebrush steppe in valley zone. |
| Wind River milkvetch | <i>Astragalus oregonus</i> | Areas of sparse vegetation on sandy soil, usually on Chugwater formation. |
| Obscure evening-primrose | <i>Camissonia andina</i> | Exposed sandy soil of dry prairie slopes, flats, depressions, in moist swales on south facing slopes and in sagebrush |
| Small camissonia | <i>Camissonia parvula</i> | Sandy soil from calcareous sandstone between juniper woodland and sagebrush steppe |
| Yellow bee plant | <i>Cleome lutea</i> | Open, often sandy soil in sagebrush steppe in valleys |
| Smooth buckwheat | <i>Eriogonum salsuginosum</i> | On bentonite in dry, open slopes of breaklands |
| Spiny hopsage | <i>Grayia spinosa</i> | Dry alkaline soils in desert shrubland of valleys |
| Beartooth large-flowered goldenweed | <i>Haplopappus carthamoides</i> var. <i>subsquarrosus</i> | Grassland and sagebrush habitats dominated by Idaho fescue and bluebunch wheatgrass on moderate to steep slopes |
| Prostrate hutchensia | <i>Hutchinsia procumbens</i> | Vernally moist, alkaline soil of sagebrush steppe in valley to lower montane zone |
| Simple bog sedge | <i>Kobresia simpliciuscula</i> | Moist tundra in alpine zone |

| Table 3-6 Park County, WY, and Carbon County, MT, Sensitive Vegetation Species and Their Habitat Requirements | | |
|--|----------------------------------|---|
| Species Common Name | Scientific Name | Habitat |
| Mat prickly phlox | <i>Leptodactylon caespitosum</i> | Chugwater Formation, Pryor Mountain foothills on north or east facing slopes in dry open sandy breaks. |
| Pryor Mountain bladderpod | <i>Lesquerella lesicii</i> | Pryor Mountains in sparse juniper-mountain mahogany woodland or bluebunch wheatgrass/cushion plant fell field |
| Torrey's desert dandelion | <i>Malacothrix torreyi</i> | South side of Pryor Mountains. Prefers sandy alluvium |
| Dwarf mentzelia | <i>Mentzelia pumila</i> | Open, usually sandy soil in desert shrubland and woodland in the valley and foothills zone. |
| Leafy nama | <i>Nama densum</i> | Southern base of Pryor Mtns, sandy soils weathered from outcrops of calcareous sandstone. |
| Short-leaved bluegrass | <i>Poa curta</i> | Sparsely vegetated soil of Douglas fir forest floor in montane zone. |
| Platte cinquefoil | <i>Potentilla plattensis</i> | Grasslands and sagebrush steppe in valley and montane zones |
| Mealy primrose | <i>Primula incana</i> | Saturated calcareous wetlands |
| Wyoming sullivantia | <i>Sullivantia hapemanii</i> | Calcareous rock walls and boulders at springs, waterfalls and streambanks, usually north facing foothills to montane zone, in deep shade. |
| Meadow pennycress | <i>Thlaspi parviflorum</i> | Mid elevations grassland to alpine turf. Mountain big sagebrush steppe. |

Compiled from the BLM Wyoming Sensitive Species Policy and List for the CYFO (BLM 2002), the 2005 Montana/Dakotas Special Status Plant Species Policy and List for the BIFO (BLM 2005), and USGS 2006.

3.5.4 Floodplains, Riparian, and Wetland Species

Riverine or wetland habitat for wildlife within the project area is mostly limited to Silver Tip Creek and Big Sand Coulee, both of which have artificially produced water flows due to irrigation projects or gas and oil industry by-product water. Riparian type species in these areas include occasional cottonwood trees, greasewood, tamarisk, and herbaceous wetland obligate plants. The floodplains of Silvertip Creek and Big Sand Coulee occur on private property in the project area and are used as irrigated crop or pasture land as indicated above.

3.6 Wildlife

Habitat within the Beartooth electrical line corridor could support a variety of vertebrate species including big game and small mammal species, raptors and owls, landbirds, waterbirds, amphibians, and fish. Endangered, Threatened, and Sensitive species are specifically discussed in Section 3.6.1.

Big game species in the general area of the Proposed Action consist of mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), and pronghorn antelope (*Antilocapra americana*). Big game habitat ranges within the project area are designated as "yearlong" for mule deer in Wyoming and Montana and for antelope in Wyoming. There is an absence of

significant elk and white-tail deer habitat in both states according to the Wyoming Game and Fish Department (WGFD) data (WGFD 2003) and Montana Fish, Wildlife & Parks data (2004).

Large mammalian predators with the potential for occurrence in the general area include: coyote (*Canus latrans*), bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), and black bear (*Ursus americanus*) (Cerovski et al. 2004), though no important foraging or cover habitats for these species are found in the project area.

Small mammals with the potential for occurrence in the project area include: jackrabbit (*Lepus townsendii*), cottontail rabbit (*Sylvilagus audubonii*), porcupine (*Erethizon dorsatum*), raccoon (*Procyon lotor*), western spotted skunk (*Spilogale gracilis*), badger (*Taxidea taxus*), thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*), yellow-bellied marmot (*Marmota flaviventris*), golden-mantled ground squirrel (*Spermophilus lateralis*), western jumping mouse (*Zapus princeps*) mice (*Peromyscus spp.*), shrew (*Sorex spp.*), and vole (*Microtus longicaudus*). Bat species (sensitive species not included) with potential for occurrence include: little brown myotis (*Myotis lucifugus*), long-legged myotis (*Myotis volans*), silver-haired bat (*Lasionycteris noctivagans*) (Cerovski et al. 2004).

There are no known raptor nest sites located within 0.5 miles of the proposed electrical line corridor in Wyoming (Saville 2007). Raptors and owls with the potential for occurrence in the vicinity of the project include: bald eagle (*Haliaeetus leucocophalus*), golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyaneus*), prairie falcon (*Falco mexicanus*), peregrine falcon (*Falco peregrinus*), merlin (*Falco columbarius*), American kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), long-eared owl (*Asio otus*), common barn owl (*Tyto alba*), western screech owl (*Otus kennicottii*), great horned owl (*Bubo virginianus*), short-eared owl (*Asio flammeus*), and burrowing owl (*Athene cunicularia*) (Cerovski et al. 2004).

Game birds with the potential for occurrence in the general area include: gray partridge (*Perdix perdix*), chukar (*Alectoris chukar*), ring-necked pheasant (*Phasianus colchicus*), and greater sage-grouse (*Centrocercus urophasianus*). Of these four species, only the greater sage-grouse and chukar are known to occur within the project area. There are four greater sage-grouse leks within approximately 2.0 miles of the proposed corridor in Montana and Wyoming. Details on the leks are summarized in **Table 3-7**. Lek locations are presented graphically in relation to the proposed electrical line in **Figure 3-1**.

The number and diversity of landbird species in the project area varies by season and habitat. Various bird species may breed in the vicinity of the project area including: horned lark (*Eremophila alpestris*), killdeer (*Charadrium vociferus*), spotted sandpiper (*Actitis macularia*), common nighthawk (*Chordeiles minor*), common raven (*Corvus corax*), western meadowlark (*Sturnella neglecta*), chestnut-collared longspur (*Calcarius ornatus*), vesper sparrow (*Pooecetes gramineus*), lark bunting (*Chondestes grammacus*), Brewer's blackbird (*Euphagus cyanocephalus*), black-billed magpie (*Pica pica*), and lark sparrow (*Chondestes grammacus*) (Sauer et al. 2005).

| State | Lek | Status | Comments |
|--------------|--------------------------|---------------|---|
| Wyoming | Section 30, T58N-R100W | Active | Average 20 to 30 males attending lek over past 3 years. Lek is approximately 0.4 mile away and is blocked by ridge from line of sight. |
| Wyoming | Section 25/26 T58N-R101W | Active | This lek attendance counts have not been adequate to provide a good estimate of use. Lek is approximately 1.1 mile away and is blocked by ridge from line of sight. |
| Montana | Section 20, T8S-R23E | Active | 24 males attending lek in 2006. Lek is 1.0 mile away and is in line of sight. |
| Montana | Section 11, T9S-R22E | Active | 29 males attending lek in 2006. Lek is 2.0 miles away and blocked by ridge from line of sight. |

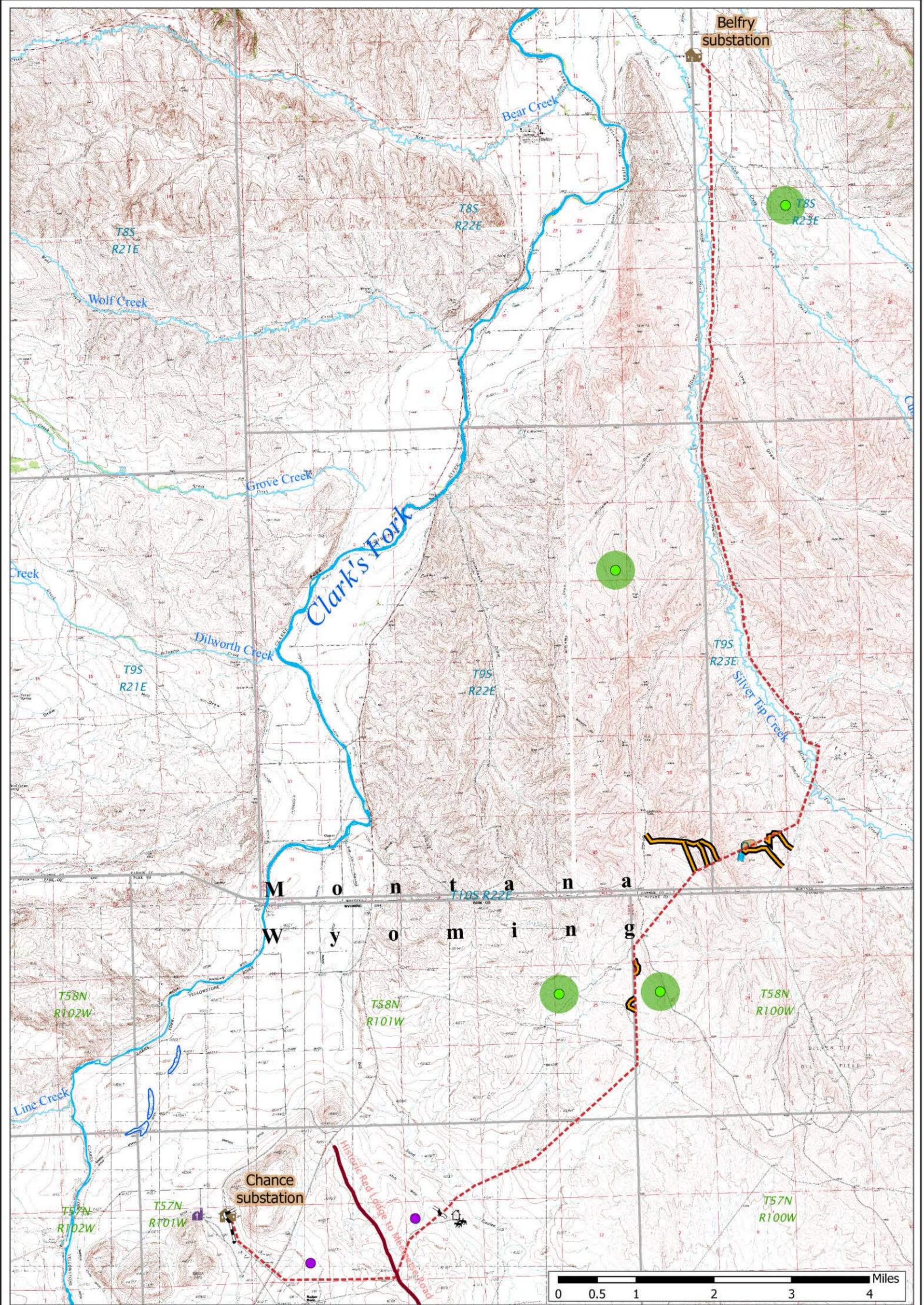
Source: Wyoming: Saville 2007 and Montana: Stewart 2007

Riverine or wetland habitat for wildlife within the project area is limited to Silvertip Creek and Big Sand Coulee, both of which have artificially produced water flows due to irrigation projects or gas and oil industry by-product water. Waterfowl and waterbirds that could potentially occur in the project area and vicinity include: Canada goose (*Branta Canadensis*), wood duck (*Aix sponsa*), gadwall (*Anas strepera*), American wigeon (*Anas americana*), mallard (*Anas platyrhynchos*), blue-winged teal (*Anas discors*), cinnamon teal (*Anas cyanoptera*), northern shoveler (*Anas clypeata*), northern pintail (*Anas acuta*), green-winged teal (*Anas crecca*), redhead (*Aythya Americana*), ring-necked duck (*Aythya collaris*), lesser scaup (*Aythya affinis*), bufflehead (*Bucephala albeola*), Barrow's goldeneye (*Bucephala clangula*), common merganser (*Mergus merganser*), ruddy duck (*Oxyura jamaicensis*), horned grebe (*Podiceps auritus*), eared grebe (*Podiceps nigricollis*), American coot (*Fulica americana*), western grebe (*Aechmophorus occidentalis*), and great blue heron (*Ardea herodias*) (Cerovski et al. 2004).

Amphibians and fish with the potential for occurrence in the project area include: tiger salamander (*Ambystoma tigrinum*), Columbia spotted frog (*Rana luteiventris*), boreal chorus frog (*Pseudacris maculate*), Woodhouse's toad (*Bufo woodhousii*), greater short-horned lizard (*Phrynosoma hernandesi*), rubber boa (*Charina bottae*), intermountain wandering gartersnake (*Thamnophis sirtalis parietalis*), and prairie rattlesnake (*Crotalus viridis viridis*) (Cerovski et al. 2004).

3.6.1 Threatened, Endangered, and Sensitive Species

Federally listed Threatened, Endangered, proposed, or candidate animal species that are considered potentially present in Park County, Wyoming and Carbon County, Montana within the project area are discussed below.



- - - proposed electrical line
- - - Historic Badger Ditch
- - - proposed access route
- active sage grouse lek
- sage grouse lek No Surface Occupancy (NSO) .25 mile
- white-tailed prairie dog town
- - - proposed culvert
- - - wetland
- - - stream
- - - river
- substation
- church
- Mount Carmel Youth Ranch

**Belfry to Clark Electrical 69 kV
 Transmission Line Project**
*BLM Case File No WYW-16298
 and No MTM-95236*
 Park County, Wyoming and Carbon County, Montana

Detailed maps are available from the Cody Field Office

Figure 3-1



Projection:
NAD 1983, UTM Zone 12 North



Bald eagles (*Haliaeetus leucocephalus*) are listed as federally Threatened, and are found throughout Wyoming and Montana, especially during winter months. No bald eagle nests or winter roost areas have been identified within or adjacent to the project area. Suitable nesting habitat, including large trees within mature and old growth forested areas adjacent to large bodies of water or rivers, is not present in the capacity needed to support bald eagle presence along the proposed electrical line route. Bald eagles could sporadically use the project area for winter foraging, but would be unlikely to frequent the project area other than for brief periods.

Black-footed ferrets (*Mustella nigripes*), listed as federally Endangered, are considered obligate associates to prairie dogs, which constitute their primary food source and provide burrows for shelter. There are two active white-tailed prairie dog colonies within the project area. The largest colony is approximately 30 to 50 acres in size and is bisected by a county road (Mundinger 2005). The proposed electric line would bisect the colony in the T. 57 N., R. 101 W., sec. 10 NW1/4 within Park County. A second very small colony with only a few individuals is found in T. 57 N., R. 101 W., sec. 8, and would not be affected by the electrical line. These areas of potential black-footed ferret habitat do not meet certain U.S. Fish and Wildlife Service (USFWS) criteria and so have been block cleared for ferret surveys. Furthermore, black-footed ferrets have not been documented in or near the proposed electrical line corridor.

Gray wolves (*Canis lupus*), **Canada lynx** (*Lynx canadensis*), and **grizzly bears** (*Ursus arctos horribilis*) are listed as federally Threatened and could potentially occur within the project area. Such occurrences are highly unlikely and, if they are observed, these species are expected to move on through the area in a brief time period. No important foraging or cover habitat for these species is found in the project area.

Sensitive wildlife species potentially present along the proposed Beartooth electrical route, as well as the habitat in which they are found are listed in **Table 3-8**. Several other sensitive species are listed in the Wyoming Natural Diversity Database (WYNDD) and Montana Natural Heritage Program (MNHP) database for potential occurrence within the general area; however, potentially suitable habitat within the proposed Beartooth electrical line project area could occur for only those species contained in the table below. This does not imply that all of these species would occur along the electrical line ROW, but suggests that some potential habitat may occur in the project area. Sensitive wildlife species with known occurrences within the project area are greater sage-grouse, mountain plover, and white-tailed prairie dogs.

Of these sensitive species, greater sage-grouse, mountain plover, and long-billed curlews are notable in that they are protected by seasonal restrictions. BLM Timing Limitation Stipulations (TLS) and No Surface Occupancy (NSO) are used to avoid deleterious effects on these species while they are strutting, nesting, and/or rearing young. Specific habitat features (nest sites, lek sites) may also be protected from disturbing or disruptive activities by stipulations. In addition to these sensitive species, all raptors with known nest sites are protected by seasonal restrictions.

| Table 3-8 Sensitive Wildlife Species with Potential Habitat in the Project Area Based on Habitat Requirements | | |
|--|--|--|
| Species Name | Habitat Preference | Potential for Occurrence in Project Area |
| MAMMALS | | |
| Townsend's big-eared bat <i>Cotynorhinus townsendii</i> | Forests, basin-prairie shrub, caves, and mines | Limited |
| White-tailed prairie dog <i>Cynomys leucurus</i> | Basin-prairie shrub, grasslands | Documented Species active in T. 57 N., R. 101 W. sec. 10, and T. 57 N., R. 101 W. sec. 8 |
| Black-tailed prairie dog <i>Cynomys ludovicianus</i> | Shortgrass prairie | Limited |
| Spotted bat <i>Euderma maetflatum</i> | Cliffs over perennial water, basin prairie shrub | Limited |
| Western small-footed myotis <i>Myotis evotis</i> | Montane forests, sage steppes, and shortgrass prairie. | Limited |
| Swift fox <i>Vulpes velox</i> | Grasslands | Limited |
| BIRDS | | |
| Burrowing owl <i>Athene cunicularia</i> | Grasslands, basin-prairie shrub | Moderate |
| Baird's sparrow <i>Ammodramus bairdii</i> | Grasslands, weedy fields | Limited |
| Sage sparrow <i>Amphispiza belli</i> | Basin-prairie shrub, mountain-foothill shrub | Moderate |
| Ferruginous hawk <i>Buteo Regalis</i> | Basin-prairie shrub, grassland, rock outcrops | Moderate |
| Greater sage-grouse <i>Centrocercus urophasianus</i> | Basin-prairie shrub, mountain-foothill shrub | Documented. See Table 3-7. |
| Mountain plover <i>Charadrius montanus</i> | Sparsely vegetated grasslands, Basin-prairie, prairie dog colonies | Moderate. Observed in white-tailed prairie dog colonies. |
| Peregrine falcon <i>Falco peregrinus</i> | Tall cliffs, limestone | Limited |
| Loggerhead shrike <i>Lanius ludovicianus</i> | Basin-prairie shrub, mountain-foothill shrub | Moderate |
| Long-billed curlew <i>Numenius americanus</i> | Grasslands, plains, foothills, wet meadows | Limited |
| Sage thrasher <i>Oreoscoptes montanus</i> | Basin-prairie shrub, mountain-foothill shrub | Moderate |
| Brewer's sparrow <i>Spizella breweri</i> | Basin-prairie shrub | Moderate |
| FISH | | |
| Yellowstone cutthroat trout <i>Oncorhynchus clarki bouvieri</i> | Yellowstone drainage, small mountain streams and large rivers | None |
| AMPHIBIANS | | |
| Boreal toad <i>Bufo boreas</i> | Pond margins, wet meadows, riparian | Limited |
| Northern leopard frog <i>Rana pipiens</i> | Beaver ponds, permanent water in plains and foothills | Limited |
| Spotted frog <i>Ranus pretiosa (lutiventris)</i> | Ponds, sloughs, small streams | Limited |

Data compiled from the BLM Wyoming Sensitive Species Policy and List (2002) for the CYFO; species that do not occur within project habitat have been omitted.

3.7 Cultural/Historical Resources

Cultural resource investigations of the electrical line ROW and access roads were undertaken to locate, identify, and document cultural resources that might be affected within the 100 foot corridor of the proposed electrical line and access roads, and to provide recommendations on eligibility for listing in the National Register of Historic Places (NRHP), in accordance with Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-665) and as specified in Title 36 of the Code of Federal Regulations.

A Class III cultural resource inventory survey was conducted for the Proposed Action between June 28, 2005 and August 3, 2005. Reports for the investigations and findings in Wyoming (Greystone 2005a) and Montana (Greystone 2005b) are described below and are on file at the CYFO. File searches were conducted through the State Historic Preservation Offices (SHPO) in Montana and Wyoming for information related to the known status of resources within the project area. SHPO file searches indicated that 10 cultural resource investigations had previously been performed within the specified legal sections on BLM-managed lands within Wyoming. Records indicated that 22 investigations had been conducted within the specified legal sections on BLM-managed lands within Montana. Projects associated with the previous investigations included pipelines, transmission lines, road construction, reservoirs, seismic field surveys, oil and gas development, prescribed burns, rock art surveys, and a few miscellaneous other types.

3.7.1 Survey Results

The Class III cultural resource inventory survey conducted for the Proposed Action documented three new isolated finds and three previously recorded sites along the electrical line and access road corridors within the project area in Wyoming. The isolated finds do not qualify for NRHP eligibility. The three previously recorded sites in Wyoming include the historic Red Lodge to Meeteetse Road (Site 48PA644), an historic oil field (Site 48PA1023), and the historic Badger Ditch (Site 48PA1343). These historic sites are either crossed or paralleled by the proposed electrical line (see **Figure 3-1**). Two of these three sites, the historic Red Lodge to Meeteetse Road and the historic Badger Ditch, are eligible for listing in the NRHP though segments of the road and ditch have been recommended to be non-contributing portions of the eligible sites (Greystone 2005a).

Three new sites and two new isolated finds were documented along the electrical line and access road corridors within the project area in Montana. Of the three new sites, one is a prehistoric open campsite with a partially intact hearth feature and potential for additional buried cultural deposits. This site (24CB1967) is also eligible for listing in the NRHP. The other two sites -an historic debris scatter (24CB1965) and a severely eroded prehistoric open campsite (24CB1966) - are recommended as not eligible for the NRHP. The two isolated finds do not qualify for NRHP eligibility (Greystone 2005b).

3.8 Visual Resources

Human modifications to the project area include gas wells, bladed and two-track roads, power and telephone lines, water impoundments, fences, grazing improvements, and residential

communities. The electrical line corridor transects two Visual Resource Management Classes (VRM II and III) on BLM-administered properties in Wyoming. These classes determine the allowable modification to the basic elements of the landscape that would meet existing management guidance for visual resources. Allowable changes for each class, as outlined in the Cody RMP ROD (BLM 1990), are the following:

- Class II: Changes in any of the basic elements caused by management activity should not be evident in the characteristic landscape. Contrasts can be seen, but must not attract attention;
- Class III: Changes to the basic elements caused by a management activity are evident but should remain subordinate to the existing landscape

The transmission line and access road ROW area in Montana was determined to fit the VRM Class III definition although no official visual resource inventory or management classification has been completed for the area (Anderson 2006). Class III level, as outlined above, indicates that change to the characteristic landscape should be moderate (BLM 2006a).

3.9 Recreation/Wilderness/Areas of Critical Environmental Concern

The proposed electrical line would not cross any Congressionally-designated Wilderness, Wilderness Study Areas (WSA), Areas of Critical Environmental Concern (ACEC) or wild and scenic rivers in Montana or Wyoming. Dispersed recreation activity in the vicinity of the project area on public lands consists mostly of hunting in the fall, horseback riding, and sightseeing.

3.10 Access

Access to the project ROW would be primarily by state highway, county, local, and primitive roads. Major roads in the project area are Montana Highway 72, Dutch Lane, and Silver Tip Road in Montana and Highway 120, Park County Highway 1AF in Wyoming.

Along the project corridor, approximately 10 existing two-track or improved roads intersect the electrical line ROW. Access to the ROW during electrical line construction would be from one of the existing adjacent state/county intersecting roads and/or one of the five proposed two-track roads. Three of the five proposed access roads in Montana are existing roads, but will require upgrades. The other two roads proposed in Wyoming would represent new surface disturbance. The existing access road to the Chance Substation would be located on both private lands and public lands managed by BLM.

3.11 Land and Realty Authorizations

Existing Land and Realty authorizations within 200 feet of the proposed Beartooth electrical line or access roads on BLM managed public lands are included in **Table 3-9**.

| Identification | Holder and Point of Contact | Description |
|-----------------------|--|---|
| WYW84709 | Beartooth Electric | 7.2 kV powerline, 20 feet wide |
| WYW56509 | Park County Road | ROW 60 feet wide |
| WYW 84641 | Project Telephone | Buried phone cable, 20 feet wide |
| WYW 068708 | WY-DOT | State Highway variable width approximately 200 to 300 feet wide |
| WYW49444 | Big Horn Basin Gathering | 4 inch Natural gas pipeline, 50 feet wide |
| MTM 0783 | Northwestern Corp. | 12 inch Natural gas pipeline, 50 feet wide |
| MTM 2549 | Williston Basin Pipeline Co. | 12 inch Natural gas pipeline, 50 feet wide |
| MTBIL 038165 | Williston Basin Pipeline Co. | 4 inch Natural gas pipeline, 50 feet wide |
| MTBIL 042099 | Exxon Mobil Corp. | 12 inch Natural gas pipeline, 50 feet wide |
| MTM 57952 | Anadarko Petroleum Corp. | 4 inch Natural gas pipeline, 50 feet wide |
| MTM 90635 | Fidelity Exploration and Production Company. | 4 inch Natural gas pipeline, 50 feet wide |
| MTM 48583 | Northwestern Corp. | 50 kV powerline, 60 feet wide |

3.12 Livestock / Range

The five grazing allotments that include portions of the proposed electrical line corridor are listed in **Table 3-10**. Livestock likely would be present in the area during project operations. Improvements associated with these BLM-administered allotments include water wells, stock water ponds or reservoirs, and fences. Some of these improvements are within the 50-100 foot corridor of the proposed electrical line.

| Allotment Name | Allotment Number | Avg. AUM per acre | Allotment Description |
|-----------------------|-------------------------|--------------------------|--|
| State Line | 01003 | NA | Elk Basin, WY Cattle. Two pasture deferred grazing season (½ spring, ½ summer and fall) |
| Clark | 01076 | NA | East Highway, WY Cattle. Three pasture deferred grazing season |
| Clark's Fork | 01075 | | Clark's Fork, WY Cattle. Alternate grazing rotation |
| Cub Creek | 5202 | 0.08 | Cub Creek, MT Cattle. 5 pasture rest rotation system. |
| Williams Basin | 5210 | 0.07 | Williams Draw, MT Cattle. 4 pasture rest rotation system. |

The project area is currently subject to drought conditions and has been for the last decade. A shortened growing season, decrease in current year forage production, continued stress on shrubs, and lack of water are major concerns.

3.13 Native American Religious Concerns

No sacred sites, as defined and protected by Executive Order 13007, are known to exist within the project area according to records from the BLM and the Wyoming and Montana SHPOs based on a search of the records. Also, no sites potentially eligible for the National Register as Traditional Cultural Properties are on record with these agencies for the area within the project boundaries.

3.14 Prime and Unique Farmlands

The Haverson-Heldt silty clay loams soil type, which occurs along Silver Tip Creek, is considered farmland of statewide importance in Montana. This soil type comprises approximately one percent of the 1.0-mile project area (12 acres or 8 percent of the proposed 100 foot ROW area) in Montana (Rolfes 2007). While this soil type is known to support farmland, none of the public lands in the project area are currently involved in agricultural production or irrigation.

There are no prime and unique farmlands in Park County, Wyoming (Bayley 2007). The proposed electric line corridor crosses approximately 14 acres of irrigated cropland in Wyoming, according to 1996 WY-GAP data analysis. These lands occur on private land along Big Sand Coulee in T. 57 N., R. 101 W., sec. 3 and 10, and along a state ditch in T. 57 N., R. 101 W., sec. 7.

3.15 Waste

Beartooth will comply with all applicable federal, state, and local laws and regulations existing or hereinafter enacted or promulgated regarding toxic or hazardous material that will be used, produced, transported, or stored on or within the ROW or used in construction, operation, maintenance, or termination of the ROW or any of its facilities.

Some incidental waste and waste material (packaging and containers for food and drinks, waste material from construction process, and survey marking material) would be generated during construction of the electrical line. Beartooth has made an operation commitment in their POD to remove project debris as operations progress, so no materials should remain behind the project as planned.

3.16 Socio-Economic Considerations

The proposed Beartooth electrical line is located in Park County, Wyoming, and Carbon County, Montana. Oil and gas exploration and production, as well as ranching, tourism, agriculture, and recreational activities are the main economic activities in these counties.

Park County

According to U.S. Census Bureau (USCB) records, the estimated population of Park County was 26,664 in 2005. This represents a 3.4 percent increase between April 1, 2000 and July 1, 2005. Park County demographics for 2005 indicate that it is 98.1 percent white and 51.1 percent female, with a median age of 39.8 years (USCB 2005). There are four incorporated towns/cities in Park County, which account for 45 percent of the population of the county. Cody is the largest of these communities at 9,100 residents and is the county seat. The remaining 55 percent of the county population is found in rural areas and unincorporated towns. The town nearest the proposed electrical line in Wyoming is Clark, a unincorporated community with a population of 300 to 350 residents. Clark is located approximately 30 miles north of Cody.

Median household income in Park County in 2003 was \$38,720 (USCB 2005). In 2000, the largest employment sectors were Services and Professional (58 percent) and Government (19 percent). Mining and farming/agricultural services accounted for 3.2 and 7.0 percent of county employment, respectively (WDAI 2002).

Oil and gas exploration and production are more characteristic east of the electrical line near Elk Basin. Private home development in the form of ranchettes or subdivisions is characteristic west of the proposed electrical line in Wyoming. Ranching occurs along the electrical ROW route, and farming operations are conducted west of Highway 120.

Carbon County

According to U.S. Census records, the estimated population of Carbon County was 9,902 in 2005. This represents a 3.7 percent increase between April 1, 2000 and July 1, 2005. (USCB 2005). Carbon County demographics indicate that that it is 98.4 percent white and 49.8 percent female with a median age of 41.9 years (USCB 2005). There are five incorporated cities/towns in Carbon County, which account for 56 percent of the population of the county. Red Lodge is the largest of these communities at 2,401 residents and is the county seat. The remaining 44 percent of the county population is found in rural areas and unincorporated towns. The unincorporated community nearest the proposed electrical line in Montana is Belfry, with a population of 219 (USCB 2005). Much of the area surrounding the community of Belfry is irrigated agricultural land.

Median household income in Carbon County in 2003 was \$34,386 (USCB 2005). The top three job categories in Carbon County by industry are educational, health, and social services (18.3 percent): agriculture, forestry, fishing and hunting, and mining (15.4 percent); and arts, entertainment, recreation, accommodation, and food services (15.0 percent) (USCB 2005).

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential direct, indirect and cumulative environmental impacts on the physical, biological, social and economic human and natural environments that could result if the Proposed Action or No Action Alternative is implemented. Residual effects are those that remain after PDF are applied during implementation.

Anticipated environmental consequences of the No Action alternative are largely the same as those for the Affected Environment described in Chapter 3 due to the fact that the adoption of the No Action alternative, assuming the entire project would be canceled, would mean that the effects quantified in the analysis of the Proposed Action would not occur, and the surface area would not be subjected to impacts associated with the proposed electrical line.

4.1 Alternative A - Proposed Action

4.1.1 Geology

No impact to geological or mineral resources are expected as a result of the Proposed Action. The project would not cross any known unstable geologic zones and would generally avoid steep topography. Risk from landslides and earthquake damage is not expected based on existing conditions.

There are no documented paleontology sites along the proposed electrical line corridor or access roads ROW. The portion of the proposed electrical ROW in closest proximity to the Lance and Bearpaw Formations in T. 9 S., R. 23 E., sec. 29 and 32, has the highest potential for occurrence of paleontological sites based on the geology of the area. However, because these formations are not extensively exposed in outcrops at the surface, and project construction will require minimal earthwork, no impacts to paleontological resources are anticipated.

If any undocumented fossils are located along the proposed ROW, activities could damage the fossils, and the information that could have been gained from them would be lost. The significance of this impact would depend on the significance of the fossil. Ceasing operations and notifying the AO immediately upon discovery of a fossil during activities could effectively mitigate this potential impact. The significance would be assessed, and a plan to retrieve the fossil or the information from the fossil would be developed.

Residual Impacts

No residual effects on geology and minerals are anticipated.

4.1.2 Air Quality

The development of the Proposed Action is not expected to have any long-term impacts on air quality in the vicinity of the project area. During construction, there would be short-term and localized fugitive dust impacts related to project traffic and ground-disturbing activities and emissions from construction equipment. Dust suppression techniques would be used during

construction to minimize fugitive dust emissions. Federal and state air quality standards would be met during project implementation.

Residual Impacts

No residual effects on air quality are anticipated.

4.1.3 Water Quality

There would be no impact from the Proposed Action on the occurrence or flow of any surface waters in the project area or any nearby water wells used for livestock watering. The proposed electric line route would cross over perennial waters in Silver Tip Creek in T. 9 S., R. 23 E., sec. 29, although there are no direct intersections with surface water features or floodplains. No water crossing permits are necessary as the proposed Beartooth's electrical line structures would be placed outside streambeds or drainage channels in such a way that the surface water channels would be spanned. Access to the structures would be limited to the side of the water features where the structure is located so that no drainages would be physically crossed by construction equipment. Likewise, there would be no diversion, detention, retention or consumption of waters during construction of the electrical line.

Construction vehicles would be fueled and maintained away from the local water courses. Small amounts of water required for construction activities would be drawn from commercial sources or wells, without any noticeable effect on existing flows or quality. Potential construction activities that could result in minor, localized impacts to water quality include sedimentation by erosion from disturbed upland areas and soil from drilling foundation holes, access roads, or the proposed culvert or contaminant spills. However, with implementation of Beartooth's POD and PDF potential for impacts on water quality would be minimized. Therefore, there is low potential for direct effect on water quality through the introduction of sediment into water features.

Residual Impacts

No residual effects on water quality are anticipated.

4.1.4 Soils

Potential impacts that could be associated with the Proposed Action would be soil compaction, soil destabilization caused by vegetation removal, and damage to soils on slopes susceptible to erosion by off-road vehicle and construction equipment travel. Compaction of soil could result from proposed vehicle traffic; however, compaction would be minor and localized along access roads and within the ROW. Areas cleared for construction would have the greatest probability of erosion impacts. This would occur at individual structure sites, pull sites, and where the culvert and fill material are proposed. These impacts would be minimized by erosion control and rehabilitation measures proposed in the POD and by application of PDF.

An estimated 79 acres within the 50-100 ROW could potentially be affected by surface-disturbing activities, including vehicle travel, on BLM public lands, though site-specific disturbance of 11 acres would more accurately estimate the area of actual soil disturbance. Direct soil disturbance during installation would include of the area of the 317 individual pole

structures, landings, proposed culvert, and a two-track imprint of approximately eight feet wide within the ROW. After rehabilitation, long-term soil disturbance associated with poles, culvert and access roads would total approximately four acres.

The project area consists of soil types with slight-to-moderate water erosion and moderate wind erosion potential. Moderate water erosion impacts would occur in areas with greater slope gradients. Areas containing wet soils would be avoided in order to minimize the potential for surface rutting. Fragile soils characterized by shallowness, steep slopes, high erodibility, susceptibility to compaction and crusting, and inadequate reclamation potential are not expected to be affected during project implementation.

Residual Impacts

Surface disturbance associated with installation of facilities and vehicle or equipment travel could result in a residual effect on soil productivity. Adequate preparation of seedbeds for revegetation would minimize any residual effect on soil productivity.

4.1.5 Vegetation

Vegetation impacts would most likely occur within the xeric grass-shrubland communities that cover a majority of the project area. More than half of the proposed electrical line corridor is located adjacent to existing roads or pipelines where vegetation has been disturbed in the past as part of other construction activities. Potential impacts to existing vegetation within portions of the electrical line corridor that are previously undisturbed would include vegetation removal or blading and potential opportunities for invasive and noxious weed species.

As proposed, approximately 10.2 miles of the ROW would transect BLM lands within a 50 to 100 foot wide corridor, which equates to a maximum of 79 acres on which vegetation could potentially be disturbed. However, impacts to vegetation caused by the Proposed Action would likely be confined to the immediate area of the electrical structures and the width of a vehicle along the ROW and access roads. Site-specific, short-term surface disturbance, including vegetation within the electrical line corridor that could be crushed and/or trampled during construction, maintenance, and operation by crews and equipment, could total approximately 11 acres on BLM land. Post construction, Beartooth would reduce impacts to vegetation by rehabilitating sites disturbed by construction activities on BLM lands in accordance with BLM guidelines. Long-term vegetative disturbance, mainly associated with existing and proposed access roads, would be reduced to approximately four acres on BLM land. This long-term disturbance is approximately 2.2 percent of the total potential short-term surface disturbance associated with the ROW and access roads on BLM and non BLM lands.

There are no known federally listed Endangered, Threatened, candidate or BLM sensitive plant species within the project area. Therefore, no impacts to any special status plant species are anticipated. Because non-native invasive species are very aggressive and have a much higher probability of occurrence in areas of soil disturbance, Beartooth would be responsible for weed control on disturbed areas within the limits of the ROW and would employ special management to prevent the introduction of weed seed from outside sources. These measures are included in PDF, Section 2.2.2. Because rehabilitation and weed control methods acceptable to the BLM

and local authorities would be employed, impacts to vegetation are expected to be minimal and short-term.

Residual Impacts

Residual impacts from the proposed electrical line could potentially include small losses of vegetation in areas where new facilities are proposed, including structures and the substation. Beartooth's plans to rehabilitate sites disturbed by construction activities would minimize residual effects on vegetation.

4.1.6 Wildlife

Because there are only minor amounts of new disturbance planned for the Proposed Action and some of this disturbance would occur primarily adjacent to areas that are already disturbed, impacts to wildlife would be minor. PDFs to reduce habitat loss and other impacts on wildlife species are described in Section 2.2.2. When construction is completed, all areas, except for less than 0.01 acre permanently used for the proposed electrical structures and four acres for access roads on BLM land, would be available for wildlife. Because electric line construction would occur largely in low-density sagebrush habitat, very little vegetation removal and subsequent habitat fragmentation is anticipated.

The project would not be located within big game ranges having any critical use periods identified by the WDFW or the Montana Department of Fish, Wildlife, and Parks. Construction of the electrical line would not hamper long-term wildlife movements or affect existing migration corridors.

There are no federally listed Threatened, Endangered, proposed, or candidate animal species that are considered in the project area. Project activities could temporarily disturb nesting birds, including raptors and greater sage-grouse, if project activities are conducted between February 1st and July 31st. Should project activities be necessary during this time period, Beartooth would have surveys conducted by qualified BLM approved biologists to determine the location of raptor nests present within the project area. Any proposed ground-based activities within 0.75 mile of Wyoming nests and 0.5 mile of Montana nests would be delayed until outside the restricted period. Likewise, construction activities would be scheduled to avoid adversely affecting greater sage-grouse strutting, nesting, and/or rearing activities within a 2.0-mile radius of active leks between March 1st and June 15th.

The overall effects of construction and maintenance of the electrical line are expected to be short-term and minimal because of the large amount of similar habitat adjacent to the electrical line. Vehicle traffic and/or human presence may cause animals to temporarily flee the immediate site of activities. This displacement of wildlife is anticipated to be brief and localized, as small-scale transitory activities will progress fairly quickly along the proposed electrical line route. The amount of displacement would vary by species. Some species, such as deer, may move several miles away, while some bird species may not be affected.

Raptor and greater sage-grouse mortality resulting from collision with powerlines is expected to be minimal. However, the risk of collision may increase at specific sites where birds are known to concentrate in large numbers or in weather conditions such as low clouds, fog, and heavy rain.

The proposed line does not cross a designated raptor flyway; however, it is within 2.0 miles of four active greater sage-grouse leks where collision, particularly during the breeding season is possible. In the case of greater sage-grouse, the height of the electrical lines above the ground is expected to reduce the chance of collision for birds which typically fly in low or walk into a lek during the breeding season when the birds are most concentrated.

The potential for electrocution is greatest among large raptors (e.g., eagles) that use power poles as perch sites (APLIC 2005). Electrocution occurs when birds with large wingspans come into contact with two conductors, a conductor and grounding device, or when taking off from a tower. All structures will be constructed using the Raptor Protection Guidelines (APLIC 2006) to eliminate this potential.

In addition to electrocution and collision risks, the proposed electrical line would add perching habitat for predatory raptors. Increases in predation on greater sage-grouse may result from increased availability of perches for roosting and nesting by raptors (Ellis 1984, Braun et al. 2002). To reduce these effects, anti-perching structures would be added to structures within 0.5 mile of all active leks in Wyoming and Montana.

Suitable long-billed curlew and mountain plover nesting habitat within the project area is limited (Wyoming T. 57 N. R. 100 W. sec. 7 and sec. 10), indicating a low probability for the species to occur along the proposed electrical line. However, these species may use nesting habitat in areas near the electrical line and could be affected by access activities and/or associated support activities necessary to construct the electric line. Should activities in suitable mountain plover or long-billed curlew habitat be necessary between April 15th and July 15th, Beartooth would have surveys conducted by qualified and BLM-approved biologists to determine the status of the species within the project area. No ground-based Proposed Action activities would occur within 0.25 mile of any active nests found during the nesting season.

No impacts on fisheries are anticipated from the Proposed Action. Silver Tip Creek, the only area that supports fish populations, would be spanned by the line. Indirect effects from sedimentation are also expected to be minor, as discussed under water quality (Section 4.1.3).

Residual Impacts

Residual impacts from the proposed electrical line could potentially include small losses of wildlife habitat in areas where new facilities are proposed, including structures, roads, and substation. Beartooth's plans to rehabilitate sites disturbed by construction activities would minimize residual effects on wildlife habitat.

4.1.7 Cultural/Historical Resources

Class III cultural surveys completed for the project area identified three sites along the proposed electrical line and access road corridors in Wyoming and Montana that were recommended as eligible for the NRHP and could be affected by the Proposed Action (Greystone 2005a). Two of the sites previously identified in Wyoming are the historic Red Lodge to Meeteetse Road and the historic Badger Ditch (see Figure 3-1). A third site (24CB1967), newly discovered, is in Montana.

The historic Red Lodge to Meeteetse Road (Site 48PA644) served as an important supply line from Red Lodge to the Big Horn Basin during the period between 1892 to 1901. The proposed electrical transmission line would perpendicularly cross the 164 foot segment of trail in the T. 57 N., R.101 W., sec. 9 SE¼SE¼. This portion of the road is currently in use as an existing two-track. Recent vehicle travel and improved road crossings constitute substantial impacts on the site's integrity, and this segment of the road has been recommended as a non-contributing portion of the eligible site. However, it was recommended that the electrical line poles not be placed within 100 feet of the road crossing in order to avoid further impact to the site or its setting (Greystone 2005a). The electrical line poles as proposed are outside of this 100 foot buffer.

The historic Badger Ditch (Site 48PA1343) located north of Badger Basin could potentially be affected by the proposed electrical line in two areas. Segment 1 is approximately 2,822 feet long and oriented roughly north-south in T. 57 N., R. 101 W., sec. 7. It is situated in lowlands amidst a historic oil field. There are numerous historic and recent oil facilities in the vicinity that negatively impact the integrity of the setting. Segment 1 is recommended to be a non-contributing portion of the site due to presence of a nearby modern improved road, and the widespread industrial material associated with the historic oil field. Segment 2 is located northeast of Badger Basin, on the southwest side of the Big Sandy Coulee in T. 57 N., R. 101 W., sec. 10. The recorded segment is 164 feet long, centered on the point where the proposed electrical line crosses the ditch at a perpendicular angle. Segment 2 is recommended to be a contributing portion of the site, as there are no major facilities or disturbances in the immediate vicinity of the segment and the area retains integrity of setting. It was recommended that utility poles should not be placed within 100 feet of the ditch, minimizing construction impacts and vehicle traffic within a 100 foot buffer zone (Greystone 2005a). The electrical line poles as proposed are more than 100 feet outside of the site boundary.

Site 24CB1967 in Montana is a prehistoric open campsite with a partially intact hearth feature and potential for additional buried cultural deposits. It was recommended as eligible for the NRHP. The site is located east of Silver Tip Creek and an improved road in T. 9 S., R. 22 E., sec. 18. To avoid adverse effects on this site, it is recommended that no poles be erected within the 100 feet of the site boundary and no construction or vehicle traffic be allowed within 100 feet of the site boundary (Greystone 2005b). The electrical line poles as proposed are more than 100 feet outside of the site boundary.

With the implementation of the standard construction and cultural resource avoidance procedures prescribed in the PDF and the incorporation of recommendations from the Class III Inventory, no adverse effects on cultural resources are anticipated. In the event that Beartooth encounters cultural material or human remains during construction, project activities should be halted and the BLM, CYFO and BIFO would be consulted before further disturbance.

No Traditional Cultural Properties were identified during the cultural resource investigations or BLM Tribal consultations. Therefore, no effects on Traditional Cultural Properties are anticipated.

Residual Impacts

The placement of structures in the vicinity of the historic Red Lodge to Meeteetse Road, the historic Badger Ditch, or a prehistoric open campsite could alter the character of the setting of these sites. The incorporation of recommendations from the Class III cultural resource survey would minimize any potential residual effects on the setting of these heritage resources.

4.1.8 Visual Resources

As outlined in the VRM class descriptions II and III, the proposed electrical line and access roads would be evident in the characteristic landscape but would remain subordinate to the existing landscape. Short-term, construction-related visual impacts would occur as a result of movement and use of heavy equipment including dust plumes, activity at work areas, the presence of construction materials, and surface disturbance impacts from construction. However, this would be short-lived, localized, and would only be visible during construction.

Long-term visual impacts would result from the presence of aboveground structures associated with the electrical line such as structures and wires. In about half of the project area, the proposed electrical line follows or transects existing roads, pipeline ROWs, and transmission lines; however, in formerly undisturbed areas, the vertical lines of the structures and poles against the fairly homogeneous, rolling, horizontal landscape would be noticeable. Visual resources would be impacted on BLM lands where the proposed electrical line crosses over Wyoming Highway 120 in T. 57 N., R. 101 W. However, these impacts would be minimal, as there is an existing utility corridor with several transmission and distribution lines on the north side of Wyoming Highway 120 where the proposed electrical line would cross the highway. Wyoming Department of Transportation requirements, as outlined in the PDF, would be met to minimize visual impacts in this area.

No long-term impacts resulting from increased vehicular traffic are anticipated, as only irregular unscheduled maintenance would utilize access roads. The Chance Substation would be located on private property and aboveground structures would be painted to blend in with the natural surrounding landscape. Beartooth's commitment to the rehabilitation of the ROW would ensure that the planned surface disturbance would meet the criteria of this VRM class, and would be consistent with other human-caused modifications within the project area.

Residual Impacts

The electrical line would remain noticeable against the rolling, horizontal landscape over time producing a residual impact on scenic resources in the vicinity of the project area. Using treated wooden poles of natural brown and gray colors to blend with the landscape would reduce the residual effects on the existing landscape.

4.1.9 Recreation/Wilderness/Areas of Critical Environmental Concern

Because the Proposed Action does not cross any ACECs, wilderness areas, WSA, or areas heavily used for recreation, impacts are considered negligible. Executive Order 13443 - Facilitation of Hunting Heritage and Wildlife Conservation - directs agencies and bureaus to "facilitate the expansion and enhancement of hunting opportunities and management of game

species and their habitat.” Short-term project activities during the construction might temporarily displace game, which would present an inconvenience to hunters. However, with implementation of PDF, no measurable impacts to recreation activities or resources would occur during operations or following completion of the project.

Residual Impacts

No residual impacts on recreation, ACEC, or wilderness are anticipated.

4.1.10 Access

Temporary use of county roads during daylight hours to gain access to the electrical line ROW during construction would result in increased traffic, which could potentially alter road conditions. After construction, access would consist of infrequent trips to monitor and perform maintenance. Construction of the proposed access roads leading to the ROW would permanently alter surface conditions. The construction of these access roads might increase travel to and from the ROW. Three of the five proposed access roads in Montana are existing, but will require upgrades. The other two roads proposed in Wyoming would represent new surface disturbance. Long-term disturbance associated with all proposed access roads to the ROW (mowing and/or blading) would account for approximately four acres on BLM land. This is approximately 25 percent of the total long-term surface disturbance associated with the project on both BLM and non-BLM lands and approximately 2.2 percent of the total disturbance associated with the project. Impacts will be minimized with implementation of mitigation measures.

Residual Impacts

The proposed new access to the ROW would represent a residual impact on access in the vicinity of the project area, as this change/improved access to the ROW would be evident over time for the life of the project.

4.1.11 Land and Realty Authorizations

There are 12 existing Land and Realty authorizations within 200 feet of the proposed electrical line and access roads on BLM managed lands. Beartooth will obtain permissions/permits from the owners of said ROW authorizations (see **Table 3.9**) to access each of the affected areas prior to construction. No negative impacts to existing land and realty authorizations within the project area are anticipated as a result of the Proposed Action.

Residual Impacts

No residual impacts on land and realty authorizations are anticipated.

4.1.12 Livestock / Range

Grazing, roads, and utility ROWs are the current managed uses on the BLM lands that would be crossed by the Proposed Action. The Proposed Action would result in negligible long-term vegetative effects limited to the diameter of the electrical line structures and access roads as described in Section 4.1.5. BLM BIFO and CYFO estimated the potential effect on livestock

grazing to be one Animal Unit Month (AUM - the amount of forage required for one month by an average cow) per 12.5 to 14 acres and one AUM per 10 acres, respectively, for the five grazing allotments in the vicinity of the project area. In the short term, approximately 79 acres of BLM land, or between 5.6 and 7.9 AUMs, could be temporarily affected during the construction of the electrical line in some areas until rehabilitated. Actual site-specific short-term grazing loss is anticipated to be closer to 11 acres, or approximately 1.0 AUM. Total long-term grazing disturbance on BLM lands would be approximately four acres or 0.4 AUM. The effects of surface disturbance on grazing would be even less than estimated above as those estimates do not exclude land along existing road ROWs, as in the case of Silver Tip Creek Road and Wyoming Highway 120, where livestock grazing is presently excluded. The proposed electrical line is not expected to substantially modify or restrict existing access ranchers and grazing permittees to adjacent public lands, as PDFs require the use of gates and immediate repair of fence crossings; therefore, potential impacts would be avoided.

While species and age make-up of plants in the ROW may change, available palatable livestock forage should not be appreciably affected. Should drought conditions warrant the removal of livestock from any pasture within the project area, the BLM would closely evaluate the effects of the Proposed Action to determine whether additional measures would be necessary to comply with rangeland health standards.

Residual Impacts

Residual impacts from the proposed electrical line could potentially include small losses of available forage in areas where new facilities are proposed, including structures and substation. Beartooth's plans to rehabilitate sites disturbed by construction activities would minimize residual effects on livestock grazing.

4.1.13 Native American Religious Concerns

Unidentified sites of Native American concern could suffer impacts if the Proposed Action adversely affected the physical integrity of these sites or interfered with their ceremonial use. With implementation of cultural/historical measures found in the PDFs, however, the project should create no adverse impact in this regard.

Residual Impacts

No residual impacts on Native American religious concerns or sites are anticipated.

4.1.14 Prime and Unique Farmlands

As there are no farmlands on BLM lands in the project area, no surface disturbance is anticipated that would affect long-term agricultural and economic benefits of the prime and unique farmlands in the project area. Construction of the proposed electrical line on irrigated farmlands occurring on private lands would have only a negligible short-term effect, as any areas disturbed would be returned to pre-project conditions without altering the long-term agricultural nature and use of the farmland.

Residual Impacts

Residual impacts from the proposed electrical line could potentially include very small losses of prime farmlands on private lands where new facilities are proposed. Beartooth's plans to rehabilitate sites disturbed by construction activities would minimize any potential residual effects on prime farmlands on those lands.

4.1.15 Waste

No impacts from hazardous or solid waste are anticipated. Beartooth has made an operation commitment in their POD to comply with all applicable federal, state, and local laws and regulations existing or hereinafter enacted or promulgated regarding toxic or hazardous material. Likewise, Beartooth will remove all incidental project debris as operations progress and dispose at a Department of Environmental Quality (DEQ) approved disposal site.

Residual Impacts

No residual impacts on hazardous or solid waste are anticipated.

4.1.16 Social and Economic Resources and Environmental Justice

There would be few direct impacts on the economics of Clark and Belfry as a result of the Proposed Action. A small number of short-term jobs might be created during the construction phase, and there might be some benefit from the sale of goods and services to Beartooth's construction crews (estimated 25 persons); however, the effects would be temporary and minimal. No long-term jobs for operation and maintenance activities after construction would be anticipated, as this would become the responsibility of the existing Beartooth staff. While no significant direct socioeconomic impacts would be realized by development of the electrical line, the area would indirectly benefit from the improvement to regional power reliability.

The proposed electric line would be mostly constructed along existing ROWs, which would minimize new disturbance; however, there are some undisturbed lands that would be affected. The addition of the Beartooth electrical line is expected to have a negligible effect on property values in or near the electrical line. All private landowners with property within the electrical line corridor would have written easement agreements and would be compensated by Beartooth for crossing their property with the electrical line. Resolution of this is a matter of negotiation between the landowners and Beartooth or State Civil Court.

No potentially adverse effects that disproportionately affect Native American tribes or minority or low-income groups have been identified. The project area is largely unpopulated and does not contain tribal lands or Indian communities, and no treaty rights or Indian trust resources are known to exist for this area. The effects of the Proposed Action would not be disproportionate to those experienced by the general population. The anticipated environmental and socioeconomic effects would be spread across all races, ages, and income levels.

Residual Impacts

The only residual impact on social or economic resources would be any benefit or social or economic advantage related to the improvement to regional power reliability. No other social or economic residual impacts are anticipated.

4.2 Cumulative Impacts of the Proposed Action

Pursuant to NEPA, the BLM must consider the cumulative effects of the Proposed Action in conjunction with other past, ongoing, and reasonably foreseeable activities. Cumulative impact is the impact on the environment that results from the incremental impact of the Proposed Action when added to the other past, present, and reasonable foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Present activities on federal lands in the Clark and Belfry areas consist primarily of grazing, recreation, oil and gas development and associated infrastructure, and road and utility route construction related to housing developments on private lands within and adjacent to federal holdings. Present activities on State of Wyoming lands in the Clark area are mostly related to grazing and recreation; however, mineral development has occurred on various parcels. Present activities on private lands in the Clark and Belfry area are related to housing development (subdivisions and ranchettes), ranching, farming, limited oil and gas development, and other land uses.

Potential short-term surface disturbance associated with the Proposed Action on both BLM and non BLM land could total approximately 178 acres. Site specific short-term surface disturbance would more likely be confined to 23 acres for the total project. After rehabilitation, long-term disturbance would be approximately 16 acres. The total amount of short-term and long-term surface disturbance on BLM lands accounts for approximately 44 and 25 percent respectively of the total short-term and long-term surface disturbance associated with the Proposed Action.

The project occurs in an area that already has experienced considerable development and will likely see more in the future. Within the townships, ranges, and sections along the proposed electrical line corridor, there are approximately 59 existing oil and gas wells. There are approximately 604 wells within 6.0 miles, most associated with the Elk Basin Oil Field. In addition to wells, there are other facilities associated with oil and gas production including pipelines, electrical lines, processing plants, and access roads. Most of the Beartooth electrical line corridor is proposed for locations within the ROW of existing pipelines and/or adjacent to roadways. There are 12 existing land and realty ROWs on public land in the project area, including electrical lines, state highways and county roads, buried telephone lines, oil and gas pipelines. In addition, there are five existing grazing allotments in the project area.

Existing land use activities have caused some decline in the quality and quantity of habitat for vegetation and wildlife and some disturbance to wildlife use and recreation patterns in the general area due to fragmentation of habitats, but sufficient habitat for most plant and wildlife species will still be readily available. The cumulative effects of grazing, roads, vegetation

management, agricultural use, and recreation have historically affected the land, its soil cover, vegetation resources, and wildlife resources by removing vegetation and increasing the potential for invasion of weedy species and causing soil erosion, compaction, and loss of productivity associated with surface disturbance over time. However, the cumulative effects associated with the Proposed Action and other past and anticipated activities are not likely to vary noticeably from existing conditions.

The visual quality of the area would be reduced by the electrical line; however, applicable BLM VRM guidance would be met under the Proposed Action. The permanent visible aspects of the project would not dominate the landscape and would be compatible with VRM classifications.

Oil and gas production activity in the vicinity of the project area has the potential to increase ambient levels of air pollution in the project area; however, all applicable federal and state standards for air quality are expected to continue to be met. The air emissions associated with construction and traffic would not result in a noticeable increase in emissions or change in visibility or atmospheric deposition.

The cumulative effects on streams and watershed resources from these current and historic land uses and ongoing and anticipated activities, including the Proposed Action, are not likely to vary noticeably from existing conditions.

Current and projected development is likely to continue on private lands, continuing to affect local social structure and support the need for improvement to regional power reliability. Some level of additional industry and residential development, production, and transportation and associated impacts is anticipated in the foreseeable future, with or without completion of the proposed electrical line. If the project is not approved, there would likely be a proposal for a different electrical line along a different route. For these reasons, cumulative impacts from this project can be considered minimal, provided that the Proposed Action, including appropriate environmental protection measures as specified in the EA and POD are implemented.

4.3 No Action Alternative

Implementation of the No Action Alternative would preclude most of the impacts to the environment that would occur associated with the Proposed Action. However, the No Action alternative would not meet the purpose and need identified for this project. Therefore, if this alternative were adopted, other sources of power would have to be developed and interconnected to Beartooth's electrical system to meet the identified energy needs discussed in Chapter 1.0. Development of these other energy sources would create their own environmental impacts to the region. No residual impacts are anticipated as a result of this alternative.

4.4 Cumulative Impacts of the No Action Alternative

The environmental consequences of adoption of the No Action alternative would result in the general continuance of existing land and resource use in the project area. The description of the affected environment, therefore, effectively describes consequences of selection of this alternative, with the following considerations.

With or without the proposed electrical line, there is a need for reliable power in the Clark, Wyoming area. This need is based on the existing electrical loads and requests for new residential and industrial service in the area. If the Proposed Action is not approved, there would likely be other proposals received for alternative routes. This would require more resources including public review, meetings, comments, and NEPA documentation.

Assuming that the entire project would be canceled, the adoption of this alternative would mean that the impacts quantified in the analysis of the Proposed Action would not take place; the surface area in the project would not be subjected to the impacts of construction activities. While adoption of this alternative would cause no direct environmental impacts, it would result in some indirect environmental impacts and direct socioeconomic impacts.

Project-driven archeological and paleontology inventories have already been conducted to assist with planning; no additional inventories would be conducted in relation to the Proposed Action under the No Action alternative. Biological inventories of greater sage-grouse in the area of potential effect would continue to take place. The lack of additional studies would not adversely affect these resources, but also would not contribute to the existing database concerning resources in the area.

The Proposed Action would generate some revenue for the local economy through private landowner access fee payments, local taxes, as well as via food, fuel, and incidental purchases for the construction crew. Under the No Action alternative, this economic opportunity would be lost in the short term. It is not possible to accurately predict the relative indirect socioeconomic benefits/impacts between the Proposed Action and the No Action alternative because future developments resulting from both alternatives are unknown.

No direct cumulative effects are foreseen as a result of adoption of the No Action alternative. Indirect cumulative and/or residual effects associated with application of the No Action alternative cannot be quantified or assessed, as it is not possible to accurately project how energy needs would be met if the proposed electrical line is not constructed in the area. Proposal-specific environmental analysis would continue to be undertaken, incrementally addressing the issue until such time as patterns are discernable or broader-scale actions are proposed.

5.0 PERSONS/AGENCIES CONSULTED

This EA was prepared by ARCADIS, U.S., Inc. under the direction of Mr. Duane Feick, BLM-CYFO Realty Specialist and Mr. Tom Carroll, BLM-BIFO Realty Specialist. Individuals consulted during preparation of this EA are listed in **Table 5-1**.

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| Jayson Parks | BLM-BFO Wildlife biologist |
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| Shirley Bye-jech | BLM-CYFO Visual Resource Specialist |
| Lynn Anderson | BLM-BIFO Visual Resource Specialist |
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| Melissa Half | BLM-BIFO Natural Resource Specialist |
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| Carolyn Sherve-Bybee | BLM-BIFO Archaeologist |
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| Becky Spurgin | BLM-BIFO Acting Assistant Field Manager |
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Appendix A Photos of Proposed Project Area



Figure A-1. T. 8 S., R. 23 E. sec. 12 NE/4. Montana. View southeast away from Belfry Substation looking at single pole structures along proposed electrical line. Location is surrounded by farmland to the west and rangeland to the east.



Figure A-2. T. 8 S., R. 23 E. sec. 31. Montana. View along proposed electrical line where single pole structures would be located. Note shrubs in floodplain in background and crested wheat marking pipeline scar in foreground.



Figure A-3. T. 9 S., R. 22 E. sec. 36. Montana. View along proposed electrical line to southwest where H- structures would be located.



Figure A-4. T. 58 N., R. 100 W. sec. 31. Wyoming. View along proposed electrical line where single pole structures would be located.

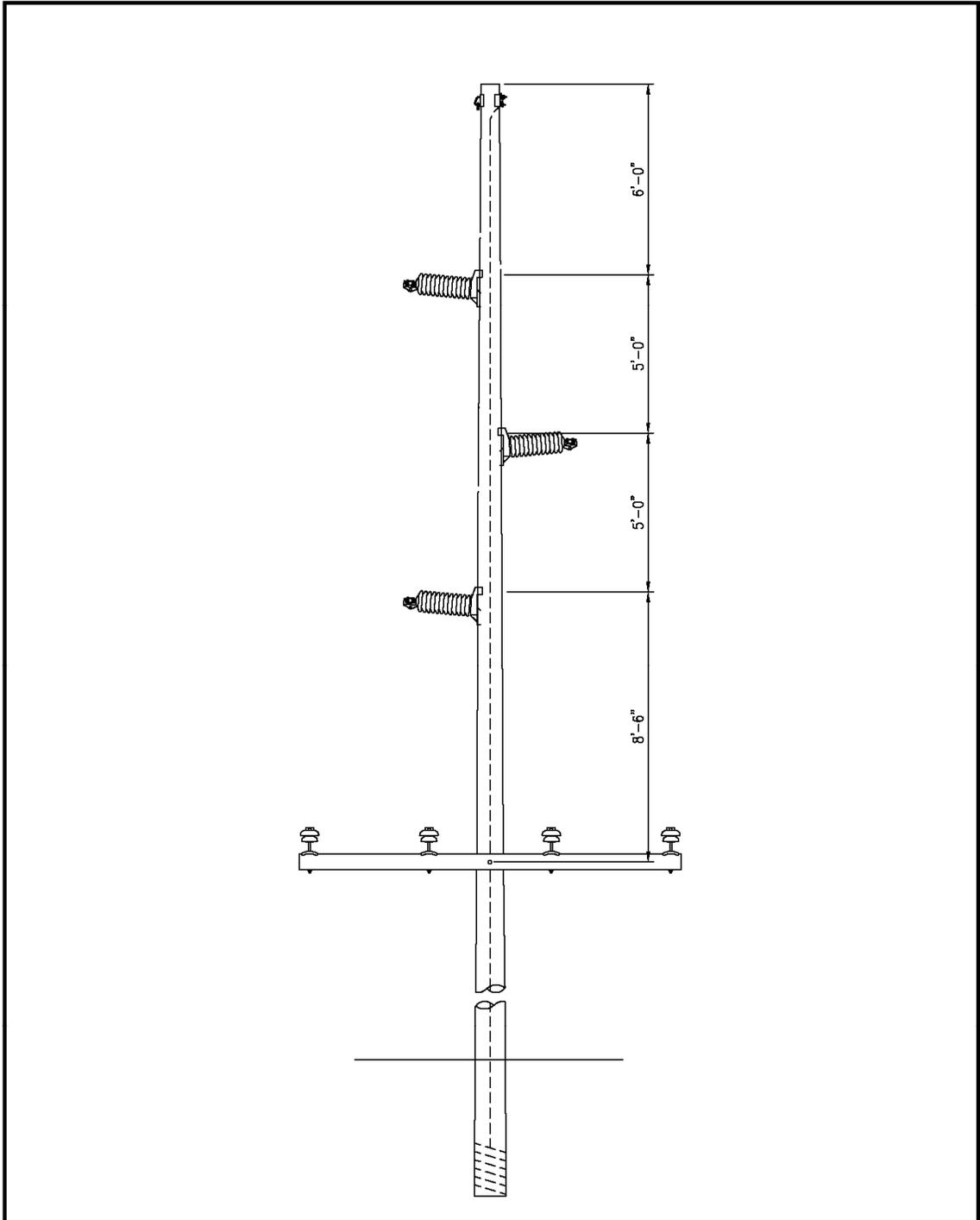


Figure A-5. T. 57 N., R. 101 W. sec. 9 SESE. Wyoming. View along proposed electrical line where single pole structures would be located.



Figure A-6. T. 57 N., R. 101 W. sec. 7 NE1/4. Wyoming. Single pole structures near site of proposed Chance Substation near Clark, Wyoming.

Appendix B Diagrams of Proposed Electrical Structures



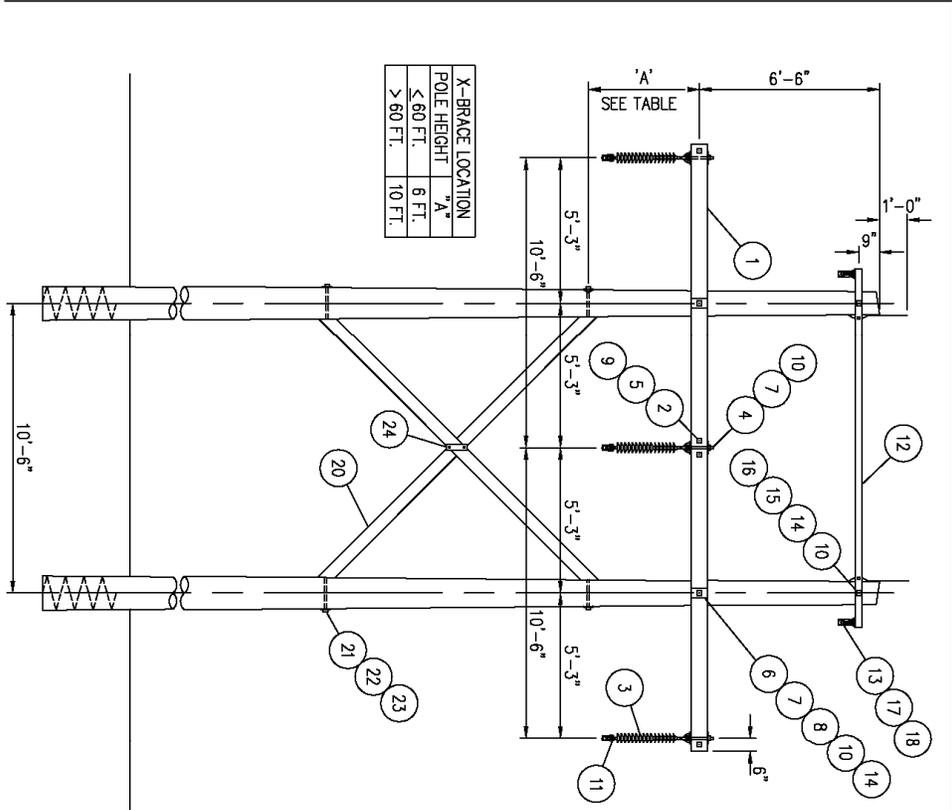
| | | | |
|----------------------|---|----------------------------|----------|
| Eng/Dwn: JA/DJ | <u>TRANSMISSION LINE STRUCTURE</u> TP-69G WITH UNDERBUILD | File: TP69GUB | Rev. |
| Scale: NONE | | Sheet <u>1</u> of <u>1</u> | <u>0</u> |
| Date: 5-21-96 | | Exhibit #2 | |
| Plot: 05-21-96 13:14 | | | |
| Proj. No: PRK-243 | | | |



PROJECT TITLE: TRANSMISSION LINE STRUCTURE
 SHEET TITLE: TH-1GX TANGENT H-FRAME SINGLE ARM

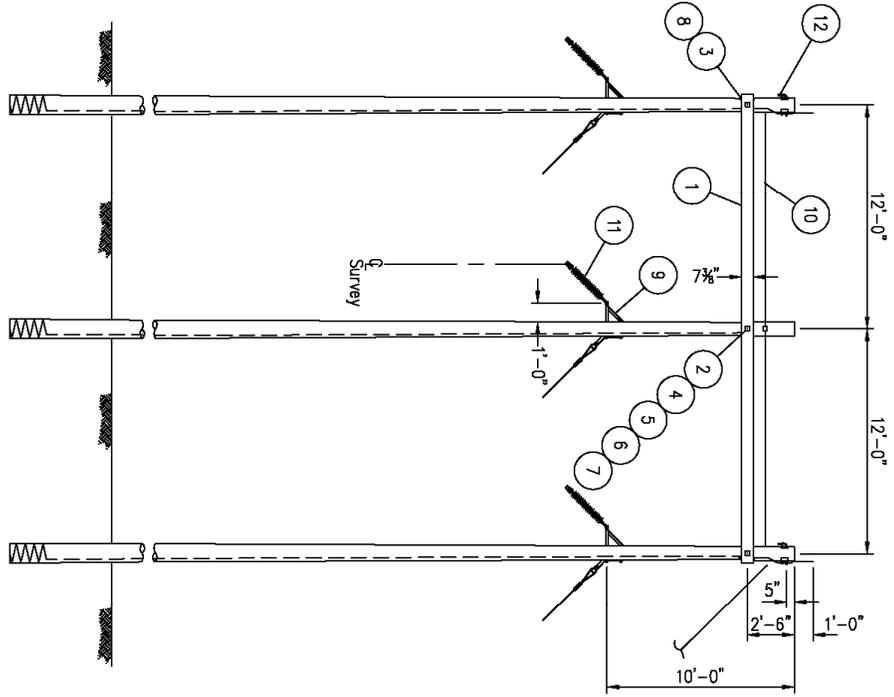
PROJECT NUMBER: BER-18752
 PROJECT MANAGER: E. BUORKMAN
 DATE: 12-13-04

REFERENCE SHEET: 1 OF 1
 REFERENCE DOCUMENT
 EXHIBIT NUMBER: Exhibit #3



| X-BRACE LOCATION | "A" |
|------------------|--------|
| POLE HEIGHT | 6 FT. |
| < 60 FT. | 6 FT. |
| > 60 FT. | 10 FT. |

| LIST OF MATERIALS | |
|-------------------|--|
| ITEM | DESCRIPTION |
| 1 | 5/8" x 7 3/8" CROSSARM, TYPE 41 |
| 2 | 2 1/4" x 2 1/4" x 3/8" GALV. SQ. WASHER, 1 3/8" HOLE |
| 3 | INSULATOR, TANGENT ASSEMBLY SEE TM-1 |
| 4 | 3/4" x 10" EYE BOLT |
| 5 | 1/2" x 8" MACHINE BOLT |
| 6 | 3/4" x 18" MACHINE BOLT |
| 7 | 4" x 4" x 3/8" GALV. SQ. WASHER 1 3/8" HOLE |
| 8 | REINFORCING PLATE FOR 8" CROSSARM |
| 9 | MF LOCKNUTS FOR 1/2" BOLT |
| 10 | MF LOCKNUTS FOR 3/4" BOLT |
| 11 | SUSPENSION CLAMP AND SOCKET EYE |
| 12 | TEE ANGLE, 3 1/2" x 3" x 1/4" x 13'-0" * |
| 13 | U-BOLT CLAMP WITH 4 NUTS-2 L.N. |
| 14 | SPRING WASHER, 1 3/8" HOLE |
| 15 | MACHINE BOLT, 3/4" x 10" |
| 16 | GALV. CURVED WASHER 1 3/8" HOLE, 4" x 4" x 1/4" |
| 17 | EXTENSION LINK 5/8" x 2 1/4" |
| 18 | OHGW SUSPENSION CLAMP |
| 19 | GROUND WIRE CLAMP |
| 20 | SET X-BRACES, 3 3/8" x 5 3/8" MINIMUM |
| 21 | MACHINE BOLT, 7/8" BY REQ'D LENGTH |
| 22 | LOCKNUTS FOR 7/8" BOLT, MF TYPE |
| 23 | WASHER, SQ. CURVED 4" x 4" x 1/4" x 3/8" HOLE |
| 24 | CENTER CLAMP COMPLETE WITH STRAPS, RODS, NUTS AND LOCKNUTS |



LIST OF MATERIALS

| ITEM | REQ. | DESCRIPTION |
|------|------|--|
| 1 | 1 | CROSSARM, 5[3]8" x 7[3]8" x REQ'D LENGTH #86 |
| 2 | 3 | BOLT, MACHINE, [3]4" x REQ'D LENGTH |
| 3 | 2 | BOLT, WASHER HEAD, W/WASHER NUT, [1]2" |
| 4 | 3 | WASHER, CURVED, 4" sq. x [1]4", [3]16" HOLE |
| 5 | 3 | WASHER, FLAT, 4" sq. x [3]16", [3]16" HOLE |
| 6 | 3 | WASHER, SPRING, [3]16" HOLE |
| 7 | 3 | LOCKNUT, MF TYPE, [3]4" |
| 8 | 2 | LOCKNUT, MF TYPE, [1]2" |
| 9 | 3 | BRACKET & GUY ATTACH, TG-28A |
| 10 | 1 | POLE TIE, LARGE ANGLE, TG-45A |
| 11 | 3 | INSULATOR, ASSEMBLY, ANGLE, SEE TM-1 |
| 12 | 2 | ASSEMBLY, OHGW, ANGLE SEE TM-44A |



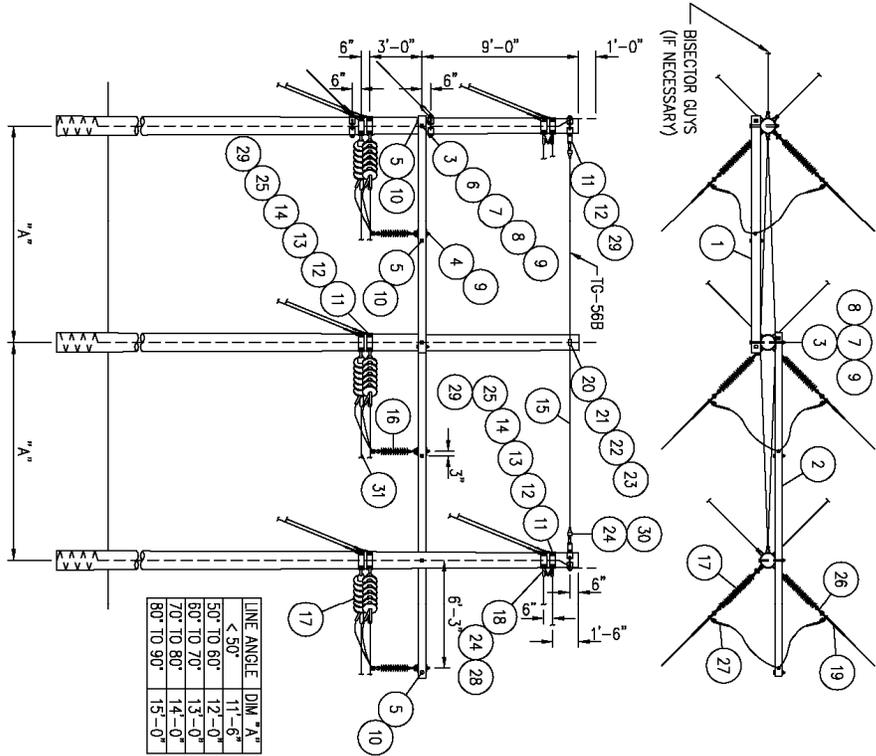
PROJECT TITLE TRANSMISSION LINE STRUCTURE
 SHEET TITLE TH-3A
 MEDIUM ANGLE (69KV MAXIMUM)

PROJECT NUMBER BER-18752
 PROJECT MANAGER E. BJORKMAN
 DATE 12-13-04

REFERENCE SHEET 1 OF 1
 REFERENCE DOCUMENT
 EXHIBIT NUMBER Exhibit #4



PROJECT TITLE: TRANSMISSION LINE STRUCTURE
 SHEET TITLE: TH-5A
LARGE ANGLE DOUBLE DEADEND (69KV MAXIMUM)



LIST OF MATERIALS

| ITEM | REQ. | DESCRIPTION |
|------|------|---|
| 1 | 1 | X-ARM, 5/8"ØT x 7/8"ØT x RECD LENGTH, TYPE B8 |
| 2 | 1 | X-ARM, 5/8"ØT x 7/8"ØT x RECD LENGTH, TYPE B9 |
| 3 | 3 | BOLT, MACHINE, 3/4" x RECD LENGTH |
| 4 | 3 | BOLT, SHOULDER EYE, w/WASHER NUT, 3/4" |
| 5 | 8 | BOLT, WASHER HEAD, w/WASHER NUT, 1/2" |
| 6 | 2 | WASHER, CURVED, 4" SQ. x 1/4", 13/16" HOLE |
| 7 | 4 | WASHER, FLAT, 4" SQ. x 3/16", 13/16" HOLE |
| 8 | 3 | WASHER, SPRING, 13/16" HOLE |
| 9 | 5 | LOCKNUT, WF TYPE, 3/4" |
| 10 | 5 | LOCKNUT, WF TYPE, 1/2" |
| 11 | 14 | POLE BAND, HUGHES 3108 |
| 12 | 26 | CONNECTION LINK, 3/8" x 2" x 9" [12"] |
| 13 | 12 | GUY ROLLER, HUGHES 29082 |
| 14 | 12 | BOLT, MACHINE, 7/8" x 3" |
| 15 | 75' | GUY WIRE, 3/8" HS. SEE TG-568 |
| 16 | 3 | INSULATOR, 69KV, SUSP., POLYMER, SEE TM-28 |
| 17 | 5 | INSULATOR, 69KV, DE., POLYMER, SEE TM-10 |
| 18 | 4 | DEADEND, OHGW, COMPRESSION, 3/8" HS. |
| 19 | 8 | DEADEND, 69KV, COMPRESSION, 338 26/7 ACSR |
| 20 | 1 | BOLT, MACHINE, 3/8" x RECD LENGTH |
| 21 | 2 | CLAMP, MESSENGER, 3/8" HS. |
| 22 | 1 | CLAMP, 5/16", GROUNDWIRE + 1 NUT |
| 23 | 1 | LOCKNUT, WF TYPE, 5/8" |
| 24 | 6 | ANCHOR SHACKLE, 30K LB |
| 25 | 12 | LOCKNUT, WF TYPE, 7/8" |
| 26 | 5 | SOCKET Y-CLEWS |
| 27 | 6 | JUMPER, TERMINAL, 338 26/7 ACSR |
| 28 | 4 | JUMPER, TERMINAL, 3/8" HS. |
| 29 | 14 | CLIP, BONDING, HUGHES 2718.55 |
| 30 | 2 | THIMBLE CLEWS, 20K LB |
| 31 | 3 | CLAMP, SUSPENSION, 338 26/7 ACSR w/CLEWS EYE |

PROJECT NUMBER: BER-18752
 PROJECT MANAGER: E. BUORKMAN
 DATE: 12-13-04

REFERENCE SHEET: 1 OF 1
 REFERENCE DOCUMENT:
 EXHIBIT NUMBER: Exhibit #5