ENVIRONMENTAL ASSESSMENT

CURECANTI-LOST CANYON 230-kV TRANSMISSION LINE REREOUTE PROJECT

MONTROSE COUNTY, COLORADO

United States Department of Energy
Western Area Power Administration
Rocky Mountain Region

and

United States Department of the Interior
Bureau of Land Management
Uncompahgre Field Office

DOE/EA 1287

March 2000

DISCLAIMER

DEPARTMENT OF ENERGY

Western Area Power Administration

Curecanti-Lost Canyon 230-kV Transmission Line Reroute Project, Montrose County, Colorado.

AGENCY: Western Area Power Administration, DOE

ACTION: Finding of no significant impact

SUMMARY: The Department of Energy (DOE), Western Area Power Administration (Western) is proposing to reroute a section of the Curecanti-Lost Canyon 230-kilovolt (kV) transmission line, in Montrose County, Colorado. A portion of the transmission line, situated 11 miles southeast of Montrose, Colorado, crosses Waterdog Peak, an area of significant geologic surface activity, which is causing the transmission line's lattice steel towers to shift. This increases stress to structure hardware and conductors, and poses a threat to the integrity of the transmission system. Western proposes to relocate the lattice steel towers and line to a more geologically stable area. The existing section of transmission line and the proposed relocation route cross Bureau of Land Management and private land holdings.

Western prepared an environmental assessment (EA) titled "Curecanti-Lost Canyon 230-kV Transmission Line Reroute Project" (DOE/EA-1287). The EA contains an analysis of the proposed activities. The EA is summarized in this Finding of No Significant Impact (FONSI) under "SUPPLEMENTARY INFORMATION".

FOR FURTHER INFORMATION CONTACT:

Joel K. Bladow
Regional Manager
Rocky Mountain Region
Western Area Power Administration
P.O. Box 3700
Loveland, CO 80539
(970) 490-7201

Additional information and copies of the EA and FONSI are available to all interested persons and the public from the person named above. For general information on DOE National Environmental Policy Act (NEPA) activities contact:

Carol M. Borgstrom
Director, Office of NEPA Policy and Assistance, EH-42
U.S. Department of Energy
1000 Independence Avenue SW
Washington, D.C., 20585
(202) 586-4600 or (800) 472-2756

SUPPLEMENTARY INFORMATION: Western is proposing to reroute approximately 5 miles of the existing Curecanti-Lost Canyon 230-kV electric transmission line. This relocation would require in 7 miles of new transmission line construction within new rights-of-way. The section of line to be rerouted is located near Waterdog Peak, approximately 11 miles southeast of Montrose, in Montrose County, Colorado.

Western prepared an EA for the proposed project, in compliance with NEPA, and regulations promulgated by the Council on Environmental Quality for implementing the procedural provisions of NEPA (40 CFR 1500-1508) and the DOE NEPA Implementing Procedures found at 10 CFR 1021. The Bureau of Land Management (BLM), Uncompahgre Field Office is a cooperating agency in the NEPA review and is the Federal agency responsible for granting rights-of-way across public land.

The Curecanti-Lost Canyon transmission line was constructed in the 1960s on steel lattice structures within a 150-foot wide right-of-way. A portion of the existing line is located in the Waterdog Basin area where the soil is characteristically unstable. As a result of this geologic hazard, Western proposes to relocate a portion of the line to avert future line failure and possible public safety concerns.

The project consists of: 1) constructing approximately 7 miles of new 230-kV transmission line within new rights-of-way, 2) developing access to the new transmission line structure locations, 3) removing a 5-mile segment of the existing 230-kV transmission line, and 4) reclaiming areas disturbed by the project.

As part of the public scoping process, Western placed a public notice in the Montrose Daily Press (published on May 16 and 19, 1999) that described the proposed project and requested comments from the public. On May 11, 1999, potentially affected landowners and Federal, State, and local government agencies were sent a scoping letter that described the project and requested comments. In addition, Western contacted all potentially affected landowners and the BLM concerning the proposed project. A draft EA was distributed to the public and interested agencies on January 25, 2000 for review and comment. The comment period ended February 14, 2000.

Alternatives considered in the EA include the No-Action Alternative (Alternative A), the proposed action (Alternative B), a routing alternative (Alternative C), and three electrical configuration alternatives. An additional routing alternative (Alternative D) was considered but eliminated from detailed evaluation.

Under the No-Action Alternative, the Curecanti-Lost Canyon transmission line in the area of Waterdog Peak would not be relocated. This segment of transmission line would be repaired or relocated in response to equipment failure in an emergency situation. Continued soil creep in the Waterdog Peak area would increase the probability of structure failure, creating a potential safety hazard to maintenance personnel and increasing the risk of an unplanned outage.

The proposed action (Alternative B) would reroute the 230-kV transmission line to an area where the geology is more stable. Approximately 7 miles of new transmission line would be constructed. The route selected for alternative B parallels an existing 115-kV transmission line for approximately 4.75 miles. Except for 2 miles of new access, existing roads and trails would provide access for construction and operation of the line. Five miles of the Curecanti-Lost Canyon transmission line would be decommissioned and removed.

Alternative C also includes a reroute of the 230-kV transmission line to an area where the geology is more stable. Approximately 9 miles of new transmission line would be constructed. The route selected for alternative C parallels an existing 115-kV transmission line for 4.25 miles. Six miles of new access roads would be constructed. 7.5 miles of the existing Curecanti-Lost Canyon transmission line would be decommissioned and removed.

Three electrical system design alternatives were evaluated. Constructing the relocated line at 230-kV on steel lattice towers was selected as the proposed electrical system alternative.

Environmental resources were identified and evaluated for project impacts. No effects would occur to air quality, climate, or paleontology.

There would be no significant topographic/physiographic change as a result of the project. There would be no change in land use. Soils would be subjected to some erosion. There would be minor modification to soil chemistry and physical characteristics, possible loss of soil to wind and water erosion, and decreased soil biological activity in areas of surface disturbance. Water turnoff bars would be constructed across all access roads on hillsides to prevent erosion. To enhance reclamation efforts, structure sites that require grading would have topsoil removed and stockpiled separately from subsoil. Topsoil would then be replaced at the desired grade. Minimal disturbance would occur to bedrock geology due to the construction and installation of new steel lattice towers.

There would be no effect on flood plains or wetlands. There would be no drainage channel interruptions. There would be minor short-term impacts from sedimentation during road access construction. There would be no impact to groundwater resources.

Short-term impacts to vegetation include trampling around the steel lattice structures. Disturbed areas would be re-seeded. Long-term impacts to vegetation would be confined to the structure foundations and any new (or improved) access roads needed for construction and maintenance of the transmission line.

Rerouting the transmission line would pose minimal impacts to wildlife species that use the area. Some temporary, localized displacement of wildlife species would occur during project construction. Physical disturbances would be limited to the immediate vicinity of each transmission line structure. No construction activities would occur in elk production areas or within mule deer and elk winter ranges during critical periods. The project would not change existing habitat types.

The EA includes a Biological Assessment and Biological Evaluation of rare species. No threatened or endangered species were observed during surveys of the project area and there are none known to occur in the project area. The U.S. Fish and Wildlife Service concurred on February 23, 2000 with Western's determination that the project is "not likely to adversely affect" the peregrine falcon, bald eagle, Mexican spotted owl, southwestern willow flycatcher, black-footed ferret, humpback chub, bonytail chub, Colorado pikeminnow, razorback sucker, clay-loving wild-buckwheat, and Uinta Basin hookless cactus. Three BLM-listed sensitive plant species were recorded during field surveys, but would not be affected by the proposed project. Habitat for eight BLM-listed sensitive animal species is present within the project area. Only one species, the midget faded rattlesnake, could be potentially impacted. Physical disturbance of habitat would be minimal and would be confined to vegetation clearing at transmission line structure locations and to the construction of any new access roads. Since the major threat to all rattlesnakes is thoughtless and indiscriminate killing by humans, it is possible that workers encountering rattlesnakes during construction may kill individuals out of fear or perceived threats from snakes. Workers would be instructed not to intentionally kill any rattlesnakes encountered during construction. If rattlesnakes were encountered, they would be avoided or allowed to move out of the way on their own.

Construction of the proposed action would not impact any significant archaeological or historic sites. Three prehistoric cultural sites were identified in the area of the proposed action. One of the three sites is eligible for the National Register of Historic Places (NRHP). The other sites are not eligible for the NRHP, but are recognized as important to the local landowner. Prior to construction, the three prehistoric cultural sites would be flagged off so that they can be avoided and protected. During construction, an archaeologist would be in the field to monitor construction activities. Staging areas and borrow pit areas (if required) would be surveyed for cultural resources prior to construction.

For compliance with the National Historic Preservation Act, Section 106, Western consulted with the Colorado State Historic Preservation Officer (SHPO). On December 1, 1999, the SHPO concurred with Western's determination that "no historic properties will be affected".

The proposed action would not introduce new forms, lines, colors and textures to the landscape. Removal of five miles of transmission line from the upper slopes of Waterdog Peak would reduce visual impacts locally. No portion of the relocated transmission line would be visible from Highway 50. Corona effects, ozone generation, radio and television interference, and audible noise would be negligible for the proposed action. Only short-term noise impacts related to construction activities are expected.

During the three to four month construction period, a small influx of workers to Montrose County could occur. There would be no increases in housing or community service demands. Temporary displacement of recreationsts, including hunters, would be minimal.

DETERMINATION: The analyses contained in the EA indicate that the proposed action is not a major Federal action significantly affecting the quality of the human environment, within the meaning of NEPA. Western has determined that preparation of an EIS is not required and is therefore, issuing this FONSI.

Issued at Loveland, Colorado March 22, 2000.

Joel K. Bladow
Regional Manager

SUMMARY

The Western Area Power Administration, Rocky Mountain Region (Western) is proposing to reroute approximately 5 miles of the existing Curecanti-Lost Canyon 230-kilovolt (kV) electric transmission line. The relocation of this section of transmission line would result in 7 miles of new construction within new rights-of-way. The section of line to be rerouted is located near Waterdog Peak, approximately 11 miles southeast of Montrose, in Montrose County, Colorado.

Western has prepared an environmental assessment (EA) for the proposed project, in compliance with the National Environmental Policy Act (NEPA), and follows regulations promulgated by the Council on Environmental Quality (CEQ) for implementing the procedural provisions of NEPA (40 CFR 1500-1508) and the Department of Energy NEPA Implementing Procedures found at 10 CFR 1021. The Bureau of Land Management (BLM), Uncompahgre Field Office is a cooperating agency in the NEPA review and is the Federal agency responsible for granting rights-of-way across public land.

The Curecanti-Lost Canyon transmission line was constructed in the 1960s on steel lattice structures within a 150-foot right-of-way. A portion of the existing line is located in the Waterdog Basin area where the soil is characteristically unstable. The line is being stressed and affected by slow-moving soil creep. As a result of this geologic hazard, Western proposes to relocate a portion of the existing line to avert future line failure and possible public safety concerns.

The project consists of: 1) constructing approximately 7 miles of new 230-kV transmission line within new rights-of-way, 2) developing access to the new transmission line structure locations, 3) removing a 5-mile segment of the existing 230-kV transmission line, and 4) reclaiming areas disturbed by the project.

As part of its' public scoping process, Western placed a notice in the Montrose Daily Press (published on May 16 and 19, 1999) which described the proposed project and requested comments from the public. On May 11, 1999 potentially affected landowners and Federal, State, and local government agencies were also sent a scoping letter describing the project and requesting comment. In addition, Western personally contacted all potentially affected landowners and BLM resource specialists concerning the proposed project. A draft EA was distributed on January 25, 2000 to the public and interested agencies for review and comment.

Alternatives considered in the EA include the No-Action Alternative (Alternative A), the proposed action (Alternative B), a routing alternative (Alternative C), and three electrical configuration alternatives. An additional routing alternative (Alternative D) was considered but eliminated from detailed evaluation.

Under the No-Action Alternative, the Curecanti-Lost Canyon transmission line in the area of Waterdog Peak would not be relocated. This segment of transmission line would be replaced and/or relocated in response to equipment failure in an emergency situation. Continued soil creep in the Waterdog Peak area would increase the probability of structure failure, creating a potential safety hazard to maintenance personnel and increasing the risk of an unplanned outage.

The proposed action (Alternative B) would reroute the 230-kV transmission line to an area where the geology is more stable. Approximately 7 miles of new transmission line would be constructed. The routing selected for alternative B parallels an existing 115-kV transmission

line for approximately 4.75 miles. Except for 2 miles of newly developed access, existing roads and trails would provide access for construction and operation of the line. Five miles of the existing Curecanti-Lost Canyon transmission line would be decommissioned and removed.

Alternative C also reroutes the 230-kV transmission line to an area where the geology is more stable. Approximately 9 miles of new transmission line would be constructed. The routing selected for alternative C parallels an existing 115-kV transmission line for 4.25 miles. Six miles of new access roads/trails would be constructed. 7.5 miles of the existing Curecanti-Lost Canyon transmission line would be decommissioned and removed.

Three electrical system design alternatives were evaluated. Constructing the relocated line at 230-kV on steel lattice towers was selected as the proposed electrical system alternative.

Environmental resources were identified and evaluated relative to project impacts. Some resources did not require detailed analyses because the project would have no affect on them. These resources include Air Quality, Climate, and Paleontology.

Environmental consequences of the proposed action (Alternative B) by resource area are as follows:

- **Topography/Physiography** - no significant topographic change.
- **Land Use** – no change in land use as a result of the project, continued livestock grazing and wildlife habitat with only a shift in location of the existing 230-kV transmission line.
- **Soils** – minor modification to soil chemistry and physical characteristics, possible loss to wind and water erosion, and decreased soil biological activity in areas of surface disturbance. Impacts would be short-term.
- **Geology/Geologic Hazards** - minimal disturbance to bedrock geology via installation of new steel lattice towers.
- **Hydrology-Surface and Groundwater** - no effect to floodplains or wetlands in the project area, no drainage channel interruptions, short-term impacts related to sedimentation during road access construction, no impact to groundwater resources.
- **Vegetation** - short-term impacts include trampling of vegetation around the newly placed steel lattice structures, clearing of shrubs in the area: noxious weed invasion potential in newly disturbed areas.
- **Wildlife** - some temporary, localized displacement of wildlife species during construction.
- **Special Status Vegetation and Wildlife** - no threatened or endangered species were detected during surveys of the project area and there are none known to occur in the project area. Three BLM-listed sensitive plant species were recorded during field surveys but would not be affected by the proposed action. Eight BLM sensitive animal species have habitat within the project area. Only one species, the midget faded rattlesnake, could be potentially impacted. Construction crews will be instructed not to kill any rattlesnakes encountered during construction.

- **Cultural Resources** – One prehistoric cultural site eligible to the National Register of Historic Places was identified for the proposed action. Two prehistoric cultural sites, which are not eligible, but considered important to a local landowner, were also identified. All three cultural sites will be protected and not disturbed during construction. An archaeologist will be on site during construction.

- **Visual Resources** - no new introduction of new forms, lines, colors and textures to the landscape. Removal of 5 miles of transmission line from the upper slopes of Waterdog Peak would reduce visual impacts locally. No portion of the relocated transmission line would be visible from Highway 50.

- **Electrical Characteristics and Public Safety** - corona effects, ozone generation, radio and television interference, and audible noise, would be negligible with the relocated transmission line.

- **Noise** – only short-term noise impacts related to construction activities are expected.

- **Socioeconomics** - during the three to four month construction period, a small influx of workers to Montrose County could occur. No increases in housing or community service demands would occur.

- **Recreation** - displacement of recreationists, including hunters, would be minimal.

TABLE OF CONTENTS

Page No.

LIST OF TABLES

LIST OF FIGURES

LIST OF MAPS

LIST OF APPENDICES

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The Western Area Power Administration, Rocky Mountain Region (Western), is proposing to relocate approximately 5 miles of the existing Curecanti-Lost Canyon 230-kilovolt (kV) electric transmission line. The relocation of this section of transmission line would result in 7 miles of new construction along an alternate route. The section of line to be rerouted is located near Waterdog Peak approximately 11 miles southeast of Montrose, in Montrose County, Colorado.

The Curecanti-Lost Canyon transmission line was constructed in the 1960s on steel lattice structures within a 150-foot right-of-way. A portion of the existing line is located in the Waterdog Basin area where the soil is characteristically unstable. The line is being stressed and affected by slow-moving soil creep. As a result of this geologic hazard, Western proposes to replace a portion of the existing line to avert future line failure and possible public safety concerns. This rerouted line would cross both privately owned lands and land managed by the Bureau of Land Management (BLM), Uncompahgre Field Office. See *Figure 1, General Location Map* and *Map 1, Land Ownership and Alternatives*. This environmental assessment (EA) addresses the proposed re-alignment of the Curecanti-Lost Canyon transmission line. This EA was prepared in compliance with the National Environmental Policy Act (NEPA) and follows regulations promulgated by the Council on Environmental Quality (CEQ) for implementing the procedural provisions of NEPA (40 CFR 1500-1508) and the Department of Energy NEPA Implementing Procedures found at 10 CFR 1021.

Western was established in December 1977 under the Department of Energy Organization Act and is an agency of the United States Department of Energy (DOE). Western is charged with marketing and transmitting federally produced electricity throughout a 1.3 million square mile geographic area in 15 western states. The majority of Western's electricity comes from federally owned and operated hydroelectric plants.

Electric power marketed by Western is generated by the Bureau of Reclamation, the U.S. Army Corps of Engineers, and the International Boundary and Water Commission in Texas. These agencies own and operate 48 hydroelectric power plants with a generating capacity of over 7,740 megawatts. Western markets its power resource to customers given preference under law by Congress, identified as municipalities, other public corporations or agencies, cooperatives, and other non-profit organizations financed in whole or in part by loans made pursuant to the Rural Electrification Act of 1936.

The Curecanti-Lost Canyon 230-kV transmission line is a part of a larger electric grid system that exists in southwestern Colorado. See *Figure 2, Existing Transmission System*.

1.2 PURPOSE OF AND NEED FOR PROPOSED ACTION

Western needs to reroute a portion of the existing Curecanti-Lost Canyon 230-kV transmission line in order to maintain long-term electric service. The section of line to be abandoned is located in an area of geologic instability, and there is a hazard that the existing towers may continue to move, causing a tower or hardware failure, or failure of the conductor. Currently, the conductors on the existing line in the Waterdog Basin area have been stressed to limits unacceptable to Western. Failure of the line would cause public safety concern and would affect power deliveries to Western customers.

Monitoring of the transmission line towers began in 1986 after several lattice towers in the Grand Mesa area sustained extensive damage from footing movement caused by landslides, which were a result of unusually heavy snowpack, coupled with warm weather and unstable soil conditions.

Results of this monitoring indicate several of the suspension towers located in the Waterdog area have experienced severe movement due to soil instability. The towers have moved ahead and off center of the transmission line centerline as much as 10 feet.

Because the towers in the Waterdog area are continuing to show signs of movement, the recommended mitigation measure is to reroute the line section to avoid the Waterdog area as much as possible. The new line section would be approximately 7 miles in length to allow rerouting the line away from the Waterdog Basin area and into an area where the soil is characteristically more stable.

Rerouting the line section would decrease the costs to maintain the line, decrease the risk of a structure failure and possible safety concern, and increase the reliability of the line.

1.3 CONFORMANCE WITH BLM LAND USE PLAN

Portions of the Curecanti-Lost Canyon 230-kV transmission line cross lands administered by the BLM. The portion of the transmission line crossing public land is in conformance with the Uncompahgre Basin Resource Management Plan (RMP) which was completed and approved in July of 1989. This RMP determined that Western had the right to maintain an existing 230-kV electric transmission line through the project area. The re-alignment of the transmission line should not conflict with other land uses as described in the RMP.

1.4 PUBLIC AND AGENCY INVOLVEMENT

In March 1999, Western requested that the BLM be a cooperating agency in the preparation of an EA for this project. The BLM agreed to be a cooperating agency and has assisted Western in gathering resource data and other information for this EA.

On April 19, 1999, Western conducted a briefing meeting for the Montrose County Commissioners, as a courtesy, realizing numerous other energy projects have affected the county in the past year.

Western placed notices in the Montrose Daily Press (published on May 16 and 19, 1999) which described the proposed project and requested comments from the public.

On May 11, 1999, Western sent a scoping letter to all landowners in the project area, and to federal and state agencies that may have an interest in the project. The scoping letter, and a list of individuals and interested parties, who received the letter, can be found in *Appendix A, Scoping Documents.* Western visited with both BLM resource specialists and landowners to obtain input into the proposed relocation of the Curecanti-Lost Canyon transmission line.

A draft EA was distributed on January 25, 2000, to the public and interested parties for review and comment (see Appendix I, Public Comment on the Draft Environmental Assessment). One individual responded with comments on the draft EA. Western's response to those comments is set forth in *Appendix I, Public Comment on the Draft Environmental Assessment.*

1.5 ISSUES AND CONCERNS

The following issues and concerns were outlined for the EA document:

- **Cultural Resources -** Identify impacts to cultural resources as a result of the re-alignment.
- **Geology -** Identify any geologic hazards which may cause difficulties with transmission line re-alignment, design, and construction.
- **Wildlife -** Minimize disruption to wildlife as a result of the re-alignment.
- **Threatened and Endangered Species -** Identify the potential to affect any threatened and endangered plant and animal species in the area as a result of the re-alignment.
- **Construction Disturbances -** Minimize construction disturbances as a result of the re-alignment, and ensure gates on private property are closed, to control public access.
- **Public Health and Safety -** Address public health and safety issues associated with the transmission line relocation.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

Chapter 2 describes the No-Action Alternative (Alternative A), two action (routing) alternatives (Alternatives B and C), and three electrical alternatives. A third action alternative (Alternative D) was considered but eliminated from detailed evaluation.

2.2 ALTERNATIVE A (NO-ACTION ALTERNATIVE)

Under the No-Action Alternative, Western would keep the Curecanti-Lost Canyon 230-kV transmission line in its present location and perform annual maintenance on the towers in an attempt to prevent tower failure. Existing towers and hardware would remain in their original location and only be replaced in response to an emergency situation created by line failure.

Although implementation of the No-Action Alternative would preclude some of the environmental effects that would be associated with a relocation of a portion of the line, there could be major safety impacts, reliability, and environmental impacts associated with the No-Action Alternative. Under the No-Action Alternative, the probability of a structure failure would continue to increase, creating a potential safety hazard to maintenance personnel and increasing the risk of an unplanned line outage. If the transmission line failed, there would be environmental impacts associated with the repair and/or rebuilding of the line.

Given pending safety concerns and future electrical reliability for the entire Western electrical infrastructure, the No-Action Alternative is not considered a reasonable alternative.

2.3 ALTERNATIVE B (PROPOSED ACTION)

The proposed action (Alternative B) would consist of abandoning approximately 5 miles of the Curecanti-Lost Canyon 230-kV transmission line and replacing this section with about 7 miles of a rerouted line. See *Map 1, Land Ownership and Alternatives.*

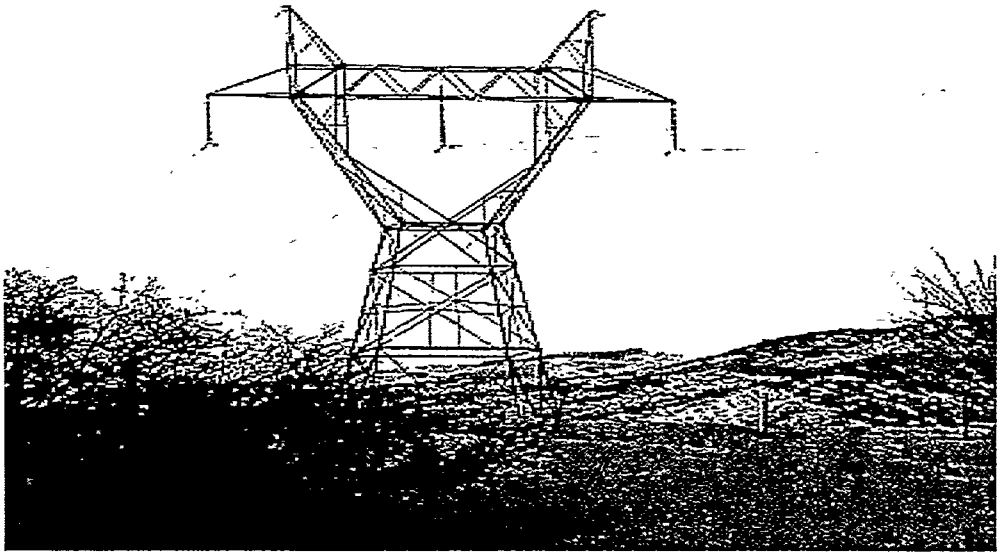
With the exception of approximately 300 feet (0.06 mile), the majority of the reroute for Alternative B would be located on private lands. The 300-foot segment on BLM land is located along the section line dividing Section 35 and 36, T48N, R8W. See *Figure 3, Photo of Existing and Proposed Reroute 230-kV Transmission Line (looking southeast).*

The reroute contemplated under Alternative B crosses private agricultural land, used primarily for livestock grazing. Approximately 5.5 miles (out of 7 miles) of new line proposed for this alternative is accessible by existing roads. The new construction would be completed by mobile equipment utilizing the existing roads which form the proposed transmission line right-of-way. Given the relatively steep topography along the section lines dividing Sections 13 and 14, and 23 and 24 (T48N, R8W), approximately 2 miles of new road construction would be needed for tower and line installation. This access would be used by Western for long-term monitoring and maintenance. Under Alternative B, no new road construction would be necessary on lands managed by the BLM.

The proposed action (Alternative B) would reroute the 230-kV transmission line to an area where the geology is more stable. Approximately 7 miles of new transmission line would be constructed. The routing selected for Alternative B parallels an existing 115-kV transmission line for approximately 4.75 miles. Except for 2 miles of newly developed access, existing roads

and trails would provide access for construction and operation of the line. Five miles of the existing Curecanti-Lost Canyon transmission line would be decommissioned and removed.

Western plans to use steel lattice towers for the rerouted line because they are the most technically and economically feasible.



230-kV (1cct) Lattice Steel

Average height	105'
Height Range	80' – 120'
Average Span	1200'
Maximum Span	1375'

The transmission line would be constructed on a 150-foot wide right-of-way. The width of the transmission line right-of-way, and the restrictions within it, are determined by electrical safety codes and operational considerations, and are proportional to the voltage, which is 230-kV. On public land, Western would acquire right-of-way permits from the BLM. On private land, Western would acquire sufficient easements to locate, reconstruct, operate, and maintain the transmission facility. A discussion of the construction requirements for the rerouted line is described in *Appendix B, Construction Methods*.

Once the rerouted line is constructed and tied into the existing Curecanti-Lost Canyon transmission network, the replaced line would be abandoned. The actual powerlines would be salvaged and shipped off site. The steel lattice towers would be dismantled and also taken off site for salvage.

2.4 ALTERNATIVE C

Alternative C would consist of abandoning approximately 7.5 miles of the existing Curecanti-Lost Canyon 230-kV transmission line and replacing this section with about 9 miles of a rerouted line. See *Map 1, Land Ownership and Alternatives*. Approximately 2.5 miles of the rerouted line contemplated under Alternative C would be located on BLM land. The remaining reroute would be located on private surface.

As with Alternative B, the reroute contemplated under Alternative C crosses land primarily used for livestock grazing. Approximately 4.5 miles (out of 9 miles) of new line proposed for this alternative is accessible by existing roads. Given topographic constraints in the areas along the proposed right-of-way where existing roads are not available, approximately 6 miles of new road construction would be needed for tower and line installation. This new road would be used for long-term monitoring and maintenance. Under Alternative C, approximately 1.5 miles of new road construction would be necessary on lands managed by the BLM. Western would use

steel lattice towers for Alternative C and construct and abandon the lines in the same manner as outlined under Section 2.3, Alternative B (Proposed Action) and described in *Appendix B, Construction Methods*.

Alternative C also reroutes the 230-kV transmission line to an area where the geology is more stable. Approximately 9 miles of new transmission line would be constructed. The routing selected for Alternative C parallels an existing 115-kV transmission line for 4.25 miles. Six miles of new access roads/trails would be constructed. 7.5 miles of the existing Curecanti-Lost Canyon transmission line would be decommissioned and removed.

2.5 ALTERNATIVE D (CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS)

During the development of this EA, a number of potential alternatives were discussed by technical and resource specialists, including a BLM interdisciplinary team. The discussion amongst the specialists focused on the "reasonability" of an alternative. To be "reasonable", an alternative would need to:

- Meet the identified purpose and need for the project;
- Be technologically and economically feasible; and,
- Avoid or minimize adverse impacts or enhance the quality of the environment.

One alternative was considered initially, but failed the reasonability test; Alternative D. The location of the proposed right-of-way for Alternative D is described on *Map 1, Land Ownership and Alternatives*. The purpose of this alternative was to locate as much of the proposed rerouted line on BLM managed lands as possible. Such a configuration would minimize the effects to surface owners, and minimize the number of surface land holders that might be affected by a proposed rerouting of the transmission line. This routing also would require nearly 10 miles of new transmission line construction, 4 miles of which would be located on BLM managed surface and 6 miles on private lands. In addition, given the relative remote location of this proposed reroute, along with the relatively rugged and steep topography through which the rerouted line would be constructed, nearly 15 miles of new road construction would be required. Given the extended construction needed, as well as the disturbance needed for new roads to access the right-of-way, this alternative was eliminated from detailed evaluation.

2.6 ELECTRICAL SYSTEM ALTERNATIVES

The following alternatives and associated cost estimates were evaluated to determine if the rerouted line should be rebuilt at 230-kV or 345-kV. The new line section would be approximately 7 miles in length. A capital budgeting analysis was also performed for this same purpose. The cost estimates for each electrical system alternative represent construction costs only and do not include costs for planning, design, surveying, lands, or construction supervision.

2.6.1 Electrical System Alternative 1 (Proposed Action)

This alternative involves constructing the new 7 mile line reroute using 230-kV steel lattice towers, 230-kV conductor, and 230-kV insulators. The estimated cost to construct this line with 230-kV towers and material is $2,830,500.

If the line were converted to 345-kV in the future the estimated cost to modify the towers and install 345-kV material would be approximately $3,589,100. Therefore, the total cost to

construct the line at 230-kV initially and then upgrade to 345-kV in the future would be $6,419,600.

A capital budgeting analysis was performed and the results indicate that it is not cost effective to rebuild the line at 345-kV at this time. Therefore, this alternative to rebuild at 230-kV has been selected as the proposed electrical system alternative.

2.6.2 Electrical System Alternative 2

This alternative includes constructing the line reroute using 345-kV steel lattice towers, 230-kV conductor, and 230-kV insulators. The estimated cost for this alternative is $3,690,900. In the future, to convert the line to 345-kV, the 230-kV conductor and insulators would need to be replaced with 345-kV materials. The estimated cost to upgrade to 345-kV would be $2,274,500. Therefore, the total cost to construct the line initially using 345-kV towers and 230-kV materials and then replacing those materials with 345-kV in the future would be $5,965,400.

2.6.3 Electrical System Alternative 3

This alternative involves constructing the line reroute using 345-kV steel lattice towers, 345-kV conductor, and 345-kV insulators. The estimated cost to construct the line using 345-kV towers and material is $4,358,900. Although the initial cost of this alternative is higher, there would be no future expenditures required to upgrade the line.

Electrical System Alternatives					
Alternative	**Configuration**	**Conductor and Insulators**	**Cost**	**Future Upgrade to 345-kV**	**Total**
Alternative 1	230-kV steel lattice towers	230-kV	$2,830,500	$3,589,100	$6,419,600
Alternative 2	345-kV steel lattice towers	230-kV	$3,690,900	$2,274,500	$5,965,400
Alternative 3	345-kV steel lattice towers	345-kV	$4,358,900	-0-	$4,358,900

3.0 ENVIRONMENTAL ANALYSIS

3.1 INTRODUCTION

This chapter of the EA describes both the existing conditions of the environment and consequences to the area and resources, based on the alternatives described in Chapter 2, Proposed Action and Alternatives. For ease of presentation and comparison, the analysis discussions are separated into individual resource areas, such as land use, geology, wildlife, etc. The impact analysis emphasizes those disciplines that relate to issues and concerns identified in Chapter 1, Purpose and Need. Some impacts are expressed in qualitative terms, others in quantitative terms. The environmental analysis presented in this chapter assumes that environmental management and reclamation measures described in *Appendix C, Environmental Management During Construction Activities*, are implemented.

3.2 TOPOGRAPHY/PHYSIOGRAPHY

3.2.1 Existing Conditions

The topography in the area of the planned re-alignment is moderately steep to steep. Elevations range from approximately 6,600 feet in Beaton Creek on the eastern side of the area to over 9,200 feet at Waterdog Peak. The area is drained by several ephemeral drainages that flow in a general east-west direction, eventually emptying into the Uncompahgre River located east of the analysis area.

The topography of the area has been influenced by a wide range of mass movement land forms and processes. These include natural landslides and soil creeping. The general geologic instability of this area is discussed in Section 3.5, Geology and Geologic Hazards.

3.2.2 Environmental Consequences

The re-alignment of the Curecanti-Lost Canyon transmission line would impose no significant topographic change in the area.

Alternative A (No-Action Alternative). Natural landsliding and soil creep would continue along the area of the existing line given existing, natural geologic instability.

Impacts Common to Both Action Alternatives. Topographic changes caused by re-alignment of the Curecanti-Lost Canyon transmission line would be unnoticeable to the untrained eye. Regrading, recontouring and reclamation aspects of the work for new construction and the decommissioning of the abandoned portion of the existing line would blend any disturbed areas into the adjacent undisturbed terrain.

3.3 LAND USE

3.3.1 Existing Conditions

Land ownership in the analysis area consists of both private and public lands located in Montrose County. Land ownership in the area is shown on *Map 1, Land Ownership and Alternatives*. The area is used primarily for livestock grazing and wildlife habitat. The area is zoned for agriculture by Montrose County. The existing Curecanti-Lost Canyon transmission line has an approved right-of-way on BLM land.

The portions of the public lands in the analysis area are located on BLM lands administered by the Uncompahgre Field Office headquartered in Montrose. BLM manages this area for wildlife habitat and grazing as provided in the Uncompahgre Basin RMP. Please refer to *Table 3-1, Estimated Right-of-Way Lengths*, for a summary of proposed land use.

Table 3-1
Estimated Right-of-Way Lengths

Right-of-Way	Alternative B	Alternative C
Line to be abandoned	5 miles	7.5 miles
New line to be constructed (Total)	7 miles	9 miles
New access road required (Total)	2 miles	6 miles
New line to be construction on BLM land	0.06 miles (300 feet)	2.5 miles
New access road required on BLM land	None	1.5 miles

3.3.2 Environmental Consequences

Alternative A (No-Action Alternative). The No-Action Alternative would result in additional disturbance to the land use of the area if the existing transmission line is severed or damaged by geologic landsliding or soil creep activities. In addition, there would be the need for increased surveillance activity to monitor the towers subject to geologic instability.

Impacts Common to Both Action Alternatives. None of the action alternatives would cause a major land use change within Montrose County or on the public lands managed by the BLM. An electric transmission right-of-way is an allowable use in this area, so even the relocation of the Curecanti-Lost Canyon transmission line would be in conformance with existing land uses and BLM allowable uses in the area. With the relocation of the electric transmission line, land use would continue to be livestock grazing and wildlife habitat. A comparison of the right-of-way requirements for the action alternatives C are shown in *Table 3-1, Estimated Right-of-Way Lengths.*

3.4 SOILS

3.4.1 Existing Conditions

An Order III soils survey was completed for the region (which includes the area for the transmission line reroute) by the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service). The survey work was completed during the early to mid 1990s, but a final soil survey report from the NRCS is pending A variety of soils occur in the area, ranging from shallow to deep, fine to moderately coarse textured, and well drained to poor drained. Soils have formed more predominantly in drainage areas than on side slopes.

3.4.2 Environmental Consequences

Alternative A (No-Action Alternative). Under the No-Action Alternative, some minimal soil impacts could occur if maintenance and repair is needed to the existing line as a result of line

failure from landsliding and/or continued soil creep. Impacts would include possible wind erosion or soil loss from water erosion.

Impacts Common to Both Action Alternatives. The direct impacts on soils from any of the action alternatives would be dependent on the amount and location of disturbance. Direct impacts would include modification to soil chemistry and physical characteristics, loss of soil to wind and water erosion, and decreased soil biological activity.

Water bars would be constructed to minimize soil loss from water erosion. Topsoil would be salvaged where new towers are constructed.

Alternative C would have greater negative impacts to the soil resource by virtue of the total miles of added disturbance compared to Alternative B. Increased activities include 2.5 miles more than Alternative B, of transmission line abandonment/removal; 2 miles more of new transmission line construction; and 4 more miles of new access roads. In total, Alternative C would require activities on 6.5 more linear miles of land than Alternative B, and would have commensurate soil impacts.

3.5 GEOLOGY AND GEOLOGIC HAZARDS

3.5.1 Existing Conditions

Bedrock geology in the Waterdog Peak area is dominated by the Mancos shale (Black & Veatch, 1989). The Mancos shale is a dark gray silty clay shale containing lenses and seams of friable gray sandstone and scattered calcareous silt stone concretions. The Mancos shale is plastic when wet and susceptible to failure.

Overlying the Mancos shale are rocks of the Mesa Verde formation which is comprised chiefly of a brown to gray, fine to medium gray sandstone and gray shale. The Mesa Verde formation is absent over most of the area, being exposed only on Coal Hill.

Geologic hazards for the analysis area have been mapped as shown on *Map 2, Geologic Hazards*. This map presents slope angle measurements which were originally used to categorize the area into low, moderate, and high hazard zones. Slopes greater than 20 degrees have been categorized as high hazard, 10 to 20 degrees moderate hazard, and less than 10 degrees low hazard.

The most damaging area of soil creep and potential landslide activity along the existing transmission line occurs in the Mancos shale in Section 30, T48N, R7W, on the western flank of Waterdog Peak. This area, located between towers 6-1 and 9-1, has been field checked by Western engineers, and they are especially concerned with the integrity of the line and towers at this site.

This region of Colorado has low to moderate seismicity potential. In the Montrose area, four earthquakes with magnitude of 4 to 5 on the modified Mercalli scale (ranging from a low of 1 to a high of 7) were recorded between 1960 and 1980. A magnitude 6 earthquake can produce slight damage to poorly constructed structures.

3.5.2 Environmental Consequences

Alternative A (No-Action Alternative). Under the No-Action Alternative, existing soil creep and potential landslide activity would continue to occur that could result in line failure or tower destruction. The area of potential geologic hazards along the existing line in Sections 20, 21, 25, 30, and 36 (T48N, R7W) are extensive enough to preclude any practical, or cost effective engineering applications. Geological instability would continue to occur in this area and would continue to threaten the integrity of the existing transmission line.

Impacts Common to Both Action Alternatives. Only minimal disturbance would occur to bedrock geology with the relocation of the transmission line. This disturbance would occur with the installation of new towers. Both action alternative right-of-ways have been examined by Western engineers for geologic instability. The installation of the new rerouted transmission line towers under each alternative would be designed and installed to avoid geologic hazard areas.

3.6 HYDROLOGY - SURFACE AND GROUNDWATER

3.6.1 Existing Conditions

Waterdog Peak and nearby Cinnamon Ridge are drained by small streams, such as Hairpin Creek, Waterdog Creek and Beaten Creek, all of which flow westerly to the Uncompahgre River. Historically, water from the Cinnamon River, east of the project area, has been diverted into Hairpin Ditch, an irrigation canal. Small ponds are common in the higher elevations in the eastern portion of the area. Some landslides have dammed small drainages which also create ponding. Springs are also common, but most appear to be seasonal. Average precipitation in Montrose is 9.5 inches. The top months for precipitation, in descending order, are August, September, October, and May.

No groundwater information has been developed for the site. No drinking water wells exist within the analysis area.

3.6.2 Environmental Consequences

Alternative A (No-Action Alternative). The No-Action Alternative would have no direct impact on hydrologic resources. However, the existing soil creep and landslide action in this area would continue to contribute sediment to existing drainages, especially during snow and heavy storm event periods.

In the event of line failure and tower damage, Western crews would be required to repair such damage. In the event that such problems occur during the spring (heavy snow melt period) or

during or shortly after heavy rainfall, such mobilization of equipment and use of access roads could further contribute to erosion and sedimentation impacts.

Impacts Common to All Action Alternatives. Both alternatives B and C are located in areas where minimal crossings of ephemeral streams would be necessary. As such, the proposed reroute work would not affect any floodplains or wetlands. Tower structures for the transmission line can be constructed to avoid placement in any drainage channels.

Access road and line construction could cause minor impacts to surface water resources due to sedimentation. However, such impacts should be minimal provided that such construction is conducted during the dry months of the year (June and July are typically the driest months). The new construction activities would also have no impact on the Uncompahgre River which is located 3 to 7 miles west of the planned new construction activities. Both action alternatives would have limited impacts on local surface water hydrology. All of the drainages in the area are ephemeral in nature and flow only during storm or snow melt events. The new construction of the powerline and associated access roads could cause impacts on surface water resources; however, such impacts would be minimal.

There would be environmental management requirements for either action alternative. These measures for surface water hydrology would include minimizing surface area disturbance, using accepted construction techniques to reduce sediment impacts to area drainages, and placing water bars or other erosion control measures as needed. In addition, erosion repair would be undertaken as part of site reclamation. Please refer to *Appendix C, Environmental Management During Construction Activities.*

Neither action alternative would cause any impacts to the area's groundwater resources.

3.7 VEGETATION

3.7.1 Existing Conditions

Plant associations in the project area exhibit characteristics common to the Southern Rocky Mountain and Colorado Plateau physiographic provinces. Biological surveys combined with aerial photo interpretation identified seven vegetation cover types within the project area as shown on *Map 3, Vegetation Map.* These cover types include agricultural land, aspen, big sagebrush, Gambel oak, salt desert shrub, pinyon-juniper, and spruce-fir.

Other than on sites that were cleared for construction of the existing transmission line, pinyon-juniper, salt desert shrub, Gambel oak, sagebrush, and mixed conifer communities within the project area appear to be in a climax state for their respective sites. Aspen-dominated sites are located on soils with aggressive mass movement taking place. Such constant slumping and sliding appears to have kept the vegetative community in a mid-seral state dominated by aspen.

Agricultural Land. Agricultural land is restricted to the lowlands west of the project area. Such land is typically commercial hay meadows, although some row crops and fruit orchards are also present. Agricultural land occurs in areas beyond the scope of influence of the proposed project.

Aspen. Aspen (*Populus tremuloides*) has a broad range of environmental tolerance and consequently is found on a wide variety of sites. It is important as a seral species that regenerates rapidly following wildfires, but can also form stable stands. Within the project area,

aspen stands form the transition from the sagebrush steppe, oak woodland, and pinyon-juniper lowlands to the higher elevation spruce fir and mixed conifer forests of Waterdog Peak.

Vegetation in the understory of aspen stands in the project area includes subalpine fir (*Abies lasiocarpa),* Engelmann spruce *(Picea engelmannii),* mountain maple (*Acer glabrum*), serviceberry (*Amelanchier alnifolia*), common juniper (*Juniperus communis*), Scouler willow (*Salix scouleriana*), mountain brome (*Bromus marginatus*), water sedge (*Carex aquatilis*), blue wildrye (*Elymus glaucus*), Thurber fescue (*Festuca thurberi*), Colorado columbine (*Aquilegia coerulea*), Engelmann aster (*Aster engelmannii*), lupine (*Lupinus* sp.) and numerous other species.

The slopes of Waterdog Peak on which the existing Curecanti-Lost Canyon 230-kV transmission line is located are demonstrating significant mass movement on sites dominated by aspen. This constant natural disturbance most likely prevents succession to spruce-fir from taking place, and helps to keep the vegetative community in a mid-seral state with aspen as the dominant species.

Big Sagebrush. Sites mapped as sagebrush (*Artemisia tridentata*) rangeland are sagebrush parks with varying densities of grass intermixed; saltbush is present on the more alkaline sites. Within this community, big sagebrush comprises more than 25% of the total vegetative cover. Sagebrush rangeland is characterized by gentle to moderate slopes with deep, seasonally dry, well drained fertile soils. The distribution of this plant community often coincides with a high water table or deep moisture accumulations.

In the valley bottoms of Waterdog Basin individual big sagebrush plants reach to heights greater than 6 feet. Additional shrub species commonly found in this community include rigid sage (*Artemisia bigelovii*), saltbush (*Atriplex sp.*), greasewood (*Sarcobatus vermiculatus*), horsebrush (*Tetradymia canescens*), rabbitbrush (*Chrysothamnus viscidiflorus*), and broom snakeweed (*Guttierrezia sarothrae*). Locoweed (*Astragalus* sp.), lupine, sego lily (*Calochortus gunnisonii*), Indian paintbrush (*Castilleja linariifolia*), arrowleaf balsamroot (*Balsamorhiza sagittata*), wild onion (*Allium acuminatum*), yarrow (*Achillea lanulosa*), and bluebunch wheatgrass (*Agropyron spicatum*).

Gambel Oak. Gambel oak (*Quercus gambellii*) woodlands cover a broad expanse of the project area. Oak woodlands are persistent and often are climax associations. They are regenerated largely through root sprouting. Sprouting is especially vigorous following wildfire. Oak woodlands are present in the project area in a complex mosaic, often interspersed with big sagebrush, mixed shrub, and grasslands. Serviceberry, mountain mahogany (*Cercocarpus montanus*), bitterbrush (*Purshia tridentata*), big sagebrush, pinyon pine (*Pinus edulis*), and Utah juniper (*Sabina osteosperma*) are found in association throughout this community. Forbs and grasses include sulphur flower (*Eriogonum umbellatum*), penstemon (*Penstemon sp.*), trumpet gilia (*Ipomopsis aggregata*), and Thurber fescue.

Pinyon-Juniper. Pinyon pine - Juniper (*Pinus edulus - Juniperus* sp.) woodland occupies broad expanses of open canopy forest in the western portion of the project area. Sites mapped as pinyon-juniper woodland support varying densities of these trees, with an understory of sagebrush at lower elevations, and occasional ponderosa pine at higher elevations. Some of these sites support cover of less than 25% pinyon-juniper. Such sites are often located on steep sidehills with exposed rock and scattered sagebrush. Elsewhere, pinyon and juniper mix with Gambel oak, serviceberry, and mountain mahogany.

The pinyon-juniper type forms the transition from grassland or salt desert shrub to montane coniferous and/or aspen forests. In general, the lower, drier sites in the project area are dominated by junipers, while pinyon is more dominant at higher elevations. Tree height and density increase with the favorability of the growing site. On warm, very dry sites, mountain mahogany integrates with these two conifers, while on less dry sites, Gambel oak comes into association with this community. Additional species found in association with pinyon-juniper include bitterbrush, Mormon tea (*Ephedra viridis*), wild onion, prickly pear (*Opuntia* sp.), junegrass (*Koeleria macrantha*) and Indian ricegrass (*Oryzopsis hymenoides*),

Salt Desert Shrub. Salt desert shrub communities are dominated by saltbush (*Atriplex* sp.) and other species tolerant of saline soils and low moisture availability. Areas where Gardner saltbush (*Atriplex gardneri*) comprises at least 25% of the vegetative cover are usually relatively pure saltbush stands. Bare soil constitutes most of the land surface in these dry, harsh growing sites. Included within this mapping are sites with less than 10% vegetation, often situated on steep, south-facing slopes with shale-derived soils. Additional saltbush species that may be present in this mapping unit include *A. cuneata*, *A. nuttallii*, and *A. corrugata*. Winterfat (*Eurotia lanata*), and rabbitbrush are also present to varying degrees, as are big sagebrush, steppe bluegrass (*Poa secunda*), cheatgrass (*Bromus tectorum*), bromegrass (*Bromus* sp.) and Indian ricegrass.

Spruce-fir. A small component of the vegetation in the project area is dominated by Engelmann spruce (*Picea engelmannii*), Douglas fir (*Pseudotsuga menziesii*), and white fir (*Abies concolor*). These coniferous forests are present in two isolated locations at the higher elevation, north-facing aspect adjacent to the existing Curecanti-Lost Canyon transmission line.

3.7.2 Environmental Consequences

Alternative A (No-Action Alternative). In the short-term (< 25 years), barring catastrophic wildfire or other unforeseen disturbance, little change in the vegetative composition of the project area would be expected.

In the long-term (>25 years), fire prevention due to historical human intervention via BLM or local fire districts, may lead to a spread of pinyon-juniper communities into sagebrush and salt desert shrub communities. These communities are most likely dependent on intermittent wildfire to prevent the encroachment of pinyon and juniper into sites dominated by these species.

Impacts Common to Both Action Alternatives. Disturbances to vegetation associated with removal of the existing transmission line would be limited to the sites where steel lattice structures are located, and to places where the line may drag on the ground. Direct impacts would include compaction of soils surrounding each structure, and line pulling and tensioning stations. Additional impacts are not expected to occur. Existing access roads would be used for removal of the existing transmission line.

The impacts of both the proposed alternative (Alternative B) and Alternative C are similar. Neither alternative would pose any impact on sensitive areas such as riparian or wetland communities. Ponds and wetland sites would be spanned rather than directly impacted by placement of a structure.

Impacts to vegetation that would result from construction of the proposed rerouted line, would be confined to the area in the immediate vicinity of each support structure and any new (or improved) access roads needed for construction and ongoing transmission line maintenance.

Other than the area surrounding each support structure, corridor clearing is not anticipated since the height of trees and shrubs within the corridor is not great enough to interfere with power transmission.

The effects of the project alternatives on vegetation are summarized in *Table 3-2, Vegetation Disturbance Associated With Reroute of the Curecanti-Lost Canyon 230-kV Transmission Line.* At the location of each structure, short-term impacts would include trampling of vegetation and soil compaction around the newly placed structures. Shrubs would generally be cleared in the disturbed area. Such impacts would occur as a result of vehicle movement, structure assembly, and erection of each steel lattice structure. This area of disturbance is estimated as a circle with a 25-foot radius and an area of approximately 2,000 square feet.

The effects of vegetation trampling and soil compaction would disappear within 1 to 2 years as native or reclamation seeded vegetation regenerates beneath each structure. Once the structure is in place, shrubs would be expected to regenerate naturally to site specific native densities.

Table 3-2
Vegetation Disturbance Associated With Reroute of the Curecanti-Lost Canyon 230-kV Transmission Line

Route Alternative	Total Length of Rerouted Transmission Line (ft)	Total Length of Existing Line to be Removed (ft)	Number of Structures To Be Placed	Short-Term Disturbance (ac)	Long-Term Disturbance (ac)
No-Action A	0	0	0	0	0
Proposed B	36,960	26,400	44	2.0	0.03
Alternative C	47,520	39,600	55	2.5	0.04

On steep sites that may require grading to a level contour for structure placement, short-term impacts would be more severe. Vegetation would be cleared during the grading process, most likely exposing the subsoil which is a less capable growing media. To mitigate the effects of exposed subsoil, topsoil at such sites would be stockpiled for use in reclamation of each site after placement of the structure. The disturbed site would be re-seeded with a species mix representative of naturally occurring species in the area. Herbaceous regeneration would be expected to achieve stable cover that is representative of natural cover adjacent to each site.

Long-term impacts to vegetation associated with placement of the structures are those impacts associated with the foundations upon which the four ground contacts of each structure are placed. Foundations would be 3 feet in diameter. The long-term impact of four foundations at the location of each structure is 28.27 square feet.

The linear distance within each vegetative community that would be crossed under each alternative is displayed in *Table 3-3, Curecanti-Lost Canyon Transmission Line Relocation Vegetation Types in Linear Feet.*

Table 3-3 Curecanti-Lost Canyon Transmission Line Relocation Vegetation Types in Linear Feet					
Alternative	Agricultural	Salt Desert Shrub (ft)	Big Sagebrush (ft)	Pinyon Juniper (ft)	Gambel Oak (ft)
No-Action A	0	0	0	0	0
Proposed B	0	0	739	8,529	24,354
Alternative C	0	7,201	6,076	12,155	27,932

Disturbance of soils and native vegetation that would accompany placement of structures and construction of any new access roads would increase the potential for noxious weed invasions. Noxious weeds may infest sites with disturbed soils under either alternative. Noxious weed infestations are problematic since they displace native vegetation, are not palatable to livestock and are often poisonous to livestock. Once noxious weeds gain a foothold in a disturbed area, they may invade adjacent undisturbed sites and advance in a weed front throughout a landscape.

Noxious weed invasions around support structures would be controlled per the measures described in *Appendix C, Environmental Management During Construction Activities*. Disturbed areas should be re-seeded with a seed mix that is representative of the community being disturbed. Reclaimed sites should be monitored for a period of 5 years following reclamation to assure that weedy species are not invading such sites. Should weeds begin to infest a site, the appropriate control measures would be implemented.

3.8 WILDLIFE

3.8.1 Existing Conditions

Seven distinct vegetative cover types are found within the project area, including agricultural land, aspen, big sagebrush, Gambel oak, salt desert shrub, pinyon-juniper, and spruce-fir. Wildlife species associated with these cover types are typical of the transition zone between the Southern Rocky Mountain Physiographic Province and the Colorado Plateau Physiographic Province. These wildlife species all rely on, to some extent, habitat present within the major vegetation cover types of the permit area.

Potentially suitable habitat within the project area for threatened and endangered species, and for species proposed for such listing, is addressed in *Appendix F, Biological Evaluation.* Similarly, potentially suitable habitat within the project area for species that are listed as "sensitive" on BLM land are addressed in *Appendix E, Biological Assessment.* Lists of proposed, endangered, threatened, and sensitive species that may occur within the project area are presented in *Table 3-5, Threatened, Endangered and Proposed Species*, and *Table 3-6, State Director's List of Sensitive Animal and Plant Species for BLM in Colorado*, in Section 3.9, Special Status Vegetation and Wildlife.

For convenience, wildlife species that may utilize habitats present in the project area have been grouped as follows: big game, predators, small mammals, raptors, upland game birds, songbirds, reptiles, and amphibians.

Big Game. Big game species that are known to utilize habitats within the project area include elk (*Cervus canadensis*) and mule deer (*Odocoileus hemionus*).

Elk summer range, winter range, severe winter range, winter concentration areas, and production range are identified within the project area and shown on *Map 4, Elk Activity Areas.* Elk within the project area are part of the Cimarron herd (CDOW 1999). The Colorado Division of Wildlife (CDOW) estimates that 3,369 elk make up this herd, with a bull/cow ratio of 21/100. Winter range is that part of the overall range where 90% of the individuals are located during the average five winters out of ten. Winter concentration areas include areas where big game traditionally spend January, February and March in large numbers (G. Schoenfield 2000). Severe winter range is that part of the overall range where 90% of the animals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten. Production range is considered to be that part of the overall range that is occupied by cows from May 15 through June 15. Summer range is typically between May/June and September/October.

The distances traversed by the project alternatives within each elk and mule deer activity area are represented in *Table 3-4, Elk and Mule Deer Activity Areas Traversed by the Proposed Curecanti-Lost Canyon 230-kV Transmission Line Project.* These distances are calculated beginning at the western edge of the existing transmission line at the point where the reroute of Alternative B would begin. The calculated distance ends at the point where both action alternatives would re-connect with the existing transmission line.

Mule deer range within the project area is depicted on *Map 5, Mule Deer Activity Areas.* It consists of summer range, migration patterns, winter range, severe winter range, winter concentration areas, and resident population areas. Mule deer were commonly observed within the project area, especially in Waterdog Basin. Mule deer within the project area are also part of the Cimarron herd (CDOW 1999). The CDOW estimates that 11,552 deer make up this herd, with a buck/doe ratio of 18/100. Winter range, severe winter range, and winter concentration areas are defined the same for mule deer as they are for elk. Migration patterns are an indication of the general direction of movement of migratory deer herds. Resident population areas are used year-round by mule deer.

No critical migration corridors for elk or mule deer exist within the project area.

Predators. Predators expected to occur within the project area include coyote (*Canis latrans*), black bear (*Ursus americanus*), mountain lion (*Felis concolor*), badger (*Taxidea taxis*), bobcat (*Lynx rufus*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), ringtail (*Bassariscus astutus*), long-tailed weasel (*Mustela frenata*), and striped skunk (*Mephitis mephitis*).

Small Mammals. Small mammals expected to occur within the project area include the desert cottontail (*Sylvilagus auduboni*), white-tailed jackrabbit (*Lepus townsendi*), bushy-tailed woodrat (*Neotoma cinerea*), least chipmunk (*Tamias minimus*), yellow-bellied marmot (*Marmota flavescens*), golden-mantled ground squirrel (*Spermophilus lateralis*), white-tailed prairie dog (*Cynomys leucurus*), deer mice (*Peromyscus maniculatus*), several species of voles (*Microtus sp.*), shrews (*Microsorex* sp.), and bats (*Myotis sp.*).

Habitat for small mammals is enhanced by the presence of coarse woody debris and structure provided by shrubs and other vegetation close to the ground that provides movement corridors and cover. Such structure is present to varying degrees in forests, woodlands, and shrublands within the project area.

Raptors. Suitable habitat exists within the project area for numerous raptors, including red-tailed hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*), Swainson's hawk (*Buteo swainsoni*), Cooper's hawk (*Accipiter cooperii*), northern goshawk (*Accipiter gentilis*), great-

horned owl (*Bubo virginianus*), northern saw-whet owl (*Aegolius asadicus*), burrowing owl (*Athene cunicularia*), and prairie falcon (*Falco mexicanus*).

Transmission line support structures within the project area provide increased opportunities for raptor hunting perches. Red-tail hawks were frequently observed soaring above the project area, as were golden eagles. Both species were observed on numerous occasions hunting over transmission line corridors and perching on support structures for the same lines.

Upland Gamebirds. Game birds expected to occur within the project area include sage grouse (*Centrocercus urothasianus*), blue grouse (*Dendragapus obscurus*), turkey (*Meleagris gallopavo*), and Gambel's quail (*Callipepla gambelii*).

The CDOW has identified sage grouse overall range in the vicinity of Hairpin Creek. Sage grouse overall range is the area which encompasses all mapped activity areas within the observed range of a population of sage grouse. The existing Curecanti-Montrose 115-kV line currently parallels the mapped overall range of this population, at distances between ⅓ and ½ mile from its mapped southern edge, for 4 miles. This line also crosses the periphery of the mapped overall range near the point where the existing Curecanti-Lost Canyon 230-kV transmission line joins it in a common corridor. The existing line crosses sage grouse overall range for a distance of 1,330 feet to the location where the proposed alternative would rejoin this line.

One lek site, the "Coal Hill Lek," is also mapped within this overall range. Sage grouse leks, or breeding display sites, occur in openings within sagebrush communities. Sage grouse leks are typically located at sites within potential nesting habitat. The Coal Hill lek site has been historically used by the Hairpin Creek population. This site is located approximately 1,930 feet, or 0.37 mile, from the Curecanti-Montrose 115-kV transmission line.

Songbirds. Songbirds observed in the project area include Virginia's warbler (*Vermivora virginiae*), orange-crowned warbler (*Vermivora celata*), Warbling vireo (*Vireo gilvus*), western meadowlark *(Sturnella neglecta*), loggerhead shrike (*Lanius ludovicianus*), American robin (*Turdus migratorius*), Mountain bluebird (*Sialia currucoides*), House wren (*Troglodytes aedon*), white-breasted nuthatch (*Sitta carolinensis*), Mountain chickadee (*Parus gambeli*), black-billed magpie (*Pica pica*), common raven (*Corvus corax*), and hairy woodpecker (*Picoides villosus*).

Amphibians and Reptiles. Reptiles and amphibians that may occur in the project area include tiger salamander (*Ambystoma tigrinum*), northern leopard frog (*Rana pipiens*), collared lizard (*Crotaphytus collaris*), short-horned lizard (*Phrynosoma douglassii*), sagebrush lizard (*Sceloporus graciosus*), eastern fence lizard (*Sceloporus undulatus*), tree lizard (*Urosaurus ornatus*), side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), plateau striped whiptail (*Cnemidophorus velox*), racer (*Coluber constrictor*), smooth green snake (*Opheodrys vernalis*), bullsnake (*Pituophis melanoleucus*), western terrestrial garter snake (*Thamnophis elegans*), and the western rattlesnake (*Crotalus viridis*).

3.8.2 Environmental Consequences

Re-routing of the Curecanti-Lost Canyon transmission line would pose minimal impacts to wildlife species that use the area. Physical disturbance to terrestrial habitat would be limited to the immediate vicinity of each transmission line support structure. Other than within the

immediate vicinity (approximately a circle with a 25-foot radius) of each support structure, the project would not result in conversion of any habitat type from that which currently exists.

Most animals would avoid the vicinity of the existing transmission line during the decommissioning phase. Similarly, many wildlife species that typically inhabit the landscape of the chosen reroute alternative would likely avoid the area during the term of construction. Some animals such as elk may move several miles away from the noise and activity associated with construction. Others, such as mice, voles, and ground squirrels, may only move a distance of 30 or 40 yards.
Construction activities, however, are of limited duration. Upon termination of construction, animals that were displaced would be expected to return to utilize the site at current levels.

The effects of the three alternatives (No-Action, Alternative B, Alternative C) on the groupings of animals described in the previous section are disclosed below.

Big Game

Under all alternatives, including the No-Action Alternative, noise and human activity associated with periodic routine or emergency maintenance along transmission lines would cause short-term impacts to big game animals. Routine maintenance activities would be scheduled so as not to impact elk in critical activity areas during critical time periods. However, emergency maintenance during critical time periods may be necessary during the life of the line. In the event that emergency construction or maintenance was necessary during critical time periods, the appropriate management agencies would be notified. Activity in these areas may cause increased mortality and decreased reproductive success.

No-Action Alternative - Under the No-Action Alternative, the existing Curecanti-Lost Canyon 230- kV transmission line would remain in its current alignment. The project area would continue to support a similar complement of wildlife as described in the affected environment section. Elk and mule deer activity areas, including production range, would continue to be traversed by the existing line. Please refer to *Table 3-4, Elk and Mule Deer Activity Areas Traversed by the Proposed Curecanti-Lost Canyon 230-kV Transmission Line Reroute Alternatives*, for distances traversed within each activity area by the current alignment.

Soil slumping in the vicinity of the existing line may require increased maintenance activity and line repair. Such maintenance activities may displace wildlife due to increased noise and human presence. The extent of such impacts would depend upon the work necessary to repair or reroute the line as a result of line failure or structure collapse due to landslides and/or soil creep.

Impacts Common to Both Action Alternatives - Selection of either of the proposed action alternatives would involve removal of the existing line from elk production range mapped by the CDOW on Waterdog Peak. These actions would remove 3,249 linear feet of the line from this calving area. Removal of the existing transmission line would be scheduled to avoid disturbance within the calving area during critical time periods (May 15 - June 15), as stated in *Appendix C, Environmental Management During Construction Activities*.

Both action alternatives would involve placement of the rerouted transmission line within areas mapped as mule deer winter range. Similar to the elk calving area described above, construction activities would be scheduled within this and all other big game activity areas to avoid critical time periods identified by the CDOW.
Both elk and mule deer would be expected to avoid sites of construction activity during the

period of construction. Elk may move several miles away, while mule deer would be expected to move only a few hundred yards to avoid disturbance. Both of these species would be expected to rapidly become habituated to the newly constructed transmission line along its entire length, regardless of which alternative is selected. Consequently, upon termination of construction activities, the newly rerouted transmission line would not effect big game movement patterns within the landscape.

In the short-term (<5 years), the reduction in forage availability due to the placement of transmission line structures would be inconsequential as shown in *Table 3-2, Vegetation Disturbance Associated With Reroute of the Curecanti-Lost Canyon 230-kV Transmission Line.* Over the long-term (>5 years) the reduction of forage that would result from placement of transmission line structures would be similar. The capability of the landscape to provide habitat for big game animals would not be compromised.

Table 3-4
Elk and Mule Deer Activity Areas Traversed by the Proposed Curecanti-Lost Canyon 230-kV Transmission Line Reroute Alternatives

		Elk Range (linear ft)			Mule Deer Range (linear ft)			
Alternative	Activity	Winter Range	Severe Winter Range	Production Area	Winter Range	Severe Winter Range	Winter Concentration Area	Resident Population Area
No Action Alternative A	Distance Existing Line Traverses Range	14,300	9,500	3,200	15,300	2,900	2,900	5,100
Proposed Alternative B	Additional Distance Traversed by Proposed Reroute Construction	0	0	0	12,800	0	0	0
	Distance of Line to be Removed From Existing Corridor	0	0	3,200	600	0	0	0
Alternative C	Distance Traversed by Proposed Reroute Construction	20,200	7,800	0	24,000	2,400	2,400	6,000
	Distance of Line to be Removed From Existing Corridor	14,300	9,500	3,200	15,200	2,900	2,900	5,100

Alternative B - Proposed Action - Implementation of the proposed action would result in removal of a portion of the transmission line from one site mapped as elk production range. An additional distance of mule deer winter range would be crossed under this alternative.

Since the existing vegetation cover within the proposed corridor is not tall enough to interfere with operation of the transmission line, there would be no clearing of vegetation necessary other than for the pads beneath each structure.

Alternative C - Implementation of Alternative C would result in a net increase of transmission line presence in elk winter range, mule deer winter range, and mule deer resident population areas. Implementation of this alternative would result in a net decrease of transmission line presence within elk severe winter range, elk production range, mule deer severe winter range, mule deer winter concentration areas.

Predators and Small Mammals.

No-Action Alternative - Under this alternative, barring unforeseen disturbances, predator and small mammal populations would be expected to remain constant.

Impacts Common to Both Action Alternatives - In the short-term, construction activities under either alternative may displace predators and small mammals during the day. However, predators are most active at night, while construction activities would take place during the daytime. Predators may avoid sites during the period of construction, however small mammals would not be expected to move far away from the area of construction. Upon termination of activities associated with construction of either alternative, animals from both of these groups would be expected to return to utilization of habitats through which the rerouted line passes.

Implementation of activities described under both of the action alternatives would have virtually no long-term effects on predators or the small mammals upon which they prey. Animals in both groups would be expected to rapidly become habituated to the existence of the rerouted transmission line and resume use of the area following termination of construction activities. The amount of habitat that would be taken permanently out of production for small mammal prey is insignificant in relation to the amount of available habitat. Short-term reduction = 2.0 and 2.5 acres, long-term reduction = 0.03 acre and 0.04 acre, for the action alternatives. Refer to *Table 3-2, Vegetation Disturbance Associated With Reroute of the Curecanti-Lost Canyon 230-kV Transmission Line*. Long-term effects would result from permanent foundations on which support structures are placed.

Raptors.

Impacts Common to all Alternatives, Including the No-Action Alternative - Birds can exist near transmission lines in many situations without significant risk of collisions or electrocutions (APLIC 1994 and 1996). Problems may occur, however, in very specific, localized situations where certain factors exist or interact to create high potential for injury. Factors which influence the risk of injury include characteristics of individual bird species present near transmission lines and the characteristics of the ambient environment.

Electrocution - The design of a 230-kV transmission line provides sufficient spacing between phase-to-phase and phase-to-ground that electrocutions are unlikely.

Collisions - The characteristics of individual bird species that influence their inherent risk of collisions with transmission lines include size and maneuverability, the height at which a given species flys, the time of day during which they are active, availability of alternate perches, adverse weather conditions, and flocking behavior (APLIC 1994).

A critical factor related to collision potential is the environment in which a transmission line is placed and the frequency with which birds interact with a transmission line in their daily use area. For instance, where feeding and nesting areas for a species are on the same side of a line, encounters are few; when the line separates the two areas, encounters and risk increase.

Due to their high visual acuity, raptors are generally considered to be at low risk for collisions with transmission lines (APLIC 1994). Large, slow flying birds such as herons, cranes, and pelicans are more commonly reported as casualties due to transmission line collisions. It is thought that their large wingspans and lack of agility make negotiation of obstacles difficult. Neither the two proposed action alternatives nor the existing transmission line pose a high degree of risk to such birds. There is not an abundance of large wetland or riparian habitats

present in the project area. None of the alternatives are located in such a manner as to separate high use foraging sites from potential nesting sites. The transmission line would not cross riparian areas or other areas of high avian concentration.

Upland Gamebirds.

No-Action - Under the No-Action Alternative, the level of predation by raptors would not change. The potential for bird collisions would nether decrease or increase. Since turkey, blue grouse, sage grouse, and Gambel's quail are primarily ground dwelling birds, collisions and electrocutions have not been in the past, nor are they expected to be in the future, a problem.

Impacts Common to Action Alternatives - Under either of Alternative B or Alternative C, predation by raptors (from perches provided by transmission line structures) on gamebirds such as blue grouse, wild turkey, and Gambel's quail may increase in areas where the newly constructed line would be placed. As for collision hazards, these gamebirds are largely ground dwellers and do not regularly fly at heights that would lead to collisions with the proposed rerouted line.

The proposed alternatives have the potential to indirectly affect sage grouse. Both action alternatives would locate a portion (2,960 linear feet, or about 0.56 mile) of the rerouted line within sage grouse overall range. This point at which overall range would be crossed would be necessary to connect the rerouted line to the existing line.

Another transmission line, the Curecanti-Montrose 115-kV transmission line, is currently located adjacent to the proposed reroute location and also passes into this overall range. The proposed reroutings would be situated adjacent to this line at a distance of 112.5 feet center line to center line.

Transmission line structures located in sagebrush rangeland or shrubland are attractive perch sites for hunting raptors. Transmission lines located within or in close proximity to sage grouse range may indirectly decrease the survival of adults and juvenile grouse alike through the provision of perches from which raptors may hunt. The majority of both alternative corridors are located outside of sage grouse overall range at a distance that would not be expected to appreciably add to raptor hunting success within the overall range. However, as the reroute corridor approaches the mapped portion of the range near its point of re-connection with the existing line, the line may present increased opportunities for hunting raptors and lead to increased sage grouse mortality.

The corridor of Alternative B parallels the mapped overall range of this population for about 20,500 feet, or 3.9 miles. The Alternative C corridor would parallel the same range for 16,200 feet, or about 3.1 miles. Both action alternatives would be located on the same alignment at this location, between 1,666 feet (⅓ mile) and 2,903 feet (over ½ mile) distant from overall sage grouse range. Effects to sage grouse within overall range would be minimal from perches provided by structures at such a distance.

The Coal Hill lek site within the sage grouse overall range is located about 2,050 feet (0.39 mile) from the proposed route of both alternatives. The Coal Hill lek site has been historically used by sage grouse during the breeding season. The Coal Hill lek site is located approximately 1,930 feet, or 0.37 mile, from the existing Curecanti-Montrose 115-kV line. The proposed reroute, under both action alternatives, would be placed opposite the Coal Hill lek from this line and would not be expected to further increase predation on grouse during the breeding season.

Songbirds. Songbirds which travel in large flocks may be more vulnerable to transmission line collisions than are solitary species (APLIC 1994, Scott et al 1972, James and Haak 1979). The density of large flocks leaves little room to negotiate around obstacles and reduces the visibility for trailing birds. Consequently, for all alternatives, including the No-Action Alternative, mortality of flocking birds as a result of the proposed or existing transmission lines may be expected, although such mortalities are expected to be insignificant from a population viability perspective.

Amphibians and Reptiles.

No-Action Alternative - Under the No-Action Alternative, the existing transmission line would continue to provide potential perches from which golden eagles and other raptors may hunt. Golden eagles and other raptors are known to prey on rattlesnakes and other reptiles. The presence of the existing transmission line has most likely increased the hunting success on reptiles and amphibians, and would continue to do so under the No-Action Alternative.

Impacts Common to All Action Alternatives - The proposed alternative reroutes are located in such a manner as to span wetlands that may provide habitat for amphibians. Consequently, direct impacts to amphibians are not expected to be a problem. However, increased predation on reptiles and amphibians may result under either of the action alternatives due to increased hunting perches provided by transmission line structures.

3.9 SPECIAL STATUS VEGETATION AND WILDLIFE

3.9.1 Threatened and Endangered Wildlife and Plants

Existing Conditions

The existing conditions of potentially suitable habitat for species which are listed by the Fish and Wildlife Service as threatened or endangered are discussed in *Appendix E, Biological Assessment.*

The US Fish and Wildlife Service (USFWS) provided a list of species which may occur in the vicinity of the proposed project. *Table 3-5, Threatened, Endangered, and Proposed Species*, displays the list of species provided by the USFWS and also provides an indication of whether habitat for each species exists within the project area.

Surveys were conducted during the summer of 1999 for threatened and endangered (T&E) species within a 200-foot corridor along the existing transmission line and along the corridors of the same width along the proposed alternative relocation corridors.

Environmental Consequences

No T&E species were detected, and there are none known to occur within the project area. Consequently, there would be no effect upon threatened and endangered plant or animal species as a result of implementation of the proposed project.

3.9.2 Bureau of Land Management Sensitive Vegetation and Wildlife

Existing Conditions

The Regional Director of the BLM has developed a list of species, edited for the Uncompahgre Field Office, that may occur in the vicinity of the proposed project. Suitable habitat is present on BLM land in the project area for some of these species, and absent for others. *Table 3-6, State Director's List of Sensitive Animal and Plant Species for BLM in Colorado*, displays this list and also provides an indication of whether suitable habitat for each species exists on BLM land within the project area.

Surveys were conducted on BLM land during the summer of 1999 in suitable habitat for the above species. Surveys were conducted within a 200-foot corridor along the existing transmission line and along the corridors of the same width along the proposed alternative relocation corridors.

Environmental Consequences

Populations of Rocky Mountain thistle, Montrose bladderpod, and Colorado desert parsley were discovered. No sensitive wildlife species were detected during biological surveys of these corridors, however suitable habitat does exist for some of the wildlife species on the Regional Directors list.

Measures taken during construction to protect populations of sensitive plant species detected within the proposed alternative corridors on BLM land are described in *Appendix C, Environmental Management During Construction Activities.*

Construction workers would be prevented from killing rattlesnakes during the term of construction to decrease the effect of increased human presence on the midget faded rattlesnake. However, the increased raptor hunting and perching opportunities provided by transmission line support structures may lead to an increase in midget faded rattlesnake mortality. Consequently, for this species, the determination of the impact of the proposed project is "may adversely impact individuals but not likely to result in a lack of viability in the planning area, nor cause a trend towards federal listing or a loss of species viability rangewide."

Table 3-5
Threatened, Endangered, and Proposed Species
(included in the USFWS letter dated February 16, 1999, and updated on October 5, 1999)

Species	Status				Habitat(s)[4]	Potential Habitat Present in Project Area or Otherwise Influenced by Implementation of the Project	Determination
	Federal Listing[1]	Colorado State Listing[1]	Colorado State Rank[2]	Global Rank[3]			
FISH							
Humpback Chub (*Gila cypha*)	E	T	S1	G1	J	No	No Effect
Bonytail (*Gila elegans*)	E	E	SX	G1	J	No	No Effect
Colorado Pikeminnow (*Ptychochelius lucius*)	E	T	S1	G1	J	No	No Effect
Razorback Sucker (*Xyrauchen texanus*)	E	E	S1	G1	J	No	No Effect
BIRDS							
Southwest Willow Flycatcher (*Empidonax trailii extimus*)	E	E	SR	G5T2	C, E, G	No	No Effect
American Peregrine Falcon (*Falco peregrinus anatum*)	E	T	S3B, SZN	G4T3	B	No	No Effect
Bald Eagle (*Hallaeetus leucocephalus*)	T	T	S1B, S3N	G4	F, C, D	Yes	No Effect
Mexican Spotted Owl (*Strix occidentalis lucida*)	T	T	S1B, SUN	G3T3	B, D	No	No Effect
MAMMALS							
Black-Footed Ferret (*Mustela nigripes*)	E	E	SH	G1	L	No	No Effect
PLANTS							
Clay-Loving Wild Buckwheat (*Eriogonum pelinophilum*)	E	--	S2	G2Q	K	Yes	No Effect
Uinta Basin Hookless Cactus (*Sclerocactus glaucus*)					H, I, J, K	Yes	No Effect

[4]Habitat Key: A=Aspen; B=Cliff/Rock/Scree; C=Cottonwood/Riparian; D=Conifer Forest; E=Headwaters/Willow Riparian; F=Rivers; G=Marsh/Wetlands/Beaver Complexes; H=Rangelands/Sage; I=Pinyon/Juniper Woodlands; J=Shrublands; K=Salt Desert Shrub; L=Prairie Dog Colonies

[1]Federal and State Listing: T=Threatened; E=Endangered; P=Proposed; C=Candidate for listing; SC=Species of Special Concern
2State Rank: Based on the status of a species in Colorado. Species or plant communities that rank S1 to S3 are considered imperiled or vulnerable and the status and locations of each are closely monitored. Species or plant communities that are ranked S4 or S5 are not actively monitored, except that the locations of the best examples of all plant communities are monitored. The status of all elements is reviewed annually.

- S1 = Critically imperiled in state because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extirpation from the state.
- S2 = Imperiled in state because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extirpation from the state.
- S3 = Vulnerable in state (21 to 100 occurrences).
- S3S4 = Watch listed. Specific occurrence data are collected and periodically analyzed to determine whether more active tracking is warranted.
- S#B = Refers to the breeding season imperilment of elements that are not permanent residents.
- SZ = Migrant whose occurrences are too irregular, transitory, and/or dispersed to be reliably identified, mapped, and protected.

[3]Global Rank Based on the range-wide status of a species.

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction. (Critically endangered throughout its range.)
- G2 = Imperiled globally because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extinction throughout its range.
- G3 = Vulnerable throughout its range or found locally in a restricted range (21 to 10 occurrences).
- G4 = Apparently secure globally though it might be quite rare in parts of its range, especially at the periphery.
- G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- GQ = Indicates uncertainty about taxonomic status.
- G#T# = Trinomial rank (T) is used for subspecies or varieties. These taxa are ranked on the same criteria as G1 through G5.

Table 3-6
State Director's List of Sensitive Animal and Plant Species for BLM in Colorado
(edited for the Uncompahgre Field Office)

Species	State Status [1]	State Rank [2]	Global Rank [3]	Typical Habitat(s) [4]	Potential Habitat Present on BLM Land	Determination
FISH						
Bluehead Sucker (*Catostomus discobolus*)	SC	S4	G4	F	No	No Impact
Flannelmouth Sucker (*Catostomas latipinnis*)	SC	S3S4	G3G4	F	No	No Impact
Roundtail Chub (*Gila robusta*)	SC	S2	G2G3	F	No	No Impact
AMPHIBIANS AND REPTILES						
Midget Faded Rattlesnake (*Crotalus viridis concolor*)	SC	S3?	G5T4	B, D, H, I, J	Yes	May Impact Individuals
Longnose Leopard Lizard (*Gambelia wislizenii*)	SC	S1	G5	H	No	No Impact
Canyon Treefrog (*Hyla arenicolor*)	SC	S2	G5	C, I	No	No Impact
Northern Leopard Frog (*Rana pipiens*)	SC	S3	G5	F, G	No	No Impact
BIRDS						
Northern Goshawk (*Accipiter gentilis*)	–	S3B, S4N	G5	A, D	Yes (Foraging only)	No Impact
Ferruginous Hawk (*Buteo regalis*)	SC	S3B, S4N	G4	H	Yes (Migration only)	No Impact
Sage Grouse (*Centrocercus urothasianus*)	SC	SC, S1	G1	H	No	No Impact
Long-Billed Curlew (*Numenius americanus*)	SC	S2B, SZN	G5	F, G	No	No Impact
White-Faced Ibis (*Plegadis chihi*)	–	S2B, SZN	G5	F, G	No	No Impact
MAMMALS						
Spotted Bat (*Euderma maculatum*)	–	S2	G4	D, H	Yes	No Impact
Allen's Big-eared Bat (*Idionycteris phyllotis*)	–	S2	G4	B, C, D, I, J, K	Yes	No Impact
Fringed Myotis (*Myotis thysanodes*)	–	S3	G5	D	Yes	No Impact
Yuma Myotis (*Myotis yumanensis*)	–	S3	G5	C, K	Yes	No Impact
Townsend's Big-Eared Bat (*Plecotonus townsendii*)	–	S2	G4	B, K	Yes	No Impact
PLANTS						
Grand Junction Milkvetch (*Astragalus linifolius*)	SC	S3	G3Q	H, I	No	No Impact
Naturita Milkvetch (*Astragalus naturitensis*)	SC	S2S3	G2G3	I	No	No Impact
San Rafael Milkvetch (*Astragalus rafaelensis*)	SC	S1	G3Q	B	No	No Impact
Sandstone Milkvetch (*Astragalus sesquiflorus*)	SC	S1?	G3	N	No	No Impact
Rocky Mountain Thistle (*Cirsium perplexans*)	SC	S1	G3	L	Yes	No Impact
Montrose Bladderpod (*Lesquerella vicina*)	SC	S1	G1	H, I	Yes	No Impact
Colorado Desert Parsley (*Lomatium concinnum*)	SC	S1	G2	H, I	Yes	No Impact
Paradox Valley Lupine (*Lupinus crassus*)	SC	S2	G2	O	No	No Impact
Dolores Skeleton Plant (*Lygodesmia doloresensis*)	SC	S1	G1Q	–	No	No Impact
Eastwood Monkey-Flower (*Mimulus eastwoodiae*)	SC	S1S2	G3	M	No	No Impact
Paradox Breadroot (*Pediomelum aromaticum*)	SC	S2	G3	–	No	No Impact

[4]Habitat Key: A=Aspen; B=Cliff/Rock/Scree; C=Cottonwood/Riparian; D=Conifer Forest; E=Headwaters/Willow Riparian; F=Rivers; G=Marsh/Wetlands/Beaver Complexes; H=Rangelands/Sage; I=Pinyon/Juniper Woodlands; J=Shrublands; K=Caves, Mines, Abandoned Structures; L=Sparsely vegetated, steep slopes; M=Hanging gardens, shallow caves, seeps, steep canyon walls; N=Sandstone, sandy washes; O=Clay barrens, draws, washes

[1]Colorado State Status: E = Endangered, SC = Special Concern

[2]State Rank: Based on the status of a species in Colorado. Species or plant communities that rank S1 to S3 are considered imperiled or vulnerable and the status and locations of each are closely monitored. Species or plant communities that are ranked S4 or S5 are not actively monitored, except that the locations of the best examples of all plant communities are monitored. The status of all elements is reviewed annually.

S1 = Critically imperiled in state because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extirpation from the state.

S2 = Imperiled in state because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extirpation from the state.

S3 = Vulnerable in state (21 to 100 occurrences).

S3S4 = Watch listed. Specific occurrence data are collected and periodically analyzed to determine whether more active tracking is warranted.

S#B = Refers to the breeding season imperilment of elements that are not permanent residents.

SZ = Migrant whose occurrences are too irregular, transitory, and/or dispersed to be reliably identified, mapped, and protected.

S? = Unranked. Some evidence that species may be imperiled, but awaiting formal rarity ranking.

[3]Global Rank Based on the range-wide status of a species.

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction. (Critically endangered throughout its range.)

G2 = Imperiled globally because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extinction throughout its range.

G3 = Vulnerable throughout its range or found locally in a restricted range (21 to 10 occurrences).

G4 = Apparently secure globally though it might be quite rare in parts of its range, especially at the periphery.

G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GQ = Indicates uncertainty about taxonomic status.

G#T# = Trinomial rank (T) is used for subspecies or varieties. These taxa are ranked on the same criteria as G1 through G5.

3.10 RANGE MANAGEMENT

3.10.1 Existing Conditions

Much of the area is used for grazing. The BLM lands are contained within the Onion Lakes and Dry Gulch grazing allotments. Private lands in the project area are also leased for grazing purposes. The grazing system is typically deferred rotation with minor consistent use for annual trailing of sheep.

The BLM allotments provide for a total of 1,240 head of sheep. The total animal unit months (AUM) for the Onion Lakes Allotment is 8; and for the Dry Gulch Allotment is 398. Copies of the grazing permits are provided in *Appendix G, Range Allotments.*

3.10.2 Environmental Consequences

Alternative A (No-Action Alternative). The No-Action Alternative would have no impact on range management.

Impacts Common to Both Action Alternatives. The action alternatives would result in a small loss of grazing range during project construction, operation, and reclamation. Over the long-term, it is anticipated that reclamation would restore grazing capacity. Existing transmission line decommissioning would cause heavy equipment traffic in these allotment areas. Notification to permittees and private land owners would assist in minimizing transportation of animals and construction traffic on access roads.

3.11 CULTURAL RESOURCES

3.11.1 Existing Conditions

Cultural resources are locations of past human activity, occupation, or use, identifiable through inventory, historical documentation or oral evidence.

Alpine Archaeological Consultants, Inc. (Alpine) of Montrose, Colorado was retained to conduct cultural resource studies for the segments of the existing transmission line planned for disassembly and along both alternative routes. Alpine completed a report entitled "Cultural Resource Inventory of Western Area Power Administration's Planned Curecanti-Lost Canyon Transmission Line Re-Route" dated November 1999. *Figure 4, Photos of Water Dog Peak and Cultural Resource Survey With Land Owner Representative*, is Alpine's field archaeologist and a local landowner. A total of 20.1 miles of transmission line route, comprising 365 acres, was inspected. Archaeologists inspected corridors 150 wide along both the new and the old transmission line segments (75 feet each side of the centerline). The BLM administers 91 acres, while 274 acres are privately owned.

Twenty-two cultural sites and twenty-seven isolated finds were identified. Two of the sites were historic, and included a portion of the Hairpin Ditch and a road. The remaining cultural resources, including all of the isolated finds, were prehistoric.

A total of ten cultural resources were identified for Alternative B, the proposed alternative. Two of the sites, the Hairpin Ditch and a road, are historic, but are not considered eligible to the National Register of Historic Places (NRHP). This historic road is also common with Alternative C. The remaining eight cultural resources are prehistoric, and include five isolated finds, and three cultural sites. The five isolated finds are not eligible to the National Register of Historic

Place (NRHP). One of the five isolated finds is common with Alternative C. One of the three prehistoric cultural sites (5MN5094) is considered eligible to the NRHP. The remaining two prehistoric cultural sites (5MN5093 and 5MN5097) are not eligible to the NRHP but are recognized as important to a local landowner.

A total of 29 cultural resources were identified for Alternative C. The historic road is common with Alternative B, and is not considered eligible to the NRHP. The remaining cultural resources identified for this alternative are prehistoric. Sixteen of these were identified as isolated finds and are not eligible to the NRHP. One of the isolated finds is common with Alternative B, and five are common with the No-Action Alternative. A total of eleven prehistoric cultural sites were identified for Alternative C. One of the prehistoric sites is common with the No-Action Alternative, but is not eligible to the NRHP. Two of the eleven prehistoric cultural sites are considered eligible to the NRHP (sites 5MN5021 and 5MN5025). The remaining nine cultural sites are not eligible.

A total of 18 cultural resources were identified with the No-Action Alternative. All the cultural resources are prehistoric. Twelve of the cultural resources are isolated finds, which are not eligible to the NRHP. The six cultural sites identified are not eligible to the NRHP. One of the cultural sites and five of the isolated finds are common with Alternative C.

Western has consulted with the Colorado State Historic Preservation Office (SHPO) and the BLM on the eligibility of the cultural sites recorded and effects determination. The SHPO and BLM concurred with Western's determination of no historic properties affected. Please refer to *Appendix H, Cultural Resources Section 106 Consultation.*

3.11.2 Environmental Consequences

Alternative A (No-Action Alternative). The selection of the No-Action Alternative would not impact cultural resources eligible for the NRHP.

Impacts Common to Both Action Alternatives. One prehistoric cultural site eligible to the NRHP was identified for Alternative B, the proposed alternative. Two prehistoric cultural sites not eligible but important to a local landowner were also identified for Alternative B. Two prehistoric cultural sites eligible to the NRHP were identified for Alternative C. For both action alternatives, transmission line towers and any new access roads would be sited to avoid cultural sites eligible for the NRHP and the two cultural sites identified as important to a local landowner. During construction, Western would have an archaeologist in the field to monitor construction activities and assist in preservation measures. Western would also flag off sites 5MN5094, 5MN5093 and 5MN5097 prior to construction.

3.12 VISUAL RESOURCES

3.12.1 Existing Conditions

The landscape characteristics of the area include landforms of moderate relief. Waterdog Peak is the preeminent topographic feature in the immediate area. Vegetation in the area is fairly homogeneous consisting of low shrubs (mostly sagebrush) with distributed pinyon and juniper trees. Two man made features are noticeable from a number of vantage points throughout the area. These include the existing Curecanti-Montrose 115-kV transmission line and the Curecanti-Lost Canyon 230-kV transmission line. There are existing roads in the area, but the fundamental landforms of the area retain their integrity

3.12.2 Environmental Consequences

Alternative A (No-Action Alternative). Under the No-Action Alternative, the present visual effects of the existing transmission lines would remain. No additional impacts would be evident.

Impacts Common to Both Action Alternatives. Re-alignment of the transmission line would not introduce new forms, lines, colors, and textures to the landscape. Re-alignment would involve removal of a section of existing transmission line and replacement by a new transmission line. Such visual impacts are expected to be minor. The impacts to visual resources as a result of the relocation of the transmission line would be extremely localized, resulting in a low adverse impact. Clean up and reclamation work following construction would reduce visual impacts.

No portion of the relocated transmission line would be visible from Highway 50 in the Uncompahgre River Valley. By contrast, removal of the existing transmission line, particularly the section on the upper slopes of Waterdog Peak, would reduce the visual impacts of the Curecanti-Lost Canyon 230-kV transmission line locally.

3.13 ELECTRICAL CHARACTERISTICS AND PUBLIC SAFETY

3.13.1 Existing Conditions

Western is committed to programs and policies that ensure a safe and healthy environment for its employees and the general public. Safety and health are essential elements of the working environment and are demonstrated in every day work practices. The planned relocation of the Curecanti-Lost Canyon 230-kV transmission line would be designed and constructed to meet or exceed all applicable requirements of the National Electric Safety Code.

Most public safety concerns regarding electric transmission lines involve electric fields, magnetic fields, and corona characteristics. *Figure 5, Photos of Existing 115-kV and 230-kV Transmission Line*, shows the facilities in place in the project area.

The electric fields result in the electrical characteristics associated with a transmission line. Electrical and magnetic fields at ground level are responsible for induced currents and voltages and their related effects. The electrical field at the surface of the conductors is responsible for corona occurring at that location. Corona is the electric breakdown of the air into charged particles that can result in audible noise, electromagnetic interference, and the production of various oxidants. A complete discussion of these three items is described in *Appendix D, Electrical Characteristics.*

3.13.2 Environmental Consequences

Alternative A (No-Action Alternative). The electrical characteristics (electric fields, magnetic fields, corona characteristics) would remain as existing under the No-Action Alternative.

There is an elevated concern regarding public safety under the No-Action Alternative. Given the existing soil creep and landslide potential, Western is concerned about line failure and flashover, as well as tower collapse. Although the existing line is in a remote area, under these failure scenarios, there would be an elevated concern for public safety.

Any interruption in service on the existing transmission line could also pose public health and safety concerns. Unplanned interruptions caused by line failure could mean power outages. In

the event of line interruption, electric power would have to be routed on other existing transmission lines. This could present problems if other lines are loaded to the maximum or under some scheduled maintenance.

Impacts Common to Both Action Alternatives. Potential electrical effects associated with electric transmission lines include ozone generation, radio and television interference, audible noise, electric and magnetic field interference, and safety concerns. The first three of these potential effects are caused by corona, which is the electrical breakdown of air into charged particles created by the electric field at the surface of the conductor. There should be no corona effects associated with the 230-kV transmission line. Effects are generally associated with transmission lines operating at voltages of 345-kV or higher. Likewise, the remoteness of the action alternatives would minimize any electric effects on people.

Corona effects would be negligible with the re-aligned powerline; ozone generation would be undetectable; and, radio and television interference is not expected to be a problem. Mitigation techniques do exist; if any problems develop, Western would take corrective action.

Individuals working near the electric transmission line should exercise caution not to contact the conductors with any long metallic objects (i.e., irrigation pipe). Such contact would produce a lethal electric shock.

Attention has focused recently on reports of health effects associated with electric and magnetic fields. This evidence based on several hundred scientific studies has not established a cause and effect relationship. Magnetic and electric field strengths drop rapidly as distance increases from the transmission line right-of-way.

3.14 NOISE

3.14.1 Existing Conditions

The area proposed for transmission line re-alignment is located in a unpopulated and remote area. There are no occupied residences or potentially sensitive human receptacles in the vicinity of the project. The closest site with regular human activity would be residences and farms located along the Uncompahgre River. This area is approximately 3 to 10 miles from the expected re-alignment corridor.

Noise may be noticeable directly under an electric transmission line during foul weather, such as during a rain storm. However, line noise should remain very low and would probably be masked by background storm noise such as rain drops during inclement weather. Audible noise is not expected to be an annoyance.

3.14.2 Environmental Consequences

Alternative A (No-Action Alternative). Under the No-Action Alternative, there would be no effects from noise.

Impacts Common to Both Action Alternatives. The major sources of noise from any of the action alternatives would be from construction activities. Such impacts would be short-term. Once construction activities cease, noise would return to pre-construction levels. Typically, construction noise would be caused by traffic to and from the site, as well as noise associated with the construction and the installation of the transmission structures.

3.15 SOCIOECONOMICS

3.15.1 Existing Conditions

The proposed re-alignment area is located in Montrose County. The city of Montrose is the regional trade center of the county.

Historically, population in Montrose County has been tied to resource development, primarily agriculture and mining. The population in Montrose County declined during the first half of the 1980s and then rebounded to show a 0.3% gain by the end of the decade in 1990. Since 1990 the population has shown a steady growth. The population for Montrose County in 1995 was estimated to be 29,866.

The city of Montrose is the largest urban area in Montrose County. Montrose accounted for just less than 40% of the Montrose County population in 1990.

The economy of Montrose County is based on agricultural row crops, hay, sheep, and cattle. The city of Montrose is also the regional center for trade, retail, education, medical, and professional services. In recent years, tourism is becoming more important to the local economy.

In Montrose County, government employees represent the largest number of workers (31.6% in 1994). Service industry accounted for 21.3% of employment in 1994, while retail trade accounts for 18.5% of employment. Agricultural activities are an important economic sector in the county, but only accounted for 9.9% of the employment in 1994. In 1994, the labor force in Montrose County consisted of 14,826 people, and the unemployment was 5.82%.

In 1995, there was a total of 11,387 housing units in Montrose County. Approximately 39% of the housing units are in the city of Montrose. The vacancy rate in Montrose County was 2.39%. Housing costs in Montrose County range from $80,000 to $300,000.

The Uncompahgre River Valley is served by the Montrose County RE-1J School District. There are 12 schools in the district, including six elementary schools, a junior high school, two middle schools, and two high schools. In 1994, there were a total of 5,315 students enrolled in public schools in the district. Adult education is provided by the Delta-Montrose Area Vocational Technical Center.

Law enforcement in Montrose County is provided by the Montrose County Sheriff's Department in Montrose and the Colorado State Highway Patrol. The Sheriff's Department employees a staff of 58 people, and it has 23 vehicles. Law enforcement in the city of Montrose is provided by the Montrose Police Department.

Fire protection services in Montrose County are provided by the Montrose Fire Department and the Norwood Fire Department. The Montrose Memorial Hospital provides comprehensive health care facilities to Montrose County. Facilities include a full service hospital, a birth center, psychiatric services, physical therapy and rehabilitation services. The hospital provides 75 beds and employs approximately 50 people.

3.15.2 Environmental Consequences

Alternative A (No-Action Alternative). Under the No-Action Alternative, there would be no impacts to the socioeconomics of Montrose County. Maintenance and safety personnel from Western would continue to monitor the existing transmission line. In the event of line failure or toppling of a power structure, the need for maintenance and construction personnel may occur. The number of people needed for repair can not be estimated at this time.

Impacts Common to Both Action Alternatives. The proposed construction of the relocated powerline would cause no significant impacts to the socioeconomic resources of Montrose County. The construction work would be relatively minor, requiring only a limited work force. Consequently, no increases in housing or community service demands would occur, and existing Montrose County facilities would not be adversely affected. The re-alignment construction work would result in a small short-term influx of construction workers into Montrose County if contract construction workers are employed from outside the county. The approximate period of time required for the construction of any alternative is two to three months. Construction activities would occur primarily during the summer months.

Construction employment would probably utilize motels or other local accommodations during their relatively brief stay in the area. There are currently 15 motels and 4 bed and breakfast inns in Montrose, which total 525 rooms and over 1,000 beds available for temporary lodging.

Construction of the relocated powerline would not result in any impacts on police, fire, medical, or other community resources within the county.

A positive benefit of line relocation would be a reduction in the potential for a power outage.

3.16 RECREATION

3.16.1 Existing Conditions

The main recreational activity within and adjacent to the area of transmission line re-alignment is hunting. In addition, there is some back country driving for pleasure, and occasional camping and hiking in the area.

Big game and upland game in the project area are discussed in Section 3.8.1, Existing Conditions (Wildlife).

3.16.2 Environmental Consequences

Alternative A (No-Action Alternative). The No-Action Alternative would have no additional affects on recreation other than those that might be created as a result of ongoing maintenance activities for the existing line. During maintenance activities, it might be expected that there would be some additional traffic in the area caused by maintenance personnel.

Impacts Common to Both Action Alternatives. The construction activities associated with any re-alignment could reduce opportunities for recreationists, particularly hunters. This reduction would occur primarily during the construction of the re-alignment, but, if construction occurs during the summer, any impacts to hunters would be negligible.
Overall, the displacement of recreationists, including hunters, would be minimal given that existing recreational use in this area is relatively light, and the general area has abundant acreages of public, open space lands for dispersed recreational opportunities.

Although no specific recreational use data for public lands that might be directly affected by the proposed re-alignment is available, the number of recreationists affected is expected to be minimal, and any displacement of these individuals would not create overuse of other areas or degradation of the resource.

3.17 RESOURCES IDENTIFIED AS NOT REQUIRING DETAILED STUDY

The following resources are not expected to be impacted by the project:

- Air quality
- Climate
- Paleontology

4.0 CONSULTATION AND COORDINATION

During preparation of the EA, the following agencies and private organizations were contacted to obtain data.

Federal Agencies

USDI Bureau of Land Management
Uncompahgre Field Office
2505 S. Townsend Avenue
Montrose, Colorado 81401
(970) 240-5300

USDI Fish and Wildlife Service
764 Horizon Drive, Building 8
Grand Junction, Colorado 81506
(970) 243-2778

USDA Rural Utilities Service
14th and Independence Avenues
SW Building, Room 1263
STOP 1571
Washington, DC 20250
(202) 720-1953

U.S. Army Corps of Engineers
402 Rood Avenue, Room 142
Grand Junction, Colorado 81501
(970) 243-1199

State Agencies

Colorado Division of Wildlife
2300 S. Townsend Avenue
Montrose, Colorado 81401
(970) 249-3431

Colorado State Historical Society
1300 S. Broadway
Denver, Colorado 80203

County Officials

Montrose County Commissioners
P.O. Box 1289
Montrose, Colorado 81401
(970) 249-7755

Native American Tribes

Ute Mountain Utes
P.O. Box 388
Fort Duchesne, Utah 84026
(no phone number available)

Navajo Nation
333 Burns Avenue
Ignacio, Colorado 81137
(no phone number available)

Private Organizations

Colorado Natural Heritage Program
CSU Campus
Fort Collins, Colorado 80521
(970) 491-1101

Private Landowners Contacted

Mr. Leonard G. Orme
[redacted]

Mr. Doug Nava
[redacted]

5.0 LIST OF PREPARERS

Western Area Power Administration

Rodney Jones	MSE Environmental Engineering 28 years electric utility experience Environmental Specialist	NEPA Document Manager Contracting Officers Technical Representative
Stacey Padget	BS Electrical Engineering 15 years electric utility experience Electrical Engineer	Project Engineering
Carey Ashton	BA 14 years electric utility experience Realty Specialist	Private Land Rights and Right-of-way
Susan Starcevich	BS Agronomy BS Environmental Education 8 years Environmental Specialist/ Realty Specialist	Federal Land Rights and Right-of-way

S. Edwards Inc.

Sally Edwards	BS Forest Management MS Resource Management 23 years experience in resource and environmental management	NEPA Project Manager
Alan Czarnowsky	BS Mining Engineering 25 years experience in environmental management and natural resource protection	Geotechnical and Soils Engineering
Rita Edinger	Word processing and Clerical T raining - U.S. Army Training Center 25 years experience in clerical and administration tasks	Word Processing Document Control

Alpine Archaeological Consultants, Inc.

Alan Reed	MA Anthropology/Archaeology BA Anthropology 25 years experience on prehistoric and historic investigations	Archaeologist
James Davis	MA Anthropology BA Anthropology	Archaeologist

Western Bionomics

Kelly Colfer	MS Plant Ecology BS Wildlife 17 years experience with habitats and populations in western United States	Ecologist

6.0 REFERENCES

APLIC (Avian Power Line Interaction Committee). 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994. Edison Electric Institute/Raptor Research Foundation. Washington D.C.

APLIC (Avian Power Line Interaction Committee). 1996. Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996. Edison Electric Institute/Raptor Research Foundation. Washington D.C.

Black & Veatch. 1989. Phase II Geologic Reconnaissance, Western Area Power Administration. Project 14832, October 1989.

CDOW (Colorado Division of Wildlife). 1999. Big Game Hunting Statistics. Colo. Div. Wildl. Denver, CO.

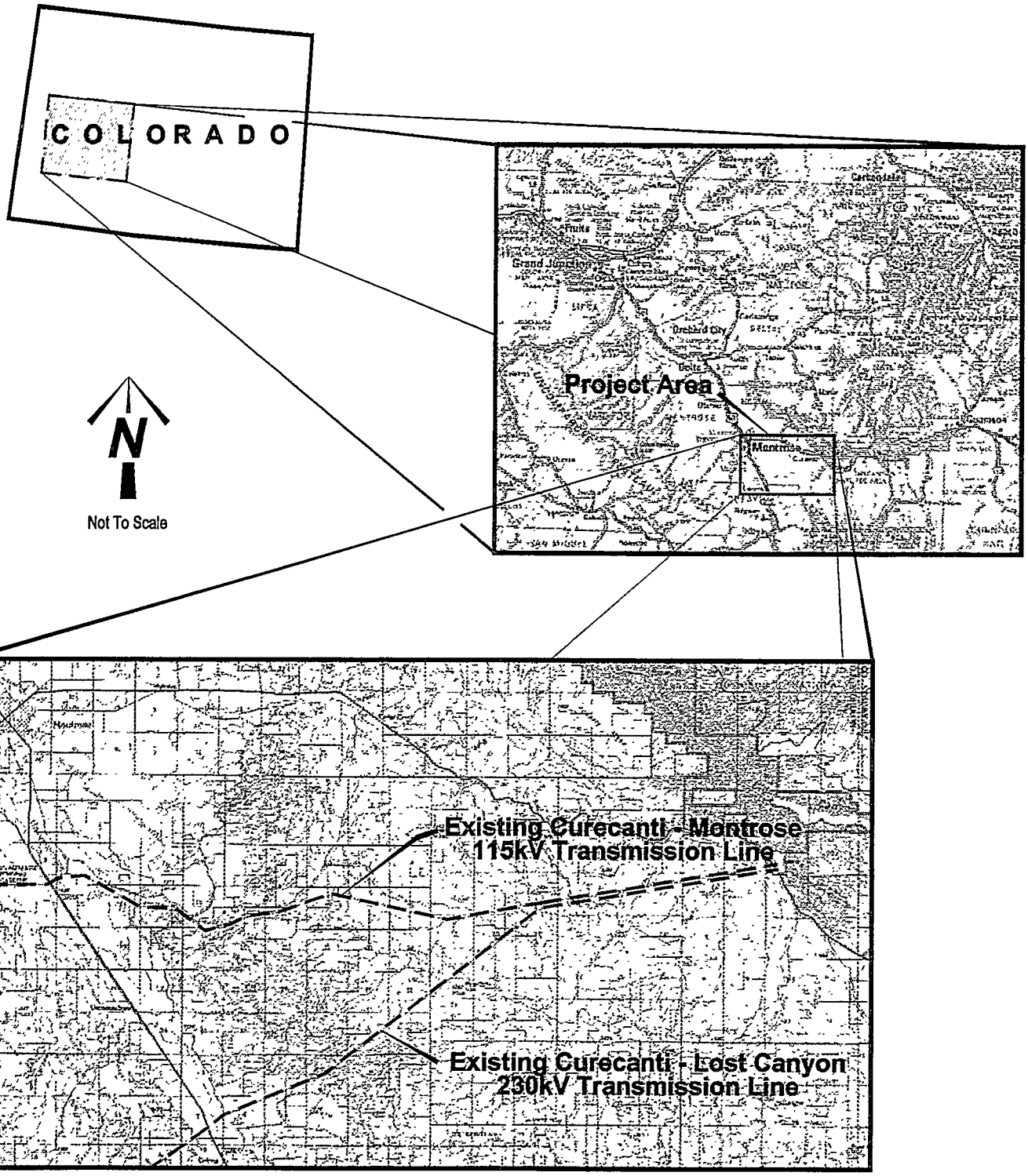
CDOW (Colorado Division of Wildlife). 1999. Wildlife Resource Information System. Colo. Div. Wildl. Grand Junction, CO.

James, B.W. and B.A. Haak. 1979. Factors affecting avian flight behavior and collision mortality at transmission lines. Bonneville Power Administration, U.S. Dept. of Energy, Portland, Oregon. 109pp

Schoenfield, G. 2000. Personal communication. Colorado Division of Wildlife.

Scott, R.E., L.J. Roberts, and C.J. Cadbury. 1972. Bird deaths from powerlines at Dungeness. British Birds 65:273-286.

Figures



AutoCAD R.E

PROJECT No.:

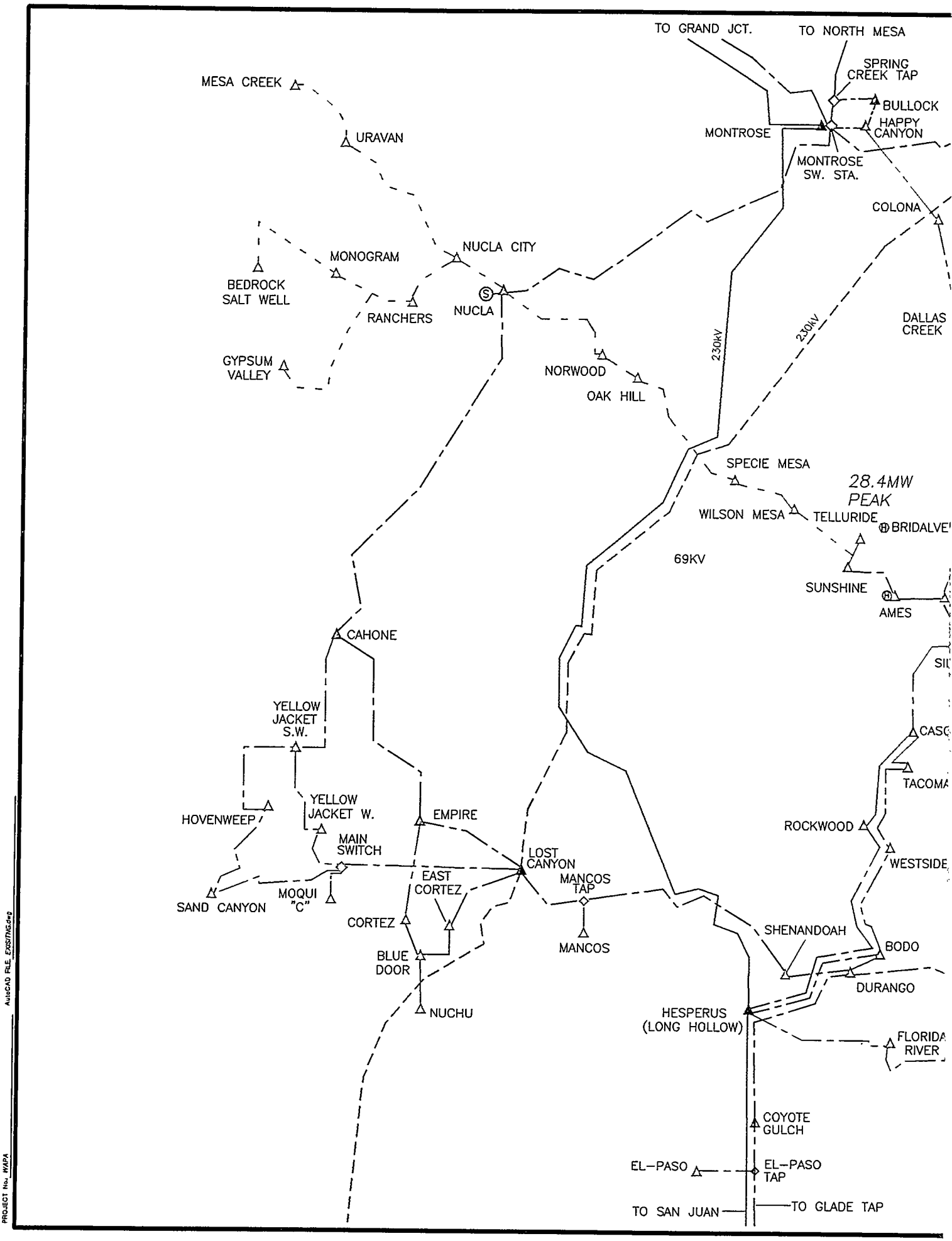
S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-593-0009

NTS	9/99	AWC	JGN	SE
SCALE	DATE	DESIGN BY	DRAWN BY	REVIEWED BY

WESTERN AREA POWER ADMINISTRATION
ROCKY MOUNTAIN REGION

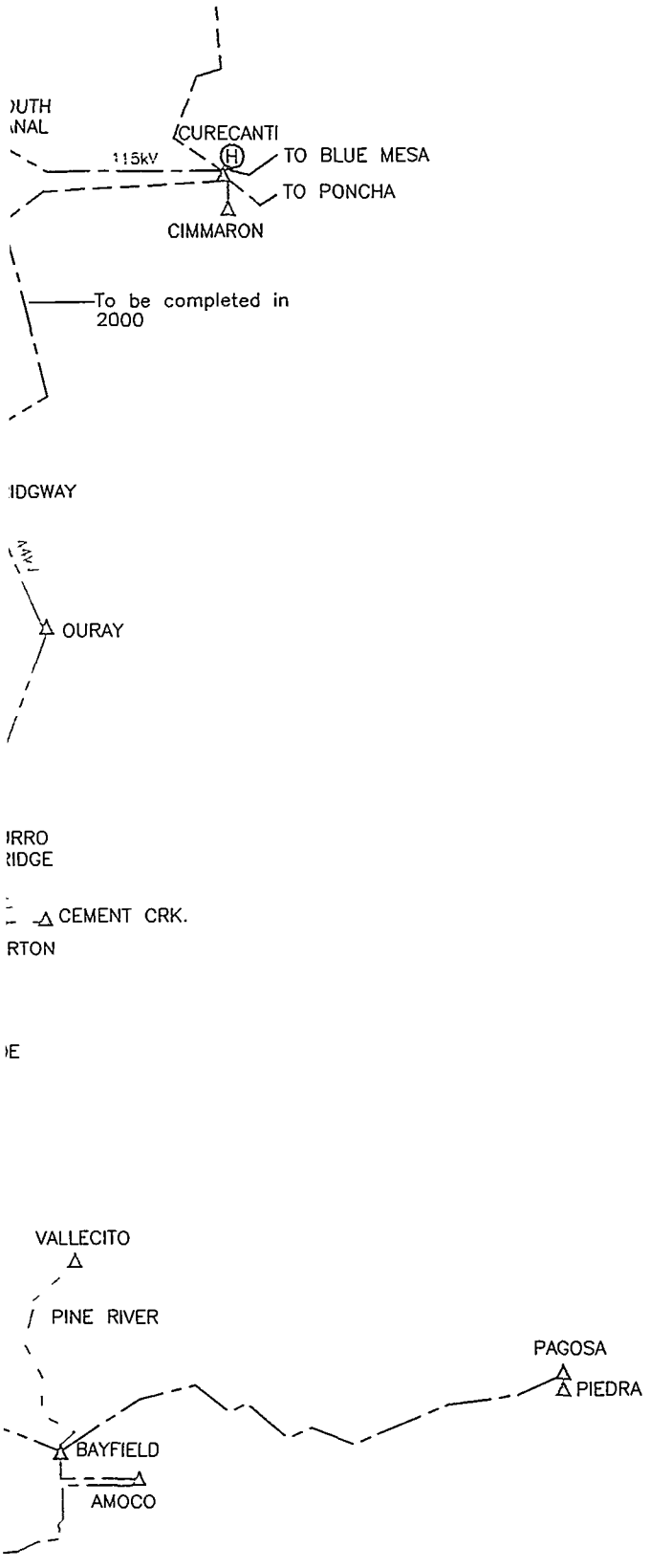
CURECANTI - LOST CANYON
230kV TRANSMISSION LINE - RE ROUTE PROJECT

FIGURE 1
GENERAL LOCATION MAP



AutoCAD FILE_EXISTING.dwg

PROJECT No. WAPA



LEGEND

OWNERSHIP

- TRI-STATE
- TRI-STATE MEMBERS
- WESTERN AREA POWER ADMINISTRATION
- PUBLIC SERVICE COMPANY OF COLORADO
- NEBRASKA PUBLIC POWER DISTRICT
- PACIFICORP
- JOINT OWNERS
- OTHERS

SIZE OF TRANSMISSION LINE

- 44.5 KV OR LOWER
- 69 KV
- 115 KV
- 138 KV
- 230 KV
- 345 KV

SYMBOLS

- ▲ SUBSTATION
- ◆ SWITCHING STATION
- ○ GENERATION
  S-STEAM; H-HYDROELECTRIC;
  D-DIESEL; C-COMBUSTION TURBINE

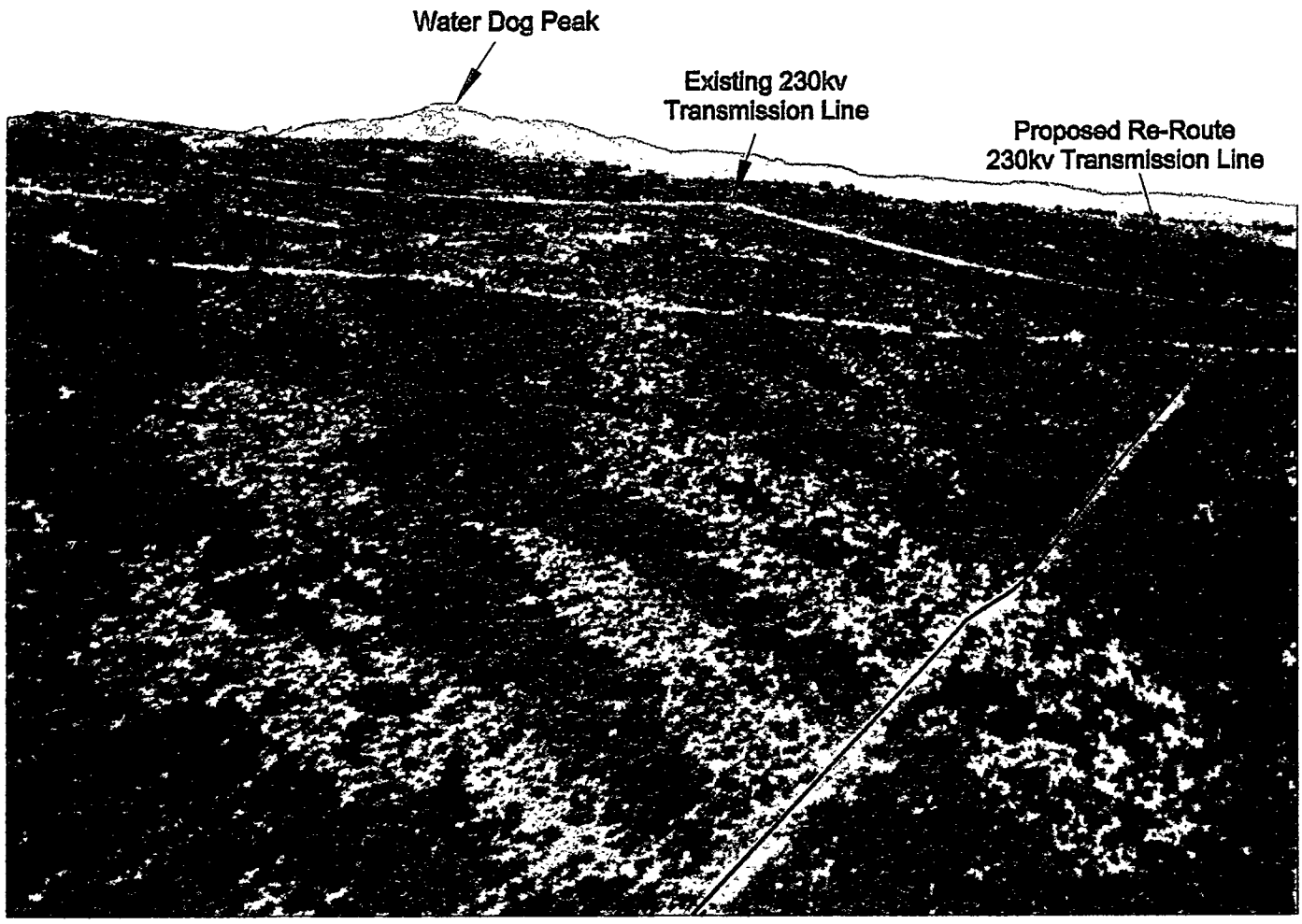
S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-01198 FAX 970-593-0009

NTS	9/99	AWC	WAPA	SE
SCALE	DATE	DESIGN BY	DRAWN BY	REVIEWED BY

WESTERN AREA POWER ADMINISTATION
ROCKY MOUNTAIN REGION

CURECANTI - LOST CANYON
230kV TRANSMISSION LINE - RE ROUTE PROJECT

FIGURE 2
EXISTING TRANSMISSION SYSTEM



S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-593-0009

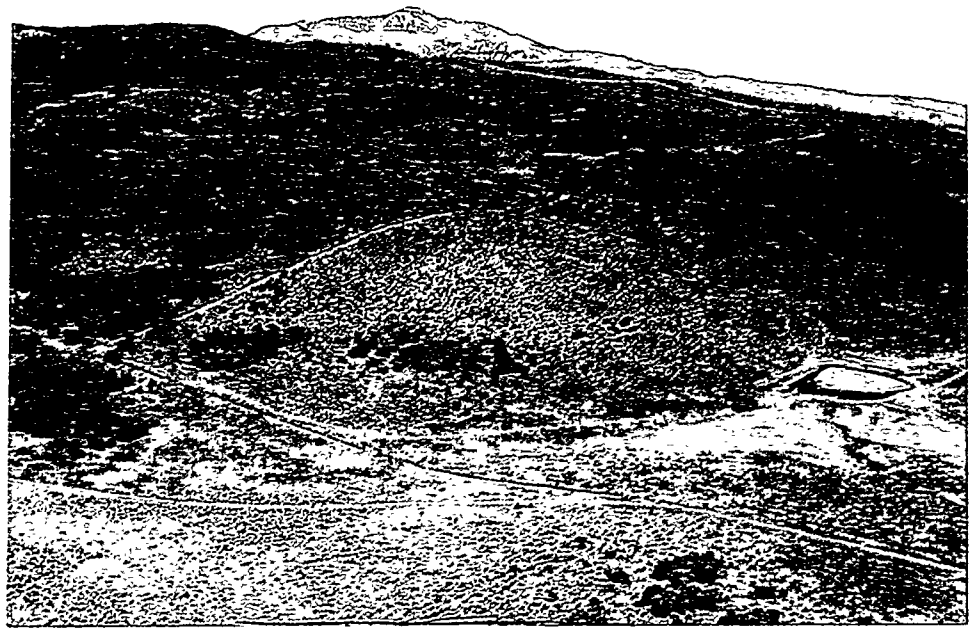
NTS	9/99	AWC	JON	SE
SCALE	DATE	DESIGN BY	DRAWN BY	REVIEWED BY

WESTERN AREA POWER ADMINISTRATION
ROCKY MOUNTAIN REGION

CURECANTI - LOST CANYON
230kV TRANSMISSION LINE - RE ROUTE PROJECT

FIGURE 3
PHOTO OF EXISTING AND PROPOSED RE-ROUTE 230kv TRANSMISSION LINE (Looking Southeast)

PROJECT No.:
AutoCAD FILE:



Waterdog Peak on the horizon; and typical vegetation in project area.

Cultural resource survey in progress with landowner representative.

AutoCAD FILE:

PROJECT No.

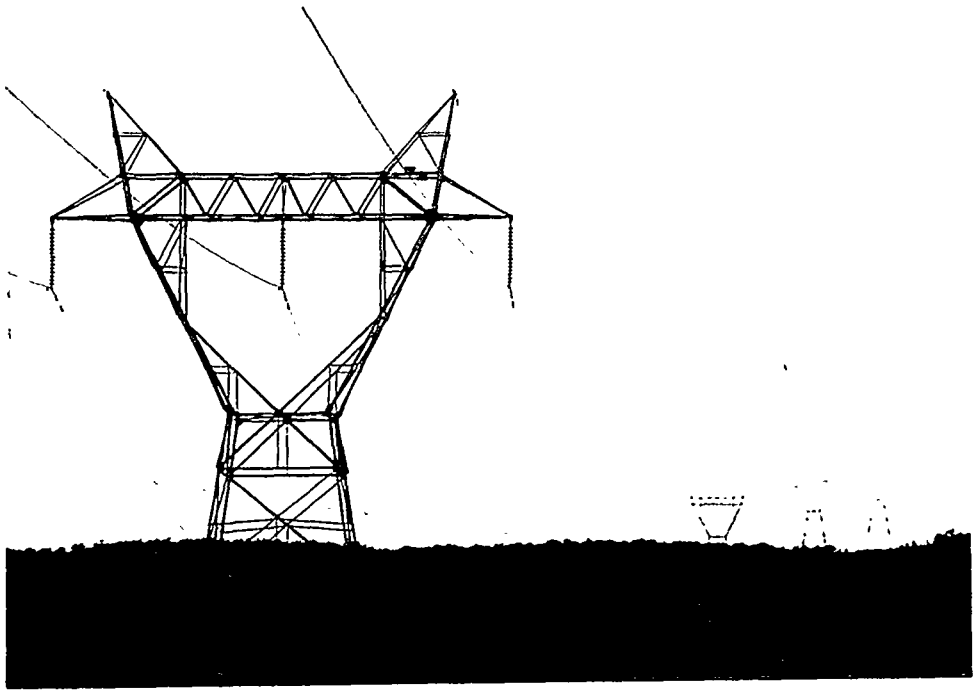
S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-593-0009

NTS	9/99	AWC	JGN	SE
SCALE	DATE	DESIGN BY	DRAWN BY	REVIEWED BY

WESTERN AREA POWER ADMINISTATION
ROCKY MOUNTAIN REGION

CURECANTI - LOST CANYON
230kV TRANSMISSION LINE - RE ROUTE PROJECT

FIGURE 4
PHOTOS OF WATER DOG PEAK; AND CULTURAL RESOURCE SURVEY



Existing 230-kV transmission line as viewed from the Uncompahgre Road.

Existing 115-kV transmission line and access road. Proposed reroute will parallel this line approximately 4.1 miles.

AutoCAD FILE

PROJECT No.

S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-593-0009

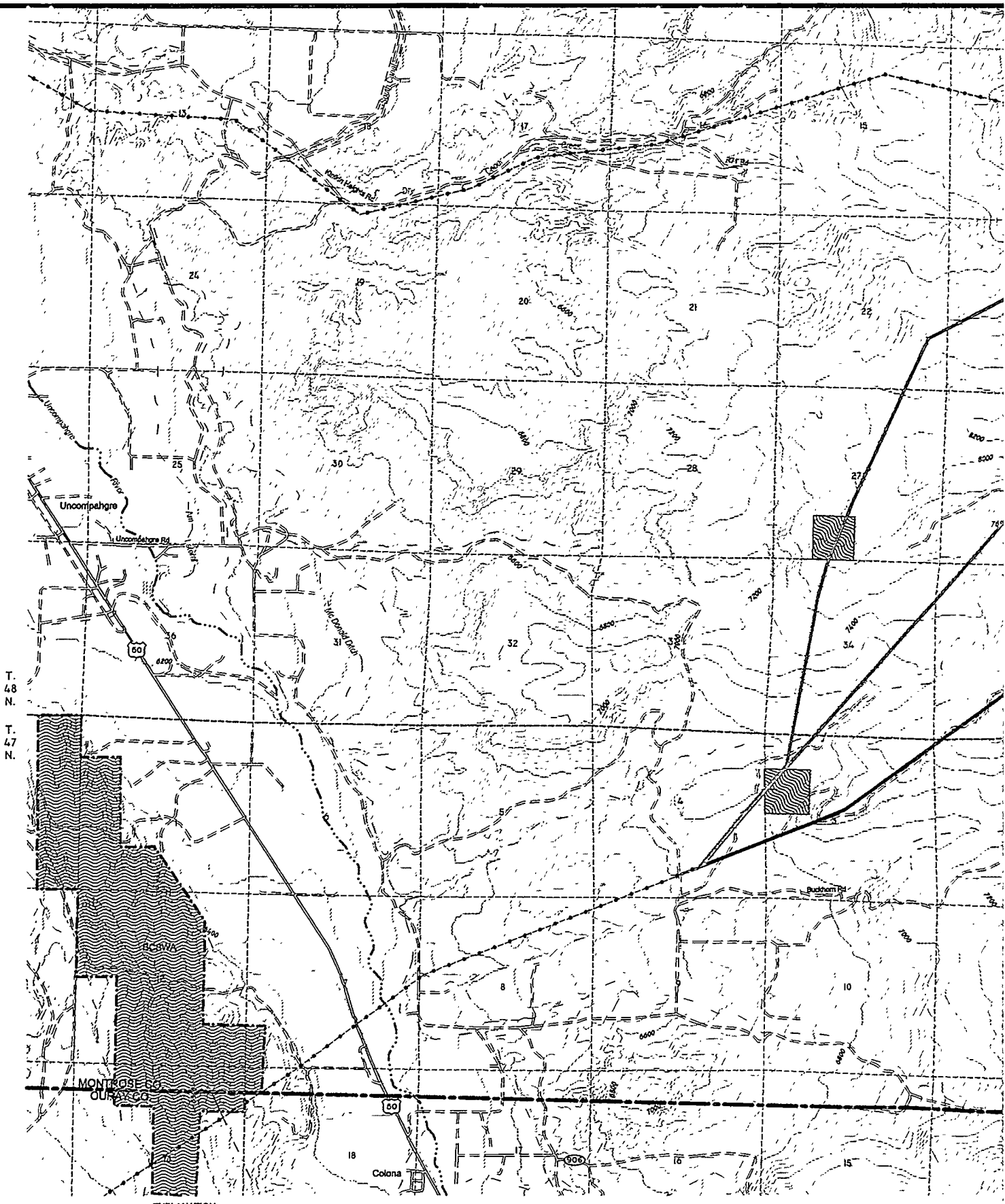
NTS	9/99	AWC	JGN	SE
SCALE	DATE	DESIGN BY	DRAWN BY	REVIEWED BY

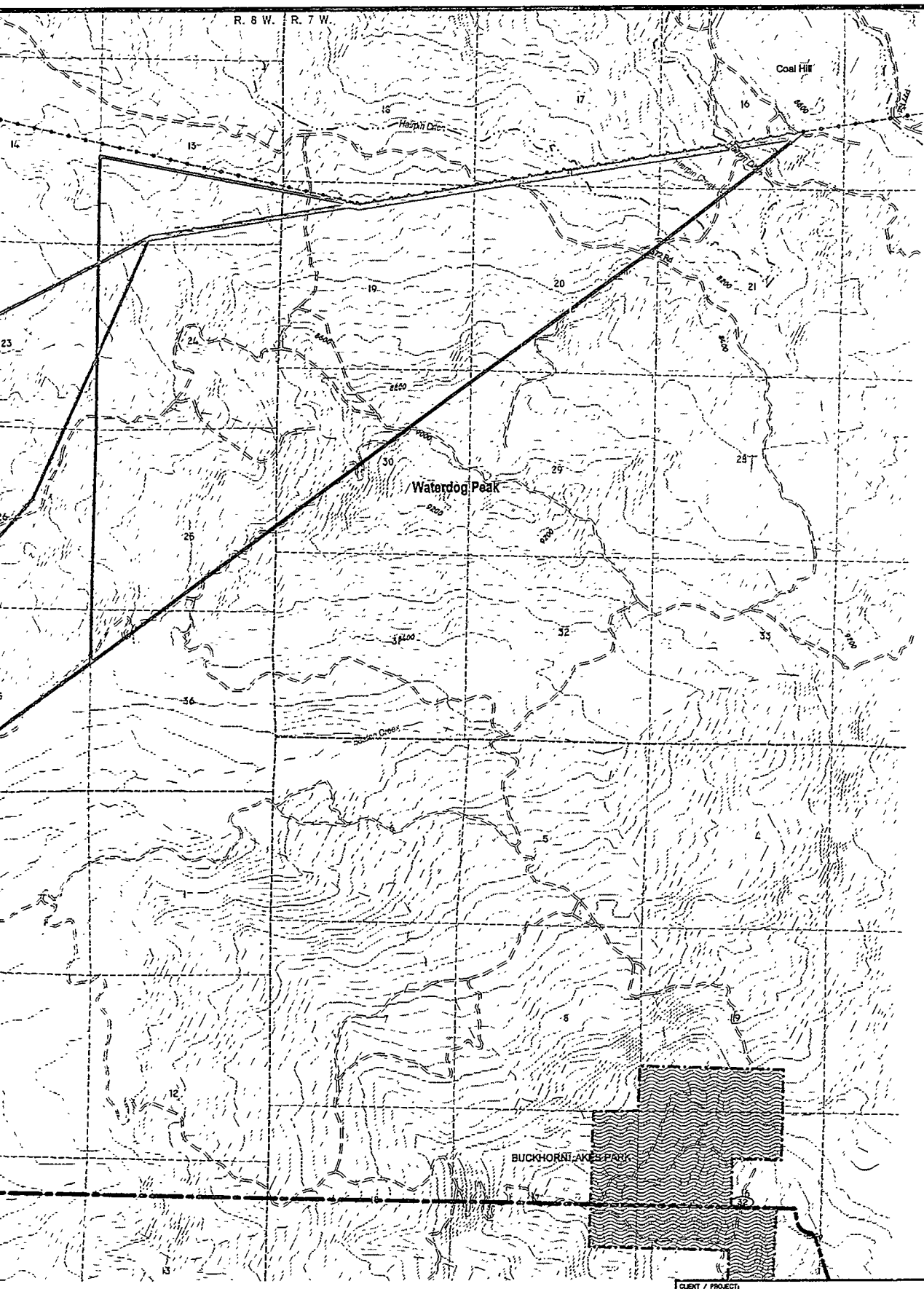
WESTERN AREA POWER ADMINISTATION
ROCKY MOUNTAIN REGION

CURECANTI - LOST CANYON
230kV TRANSMISSION LINE - RE ROUTE PROJECT

FIGURE 5
PHOTOS OF EXISTING 115-kV AND 230-kV TRANSMISSION LINE

Maps


T. 48 N.
T. 47 N.
Uncompahgre River
Uncompahgre Rd
Mt. Donald Ditch
Buckhorn Rd
Colona
BCWA
MONTROSE CO.
OURAY CO.
60
550
906
EXPLANATION
Public Lands (Administered By Bureau of Land Management)
Private Lands
County Line
Public Water Reserves
State, County, City, Wildlife, Park and Other Recreation Areas
Existing Transmission Line
Highway
Road
River
Stream, Drainage
Ditch, Canal
NO ACTION ALTERNATIVE
Alternative A Existing Transmission Route
ALTERNATIVES CONSIDERED IN DETAIL
Alternative B Proposed Transmission Route
Alternative C Transmission Route
ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED EVALUATION
Alternative D Transmission Route



CLIENT / PROJECT:

WESTERN AREA POWER ADMINISTRATION
ROCKY MOUNTAIN REGION

CURECANTI - LOST CANYON 230kV TRANSMISSION LINE - RE ROUTE PROJECT

TITLE:

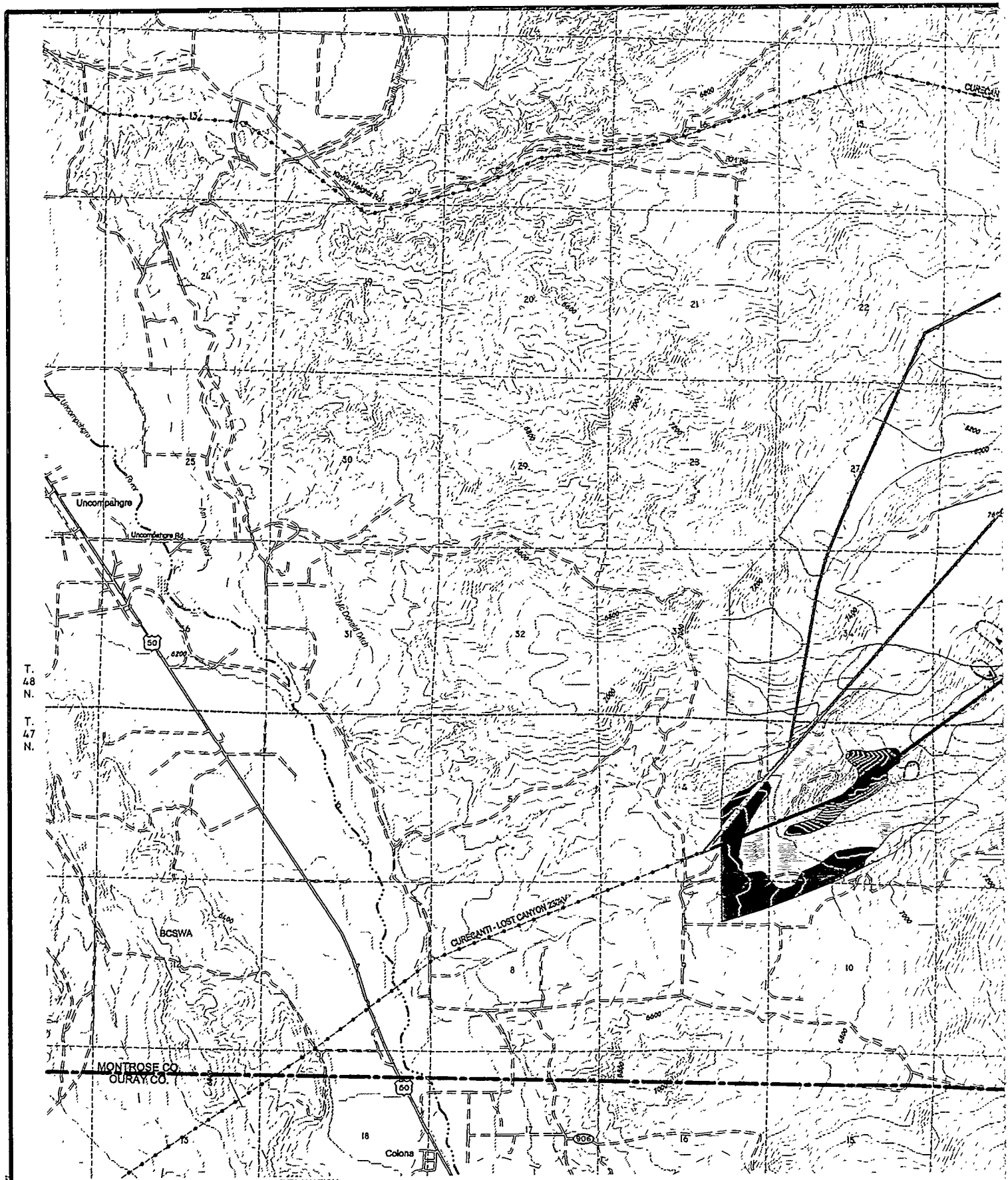
MAP 1
LAND OWNERSHIP AND ALTERNATIVES

N

SCALE
2000 0 2000'
CONTOUR INTERVAL 40FT

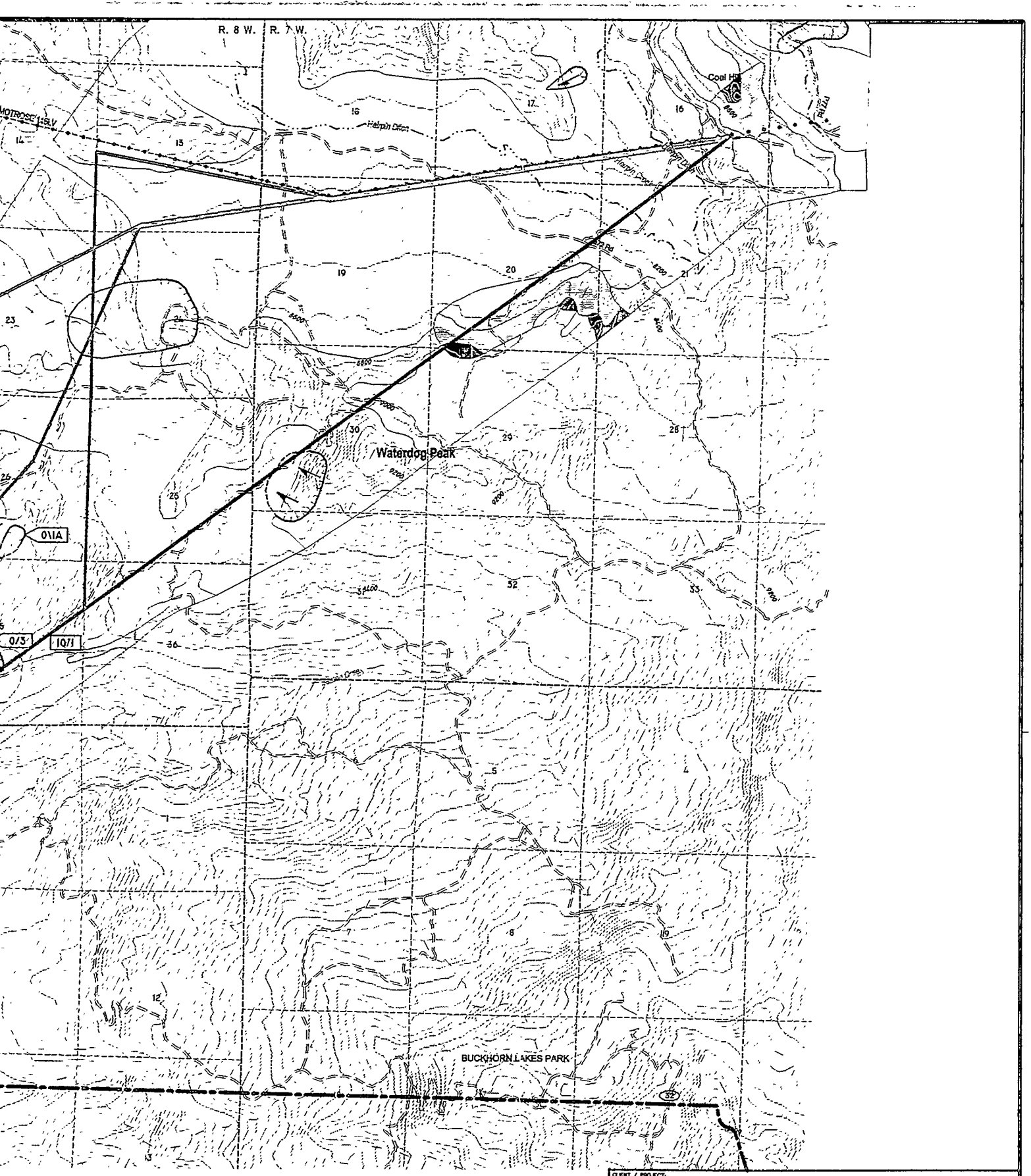
S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-593-0009
S2E@FRII.COM

DRAWN BY:	JGN
CHECKED BY:	SE
REVIEWED BY:	SE
SCALE:	1" = 2000'
DIGITAL FILE NO.:	WAPA 001dwg
SHEET	1 OF 5
MAP NO.:	1
REVISION NO.:	0



EXPLANATION

- Mancos Shale and its Residual Material on Slopes Less Than 10° Low to Moderate Hazard.
- Mancos Shale and its Residual Material on Slopes Between 10° and 20° Moderate to High Hazard.
- Mancos Shale and its Residual Material on Slopes Greater Than 20° High Hazard.
- Mesa Verde Formation (Sandstone & Shale) and Residual Material on Slopes Less Than 10° Low Hazard.
- Mesa Verde Formation (Sandstone & Shale) and Residual Material on Slopes Less Than 20° Moderate to High Hazard.
- Landslide Deposits On Slopes Less Than 10° Low to Moderate Hazard.
- Landslide Deposits On Slopes Greater Than 20° High Hazard.
- Boundary of Landslide Feature (Dashed Where Approximately Located)
- General Direction of Movement
- Landslide Scarp (Dashed Where Approximately Located)
- Lattice Steel Towers With Mile / Tower No. 10/1
- 0/3 Slide Number - Slides W/O Numbers Mapped From Aerial Photos Only, Not Field Checked.
- Existing Transmission Line
- Highway
- Road
- River
- Stream, Drainage
- Ditch, Canal



NO ACTION ALTERNATIVE
Alternative A Existing Transmission Route

ALTERNATIVES CONSIDERED IN DETAIL
Alternative B Proposed Transmission Route
Alternative C Transmission Route

ALTERNATIVES CONSIDERED BUT ELIMINATED FRO DETAILED EVALUATION
Alternative D Transmission Route

N

SCALE
2000' 0 2000
CONTOUR INTERVAL 40FT

CLIENT / PROJECT:
WESTERN AREA POWER ADMINISTRATION ROCKY MOUNTAIN REGION

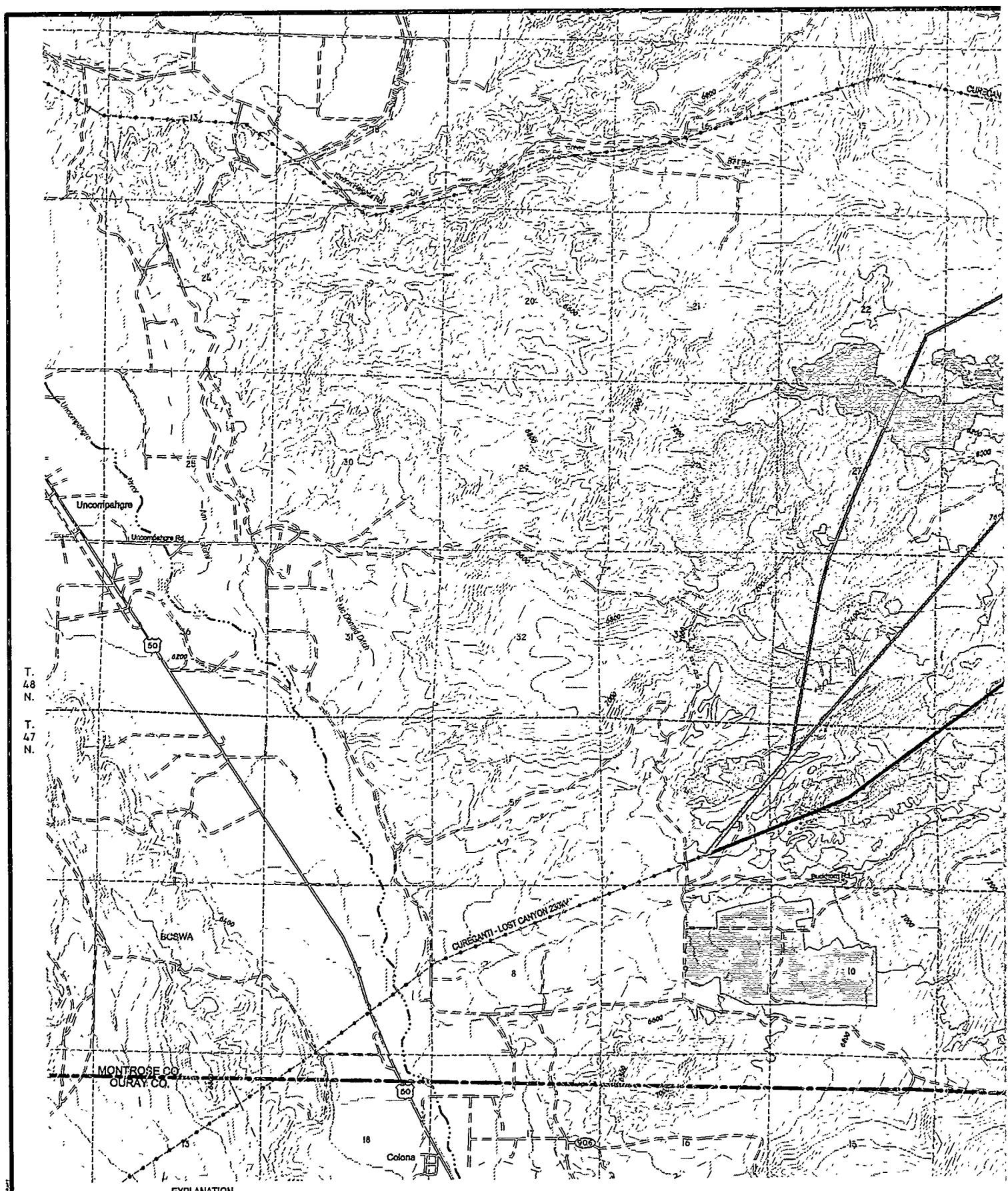
CURECANTI - LOST CANYON 230kV TRANSMISSION LINE - RE ROUTE PROJECT

TITLE:

MAP 2
GEOLOGIC HAZARDS

S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-593-0009
SEI@FRII.COM

DRAWN BY:	JQN	DIGITAL FILE NO:	WAPA 002.dwg
CHECKED BY:	AWC	2 OF 5	
REVIEWED BY:	AWC	MAP NO.	REVISION NO.
SCALE:	1" = 2000'	2	0



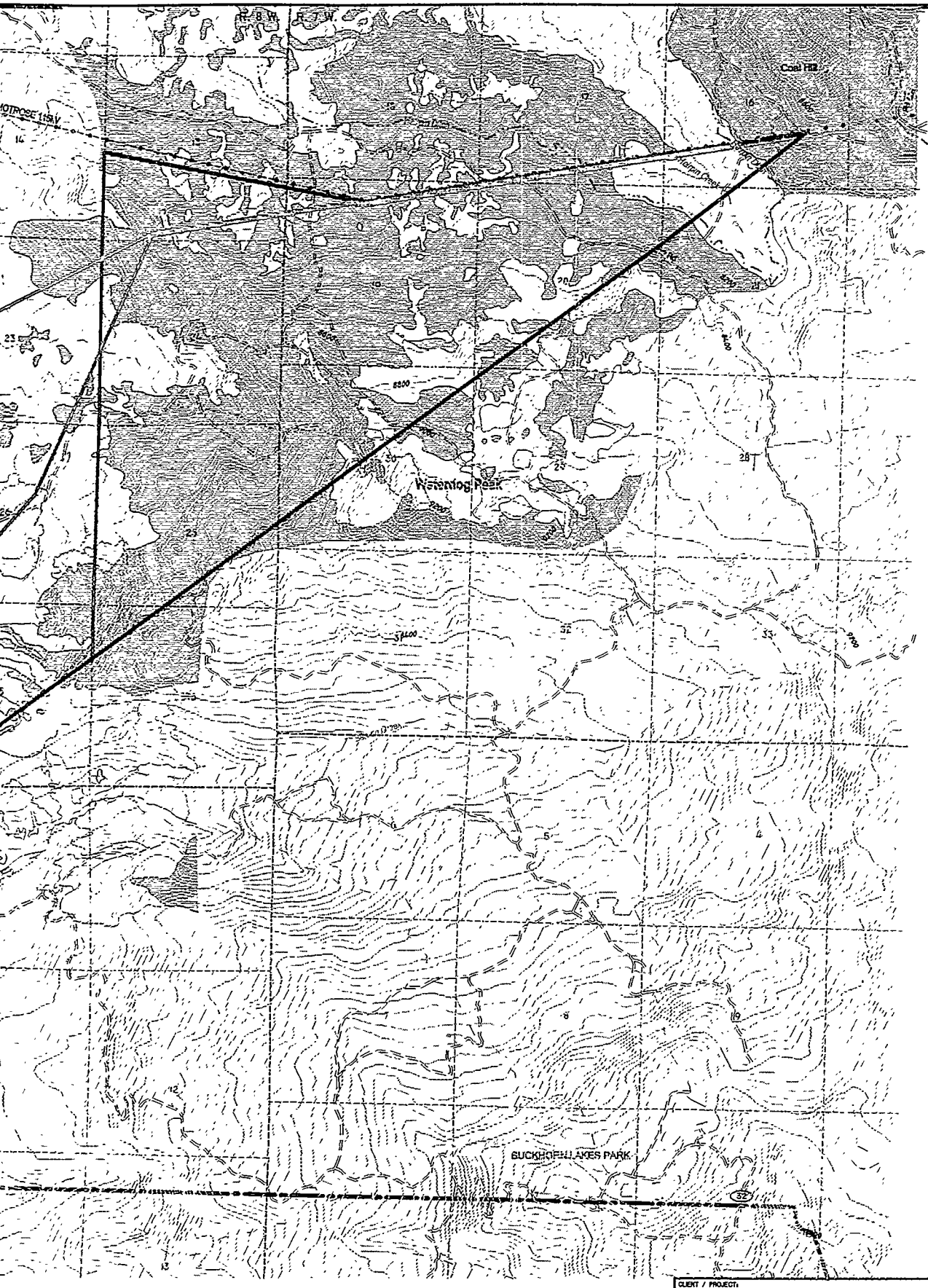
EXPLANATION

- Existing Transmission Line
- Highway
- Road
- River
- Stream, Drainage
- Ditch, Canal
- Gambel Oak
- Pinyon - Juniper
- Big Sagebrush
- Gardners Saltbrush
- Spruce - Fir
- Aspen
- Irrigated Crops

NO ACTION ALTERNATIVE
Alternative A Existing Transmission Route

ALTERNATIVES CONSIDERED IN DETAIL
Alternative B Proposed Transmission Route
Alternative C Transmisson Route

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED EVALUATION
Alternative D Transmission Route



CLIENT / PROJECT:

WESTERN AREA POWER ADMINISTRATION
ROCKY MOUNTAIN REGION

CURECANTI - LOST CANYON 230kV TRANSMISSION LINE - RE ROUTE PROJECT

TITLE:

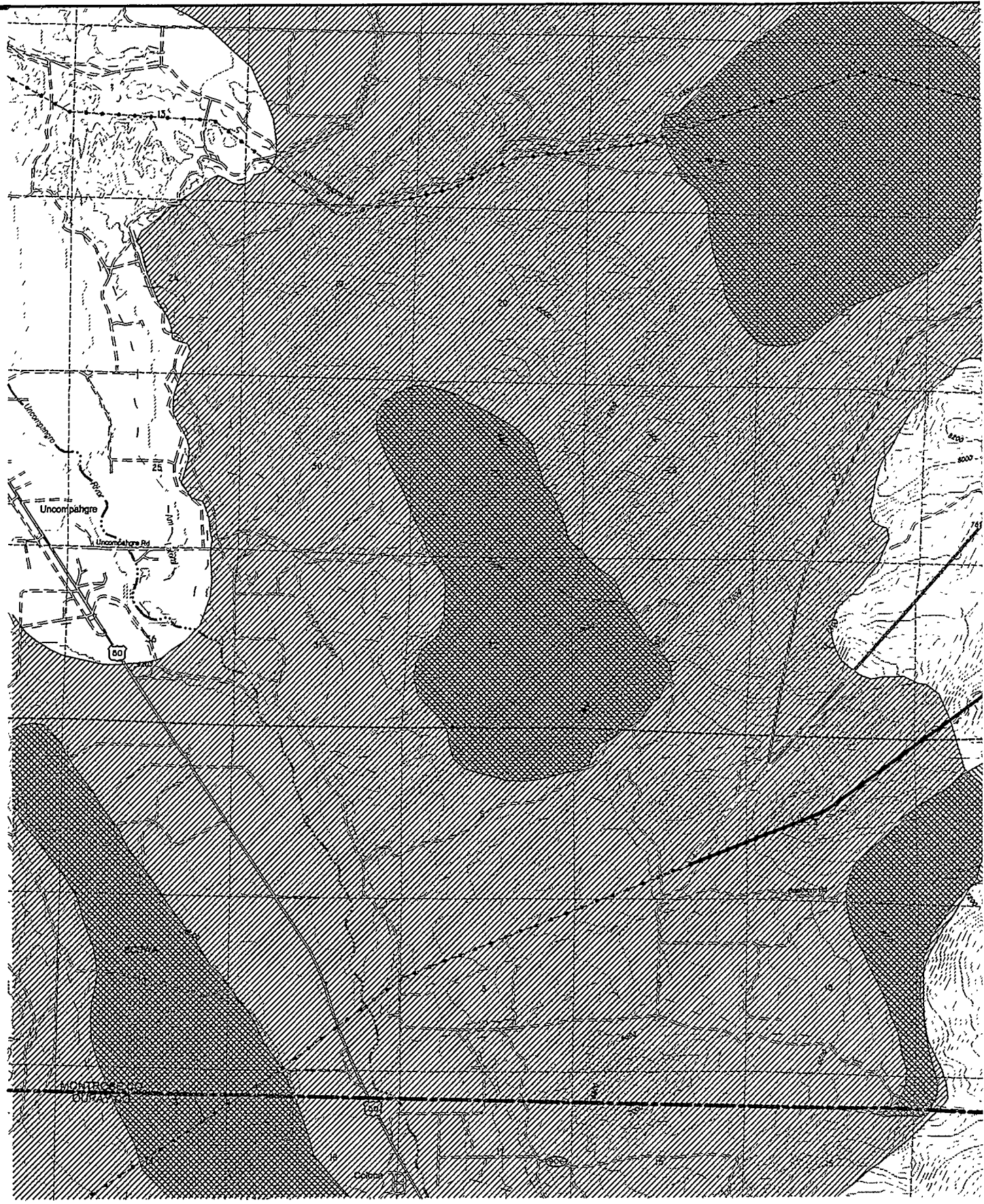
MAP 3
VEGETATION MAP

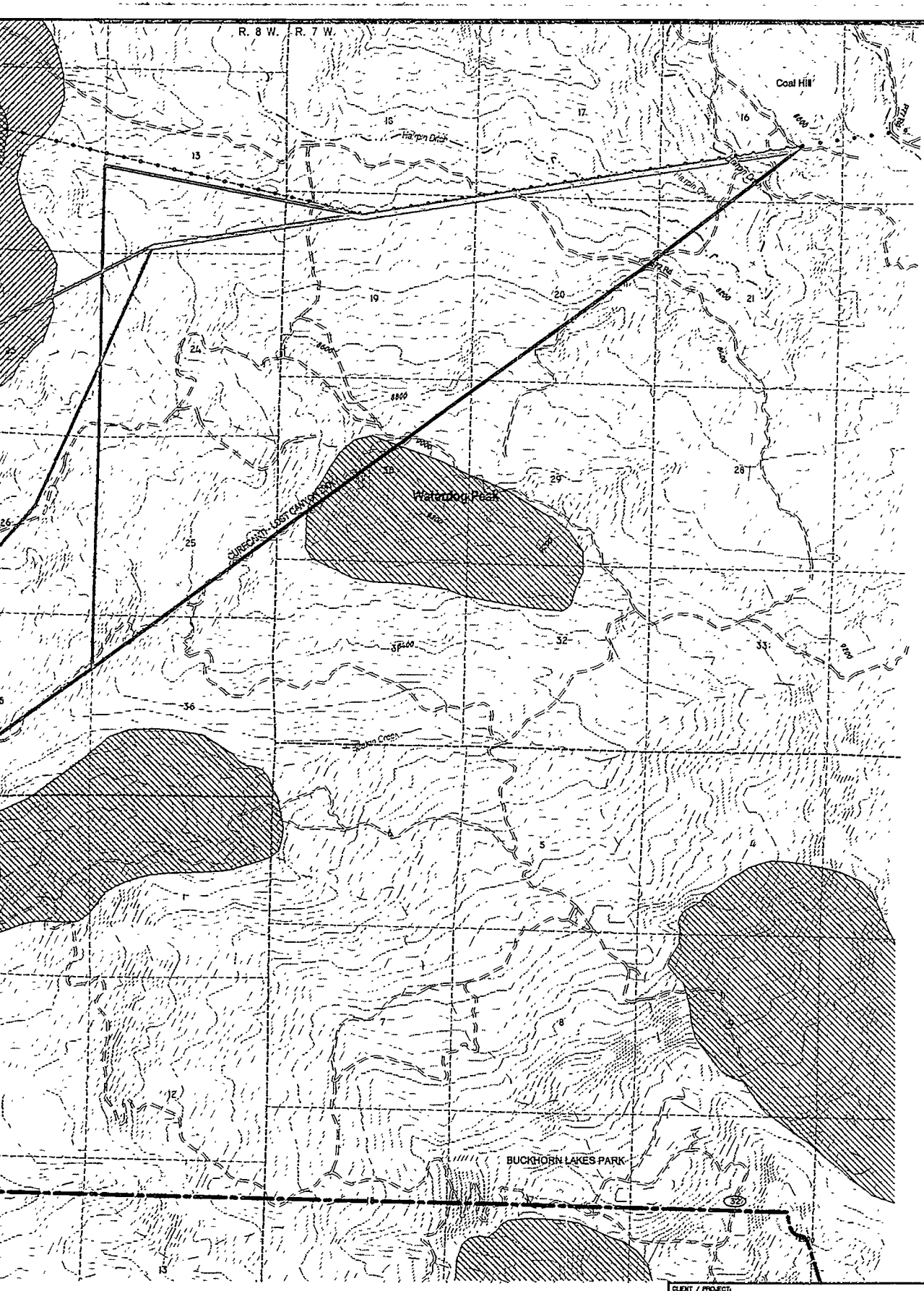
N

SCALE
2000' 0 2000'
CONTOUR INTERVAL 40FT

S. EDWARDS INC.
442 TURHAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-593-0009
SEI@FRII.COM

DRAWN BY:	JGN	DIGITAL FILE NO:	WAPA 006.dwg
CHECKED BY:	KC	3	OF 5
REVIEWED BY:	AWC	MAP NO.:	REVISION NO.:
SCALE:	1" = 2000'	3	0


Uncompahgre
Uncompahgre River
Uncompahgre Rd
Redlands Rd
MONTROSE
OURAY
Colona
T. 48 N.
T. 47 N.
50
60
EXPLANATION
Existing Transmission Line
Highway
Road
River
Stream, Drainage
Ditch, Canal
Elk Production Range
Elk Severe Winter Range
Elk Winter Concentration Area
Elk Winter Range
Source: Colorado Division of Wildlife
(Wildlife Resource Information System)
NO ACTION ALTERNATIVE
Alternative A Existing Transmission Route
ALTERNATIVES CONSIDERED IN DETAIL
Alternative B Proposed Transmission Route
Alternative C Transmission Route
ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED EVALUATION
Alternative D Transmission Route



CLIENT / PROJECT:

WESTERN AREA POWER ADMINISTRATION
ROCKY MOUNTAIN REGION

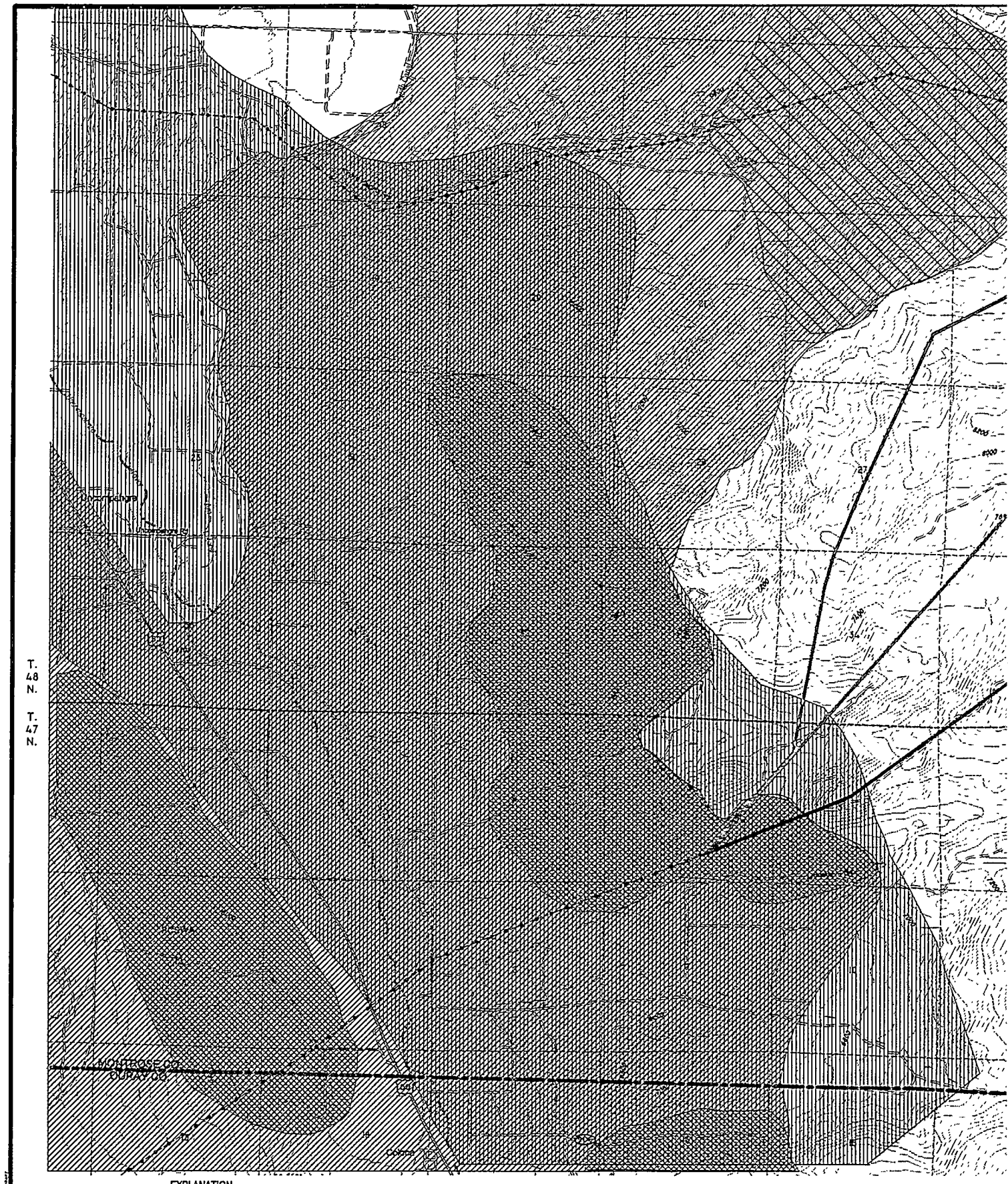
CURECANTI - LOST CANYON
230kV TRANSMISSION LINE - RE ROUTE PROJECT

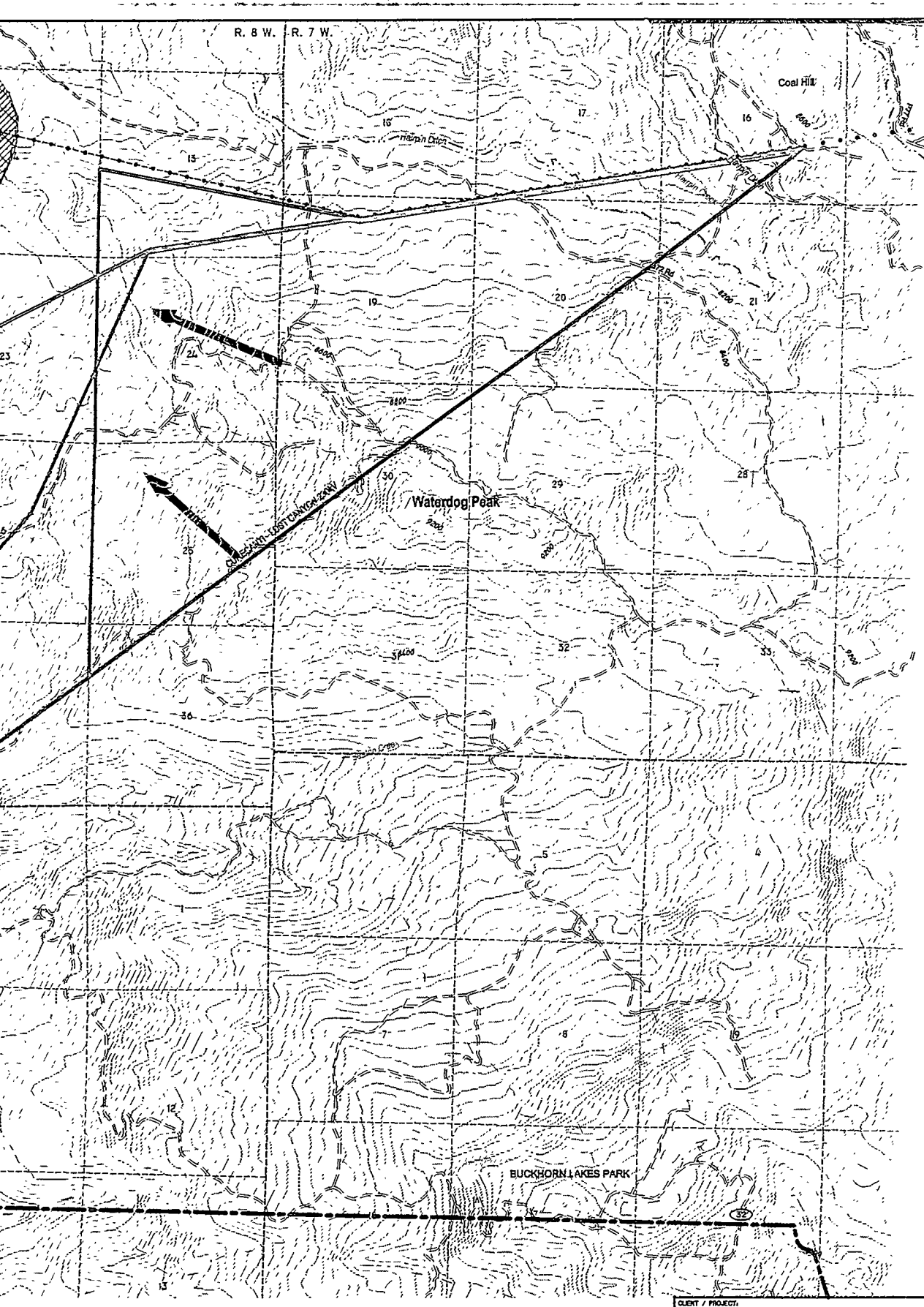
TITLE:

MAP 4
ELK ACTIVITY AREAS

S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-693-0009
SEI@FRI.COM

DRAWN BY:	JGN	DIGITAL FILE NO:	WAPA 003.dwg
CHECKED BY:	KC	4	OF 5
REVIEWED BY:	AWC	MAP NO.: 4	REVISION NO.: 0
SCALE:	1" = 2000'		


T. 48 N.
T. 47 N.
MONTROSE CO.
OURAY CO.
EXPLANATION
Existing Transmission Line
Highway
Road
River
Stream, Drainage
Ditch, Canal
Mule Deer Resident Population Area
Mule Deer Severe Winter Range
Mule Deer Winter Concentration Area
Mule Deer Winter Range
Mule Deer Migration Pattern
Source: Colorado Division of Wildlife
(Wildlife Resource Information System)
NO ACTION ALTERNATIVE
Alternative A Existing Transmission Route
ALTERNATIVES CONSIDERED IN DETAIL
Alternative B Proposed Transmission Route
Alternative C Transmission Route
ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED EVALUATION
Alternative D Transmission Route



CLIENT / PROJECT:

WESTERN AREA POWER ADMINISTRATION
ROCKY MOUNTAIN REGION

CURECANTI - LOST CANYON
230kV TRANSMISSION LINE - RE ROUTE PROJECT

TITLE:

MAP 5
MULE DEER ACTIVITY AREAS

N

SCALE
2000' 0 2000
CONTOUR INTERVAL 40FT

S. EDWARDS INC.
442 TURMAN DRIVE
FORT COLLINS, COLORADO, 80525
PHONE 970-215-0198 FAX 970-593-0009
SEI@FRII.COM

DRAWN BY: JGN	DIGITAL FILE NO.: WAPA 005.dwg
CHECKED BY: KC	5 OF 5
REVIEWED BY: AWC	MAP NO.: 5
SCALE: 1" = 2000'	REVISION NO.: 0

Appendix A
Scoping Documents

Department of Energy
Western Area Power Administration
Rocky Mountain Customer Service Region
P.O. Box 3700
Loveland, CO 80539-3003

Multiple Letter

MAY 1 1 1999

Dear :

The Western Area Power Administration (Western), an agency of the U.S. Department of Energy, is proposing to relocate an 8-mile section of the Curecanti-Lost Canyon 230-kV transmission line, located in Montrose County, Colorado (map enclosed). A portion of this transmission line, situated 10 miles southeast of Montrose, Colorado, crosses Waterdog Peak. Waterdog Peak is an area of significant geologic surface activity, which is causing the transmission line's lattice steel towers to shift, increasing stress to structure hardware and conductors, and posing a threat to the integrity of the transmission system. Western proposes to relocate the lattice steel towers and line approximately 1 mile west to a more geologically stable area. Both the existing 8-mile section of transmission line and the proposed relocation cross Bureau of Land Management and private land holdings.

To consider all of the issues and feasible alternatives associated with the proposed project, Western will prepare an Environmental Assessment. The Bureau of Land Management has agreed to be a cooperating agency, and will assist Western in the preparation of the Environmental Assessment.

It is Western's goal to relocate the Curecanti-Lost Canyon transmssion line in a manner that minimizes impacts to the natural, human and cultural environments while improving our ability to maintain and operate the transmission line in a safe and environmentally sound manner. To the extent possible, the proposed relocation would utilize existing transmission line corridors and established trails and roads for access. If you have any comments on Western's proposal, please submit them to me at the following address:

Western Area Power Administration
Rocky Mountain Region
5555 East Crossroads Blvd.
Loveland, Colorado 80539

or, you may e-mail them to: **rjones@wapa.gov**

Thank you for your assistance and participation.

Sincerely,

Joel K. Bladow
Regional Manager

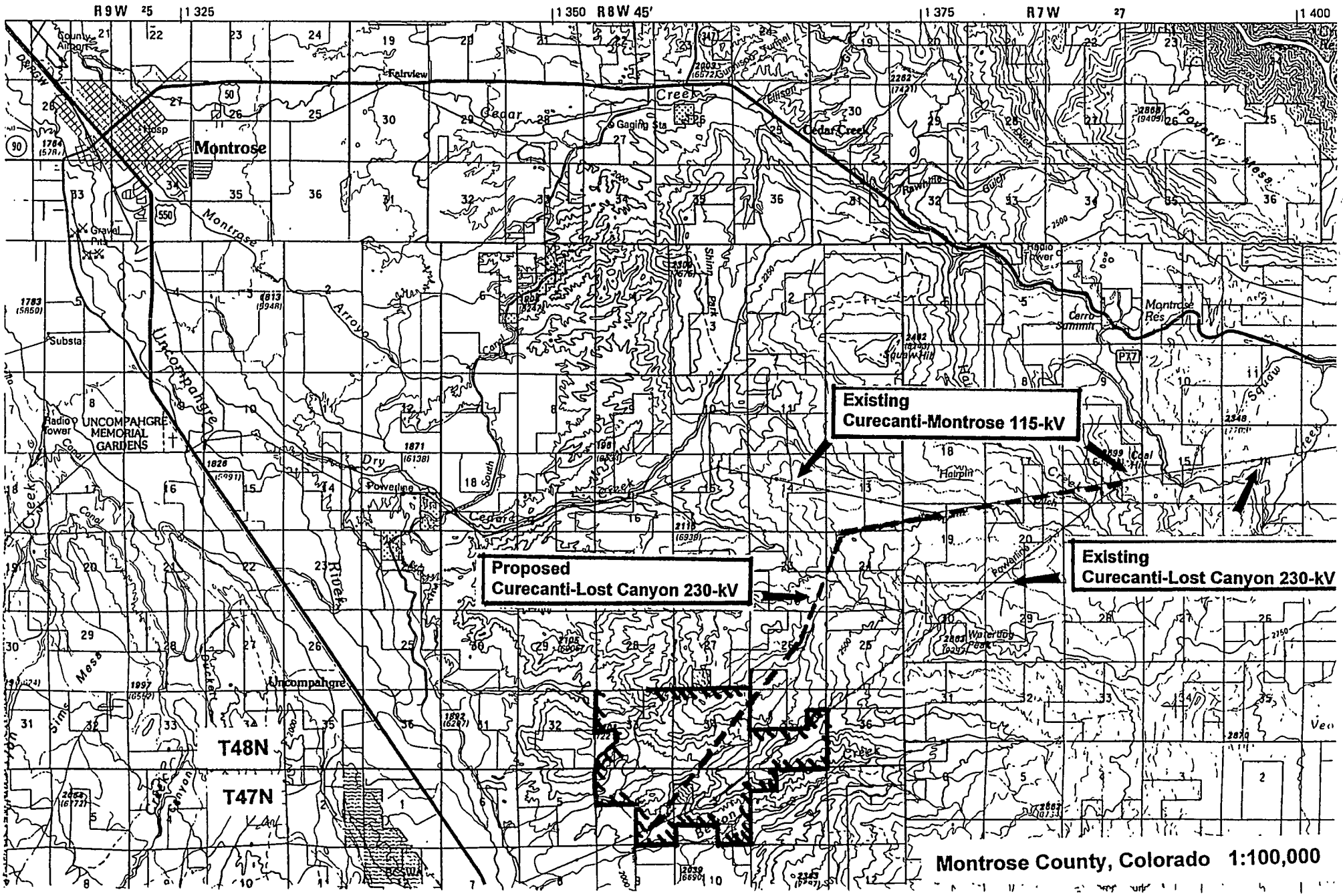
Enclosure

Proposed Re-Alignment of Curecanti-Lost Canyon 230-kV Transmission Line

N

Western Area Power Administration

BLM



Mr. Robert J. Bullington
[redacted]

Mr. Owen R. Vaughn
[redacted]

Mr. Dennis Gurney
and Ms. Pamela R. Gurney
[redacted]

Mr. Gene Devincentis
and Ms. Judy M. Koch
[redacted]

Interested Party
B & B Enterprises
P.O. Box 1164
Montrose CO 81402

Mr. John Harold
[redacted]

Mr. Gerald E. Holman
and Mrs. Barbara Holman
[redacted]

Mr. Larry Lee
and Mr. Nolan McLaine
[redacted]

Mr. Misters Esten B. Orme
Mr. Leo E. Orme
and Ms. Linda O.Daniels
[redacted]

Mr. Leonard G.Orme
and Mrs. Eleanor M. Orme
[redacted]

Mr. Charles W. Nardine
and Mrs. Virginia L. Nardine
[redacted]

Mr. Antonio G.Daranyi
and Mrs. Elizabeth Daranyi
[redacted]

Mr. Tom Hurshman
Realty Specialist, Southwest Center
Bureau of Land Management
2465 S. Townsend Avenue
Montrose CO 81401

Mr. Mark Stiles
Manager, Southwest Center
Bureau of Land Management
2465 S. Townsend Avenue
Montrose CO 81401

Mr Karl Myers
Senior Environmental Planner
P.O. Box 33695
Denver CO 80233-0695

Ms. Judy Knight-Frank
Ute Mountain Ute Tribal Council
General Delivery
Towaoc CO 81334

Ms.Betsy Chapoose
Cultural Rights & Protection Department
P.O. Box 388
Ft. Duchesne UT 84026

Mr. Alden Naranjo
Cultural Committee
330 Burns Avenue
Ignacio CO 81137

Ms. Georgianna Contiguglia
State Historic Preservation Officer
Colorado Historical Society
1300 South Broadway
Denver CO 58505

Western Colorado Congress
P.O. Box 472
Montrose CO 81402

Interested Party
Regional Manager
Colorado Division of Wildlife
West Region Service Center
711 Independent Avenue
Grand Junction CO 81505

Montrose County
Commissioners
P.O. Box 1289
Montrose CO 81402

Mr. J. D. Kendrick
Mr. H. J. Kendrick
[redacted]

Department of Energy
Western Area Power Administration
Rocky Mountain Customer Service Region
P.O. Box 3700
Loveland, CO 80539-3003

Multiple Letter - See attached list

Dear:

The Western Area Power Administration (Western), an agency of the U.S. Department of Energy, is proposing to relocate an 8-mile section of the Curecanti-Lost Canyon 230-kV transmission line, located in Montrose County, Colorado (map enclosed). A portion of this transmission line, situated 10 miles southeast of Montrose, Colorado, crosses Waterdog Peak. Waterdog Peak is an area of significant geologic surface activity, which is causing the transmission line's lattice steel towers to shift, increasing stress to structure hardware and conductors, and posing a threat to the integrity of the transmission system. Western proposes to relocate the lattice steel towers and line approximately 1 mile west to a more geologically stable area. Both the existing 8-mile section of transmission line and the proposed relocation cross Bureau of Land Management and private land holdings.

To consider all of the issues and feasible alternatives associated with the proposed project, Western will prepare an Environmental Assessment. The Bureau of Land Management has agreed to be a cooperating agency, and will assist Western in the preparation of the Environmental Assessment.

It is Western's goal to relocate the Curecanti-Lost Canyon transmission line in a manner that minimizes impacts to the natural, human and cultural environments while improving our ability to maintain and operate the transmission line in a safe and environmentally sound manner. To the extent possible, the proposed relocation would utilize existing transmission line corridors and established trails and roads for access. If you have any comments on Western's proposal, please submit them to me at the following address:

Western Area Power Administration
Rocky Mountain Region
5555 East Crossroads Blvd
Loveland, Colorado 80539 or, you may e-mail them to: **rjones@wapa.gov**

Thank you for you assistance and participation.

Sincerely,

Joel K. Bladow
Regional Manager

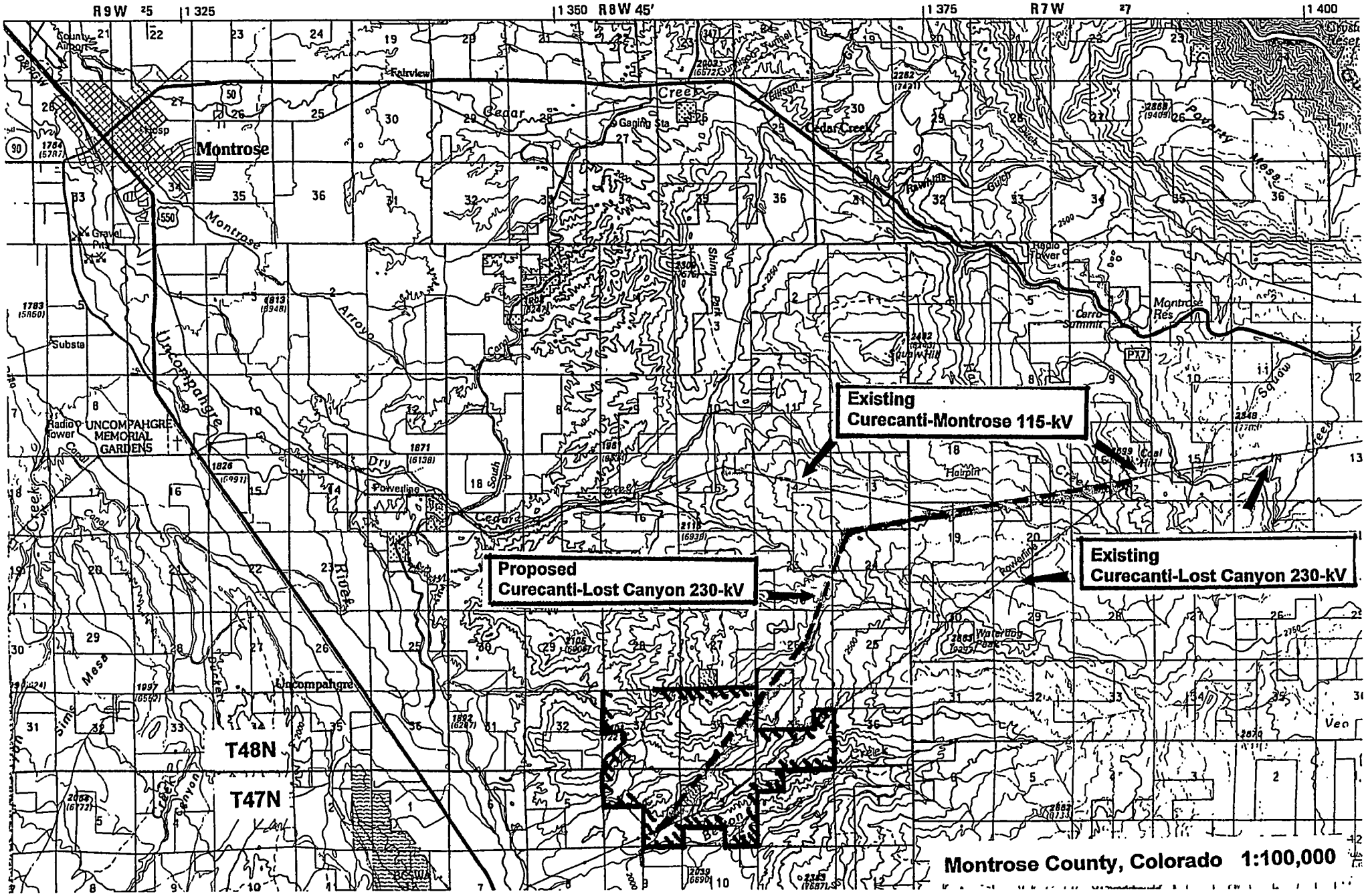
Enclosure

Proposed Re-Alignment of Curecanti-Lost Canyon 230-kV Transmission Line

N

Western Area Power Administration

BLM



Echart Sheep Ranch
Mr. Ernie Etchart
[redacted]

Mr. Jay Jutton
[redacted]

Ms. Emma Jean Hinson
Ms. Joyce E. Hinson
[redacted]

Ms. Gay L. Scheidegger
[redacted]

Appendix B
Construction Methods

The right-of-way requirements for the re-routing of the Curecanti-Lost Canyon 230-kV transmission line would be 150 feet. This width is determined by electrical safety codes and operation considerations. On public lands, Western would acquire right-of-way permits from the BLM Uncompahgre Field Office. On private land, Western would acquire sufficient easements to locate, construct, operate, and maintain the transmission facility. All land rights would be acquired in accordance with applicable state laws governing acquisition of property rights. Landowners would be paid fair market value for the rights acquired across their property, and any damages resulting from construction, operation, and maintenance.

B-1 Conventional Construction Methods

Construction of the transmission line would generally follow a sequential set of activities performed by a small crew proceeding along the length of the line. The activities include:

1. Permission to Survey
2. Land Acquisition for New Right-of-Way
3. Surveying and Staking
4. Environmental Resource Surveys (Complete)
5. Access Layout
6. Vegetation Management
7. Structure Site Clearing and Hole Excavation
8. Construction Yards and Material Staging
9. Structure Assembly and Erection Where Roads Exist
10. Structure Assembly
11. Shieldwire and Conductor Stringing
12. Cleanup
13. Landscape Rehabilitation

Table B-1, Conventional Construction Personnel and Equipment Requirements, summarizes the estimated time, equipment, and personnel required for the construction activities.

B-2 Roadless Construction Methods

No roadless construction is considered for this relocation..

B-3 Project Operation and Maintenance Activities

Preventive maintenance program for the transmission line will involve periodic aerial and ground patrols. Aerial patrols would probably be conducted once per year. Ground inspections will involve both vehicle and foot patrols. Foot patrols would be used in areas where roads either do not exist or are not permitted.

Maintenance activities may include repairing damaged conductors, inspecting and repairing structures, and replacing damaged and broken insulators. In addition to maintaining the structures, conductors, and right-of-way, gates used for access would be maintained. Access roads would be protected from damage employing techniques stated in *Appendix C, Environmental Management During Construction Activities.* Improvements needed on access roads will be coordinated with the surface owner, to meet construction needs and long term requirements of the landowner.

Table B-1
Conventional Construction
Personnel and Equipment Requirements

Activity	Number of Personnel	Equipment	Length of Time
Surveying	1 3-person crew	utility vehicle and ATV per crew	1 mile per week
Development of access roads, wire handling area and construction lay down sites	1 to 2 persons	D-6 Caterpillars all wheel drive motor graders 10 wheel dump trucks water trucks	1 month total
Selective topping and clearing of vegetation	1 person	pickups chipper	Range land minimal - 3 days
Material handling	2 to 3 persons	pickup trucks flatbed trucks with cranes 2 pole delivery trucks	1 month total
Auguring pole holes	1 to 2 persons	rotary drilling rigs pickups	1 month total
Structure Erection	4 to 5 persons/crew	pickups/carryalls cranes boom trucks material trucks (5 tons)	1 month total
Conductor and overhead ground wire installation	8 to 10 persons	pickups man lifts/boom trucks hydraulic tensioning machines reel trailers	1 month
Post construction cleanup	3 persons	pickups dump trucks flatbed trucks	1 week
Revegetation	3 persons	pickups flatbed trucks backhoe D-6 Caterpillar seeding equipment	1 week

Appendix C
Environmental Management During Construction Activities

1. The contractor shall limit the movement of crews and equipment to the right-of-way, including access routes. The contractor shall limit movement on the right-of-way to minimize damage to minimize damage to grazing land and property, and shall avoid marring the land. The contractor shall coordinate with the landowners to avoid impacting the normal function of irrigation devices during project construction and operation.

2. When weather and ground conditions permit, the contractor shall obliterate all construction caused deep ruts that are hazardous to movement of equipment. Such ruts shall be leveled, filled and graded, or otherwise eliminated in an approved manner. Damage to ditches, roads, and other features of the land shall be corrected. At the end of each construction season and before final acceptance of the work, all ruts shall be obliterated, and all trails and areas that are hard-packed as a result of construction operations shall be loosened and leveled. The land and facilities shall be restored as nearly as practicable to the original condition.

3. Water turnoff bars shall be constructed across all access roads on hillsides to prevent water erosion.

4. The contractor shall comply with all federal, state and local environmental laws, orders and regulations. Prior to construction, all supervisory construction personnel will be instructed on the protection of cultural and ecological resources. During construction activities, Western will have an archaeologist in the field to monitor construction activities and assist in preservation measures. Western will also flag cultural resource sites 5MN5094, 5MN5093 and 5MN5097 prior to construction.

5. The contractor shall exercise care to preserve the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, approved construction roads, or excavation operations, vegetation shall be preserved and shall be protected from damage by the contractor=s construction operations and equipment.

6. On completion of the work, all work areas except access roads shall be scarified or left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion. All destruction, scarring, damage, or defacing of the landscape resulting from the contractor=s operations shall be repaired by the contractor.

7. Construction staging areas shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent. On abandonment, all storage and construction materials and debris shall be removed from the site. The area shall be regraded, as required, so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion. If staging areas are outside the right-of-way which has been surveyed for cultural resources, a cultural resource survey should be conducted prior to any staging area disturbance.

8. Borrow pits shall be so excavated that water will not collect and stand therein. Before being abandoned, the sides of borrow pits shall be brought to stable slopes, with slope intersections shaped to carry the natural contour of adjacent, undisturbed terrain into the pit or borrow area, giving a natural appearance. Waste piles shall be shaped to provide a natural appearance. If borrow pits are outside the right-of-way where cultural resources have been surveyed, a cultural resource survey of these borrow pit locations should be conducted prior to disturbance.

9. Construction activities shall be performed by methods that prevent entrance or accidental spillage of solid matter, contaminants, debris, and other objectionable pollutants and waste into flowing streams of dry water courses, lakes, and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.

10. The contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.

11. Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, shall not be operated until corrective repairs or adjustments are made.

12. Burning or burying of waste materials on the right-of-way or at the construction site will not be allowed. The contractor shall remove all waste materials from the construction area. All materials resulting from the contractor=s clearing operations shall be removed from the right-of-way.

13. The contractor shall make all necessary provisions in conformance with safety requirements for maintaining the flow of public traffic and shall conduct his construction operations so as to offer the least possible obstruction and inconvenience to public traffic, on BLM lands.

14. Western will apply necessary mitigation to eliminate problems of induced currents and voltages onto conductive objects sharing a right-of-way, to the mutual satisfaction of the parties involved. Western will install fence grounds on all fences that cross or are parallel to the proposed line.

15. The contractor will span riparian areas located along the right-of-way and avoid physical disturbance to riparian vegetation. Equipment and vehicles will not cross riparian areas on the right-of-way during construction and operation activities.

16. No construction activities will occur in elk production areas (calving areas) from May 15 - June 15.

17. Construction vehicles will be kept clean to reduce the transportation of noxious weed seeds. Noxious weed spraying will be coordinated with each surface owner, and the BLM.

18. To control noxious weed invasions around support structures, disturbed areas should be re-seeded with a seed mix that is representative of the community being disturbed. Reclaimed sites should be monitored for a period of five years following reclamation to assure that weedy species are not invading such sites. Should weeds begin to infest a site, the appropriate control measures should be implemented.

19. Western will work with local landowners on weed control issues.

20. To enhance reclamation efforts, structure sites that require grading should have topsoil removed and stockpiled separately from subsoil. Topsoil should then be replaced at the desired grade.

21. Transmission line structures should be located in such a manner as to avoid impact to identified populations of BLM sensitive plants.

22. Schedule construction within big game winter range, severe winter range, and production range to occur outside of the respective critical time periods.

23. In order to reduce threats to the midget faded rattlesnake (*Crotalus viridis concolor*), educate construction workers and prohibit the killing of rattlesnakes during the period of construction.

24. Locate support structures for the transmission line proposed under Alternative C in such a manner to avoid disturbance to the populations of Montrose bladderpod (*Lesquerella vicina*) and Rocky Mountain thistle (*Cirsium perplexans*) that are located within and adjacent to the proposed corridor. Structures and new access roads should be located a minimum of 50 feet away from these population occurrences.

25. In order to avoid inadvertent herbicide application to the population of Rocky Mountain thistle described in this evaluation, pesticide applicators should be educated to discriminate between this and other species of thistle and avoid application of herbicide to this species.

26. To avoid impact to the population of Colorado desert parsley (*Lomatium concinnum*) that was identified beneath the existing line, removal of the existing line (under action Alternative C) should be accomplished in such a manner as to avoid ground disturbance within this site.

Appendix D
Electrical Characteristics

This appendix provides basic background information on electric fields, magnetic fields, and corona characteristics.

1.0 ELECTRIC FIELDS

1.1 Electric Fields

The electric field created by a high voltage transmission line exists in the region around the energized conductors. The electric field or voltage gradient is expressed in units of volts per meter (v/m) or kilovolts per meter (kV/M). The unperturbed electric field at a height of three feet is used to describe the field near transmission lines. This quantity is easily measured and computed. The most important parameters for determining the ground level electric field of a transmission line are conductor height above ground, line geometry, and line voltage.

1.2 Induced Currents

When a conducting object is placed in an electric field, currents and voltages area induced in the object. The magnitude of the induced current depends on the electric field strength and the size and shape of the object. If the object is grounded, then the induced current flows to earth and is called the short-circuit current of the object. In this case, the voltage on the object is effectively zero. If the object is insulated (not grounded), then it assumes some voltage relative to ground. These induced currents and voltages could represent a potential source of nuisance shocks near a high voltage transmission line.

1.3 Steady-State Induced Current

Steady-state currents are those that flow continuously after a person contacts an object and provides a path to ground for the induced current. The response of persons to such currents has been extensively studied and levels of human response documented. Primary shocks are those that can result in direct physiological harm. The lowest category of primary shocks is "let go," which represents the steady-state current that cannot be released voluntarily. The "let go" threshold was established for adult males weighing 180 pounds at 9.0 mA and 6.0 mA for adult females weighing 120 pounds. Let-go thresholds for adults have been established from actual experimentation. The derivation of a threshold for children based on these adult levels was based on body weight, and is generally accepted as 5.0 mA (the value adopted by the National Electric Safety Code.

1.4 Spark Discharge Shocks

Induced voltages appear on objects such as vehicles when there is an inadequate ground. If the voltage is sufficiently high, then a spark discharge shock will occur as contact is made with the object. Such shocks are similar to "carpet" shocks, which occur when touching a door knob after walking across a carpet on a dry day. Spark discharge shocks could occur under the Curecanti-Lost Canyon line. The magnitude of the electric field will be low enough so that this type of shock would occur rarely and then only in a small area under the line near mid-span. Carrying or handling conducting objects under the line can also result in spark discharges that are a nuisance. Irrigation pipe should be carried as low to the ground as possible and preferably unloaded at a distance from the transmission line to eliminate spark discharge nuisance shocks. The primary hazard with irrigation pipe is direct contact with the conductors.

1.5 Field Perception

When the electric field under a transmission line is sufficiently great, it can be perceived by hair erection on an upraised hand with the sensation of a slight breeze blowing over the hand or arm. It is very unlikely that the electric field under the Curecanti-Lost Canyon line would be perceivable when standing on the ground. When working on top of equipment, there is probably enough extraneous skin stimulation during normal activities to preclude perception of the field at all.

1.6 Grounding and Shielding

Normal grounding policies effectively mitigate the possibility of nuisance shocks due to induced currents from stationary objects such as fences and buildings. Since the electric field extends beyond the right-of-way (ROW), grounding requirements extend beyond the ROW for very large objects or extremely long fences. Electric fences require a special grounding technique because they can only operate if they are insulated. Applying the grounding policy during and after construction will effectively mitigate the potential for shocks from stationary objects near the proposed line.

2.0 MAGNETIC FIELDS

The engineering units for the magnetic field vector, H, are Amperes per meter (A/m). However, the most common units reported in the scientific literature to characterize the field are often the magnetic flux density, B, measured in units of Gauss. Because the Gauss is a relatively large quantity, the milligauss (mG) unit is often used (1 Gauss = 1000 mG, or 0.001 G = 1 mG). Some technical reports also use Tesla (T) or microtesla (mT) to describe the magnetic flux density (1 mG = 0.1 mT = 0.0000001 T). Magnetic field values in this section are presented as magnetic flux density in units of mG.

2.1 Magnetically Induced Currents and Voltages

Alternating magnetic fields induce voltages at the open ends of conducting loops. Such things as a fence, an irrigation pipe, a pipeline, an electrical distribution line, or a telephone line can form a conducting loop. The earth to which one end of the conductor is grounded forms the other portion of the loop. The possibility for a shock exists if a person closes the loop at the open end by contacting both the ground and the conductor.

Normally, the resistance of shoes will limit the current to levels below the threshold for perception. However, a low resistance contact (standing barefoot on damp earth) with a long insulated fence parallel to a heavily loaded transmission line can result in steady-state currents above threshold and even above let-go. This latter possibility is very unlikely because of the line length of ungrounded fence required. Mitigation measures, such as grounding and breaking electrical continuity, that are implemented for electric field induction will also mitigate magnetic field induction effects. Knowledge of the phenomenon, grounding practices and the availability of mitigation measures mean that magnetic induction effects from the Curecanti-Lost Canyon line can be minimized. It is therefore unlikely that magnetically induced voltages and currents would have an adverse impact.

3.0 CORONA CHARACTERISTICS

The electric field of a high voltage transmission line can cause corona to occur at sharp edges or points on the surface of the conductors, insulators, and hardware of the line. Corona

represents a conversion of electrical energy into audible noise, electromagnetic interference with radio and television signals, visible light, and heat. The intensity of the electric field at the surface of a conductor is the most important factor in determining the amount of corona. Electric field strength is dependent on the voltage and the size of the conductor, and is influenced by the altitude of the line above sea level. The smaller the radius of curvature of an object (i.e., if it has a sharp edge or point), the higher the electric field will be at the surface of the object for a given voltage. Corona on conductors occurs where protrusions such as nicks, insects, or water drops exist on the conductor.

Corona on transmission lines has been studied extensively for many years. The parameters of importance in the estimations of corona are the line voltage, line configuration or geometry, number and diameter of the conductors, altitude above sea level, and the weather condition.

3.1 Audible Noise

Corona-generated audible noise from transmission lines is generally characterized as a crackling, hissing sound. The audible noise is most noticeable during wet conductor conditions such as rain, snow, or fog. Sometimes a 120 Hz hum is also present during foul weather. During fair weather, audible noise from transmission lines may be barely perceptible as a very sporadic cracking sound. Transmission line audible noise is measured and computed in units of sound decibels (A-weighted) or dBA.

3.2 Radio and Television Interference

Corona on transmission line conductors can generate noise at the frequencies at which radio and television signals are transmitted. This noise can interfere with receiving of these signals and is called "radio interference" and "television interference," depending on the frequency. Radio reception in the AM broadcast ban (535 to 1605 kHz) is most often affected with what is commonly referred to as static. FM radio reception is rarely affected. Only radio receivers very near to transmission lines have the potential to be affected by radio interference. An acceptable level of maximum fair weather radio interference at the edge of a right-of-way is 40 to 45 dBmV/m (decibels above 1 microvolt per meter). Average levels during foul weather are, as a general rule, 15 to 22 dB higher than average fair weather levels.

Appendix E
Biological Assessment

Table of Contents

1.0 Introduction

This Biological Assessment (BA) addresses the impacts of a proposed re-alignment of a portion of the Curecanti-Lost Canyon 230-kV transmission line, operated by Western. Western Area is proposing to abandon approximately 5 miles of an existing 230-kV electric transmission line (known as the Curecanti-Lost Canyon line) as a result of geological instability along this portion of the line. Western plans to replace this section of the existing line with approximately 7 miles of a new re-routed transmission line. This re-routed line would cross both privately owned lands and land managed by the BLM, Uncompahgre Resource Area.

The BA specifically addresses impacts that the proposed action would have on wildlife and plants listed as threatened or endangered, and species proposed for such listing, by the USDI Fish and Wildlife Service (USFWS)

Section 7(c) of the Endangered Species Act of 1973, as amended, requires federal agencies to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of threatened or endangered species, or result in the destruction or adverse modification of their critical habitats.

A BA is the means to review, analyze, and document the direct, indirect, and cumulative effects of actions under the proposed alternative on threatened, endangered, and proposed (TEP) species. A BA provides information to determine whether a proposed action is likely to: (1) adversely affect listed species or designated critical habitat; (2) jeopardize the continued existence of species that are proposed for listing; or (3) adversely modify proposed critical habitat. The outcome of this biological assessment determines whether formal consultation or a conference with the USFWS is necessary.

The term "endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range. The term "threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. "Proposed species" are candidate species that have been proposed by the USFWS to be listed as threatened or endangered.

2.0 Project Description

Western needs to re-align a portion of the existing Curecanti-Lost Canyon 230-kV transmission line in order to maintain long-term electric service. The line to be abandoned is found in an area of geologic Instability, and there is a hazard that the existing line may fail due to soil and landslide movement in the area. Presently, the conductors on the existing line in the subject area have been stressed to limits unacceptable to Western engineering and safety departments. Failure of the line would cause a public safety concern, and could affect the reliability of electric service to Western customers.

The proposed action would consist of abandoning approximately 5 miles of the Curecanti-Lost Canyon 230-kV transmission line and replacing this section with about 7 miles of a rerouted line.

With the exception of approximately 300 feet (0.06 mile), the majority of the reroute for the proposed action would be located on private surface. The 300-foot section is located on land managed by the BLM, along the section line dividing Section 35 and 36, T48N, R8W.

The reroute contemplated under the proposed action crosses private agricultural land, whose primary purpose is for livestock grazing. Approximately 5.5 miles (out of 7 miles) of new line proposed for this alternative is accessible by existing roads. The new construction would be completed by mobile equipment utilizing the existing roads which form the proposed transmission line right-of-way. Given the relatively steep topography along the section lines dividing Sections 13 and 14, and 23 and 24 (T48N, R8W), approximately 2 miles of new road construction would be needed for tower and line installation. This road would be used by Western for long-term monitoring and maintenance. Under the proposed action, no new road construction would be necessary on lands managed by the BLM.

Western plans to use steel lattice towers for the rerouted line because they are the most technically and economically feasible.

Once the rerouted line is constructed and tied into the existing Curecanti-Lost Canyon transmission network, the replaced line will be abandoned. The actual powerlines will be salvaged and shipped off site. The steel lattice towers will be dismantled and also taken off site for salvage. The roads utilized for ongoing maintenance and/or for the abandonment/salvage operation will be reclaimed and the area re-seeded. Any sites disturbed as a result of tower salvage will be recontoured, as necessary, and seeded.

3.0 Species Evaluation

The information and analysis in this BA was obtained from published and unpublished reports and documents, contacts with agency resource personnel, and field reconnaissance.

The existing Montrose-Curecanti 230-kV transmission line corridor and the proposed reroute corridor were intensively surveyed for the presence of TEP species during the months of June, July, and August 1999. Specific survey results are disclosed in the following species narratives. The purpose of the surveys was to determine the presence or absence of TEP species, and to reconnoiter the analysis area to determine the habitat suitability for TEP species.

The list of species considered in the BA was developed from field surveys and from the following sources: (1) federally listed species specified in the February 16, 1999 and February 22, 1999 letters from Susan Moyer (USFWS) to Joel K. Bladow (Regional Manager, Western) (found at the end of this appendix); (2) Colorado Natural Heritage Program (CNHP) Heritage Database; (3) review of scientific literature on distribution of PETS species.

On October 5, 1999, Kelly Colfer of Western Bionomics LLC, contacted Mr. Kurt Broderdorp of the USFWS to request an update to the list specified in the February 16 letter. Mr. Broderdorp stated that the only change necessary to the list was the removal of the peregrine falcon, which was de-listed after the original letter was sent. *Table 1, Threatened, Endangered, and Proposed Species*, provides the list of species analyzed in this BA, based on the list provided by the USFWS.

For each species on this list, files and records were researched and knowledgeable experts were interviewed for information concerning potential locations, distribution, and sightings. The habitat needs and ecological requirements of each species were evaluated in order to determine the impact of the proposed project on each. Habitat does not exist in the analysis area for many of the species included on the USFWS list. Upon the determination that habitat is not present in the analysis area for a particular species, no further analysis was performed.

Table 1
Threatened, Endangered, and Proposed Species
(Included in the USFWS letter dated February 16, 1999, and updated on October 5, 1999.)

Species	Status				Habitat(s)[4]	Potential Habitat Present in Analysis Area?
	Federal Listing[1]	Colorado State Listing[1]	Colorado State Rank[2]	**Global Rank[3]**		
FISH						
Humpback Chub (*Gila cypha*)	E	T	S1	G1	J	No
Bonytail (*Gila elegans*)	E	E	SX	G1	J	No
Colorado Pikeminnow (*Ptychochelius lucius*)	E	T	S1	G1	J	No
Razorback Sucker (*Xyrauchen texanus*)	E	E	S1	G1	J	No
BIRDS						
Southwest Willow Flycatcher (*Empidonax trailii extimus*)	E	E	SR	G5T2	C, E, G	No
American Peregrine Falcon (*Falco peregrinus anatum*)	E	T	S3B, SZN	G4T3	B	No
Bald Eagle (*Haliaeetus leucocephalus*)	T	T	S1B, S3N	G4	F, C, D	Yes
Mexican Spotted Owl (*Strix occidentalis lucida*)	T	T	S1B, SUN	G3T3	B, D	No
MAMMALS						
Black-Footed Ferret (*Mustela nigripes*)	E	E	SH	G1	L	No
PLANTS						
Clay-Loving Wild Buckwheat (*Eriogonum pelinophilum*)	E	--	S2	G2Q	K	No
Uinta Basin Hookless Cactus (Sclerocactus glaucus)	T	--	S3	G3	H, I	Yes

[1]Federal and State Listing: T=Threatened; E=Endangered; P=Proposed; C=Candidate for listing; SC=Species of Special Concern

[2]State Rank: Based on the status of a species in Colorado. Species or plant communities that rank S1 to S3 are considered imperiled or vulnerable and the status and locations of each are closely monitored. Species or plant communities that are ranked S4 or S5 are not actively monitored, except that the locations of the best examples of all plant communities are monitored. The status of all elements is reviewed annually.

- S1 = Critically imperiled in state because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extirpation from the state.
- S2 = Imperiled in state because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extirpation from the state.
- S3 = Vulnerable in state (21 to 100 occurrences).
- S3S4 = Watchlisted. Specific occurrence data are collected and periodically analyzed to determine whether more active tracking is warranted.
- S#B = Refers to the breeding season imperilment of elements that are not permanent residents.
- SZ = Migrant whose occurrences are too irregular, transitory, and/or dispersed to be reliably identified, mapped, and protected.
- S? = Unranked. Some evidence that species may be imperiled, but awaiting formal rarity ranking.

[3]Global Rank Based on the range-wide status of a species.

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction. (Critically endangered throughout its range.)

G2 = Imperiled globally because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extinction throughout its range.
G3 = Vulnerable throughout its range or found locally in a restricted range (21 to 10 occurrences).
G4 = Apparently secure globally though it might be quite rare in parts of its range, especially at the periphery.
G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GQ = Indicates uncertainty about taxonomic status.
G#T# = Trinomial rank (T) is used for subspecies or varieties. These taxa are ranked on the same criteria as G1 through G5.

[4]Habitat Key: A=Aspen; B=Cliff/Rock/Scree; C=Cottonwood/Riparian; D=Conifer Forest; E=Headwaters/Willow Riparian; F=Rivers; G=Marsh/Wetlands/Beaver Complexes; H=Rangelands/Sage; I=Pinyon/Juniper Woodlands; J=Shrublands; K=Salt Desert Shrub; L=Prairie Dog Colonies

The 6th and 7th columns in *Table 1, Threatened, Endangered, and Proposed Species*, display the habitats used by each species and the existence of potential habitat within the analysis area. As can be seen in this column, habitat for many of the species in *Table 1, Threatened, Endangered, and Proposed Species*, does not exist within the analysis area. For these species there will be no direct or indirect effect associated with the proposed transmission line reroute. *Table 2, List of Species Which are not Present, or for Which There is no Potentially Suitable Habitat, in the Analysis Area*, provides a list of these species, and the rationale for the determination of "no effect."

Table 2
List of Species Which Are Not Present, or For Which There is no Potentially Suitable Habitat, in the Analysis Area
(The determination for these species is "no effect.")

SPECIES	DETERMINATION	RATIONALE FOR DETERMINATION
Humpback Chub (*Gila cypha*)	No Effect	There are no rivers or streams within the analysis area that would provide habitat for these fish. No water would be used for the project that would affect minimum stream flows that are required by these fish.
Bonytail (*Gila elegans*)	No Effect	
Colorado Pikeminnow (*Ptychochelius lucius*)	No Effect	
Razorback Sucker (*Xyrauchen texanus*)	No Effect	
Southwest Willow Flycatcher (*Empidonax trailii extimus*)	No Effect	There are no riparian areas along the portion of the existing transmission line that would be removed, nor within the preferred alternative corridor, that contain patches of cottonwood and willow.
Mexican Spotted Owl (*Strix occidentalis lucida*)	No Effect	Neither the portion of the existing transmission line that would be removed nor the preferred alternative route are located in large, steep canyons with exposed cliffs and dense old growth mixed forest of Douglas fir, white fir, and ponderosa pine, or canyons in pinyon/juniper woodlands with small, widely scattered patches of old Douglas fir.
Black-Footed Ferret (*Mustela nigripes*)	No Effect	There are no prairie dog colonies present along either the portion of the existing transmission line that would be removed nor along the preferred action corridor.
Clay-Loving Wild Buckwheat (*Eriogonum pelinophilum*)	No Effect	Habitat for this plant consists of barren, gray clay hills and adjacent toe slopes and run-off plains of the adobe hills of Delta and Montrose Counties. The preferred alternative is located beyond the elevation of the adobe hills and associated salt desert shrub community.

Potentially suitable habitat may exist in the analysis area for the species listed in *Table 3, Threatened, Endangered, and Proposed Species That May Occur Within the Influence of the Proposed Project*,. Species accounts and a determination of the effects of the proposed project on each species are disclosed in the narratives on the following pages.

Table 3
Threatened, Endangered, and Proposed Species
That May Occur Within the Influence of the Proposed Project
(and included in the USFWS letter dated February 16, 1999)

Species	Status				Habitat(s)[4]	Potential Habitat Present in Analysis Area?
	Federal Listing[1]	Colorado State Listing[1]	Colorado State Rank[2]	Global Rank[3]		
Bald Eagle (*Haliaeetus leucocephalus*)	T	T	S1B, S3N	G4	F, C, D	Yes
Uinta Basin Hookless Cactus (Sclerocactus glaucus)	T	--	S3	G3	H, I	Yes

3.1 Bald Eagle (*Haliaeetus leucocephalus*)

3.1.1 Potential Presence in the Project Area

The bald eagle is an uncommon to locally common winter resident in western valleys, in mountain parks, and on the eastern plains (Andrews and Righter 1994). In all seasons of the year they are closely associated with water. They are a rare summer resident in Colorado very locally.

In Colorado, bald eagles are primarily winter residents around larger rivers and open lakes and reservoirs where they roost in large or small numbers on cottonwoods and conifer snags adjacent to these water bodies. During the winter, crippled waterfowl, carrion, and occasionally rabbits provide food. Hunting is typically conducted from a perch near water. Summer habitat in the state consists of large trees in proximity to the larger lakes and rivers. Nesting season extends typically from April through July, when these raptors construct very large stick nests in tall deciduous or conifer trees. Their primary food source during the summer is fish that are captured from these water bodies.

Several bald eagles typically overwinter along the Uncompahgre River between Montrose and the Ridgeway State Park. This area has been designated by the Colorado Division of Wildlife (CDOW) as a bald eagle winter concentration area. A bald eagle winter concentration area is defined by the CDOW as those locations (trees, islands, etc.) that are used by one or more eagles frequently from November 15 through April 1 (CDOW 1996, cited in USDI-BLM 1998).

Bald eagles may forage in, or transition through, the area proposed for the reroute corridor during the winter. However, at its closest point, the preferred transmission line reroute corridor is located over 4 miles from the designated winter concentration area along the Uncompahgre River. Consequently, usage of this site by foraging bald eagles is not expected to be as significant as is usage of the designated winter concentration area.

3.1.2 Impact Evaluation

Potential effects to the bald eagle due to implementation of the proposed action would be primarily related to collisions and/or electrocutions associated with transmission lines and

support structures. Young birds are more susceptible to collisions than are adults since their maneuverability has not fully developed (APLIC, 1996). However, the collision potential is directly related to the frequency that birds cross a given transmission line. Lines located within daily use areas are more likely to be associated with collisions than are lines located outside of such areas. Since the proposed reroute corridor is not located within the designated winter concentration area, the frequency with which bald eagles cross the transmission line is expected to be relatively low. Additionally, tower structures and transmission lines will be designed in accordance with the guidelines provided in APLIC (1994 and 1996) which will further mitigate the collision and electrocution potential.

Consequently, since the proposed transmission line will be designed with raptor protection features, and since it is not located within a daily use area, there will be no effect to bald eagles as a result of the proposed project.

3.1.3 Cumulative Impacts

Cumulative impacts to bald eagles will not increase as a result of implementation of the preferred reroute of the Curecanti-Lost Canyon 230-kV transmission line.

3.1.4 Determination

Effect on potential habitat or individuals - No Effect

3.2 Uinta Basin Hookless Cactus (*Sclerocactus glaucus*)

3.2.1 Potential Presence in the Project Area

The Uinta Basin hookless cactus is a ball cactus with a squat, ovoid or globular shape (Johnston 1980, USDI-BLM 1978) found on gravelly or rocky soils on hills and mesas of varying exposures. The species is endemic to Utah and Colorado. In Colorado, it has been found in Delta, Garfield, Mesa, and Montrose counties at elevations ranging from 4,500 to 5,800 feet (Spackman et al 1997), on slopes between 5 and 30%. This rare cactus is associated with the desert shrub community containing such species as shadscale (*Atriplex confertifolia*), galleta (*Hilaria jamesii*), Indian rice grass (*Oryzopsis hymenoides*), claret cup cactus (*Echinocereus triglochidiatus var. melanocanthus*), dropseed (*Sporobolus cryptandrus*), prickly pear (*Opuntia polyacantha*), and snakeweed (*Guttierezia sarothae*) (Johnston 1980, USFWS 1983). In Colorado, some populations of this species have been found in association with widely scattered pinyon-juniper.

Limiting factors for this cactus include poor seed dispersal mechanisms, collecting by horticulturists, mining and energy exploration and development (Johnston 1980, USDI-BLM 1978, Welsh and Thorne 1979, USFWS 1983). However, there is little evidence that Uinta Basin hookless cactus is more restricted at present than in the past (USFWS 1983). Past reduction of some populations from water development for agriculture and cactus collecting is possible, but it is believed the present total range is more a result of natural (i.e., inefficient seed dissemination, difficulty of propagation, etc.) rather than man-induced factors (USFWS 1983).

The location of the project area is over 20 miles distant from the nearest known population of this cactus. Furthermore, the portion of the existing transmission line that would be removed and the proposed reroute corridor are located between 7,800 to 9,000 feet, well above the known elevational range of this species. Surveys were conducted for this species during the months of June, July, and August 1999. No individuals were observed.

3.2.2 Impact Evaluation

Since the project area is located beyond the known range of Uinta Basin hookless cactus, and since plant surveys failed to detect its presence, this cactus is not expected to be present within the project area. Implementation of the proposed project would have no effect on this species.

3.2.3 Cumulative Impacts

Cumulative impacts to Uinta Basin hookless cactus will not increase as a result of implementation of the preferred reroute of the Curecanti-Lost Canyon 230-kV transmission line.

3.2.4 Determination

Effect on potential habitat or individuals - No Effect

4.0 References

Andrews, R. and R. Righter. 1992. Colorado Birds: A Reference to Their Distribution and Habitat. Denver Museum of Natural History, Denver, CO. 442 p.

APLIC (Avian Power Line Interaction Committee). 1994. Mitigating Bird Collisions With Power Lines: The State of the Art in 1994. Edison Electric Institute/Raptor Research Foundation. Washington D.C.

APLIC (Avian Power Line Interaction Committee). 1996. Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996. Edison Electric Institute/Raptor Research Foundation. Washington D.C.

CDOW. 1996. Bald Eagle WRIS mapping and definitions. Colo. Div. of Wildl., Denver, CO.

Johnston, B.C. 1980. Proposed and recommended threatened and endangered plant species of the Forest Service Rocky Mountain Region. USDA Forest Service, Denver, Colorado. 169 pp.

Spackman, S., B. Jennings, J. Coles, C. Dawson, M. Minton, A. Kratz, and C. Spurrier. 1997. Colorado Rare Plant Field Guide. Prepared for the Bureau of Land Management, the U.S. Forest Service, and the U.S. Fish and Wildlife Service by the Colorado Natural Heritage Program.

USDI-BLM. 1978. Status report on proposed endangered cacti Sclerocactus glaucus and Echinocereus triglochidiatus var. inermis. BLM, Montrose, CO. 7 pp.

USFWS. 1983. Agency Draft. Recovery Plan for the Uinta Basin Hookless Cactus (Sclerocactus glaucus). U.S. Fish and Wildlife Service, Denver, CO. 24 pp.

Welsh, S.L. and K.H. Thorne. 1979. Illustrated manual of proposed endangered and threatened plants of Utah. Brigham Young Univ. Herbarium, Provo, UT. 318 pp.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, South Annex A
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/CO:DOE-WAPA
MS 65412 GJ

February 22, 1999

Joel K. Bladow, Regional Manager
Department of Energy
Western Area Power Administration
P.O. Box 3700
Loveland, Colorado 80539-3003

Dear Mr. Bladow:

The Fish and Wildlife Service has reviewed your January 14, 1999, letter requesting a species list for the proposed relocation of the Curecanti-Lost Canyon 230 kV transmission line. To avoid unstable land near Waterdog Peak, the proposed project would relocate an eight mile section of the line between Highway 50 and 550 about 10 miles southeast of Montrose.

The federally threatened bald eagle *(Haliaeetus leucocephalus)* and the endangered peregrine falcon *(Falco peregrinus)* and southwestern willow flycatcher *(Empidonax traillii extimus)* may occur in the project area. Bald eagles and peregrine falcons are known to migrate through the Montrose area and bald eagles will winter in the area. The southwestern willow flycatcher could be impacted if riparian habitat that is at least 30 feet long x 30 feet wide x 5 feet high is altered.

The Service recommends spacing the power lines or putting up perch prevention devices so that bald eagles and other large raptors do not get electrocuted. Marker balls on the line are recommended within the Bureau of Land Management land near Beaton Creek. If riparian habitat, such as willows or tamarisk, may be impacted by the project, the Service recommends that surveys for the flycatcher occur prior to construction. If flycatchers are found, the Service should be contacted to discuss mitigation measures.

If the Service can be of further assistance, please contact Terry Ireland at the letterhead address or (970) 243-2778.

Sincerely,

Susan T. Moyer
Assistant Colorado Field Supervisor

pc: FWS/ES, Lakewood
CDOW, Montrose

TIreland:WAPACurr.ltr:022299

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
764 Horizon Drive, South Annex A
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/CO:DOE
MS 65412 GJ

February 16, 1999

Joel K. Bladow, Regional Manager
Western Area Power Administration
Rocky Mountain Customer Service Region
P.O. Box 3700
Loveland, Colorado 80539-3003

Dear Mr. Bladow:

The U.S. Fish and Wildlife Service has received your January 14, 1999, correspondence requesting a list of Federally threatened, endangered and candidate species. The purpose of the request is for the relocation of the Curecanti-Lost Canyon Transmission Line. Species lists are valid for 90 days only and should be updated by telephone or in writing when they have expired. We are providing you with the following list of species which may be present in the concerned area.

FEDERALLY LISTED SPECIES

Black-footed ferret	*Mustela nigripes*
Bald eagle	*Haliaeetus leucocephalus*
Peregrine falcon	*Falco peregrinus*
Mexican spotted owl	*Strix occidentalis lucida*
Southwestern willow flycatcher	*Empidonax trailii extimus*
Humpback chub	*Gila cypha*
Bonytail	*Gila elegans*
Colorado pikeminnow[1]	*Ptychocheilus lucius*
Razorback sucker	*Xyrauchen texanus*
Eriogonum pelinophilum	Clay-loving wild-buckwheat
Sclerocactus glaucus	Uinta Basin hookless cactus

[1]formerly squawfish

We recommend you obtain the following publication prior to construction of the project. Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996. Edison Electric Institute/Raptor Research Foundation, Washington, D.C. Copies of this report may be obtained from the Raptor Research Foundation, Carpenter Nature Center, 12805 St. Croix Trail South, Hastings, Minnesota 55033.

If the Service can be of further assistance, please contact Kurt Broderdorp at the letterhead address or (970) 243-2778.

Sincerely,

for Susan T. Moyer
Assistant Colorado Field Supervisor

cc: FWS/ES, Lakewood
CDOW, Grand Junction

KBroderdorp:Cure-Loca.lis:021699

JAN 2 5 2000

Department of Energy
Western Area Power Administration
P.O. Box 3700
Loveland, CO 80539-3003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED Z 558 464 724

Ms. Susan T. Moyer
Assistant Colorado Field Supervisor
Ecological Services
U.S. Fish and Wildlife Service
764 Horizon Drive South, Annex A
Grand Junction, CO 81506-3946

SUBJECT: Determination of "not likely to adversely affect" Endangered, Threatened or Sensitive Species or Critical Habitats for the Curecanti-Lost Canyon Transmission Line Relocation Project

Dear Ms. Moyer:

The Western Area Power Administration (Western) has evaluated the effects of relocating a five-mile section of the Curecanti-Lost Canyon 230-kV transmission line, located in Montrose County, Colorado. A portion of this transmission line, situated 10 miles southeast of Montrose, Colorado, crosses a ridge northwest of Waterdog Peak. Waterdog Peak is an area of significant geologic surface activity, which is causing the transmission line's lattice steel towers to shift off center, increasing stress to the conductors and posing a threat to the integrity of the transmission system. Western proposes to relocate the lattice steel towers and line approximately one mile west to a more geologically stable area.

Both the existing transmission line route and the proposed relocation cross Bureau of Land Management and private land holdings.

On February 16, 1999 and February 22, 1999, the U.S. Fish and Wildlife Service (USFWS), provided a list of threatened, endangered and candidate species that may occur in the vicinity of the proposed Curecanti-Lost Canyon transmission line reroute project. The following federally listed and candidate species were reported for the project area:

Peregrine falcon (*Falco peregrinus*)
Bald eagle (*Haliaeetus leucocephalis*)
Mexican spotted owl (*Strix occidentalis lucida*)
Southwestern willow flycatcher (Empidonax trailii extimus)
Black-footed ferret (*Mustela nigripes*)
Humpback chub (*Gila cypha*)
Bonytail chub (*Gila elegans*)
Colorado pikeminnow (*Ptychocheilus lucius*)
Razorback sucker (*Xyrauchen texanus*)
Clay-loving wild-buckwheat (*Eriogonum pelinophilum*)
Uinta Basin hookless cactus (*Sclerocactus glaucus*)

A Biological Assessment was prepared for the project to address potential impacts to threatened and endangered species. Appendix E of the enclosed Draft Environmental Assessment contains the Biological Assessment.

Based on the analysis contained in the Biological Assessment, Western has determined that the proposal to relocate a five mile segment of the Curecanti-Lost Canyon 230-kV transmission line is not likely to adversely affect the peregrine falcon, black-footed ferret, bald eagle, Mexican spotted owl, southwestern willow flycatcher, humpback chub, bonytail chub, razorback sucker, Colorado pikeminnow, Uinta Basin hookless cactus, or clay-loving wild-buckwheat.

If you are in agreement with our determinations, we would appreciate a letter of concurrence from the U.S. Fish and Wildlife Service. If you have any questions or comments regarding this project, please telephone Rodney Jones at (970) 490-7371. Thank you for your assistance and cooperation with this project.

Sincerely,

JOEL K. BLADOW

Joel K. Bladow
Regional Manager

Enclosure
cc:
(with enclosure)
Mr. LeRoy Carlson
Colorado State Supervisor
U.S. Fish and Wildlife Service
Ecological Services, Colorado Field Office
P.O. Box 25486 DFC
Denver, CO 80225-0207

Mr. Tom Hurshman
Realty Specialist
Bureau of Land Management
Montrose District Office
2465 South Townsend
Montrose, CO 81401

Mr. Jim Ferguson
Wildlife Specialist
Bureau of Land Management
Montrose District Office
2465 South Townsend
Montrose, CO 81401

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/CO:DOE/WAPA
MS 65412 GJ

February 23, 2000

Joel K. Bladow, Regional Manager
Western Area Power Administration
Rocky Mountain Customer Service Region
P.O. Box 3700
Loveland, Colorado 80539-3003

Dear Mr. Bladow:

We have received your January 25, 2000 letter, regarding the Curecanti-Lost Canyon 230-kV Transmission Line Relocation Project in Montrose County, Colorado. We reviewed the Biological Assessment, and your determination for Federally listed threatened and endangered species. We concur with your "not likely to adversely affect" determination for threatened and endangered species. If the Service can be of further assistance, please contact Kurt Broderdorp at the letterhead address or (970) 243-2778.

Sincerely,

Richard P. Krueger
Acting Assistant Field Supervisor, Colorado

cc: FWS/ES, Lakewood
CDOW, Grand Junction

KBroderdorp:Cure-lost.ltr:022300

Appendix F
Biological Evaluation

Table of Contents

1.0 Introduction

This Biological Evaluation (BE) addresses the impacts of a proposed re-alignment of a portion of the Curecanti-Lost Canyon 230-kV transmission line, operated by Western. Western is proposing to abandon approximately 5 miles of an existing 230-kV electric transmission line (known as the Curecanti-Lost Canyon line) as a result of geological instability along this portion of the line. Western plans to replace this section of the existing line with approximately 7 miles of a new re-routed transmission line. This re-routed line would cross both privately owned lands and land managed by the BLM, Uncompahgre Resource Area.

The BE specifically addresses impacts to BLM sensitive species on the portion of the line which crosses lands managed by the BLM.

The effects of the proposed project on species which are listed by the United States Fish and Wildlife Service (USFWS) as endangered or threatened are disclosed in a separate Biological Assessment.

A BE is the means to review, analyze, and document the direct, indirect, and cumulative effects of actions under all project alternatives on sensitive species. The BE provides a description of habitat conditions that are needed to assure that habitat for sensitive species is maintained or improved. This process ensures that sensitive species receive full consideration in project decision-making.

"Sensitive species" are defined as those species identified by the BLM State Director for which continued population viability is a concern. Concerns about sensitive species are evidenced by: (1) A significant current or predicted downward trend in population numbers or density, and (2) A significant current or predicted downward trend in habitat capability that would reduce a species' existing distribution.

2.0 Project Description

Western needs to re-align a portion of the existing Curecanti-Lost Canyon 230-kV transmission line in order to maintain long-term electric service. The line to be abandoned is found in an area of geologic Instability, and there is a hazard that the existing line may fail due to soil and landslide movement in the area. Presently, the conductors on the existing line in the subject area have been stressed to limits unacceptable to Western engineering and safety departments. Failure of the line would cause a public safety concern, and could affect the reliability of electric service to Western customers.

2.1 Alternative A: No Federal Action

Under the No-Action Alternative, Western would not abandon nor relocate a section of the Curecanti-Lost Canyon 230-kV transmission line. Existing structures and hardware would remain in their original location and only be replaced in response to an emergency situation created by line failure. Given the existing movement of several towers by the natural geologic instability, Western management, with the recommendation of engineering, safety and maintenance departments, has determined that there would be no repair to the structures in jeopardy of further movement.

Under the No-Action Alternative, Western would increase its surveillance of the subject area and existing towers in jeopardy. Such heightened scrutiny would be necessary to implement the emergency repairs and replacement needed in the event of line failure.

Although implementation of the No-Action Alternative would preclude many of the environmental effects that would be associated with a relocation of a portion of the line, there could be major safety impacts associated with the No-Action Alternative. In addition, if the no-action alternative was adopted, Western could not guarantee total electric reliability should this section of the Curecanti-Lost Canyon 230-kV transmission line be compromised and damaged by geologic instability and landslide hazards.

Given pending safety concerns and future electrical reliability for the entire Western electrical infrastructure, the no-action alternative is not considered a reasonable alternative. Reasonable action calls for rerouting a portion of the transmission line to areas of less geologic instability.

2.2 Alternative B: Proposed Action

The proposed action (Alternative B) would consist of abandoning approximately 5 miles of the Curecanti-Lost Canyon 230-kV transmission line and replacing this section with about 7 miles of a rerouted line.

With the exception of approximately 300 feet (0.06 mile), the majority of the reroute for Alternative B would be located on private lands. The 300-foot segment of line is located on land managed by the BLM, along the section line dividing Section 35 and 36, T48N, R8W.

The reroute contemplated under Alternative B crosses private agricultural land, whose primary purpose is for livestock grazing. Approximately 5.5 miles (out of 7 miles) of new line proposed for this alternative is accessible by existing roads. The new construction would be completed by mobile equipment utilizing the existing roads which form the proposed transmission line right-of-way. Given the relatively steep topography along the section lines dividing Sections 13 and 14, and 23 and 24 (T48N, R8W), approximately 2 miles of new road construction would be needed for tower and line installation. This road would be used by Western for long-term

monitoring and maintenance, Under Alternative B, no new road construction would be necessary on lands managed by the BLM.

Western plans to use steel lattice towers for the rerouted line because they are the most technically and economically feasible.

Once the rerouted line is constructed and tied into the existing Curecanti-Lost Canyon transmission network, the replaced line will be abandoned. The actual powerlines will be salvaged and shipped off site. The steel lattice towers will be dismantled and also taken off site for salvage. Any sites disturbed as a result of tower salvage will be recontoured, as necessary, and seeded.

2.3 Alternative C

Alternative C would consist of abandoning approximately 7.5 miles of the existing Curecanti-Lost Canyon 230-kV transmission line and replacing this section with about 9 miles of a re-routed line. Approximately 2.5 miles of the rerouted line contemplated under Alternative C would be located on BLM managed surface. The remaining reroute would be located on private surface.

As with Alternative B, the reroute contemplated under Alternative C crosses land whose primary use is for livestock grazing. Approximately 4.5 miles (out of 9 miles) of new line proposed for this alternative is accessible by existing roads. Given topographic constraints in the areas along the proposed right-of-way where existing roads are not available, approximately 6 miles of new road construction would be needed for tower and line installation. This new road would be used for long-term monitoring and maintenance. Under Alternative C, approximately 1.5 miles of new road construction would be necessary on lands managed by the BLM. Western would use steel lattice towers for Alternative C and construct and abandon the lines in the same manner as outlined under Alternative B (Proposed Action). Reclamation measures would be implemented for any abandoned towers and roads no longer needed for long-term inspection and maintenance.

3.0 Proposed Mitigation

1. Locate support structures for the transmission line proposed under Alternative C in such a manner to avoid disturbance to the populations of Montrose bladderpod (*Lesquerella vicina*) and Rocky Mountain thistle (*Cirsium perplexans*) that are located within and adjacent to the proposed corridor. Structures and access roads should be located a minimum of 50 feet away from these population occurrences.

2. To avoid impact to the population of Colorado desert parsley (*Lomatium concinnum*) that was identified beneath the existing line, removal of the existing line (under action alternative C) should be accomplished in such a manner as to avoid ground disturbance within this site to the greatest extent possible.

3. In order to reduce threats to the midget faded rattlesnake (*Crotalus viridis concolor*), prohibit the killing of rattlesnakes during the period of construction.

4.0 Species Evaluation

The information and analysis in this BE was obtained from published and unpublished reports and documents, contacts with agency resource personnel, and field reconnaissance. The scale of analysis used in this BE varies by species.

The current right-of-way and the proposed new routing were intensively surveyed for the presence of sensitive species during the months of June, July, and August 1999. Specific survey results are disclosed in the following species narratives. The purpose of the surveys was to determine the presence or absence of sensitive species, and to reconnoiter the project area to determine the habitat suitability for sensitive species.

The list of species considered in the BE was developed from field surveys and from the following sources: (1) Guidance from Jim Ferguson, Montrose District Wildlife Biologist, concerning species to include for analysis; (2) the Colorado Natural Heritage Program (CNHP) Heritage Database; (3) the BLM Uncompahgre Field Office Sensitive Species List; and (4) review of scientific literature on distribution of sensitive species.

Nineteen animal species and eleven plant species that have been placed on the State Director's list of sensitive animal and plant species for BLM in Colorado and edited for the Uncompahgre Field Office were reviewed for this BE. Files and records were researched for each species, and knowledgeable BLM employees and other experts were interviewed for information concerning potential locations, distribution, and sightings. The habitat needs and ecological requirements of each species were evaluated in order to determine the impact of the proposed project on each. Habitat does not exist on land managed by the BLM in the project area for some of the species included on the Uncompahgre Field Office Sensitive Species List. Upon the determination that habitat is not present on land managed by the BLM in the project area for a particular species, no further analysis was performed. *Table 1, State Director's List of Sensitive Animal and Plant Species for BLM in Colorado*, displays the Uncompahgre Field Office list and further displays the potential occurrence of suitable habitat for each species within the project area.

Table 1
State Director's List of Sensitive Animal and Plant Species for BLM in Colorado
(edited for the Uncompahgre Field Office.)

Species	State Status[1]	State Rank[2]	Global Rank[3]	Typical Habitat(s)[4]	Potential Habitat Present on BLM Land within the Project area?
FISH					
Bluehead Sucker (*Catostomus discobolus*)	SC	S4	G4	F	No
Flannelmouth Sucker (*Catostomas latipinnis*)	SC	S3S4	G3G4	F	No
Roundtail Chub (*Gila robusta*)	SC	S2	G2G3	F	No
AMPHIBIANS AND REPTILES					
Midget Faded Rattlesnake (*Crotalus viridis concolor*)	SC	S3?	G5T4	B, D, H, I, J	Yes
Longnose Leopard Lizard (*Gambelia wislizenii*)	SC	S1	G5	H	No
Canyon Treefrog (*Hyla arenicolor*)	SC	S2	G5	C, I	No
Northern Leopard Frog (*Rana pipiens*)	SC	S3	G5	F, G	No
BIRDS					
Northern Goshawk (*Accipiter gentilis*)	--	S3B, S4N	G5	A, D	Yes
Ferruginous Hawk (*Buteo regalis*)	SC	S3B, S4N	G4	H	Yes
Sage Grouse (*Centrocercus urothasianus*	SC	SC, S1	G1	H	No
Long-Billed Curlew (*Numenius americanus*)	SC	S2B, SZN	G5	F, G	No
White-Faced Ibis (*Plegadis chihi*)	--	S2B, SZN	G5	F, G	No
MAMMALS					
Spotted Bat (*Euderma maculatum*)	--	S2	G4	D, H	Yes
Allen's Big-eared Bat (*Idionycteris phyllotis*)	--	S2	G4	B, C, D, I, J, K	Yes
Fringed Myotis (*Myotis thysanodes*)	--	S3	G5	D	Yes
Yuma Myotis (*Myotis yumanensis*)	--	S3	G5	C, K	Yes
Townsend's Big-Eared Bat (*Plecotonus townsendii pallescens*)	--	S2	G4	B, K	Yes
PLANTS					
Grand Junction Milkvetch (*Astragalus linifolius*)	SC	S3	G3Q	H, I	No
Naturita Milkvetch (*Astragalus naturitensis*)	SC	S2S3	G2G3	I	No
San Rafael Milkvetch (*Astragalus rafaelensis*)	SC	S1	G3Q	B	No
Sandstone Milkvetch (*Astragalus sesquiflorus*)	SC	S1?	G3	N	No
Rocky Mountain Thistle (*Cirsium perplexans*)	SC	S1	G3	L	Yes
Montrose Bladderpod (*Lesquerella vicina*)	SC	S1	G1	H, I	Yes
Colorado Desert Parsley (*Lomatium concinnum*)	SC	S1	G2	H, I	Yes
Paradox Valley Lupine (*Lupinus crassus*)	SC	S2	G2	O	No
Dolores Skeleton Plant (*Lygodesmia doloresensis*)	SC	S1	G1Q	--	No
Eastwood Monkey-Flower (*Mimulus eastwoodiae*)	SC	S1S2	G3	M	No
Paradox Breadroot (*Pediomelum aromaticum*)	SC	S2	G3	--	No

[4]Habitat Key: A=Aspen; B=Cliff/Rock/Scree; C=Cottonwood/Riparian; D=Conifer Forest; E=Headwaters/Willow Riparian; F=Rivers; G=Marsh/Wetlands/Beaver Complexes; H=Rangelands/Sage; I=Pinyon/Juniper Woodlands; J=Shrublands; K=Caves, Mines, Abandoned Structures; L=Sparsely vegetated, steep slopes; M=Hanging gardens, shallow caves, seeps, steep canyon walls; N=Sandstone, sandy washes; O=Clay barrens, draws, washes

[1]Colorado State Status: E = Endangered, SC = Special Concern

[2]State Rank: Based on the status of a species in Colorado. Species or plant communities that rank S1 to S3 are considered imperiled or vulnerable and the status and locations of each are closely monitored. Species or plant communities that are ranked S4 or S5 are not actively monitored, except that the locations of the best examples of all plant communities are monitored. The status of all elements is reviewed annually.

- S1 = Critically imperiled in state because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extirpation from the state.
- S2 = Imperiled in state because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extirpation from the state.
- S3 = Vulnerable in state (21 to 100 occurrences).
- S3S4 = Watchlisted. Specific occurrence data are collected and periodically analyzed to determine whether more active tracking is warranted.
- S#B = Refers to the breeding season imperilment of elements that are not permanent residents.
- SZ = Migrant whose occurrences are too irregular, transitory, and/or dispersed to be reliably identified, mapped, and protected.
- S? = Unranked. Some evidence that species may be imperiled, but awaiting formal rarity ranking.

[3]Global Rank Based on the range-wide status of a species.

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction. (Critically endangered throughout its range.)
- G2 = Imperiled globally because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extinction throughout its range.
- G3 = Vulnerable throughout its range or found locally in a restricted range (21 to 10 occurrences).
- G4 = Apparently secure globally though it might be quite rare in parts of its range, especially at the periphery.
- G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- GQ = Indicates uncertainty about taxonomic status.
- G#T# = Trinomial rank (T) is used for subspecies or varieties. These taxa are ranked on the same criteria as G1 through G5.

The 5th column in *Table 1, State Director's List of Sensitive Animal and Plant Species for BLM in Colorado*, displays the existence of potential habitat for each species within the project area. As can be seen in this column, habitat for many of the species in *Table 1, State Director's List of Sensitive Animal and Plant Species for BLM in Colorado*, does not exist within the project area. For these species there will be no direct or indirect impacts associated with the proposed transmission line reroute. *Table 2, List of Species Which are not Present, or for Which There is no Potentially Suitable Habitat, in the Project Area*, provides a list of these species, and the rationale for the determination of "no impact."

Table 2
List of Species Which are not Present, or for Which There is no Potentially Suitable Habitat, in the Project Area
(The determination for these species is "no impact.")

SPECIES	DETERMINATION	RATIONALE FOR DETERMINATION
Bluehead Sucker (*Catostomus discobolus*)	No Impact	There are no rivers or streams within the project area that would provide habitat for these fish. No water would be used for the project that would affect minimum stream flows that are required by these fish.
Flannelmouth Sucker (*Catostomas latipinnis*)	No Impact	
Roundtail Chub (*Gila robusta*)	No Impact	
Longnose Leopard Lizard (Gambelia wislizenii)	No Impact	The elevation of the project area ranges from 6450 – 9000 feet and beyond the known range (up to 5000 feet) of the longnose leopard lizard (NDIS 1999).
Canyon Tree Frog (*Hyla arenicolor*)	No Impact	There are no deep, rocky canyons within the project area. At an elevation of 6450 – 9000 feet, the project area is beyond the known range of this frog. There is no suitable habitat on BLM land within

Table 2
List of Species Which are not Present, or for Which There is no Potentially Suitable Habitat, in the Project Area
(The determination for these species is "no impact.")

SPECIES	DETERMINATION	RATIONALE FOR DETERMINATION
Northern Leopard Frog (*Rana pipiens*)	No Impact	the project area. There are no cattail marshes, wet meadows, beaver ponds, lakes, rivers, streams, or other permanent water sources with rooted aquatic vegetation on lands managed by the BLM in the project area.
White-Faced Ibis (*Plegadis chihi*)	No Impact	Ibis inhabit wet meadows, marsh edges, and reservoir shorelines. There is no habitat for white-faced ibis on BLM land within either the existing corridor or the alternative alignments.
Long-Billed Curlew (*Numenius americanus*)	No Impact	The elevation of the project area ranges from 6450 - 9000 feet and beyond the known range (up to 5000 feet) of the long-billed curlew (NDIS 1999). Additionally, there is no potential habitat on land managed by the BLM.
Sage Grouse (*Centrocercus urothasianus)*	No Impact	The BLM project area does not contain any sage grouse overall range or lek sites mapped by the CDOW.
Grand Junction Milkvetch (*Astragalus linifolius*)	No Impact	The project area does not extend to the eastern base of the Uncompahgre Plateau. Consequently, there is no habitat for this plant in the project area.
Naturita Milkvetch (*Astragalus naturitensis*)	No Impact	No sandstone mesas, ledges, crevices and/or slopes occur on BLM land within the project area.
San Rafael Milkvetch (*Astragalus rafaelensis*)	No Impact	This plant is known only from the Dolores River Valley in Montrose County. The proposed transmission line reroute will not impact the known range of this plant.
Sandstone Milkvetch (*Astragalus sesquiflorus*)	No Impact	There are no sandstone rock ledges, fissures of domed slickrock, talus under sandstone cliffs, or sandy washes in the project area. Consequently, there is no habitat for this plant in the project area.
Paradox Valley Lupine (*Lupinus crassus*)	No Impact	The project area is well beyond the known range of this plant.
Dolores Skeleton Plant (*Lygodesmia doloresensis*)	No Impact	The project area is well beyond the known range of this plant
Eastwood Monkey-Flower (*Mimulus eastwoodiae*)	No Impact	There are no shallow steep canyon walls that occur within the project area. Consequently, there is no habitat for this plant in the project area.
Paradox Breadroot (*Pediomelum aromaticum*)	No Impact	The project area is well beyond the known range of this plant

Suitable habitat may exist in the project area for the species listed in *Table 3, Species From the State Director's List for Which Potentially Suitable Habitat Exists on BLM Land Within the Project Area.* Species accounts and a determination of the impacts of the proposed project on each species are disclosed in the narratives on the following pages.

Table 3
Species From the State Director's List for Which
Potentially Suitable Habitat Exists on BLM Land Within the Project Area

Species	State Status[1]	State Rank[2]	Global Rank[3]	Typical Habitat(s)[4]	Potential Habitat Present on BLM Land in Project area?
AMPHIBIANS AND REPTILES					
Midget Faded Rattlesnake (*Crotalus viridis concolor*)	–	S3?	G5T4	D, H, I, J, N	Yes
BIRDS					
Northern Goshawk (*Accipiter gentilis*)	–	S3B, S4N	G5	A, D	Yes
Ferruginous Hawk (*Buteo regalis*)	SC	S3B, S4N	G4	H	Yes
MAMMALS					
Spotted Bat (*Euderma maculatum*)	–	S2	G4	D, H	Yes
Allen's Big-eared Bat (*Idionycteris phyllotis*)	–	S2	G4	B, C, D, I, J, K	Yes
Fringed Myotis (*Myotis thysanodes*)		S3	G5	D	Yes
Yuma Myotis (*Myotis yumanensis*)	–	S3	G5	C, K	Yes
Townsends Big-Eared Bat (*Plecotonus townsendii pallescens*)	–	S2	G4	B, K	Yes
PLANTS					
Rocky Mountain Thistle (*Cirsium perplexans*)					Yes
Montrose Bladderpod (*Lesquerella vicina*)	–	S1	G1	H, I	Yes
Colorado Desert Parsely (*Lomatium concinnum*)	–	S1	G2	H, I	Yes

[4]Habitat Key: A=Aspen; B=Cliff/Rock/Scree; C=Cottonwood/Riparian; D=Conifer Forest; E=Headwaters/Willow Riparian; F=Rivers; G=Marsh/Wetlands/Beaver Complexes; H=Rangelands/Sage; I=Pinyon/Juniper Woodlands; J=Shrublands; K=Caves, Mines, Abandoned Structures; L=Sparsely vegetated, steep slopes; M=Hanging gardens, shallow caves, seeps, steep canyon walls; N=Sandstone, sandy washes; O=Clay barrens, draws, washes

4.1 Amphibians and Reptiles

4.1.1 Midget Faded Rattlesnake (*Crotalus viridis concolor*)

Potential Presence in the Project Area

The midget faded rattlesnake is a subspecies of the well-known western rattlesnake. This subspecies occurs in west-central Colorado, and is known to intergrade with the northwest Colorado subspecies *C. v. viridis* (prairie rattlesnake) where their range overlaps. The midget faded rattlesnake is distinguished from the prairie rattler by the presence of usually 23 or 25 dorsal scale rows at mid-body, 12 or fewer scale rows at mid-tail, an upper surface which is cream-colored or yellowish, and a maximum length that rarely exceeds 26 inches.

The midget faded rattlesnake occurs in virtually every terrestrial habitat within its geographic range, up to 9,500 feet. Perennially wet areas seem to be avoided. Soils in inhabited areas vary from rocky to sandy. Typical vegetation in occupied rattler territories includes grasslands, sandhills, mountain and semidesert shrublands, sagebrush, riparian vegetation, pinyon-juniper woodlands, and open coniferous forests.

Rattlesnakes are active during the daylight hours in the spring and fall. During hot summer weather, they are most active at dusk and during the nighttime. When inactive, rattlesnakes seek cover from the hot sun and cool evenings in rock crevices, wood piles, or the burrows of small mammals such as prairie dogs, pocket gophers, or kangaroo rats.

Racers and golden eagles are known to prey on rattlesnakes, however their chief predators are humans.

Potentially suitable habitat for the midget faded rattlesnake exists throughout the project area, including on land managed by the BLM.

Impact Evaluation

The proposed transmission line reroute would create minimal disturbance within potentially suitable habitat for the midget faded rattlesnake. Sites of transmission line support structures would be cleared during the construction phase, however the remainder of the landscape traversed by the proposed reroute alternatives would not be disturbed.

Since the major threat to all rattlesnakes is thoughtless and indiscriminate killing by humans, it is possible that workers encountering rattlesnakes during the construction phase may kill individuals out of fear or perceived threats form snakes. Proposed mitigation would prohibit the killing of rattlesnakes during construction.

Golden eagles were observed on several instances during biological surveys of the project area. These large raptors are known to prey on rattlesnakes. Additionally, they are known to perch on transmission line structures while hunting. If any midget faded rattlers are present within the transmission line reroute alternative corridors, these individuals would likely be subject to increased predation rates by golden eagles perching on transmission line structures.

Consequently, under either alternative, the proposed rerouting of the Curecanti-Lost Canyon transmission line may adversely impact individuals but would not likely result in a lack of viability in the planning area, nor cause a trend towards Federal listing or a loss of species viability rangewide.

Cumulative Impacts

Cumulative impacts to midget faded rattlesnakes would not increase as a result of the rerouting of the Curecanti-Lost Canyon 230-kV transmission line. Structures on the currently existing transmission line are used by golden eagles for perching. When these structures are removed, eagles will lose potential perches from which to prey on rattlers. The rerouted transmission line will replace these potential perches, leading to no net loss or gain in potentially suitable habitat for eagles to prey on midget faded rattlesnakes.

Determination

Impact to potential habitat or to individuals - The proposed rerouting of the Curecanti-Lost Canyon 230kV transmission line may adversely impact individuals but would not likely result in a lack of viability in the planning area, nor cause a trend towards Federal listing or a loss of species viability rangewide.

4.2 Birds

4.2.1 Northern Goshawk (*Accipiter gentilis*)

Potential Presence in the Project Area

The northern goshawk is a rare to uncommon resident in the foothills and mountains of Colorado (Andrews and Righter, 1992). They are normally found between 7,500 and 11,500 feet elevation in this area, however, they are occasionally seen above timberline, especially in the fall.

Additionally, they are a rare spring and fall migrant and winter resident in western valleys, mountain parks, and on the eastern plains.

Goshawks nest in mature stands of aspen, ponderosa pine, and lodgepole pine. They appear to prefer nest sites on the gentler slopes with northern or eastern aspects, lacking a dense understory, and are commonly found near the base of drainages or swales and adjacent to clearings or water. The nest is generally located in the bottom third of the canopy, adjacent to the trunk of ponderosa and commonly in a fork of aspen. Nesting takes place from early March until late September, with nests located in an area with one or more stands of large, old trees with a dense canopy. In Colorado, due to climactic restrictions, nesting may take place within a narrower window. Nest stands are returned to year after year and typically contain more than one nest, although only one of these is ever active at one time.

Goshawks use a variety of forested habitat during the nesting period. Throughout their range they are considered a forest and prey generalist. They prey upon a wide variety of medium sized mammals such as squirrels and rabbits, and on birds such as jays and grouse. Much of their prey base is dependent on forests with attributes such as numerous snags, down woody logs, woody debris, large trees, openings, herbaceous and shrubby understories, and an intermixture of various forest structural stages (Reynolds et al, 1992). Goshawks are fast and maneuverable beneath and within the forest canopy. Typical hunting strategy is to perch for a short time in cover before either moving on or making a quick, fierce attack on prey. Additionally, they may fly rapidly through openings in the canopy or along forest edges, attacking unwary prey (Johnsgard, 1990).

Goshawks are not known to exist within the project area (CNHP, 1999). Suitable nesting habitat as described above is absent on the portion of the existing and proposed corridors occurring on BLM land. Potentially suitable nesting habitat does occur on private land on Waterdog Peak in the vicinity of the existing transmission line corridor. No goshawk nests were located within the 200 foot corridor along the existing transmission line that would be removed. There is no potentially suitable nesting habitat along any of the proposed alternative routes. The primary utilization by goshawks on lands managed by the BLM would be as foraging habitat.

Impact Analysis

No goshawk nesting territories were located along the existing transmission line corridor. As a result, the proposed line removal would not affect nesting goshawks. Neither would the proposed line removal adversely affect potential goshawk prey within the existing transmission line corridor. Activities associated with line removal and reroute construction may cause foraging goshawks to avoid the area during the construction phase. However, since construction activities are of limited scope and duration, this disturbance would be temporary. If

goshawks forage in the area, they would be expected to continue to utilize the abandoned right-of-way for foraging.

Because there is very little suitable foraging habitat as described above, and because this habitat is patchy and present in only isolated locations not connected by continuous forest canopy to more suitable stands, it is doubtful that goshawks forage along the proposed alternative alignment corridors. There is no suitable nesting habitat anywhere along either of the proposed alternative locations. If goshawks do utilize the alternative corridors for foraging, implementation of either alternative would not be expected to adversely modify this potential foraging habitat. Goshawks would continue to utilize such sites for foraging. Foraging goshawks typically remain beneath the forest canopy and would not be subject to collisions or electrocutions with the newly constructed transmission line. Goshawks are rarely found in electrocution records (APLIC, 1996). Because natural perches are abundant in forested areas, goshawks are more likely to perch in trees than on the relatively exposed perches provided by electric transmission lines. Consequently, for all alternatives, there will be no impact on the northern goshawk.

Cumulative Impacts

Cumulative impacts to northern goshawks would not increase as a result of the rerouting of the Curecanti-Lost Canyon 230-kV transmission line.

Determination

Impact to potential habitat or to individuals - No Impact

4.2.2 Ferruginous Hawk (*Buteo regalis*)

Potential Presence in the Project Area

Ferruginous hawks are fairly common to common winter residents on the Colorado eastern plains, but uncommon to rare in western valleys and mountain parks to 9,400 feet. During the summer they are a rare to uncommon resident on the eastern plains. The Uncompahgre River valley in Montrose County is considered to be secondary migration range for ferruginous hawks (Andrews and Righter, 1994), while there are none known to nest in Montrose County.

Ferruginous hawks typically reside in grasslands and semidesert shrublands and occasionally in pinyon/juniper woodlands. Breeding birds nest in isolated trees, in rock outcrops, on structures such as windmills and power poles, or on the ground. Winter residents concentrate around prairie dog towns. In addition to prairie dogs, hawks feed on ground squirrels, locusts, birds, and crickets. The primary threat to this species includes habitat loss through conversion of rangeland to agriculture, and destruction of nest sites in areas where few alternate places exist (Finch, 1992).

Suitable habitat for migrating ferruginous hawks on BLM managed land within the project area may occur in Gambel oak communities.

Impact Analysis

Construction activities associated with the proposed alternative reroute locations would temporarily disturb potential foraging habitat for migrating ferruginous hawks. However, the construction period is of limited duration. Following construction, the potential habitat suitability

for ferruginous hawks would remain unchanged or possibly may be increased due to the benefits provided by elevated perch sites on transmission line structures (APLIC, 1996).

Ferruginous hawks and other buteos are subject to transmission line electrocution through simultaneous contact with two phase conductors or through simultaneous contact between an energized phase conductor and grounded hardware. In order to mitigate the risk of electrocution, the proposed rerouted section would be constructed according to guidelines described in APLIC (1996). Due to their maneuverability, their typically slow soaring flight while hunting, and their solitary nature, raptors such as ferruginous hawks are infrequently reported as victims of wire collisions (APLIC, 1994).

Consequently, with implementation of raptor protection features described in APLIC (1996), operation of the new transmission line would not be expected to disturb migrating or nesting ferruginous hawks. The prey base for these and other raptors would not be adversely affected by any activities under this proposal. Consequently, under all alternatives, there will be no impact to the ferruginous hawks.

Cumulative Impacts

Cumulative impacts to ferruginous hawks would not increase as a result of the rerouting of the Curecanti-Lost Canyon 230-kV transmission line.

Determination

Impact to potential habitat or to individuals - No Impact

4.3 Mammals

4.3.1 Spotted Bat (*Euderma maculatum*)

Potential Presence in the Project Area

The spotted bat is Colorado's rarest bat. The species is known in the state only by published records from the extreme northwestern corner of the state, but there are recent informal reports from a number of places at lower elevations on the western slope and four corners (Armstrong et al, 1995). Additionally, they are likely to occur elsewhere in the state. This bat has been found in ponderosa pine forest, pinyon/juniper woodland, and shrub desert, and may inhabit areas up to 10,600 feet (Fitzgerald et al, 1994). Originally thought to nest in ponderosa pine forests, the spotted bat evidently prefers areas with cliffs, where it roosts in cracks and crevices close to water (Armstrong et al, 1995).

These bats are mostly solitary, forming small nursery colonies or groups in hibernation. Very little is known about hibernation or annual movement patterns. Known predators include kestrels and owls. They exhibit marked preference for moths in their diet, but will take grasshoppers, beetles, katydids, and smaller insects. Foraging occurs throughout the night, in open country, 15 to 35 feet above the ground. Spotted bats are not known to occur anywhere on the project area, however two reports exist of spotted bats elsewhere in Montrose County (NDIS, 1999).

Impact Analysis

Pinyon/juniper/oak woodlands occur throughout the existing transmission line corridor and the proposed alternative alignment corridors. Such woodlands may provide foraging habitat for spotted bats. Because there are no cliffs that these bats prefer for nesting, potential nest sites would not be disturbed. Since construction activities would take place during the day, while bats are most active at night, there would not be any disturbance due to construction activities. There are no long-term impacts that would result from construction and operation of the transmission line reroute or removal of the existing line, under any alternative.

Cumulative Impacts

Cumulative impacts to spotted bats would not increase as a result of the implementation of activities outlined under any alternative.

Determination

Impact to potential habitat or to individuals - No Impact

4.3.2 Allen's Big-eared Bat (*Idionycteris phyllotis*)

Potential Presence in the Project Area

Allen's big-eared bat is a medium-sized mammal most typically associated with montane forests, pinyon-juniper woodland, shrublands, and riparian cottonwood forests (Fitzgerald, 1994). In Colorado, the occurrence of this bat is considered "probable" since it occurs close to the state line in Utah. This bat prefers caves, mines, and similar shelters for day roosting, but has also been found in cracks and spaces between boulders or fallen rock. Additionally, roosts have been discovered beneath the exfoliating bark of ponderosa pine snags (Tuttle, 1996). It may share roosts with other species such as fringed myotis and Townsend's big-eared bat. Females are known to form nursery or maternity colonies in mine tunnels, caves, and in ponderosa snags.

These bats do not appear to maintain a high degree of daily or seasonal roost site fidelity. Roost site fidelity appears to be correlated with the permanence of the roost-type used (e.g., cave roosts vs. foliage roosts). For bats in the southwestern U.S., accessible surface water, suitable roost sites, and food are necessary components of viable habitat (Chung-MacCoubrey, 1995). Because roosts under exfoliating bark may be relatively short-lived resources, these bats may require higher snag densities than birds.

Impact Analysis

Allen's big-eared bat is not known to occur in Montrose County. However, its presence is suspected. There are no known caves or mines in the vicinity of the proposed project, however occasional rock outcrops may provide roosts or hibernacula. Such sites would most likely remain undisturbed by activities associated with both line removal and new line construction.

Because this bat is not known specifically to occur in Montrose County, and because ground disturbance due to the proposed reroute would be minimal, there would be no impact to this bat, under either alternative, as a result of the proposed project.

Cumulative Impacts

Cumulative impacts to Allen's big-eared bat would not increase as a result of the implementation of activities outlined under any alternative.

Determination

Impact to potential habitat or to individuals - No Impact

4.3.3 Fringed Myotis (*Myotis thysanodes*)

Potential Presence in the Project Area

The fringed myotis is not common in Colorado. The bats apparently occur as scattered populations at moderate elevations on the western slope, along the foothills of the front range, and on the mesas of southeastern Colorado (Armstrong et al, 1995). It's preferred habitat is ponderosa pine forest, pinyon-juniper woodlands, greasewood, oakbrush, and saltbush shrublands to elevations of 7,500 feet (Fitzgerald et al, 1994). These bats forage along water, above shrubs, woodlands and meadows. They fly close to the plant canopy where they glean prey off the vegetation during slow, maneuverable flight. Their relatively broad diet consists of moths, beetles, caddis flies, ants, bees, wasps, and other insects. Caves, rock crevices, trees, mines and buildings are used as both day and night roosts. Localized migrations are thought to occur, yet firm data is lacking. Hibernation sites include caves and buildings. Up to several hundred females may congregate in nursery colonies in the spring and early summer.

Threats to the species include human disturbance at roost sites, cave destruction, and habitat loss (Finch, 1992).

Fringed myotis do occur in Montrose County (Armstrong et al, 1995). There are some abandoned or rarely used structures in the vicinity of the existing transmission line corridor that may provide hibernacula, nursery colonies, or summer roosts for these bats. Habitat as described above does occur within the project area. Consequently, these bats may be present within the project area.

Impact Analysis

Caves and abandoned structures would not be disturbed during removal of the existing line nor during activities associated with construction of any of the alternative reroutes. Construction would take place during the day and would not disturb these night-time foraging bats. Potentially suitable foraging habitat for the fringed myotis would not be disturbed by any activities associated with the proposed project. Consequently, there will be no impact on the fringed myotis from any alternative.

Cumulative Impacts

Cumulative impacts to fringed myotis would not increase as a result of the implementation of the proposed project.

Determination

Impact to potential habitat or to individuals - No Impact

4.3.4 Yuma Myotis (*Myotis yumanensis*)

Potential Presence in the Project Area

The Yuma myotis is widely distributed in western North America, from central Mexico north to British Columbia, Montana, and southeastern Colorado. They occur at moderate elevations in Colorado to a maximum elevation of 7,500 feet (Armstrong et al, 1995). They are known from valleys on the western slope, in the San Luis Valley and on the eastern slope north to the vicinity of Colorado Springs.

Yuma myotis' are an uncommon species of dry shrubby country that are closely tied to the occurrence of open water (Armstrong et al, 1995). Typical habitat for this bat is pinyon-juniper woodland and riparian woodland in semidesert valleys. Similar to other bats, they roost in caves, crevices, or abandoned buildings and other structures. They forage over water, along streams, over springs, and among riparian or shoreline vegetation. Their primary food source is moths, flies, and beetles, but will also prey on leafhoppers, caddisflies, lacewings, and crane flies. They forage in the early evening.

The location of winter hibernacula is unknown, but they apparently do not hibernate in Colorado. They arrive in Colorado about April and become scarce in September.

These bats are known from western Montrose County (Armstrong et al 1995, NDIS, 1999), but have not been observed in the vicinity of the project area.

Impact Analysis

Caves and abandoned structures would not be disturbed during removal of the existing line nor during activities associated with construction of any of the alternative reroutes. Construction would take place during the day and would not disturb these night-time foraging bats. Potentially suitable foraging habitat for the Yuma myotis would not be disturbed by any activities associated with the proposed project. Consequently, there will be no impact on the Yuma myotis from any alternative.

Cumulative Impacts

Cumulative impacts to Yuma myotis would not increase as a result of the implementation of the proposed project.

Determination

Impact to potential habitat or to individuals - No Impact

4.3.5 Townsend's Big-Eared Bat (*Plecotonus townsendii pallescens*)

Potential Presence in the Project Area

Townsend's big-eared bat is widely distributed in Colorado except on the eastern plains (Armstrong et al, 1995). Habitat includes open montane forests, semidesert shrublands, and pinyon/juniper shrublands. These bats are generally solitary or gather in small groups; during the summer females may form larger maternity colonies. They can be found in mines, caves, abandoned structures, and crevices in rock cliffs, in woodlands and forests to elevations above 9,500 feet (Armstrong et al 1995, Fitzgerald et al, 1994). These bats feed chiefly on small

caddisflies and moths, but will take beetles, flies and wasps. Foraging occurs over water, along the margins of vegetation and over sagebrush. They are relatively sedentary and do not move long distances from hibernacula to summer roosts (Fitzgerald et al, 1994). Chief predators are probably snakes, owls, and hawks. Populations are highly susceptible to disturbance and have been reported to be declining. Hibernacula with the appropriate stable temperature and humidity appear to be a limiting resource for this bat.

One record for the occurrence of Townsend's big-eared bat exists for Montrose County, in the extreme western portion of the county (NDIS, 1999). Potentially suitable habitat exists in the vicinity of the proposed project. There are some abandoned or rarely used structures in the vicinity of the existing transmission line corridor that may provide hibernacula or summer roosts for these bats.

Impact Analysis

Removal of the existing line would not impact potential hibernacula for Townsend's big-eared bat. Neither would construction of any proposed alternative create physical disturbance to sites within the project area that might provide hibernacula. Consequently, there will be no impact on these bats due to removal of the existing line, nor due to construction of any of the proposed alternatives.

Cumulative Impacts

Cumulative impacts to Townsend's big-eared bat would not increase as a result of the implementation of the proposed project.

Determination

Impact to potential habitat or to individuals - No Impact

4.4 Plants

4.4.1 Montrose Bladderpod (*Lesquerella vicina*)

Potential Presence in the Project Area

Montrose bladderpod is a plant species that is endemic to Montrose County. The range of this plant is currently known to extend for 20 miles, from Billie Creek 15 miles south of Montrose to Bostwick Park 5 miles north of Montrose (Anderson et al, 1997). Montrose bladderpod is typically found growing on Mancos shale, often with sandstone fragments, from 6,000 to 7,200 feet in the ecotone between pinyon-juniper woodland and salt desert scrub.

One population of this species, consisting of about ten individuals, was discovered within the corridor along the proposed route of Alternative C. This population was located in an area dominated by pinyon-juniper woodland with isolated patches of more open, big sagebrush-dominated shrubland.

Impact Analysis

Construction of the transmission line reroute proposed under Alternative C would cross directly over the population mentioned above. Mitigation which would include marking the location of this population to prevent trampling or other disturbance during construction, and prohibiting the

location of support structures or access roads directly over or within 50 feet of this population would prevent its disturbance. With this mitigation included in the Record of Decision, there would be no impact to Montrose bladderpod as a result of the proposed project.

Cumulative Impacts

With mitigation implemented as described above, cumulative impacts to Montrose bladderpod would not increase as a result of the implementation of the proposed project.

Determination

Impact to potential habitat or to individuals - No Impact

4.4.2 Colorado Desert Parsley (*Lomatium concinnum*)

Potential Presence in the Project Area

Colorado desert parsley is endemic to Colorado, specifically to Delta, Montrose, and Ouray counties (Spackman et al, 1997). It inhabits adobe hills and plains of the Uncompahgre and Gunnison River drainages on rocky soils derived from Mancos shale. The plant is known to occur between the elevations of 5,270 and 7,300 feet (Bunin, 1991). Typical dominant vegetation it is associated with includes sagebrush, shadscale, greasewood, and scrub oak.

It has been observed on severe, steep, barren slopes and on moderately disturbed sites as well as on level slopes and relatively undisturbed sites.

One population of Colorado desert parsley was discovered within the corridor of the existing Curecanti-Lost Canyon distribution line. The population included an estimated 150+ individuals. The existing transmission line which currently spans this population would be removed at this location under Alternative C. Activities described under Alternative B would not affect the transmission line at this location.

Impact Analysis

Removal of the existing transmission line would be unlikely to disturb the population of Colorado desert parsley that was discovered within the corridor. Mitigation provided in the Mitigation section of this BE would require line removal to be accomplished in a manner that would not adversely impact this population.

Cumulative Impacts

Cumulative impacts to Colorado desert parsley would not increase as a result of the implementation of the proposed project.

Determination

Impact to potential habitat or to individuals - No Impact

4.4.3 Rocky Mountain Thistle (*Cirsium perplexans*)

Potential Presence in the Project Area

Rocky Mountain thistle is found in association with the Atwell Gulch and Shire members of the Wasatch Formation between 4,700 and 6,200 feet in elevation. This species inhabits sparsely vegetated, steep slopes in the adobe hills of the Colorado and Gunnison River valleys of Colorado (Weber and Whitman, 1996).

The Colorado Natural Heritage Program has mapped one population in the project area, at T47N, R8W, Section 3. This population is the only population of this species observed in the project area.

Impact Analysis

The proposed project would not impact the above-referenced population. No other individuals were observed during plant surveys within the project area. Consequently, the proposed project, under all alternatives, would have no impact on Rocky Mountain thistle.

Cumulative Impacts

Cumulative impacts to Rocky Mountain thistle would not increase as a result of the implementation of the proposed project.

Determination

Impact to potential habitat or to individuals - No Impact

5.0 Summary of Findings

The effects of the proposed action on BLM Sensitive species are summarized in *Table 4, State Director's List of Sensitive Animal and Plant Species for BLM in Colorado..*

Table 4
State Director's List of Sensitive Animal and Plant Species for BLM in Colorado
(edited for the Uncompahgre Field Office.)

Species	Typical Habitat(s)[4]	Potential Habitat Present on BLM Land within the Project area?	Impact
FISH			
Bluehead Sucker (*Catostomus discobolus*)	F	No	No Impact
Flannelmouth Sucker (*Catostomas latipinnis*)	F	No	No Impact
Roundtail Chub (*Gila robusta*)	F	No	No Impact
AMPHIBIANS AND REPTILES			
Midget Faded Rattlesnake (*Crotalus viridis concolor*)	B, D, H, I, J	Yes	May Impact Individuals
Longnose Leopard Lizard (*Gambelia wislizenii*)	H	No	No Impact
Canyon Treefrog (*Hyla arenicolor*)	C, I	No	No Impact
Northern Leopard Frog (*Rana pipiens*)	F, G	No	No Impact
BIRDS			
Northern Goshawk (*Accipiter gentilis*)	A, D	Yes	No Impact
Ferruginous Hawk (*Buteo regalis*)	H	Yes	No Impact
Sage Grouse (*Centrocercus urothasianus*)	H	No	No Impact
Long-Billed Curlew (*Numenius americanus*)	F, G	No	No Impact
White-Faced Ibis	F, G	No	No Impact
MAMMALS			
Spotted Bat (*Euderma maculatum*)	D, H	Yes	No Impact
Allen's Big-eared Bat (*Idionycteris phyllotis*)	B, C, D, I, J, K	Yes	No Impact
Fringed Myotis (*Myotis thysanodes*)	D	Yes	No Impact
Yuma Myotis (*Myotis yumanensis*)	C, K	Yes	No Impact
Townsend's Big-Eared Bat (*Plecotonus townsendii pallescens*)	B, K	Yes	No Impact
PLANTS			
Grand Junction Milkvetch (*Astragalus linifolius*)	H, I	No	No Impact
Naturita Milkvetch (*Astragalus naturitensis*)	I	No	No Impact
San Rafael Milkvetch (*Astragalus rafaelensis*)	B	No	No Impact
Sandstone Milkvetch (*Astragalus sesquiflorus*)	N	No	No Impact
Rocky Mountain Thistle (*Cirsium perplexans*)	L	Yes	No Impact
Montrose Bladderpod (*Lesquerella vicina*)	H, I	Yes	No Impact
Colorado Desert Parsley (*Lomatium concinnum*)	H, I	Yes	No Impact
Paradox Valley Lupine (*Lupinus crassus*)	O	No	No Impact
Dolores Skeleton Plant (*Lygodesmia doloresensis*)	-	No	No Impact
Eastwood Monkey-Flower (*Mimulus eastwoodiae*)	M	No	No Impact
Paradox Breadroot (*Pediomelum aromaticum*)	--	No	No Impact

There would be no impact to any of the BLM sensitive species with the exception of the midget faded rattlesnake. For mitigation on these species, see #3 in Section 3.0, Mitigation.

6.0 References

Anderson, J.L., J.L. Reveal, and R.C. Collins. 1997. *Lesquerella vicina* (Brassicaceae), a new species from the Uncompahgre River Valley in Western Colorado. Novon 7:9-12.

Andrews, R. and R. Righter. 1992. Colorado Birds: A Reference to Their Distribution and Habitat. Denver Museum of Natural History, Denver, CO. 442 p.

APLIC (Avian Power Line Interaction Committee). 1994. Mitigating Bird Collisions With Power Lines: The State of the Art in 1994. Edison Electric Institute/Raptor Research Foundation.
Washington D.C.

APLIC (Avian Power Line Interaction Committee). 1996. Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996. Edison Electric Institute/Raptor Research Foundation. Washington D.C.

Armstrong, D.M., R.A Adams, K.W. Navo, J. Freeman, and S.J. Bissell. 1995. Bats of Colorado: Shadows in the Night. Colorado Division of Wildlife, Denver, CO. 28p.

Bunin, J.E. 1991. Status report for *Lomatium concinnum* (Osterhout) Mathias. Unpublished report. Natural Science Associates Inc. Boulder, CO.

Chung-MacCoubrey, Alice. 1995. Species Composition and Roost Requirements of Bats Using Water Sources in Pinyon-Juniper Woodlands. Unpublished. 7pp.

Finch, D.M. 1992. Threatened, Endangered, and Vulnerable Species of Terrestrial Vertebrates in the Rocky Mountain Region. Gen. Tech. Rep. RM-215. Fort Collins, Colorado. U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 38p.

Fitzgerald, J.P., C.A. Meany, and D.M. Armstrong. 1994. Mammals of Colorado. Denver Museum of Natural History, Denver, Colorado. 468p.

NDIS (Natural Diversity Information Source). 1999. Colorado Division of Wildlife Website.

Reynolds, R.T., R.T. Graham, M.H. Reiser, and Others. 1992. Management recommendations for the northern goshawk in the southwestern United States. Gen. Tech. Rep. RM-217. Fort Collins, CO. U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 90 p.

Tuttle, Merlin. 1996. Report to USFS Region 3. Responses from Bat Conservation International (BCI) to USFS Region 3. January, 1996. 9pp.

Appendix G
Range Allotments

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEPOSITED
NOV 13 1998
Bureau of Land Management
Montrose, Colorado
By:

DUE DATE OCTOBER 1998

TOTAL DUE $89.10

STATE	(1)	CO
OFFICE	(2)	034
OPERATOR NUMBER	(3)	053071
PREFERENCE CODE	(4)	03
SCHEDULE NUMBER	(5)	3
BILL NUMBER	(6)	G05307134
BILL DATE	(7)	10/23/1998
BILL CODE	(8)	1
AMOUNT COLLECTED	(9)	_____

FOR BLM USE ONLY

ETCHART RANCH
(JUTTON LEASE)
ETCHART, ERNIE
13621 5875 ROAD
MONTROSE, CO 81401

BUREAU OF LAND MANAGEMENT
MONTROSE DIST. OFF.
2465 S. TOWNSEND AVE
MONTROSE, CO 81401

MAKE REMITTANCE TO: US DEPT. OF THE INTERIOR-BLM. PLEASE RETURN THE TOP PORTION OF THIS NOTICE WITH YOUR PAYMENT, AND KEEP THE BOTTOM PORTION. THIS NOTICE SHOWS THE AMOUNT DUE IN GRAZING FEES FOR LIVESTOCK GRAZING USE OFFERED TO YOU. YOUR CANCELED CHECK IS YOUR RECEIPT. A SERVICE CHARGE OF $10.00 WILL BE MADE FOR EACH APPLICATION REQUIRING A REPLACEMENT OR SUPPLEMENTAL BILL.

FOR INTERNAL USE ONLY

ARF	BILL NBR	FUND	STOF	STCTYCCLT	LINE DOLLARS
	G05307134	720	CO034	CO0910601	89.10

BILL NUMBER: G05307134 ETCHART RANCH

ALLOT PASTURE	LIVESTOCK NUMBER	K	BEGIN PERIOD	END PERIOD	%PL	T U	AUM"S	AUM COST	FEE AMOUNT
05540 DRY GULCH									
	1110	S	10/22/98	10/30/98	100	A	66	$1.35	$89.10
							SUBTOTAL		$89.10
							SERVICE CHARGE		$.00
							TOTAL DUE		$89.10

TERMS AND CONDITIONS:

YEAR TO DATE AUTHORIZED

ALLOT	PREF ACTIVE	NOT SCHED	AUTHORIZED ACTIVE	NONUSE	FR USE	EOU	TRAIL	TEMP
05533	8			8				
05540	797 Aum's		250	547				

Form 1370-37 (June 1990)

CASE FOLDER

(September 1987)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

GRAZING PERMIT

STATE	CO
OFFICE	034
OPERATOR NUMBER	053071
PREFERENCE CODE	03
DATE PRINTED	02/26/99
TERM	03/01/1999 TO 02/28/2000

ETCHART RANCH
(JUTTON LEASE)
ETCHART, ERNIE
13621 5875 ROAD
MONTROSE, CO 81401

BUREAU OF LAND MANAGEMENT
UNCOMPAHGRE BASIN RA
2505 S. TOWNSEND AVE
MONTROSE, CO 81401

THIS GRAZING PERMIT IS OFFERED TO YOU BASED ON YOUR RECOGNIZED GRAZING PREFERENCE ON THE PUBLIC LANDS AND/OR OTHER LANDS ADMINISTERED BY THE BLM. YOU ARE AUTHORIZED TO MAKE GRAZING USE TO THE EXTENT OF YOUR ACTIVE GRAZING PREFERENCE AS SHOWN BELOW UPON YOUR ACCEPTANCE OF THE TERMS AND CONDITIONS INCORPORATED HEREIN AND YOUR PAYMENT OF GRAZING FEES.

ALLOT / PASTURE	LIVESTOCK NUMBER	KIND	GRAZING PERIOD BEGIN	END	%PL	TYPE USE	AUM"S
05533 ONION LAKES							
	400	SHEEP	07/01	07/03	100	ACTIVE	8
05540 DRY GULCH							
	840	SHEEP	04/15	06/25	100	ACTIVE	398
	589	SHEEP	10/05	01/15	100	ACTIVE	399

TERMS AND CONDITIONS:

PERMIT RENEWAL IS APPROVED THROUGH EA #CO-034-UB-99-9 FOR A PERIOD OF ONE YEAR, FROM 03/01/99 TO 02/29/00.

---

has herders; keep sheep tight bunches; 4,000 Ac. ea

mailed
3/1/99
CASE FILE

Appendix H

Cultural Resources
Section 106 Consultation

United States Department of the Interior

Bureau of Land Management
Uncompahgre Field Office
2505 South Townsend
Montrose, Colorado 81401

JAN 13 2000

In Reply
Refer to:
CO-150

Jim Green
Office of Arch. & Historic Preservation
1300 Broadway
Denver, CO 80203

Dear Jim:

Attached, for your information, is the final report, prepared by Alpine Archaeology, Inc., titled, *Cultural Resource Inventory of Western Area Power Administration's Planned Curecanti-Lost Canyon Transmission Line Reroute Montrose County, Colorado.* We have reviewed the report and have found it acceptable including the recommendations for eligibility.

If you have questions please give me a call.

Sincerely,

Richard E. Fike
Uncompahgre Field Office

Department of Energy
Western Area Power Administration
Rocky Mountain Customer Service Region
P.O. Box 3700
Loveland, CO 80539-3003

Mr. Allan Belt, Field Office Manager
Bureau of Land Management
Uncompahge Field Office
2505 S. Townsend
Montrose, CO 81401

Dear Mr. Belt:

Western Area Power Administration (Western) has considered the effects of the undertaking described below on historic properties. Per 36 CFR 800.5, Western has determined that **no historic properties will be affected provided** that Western follows the special conditions of compliance detailed below. The submission of this documentation and the attached report fulfills Western's responsibilities under Section 106 of the National Historic Preservation Act.

I. Description of the Undertaking – The proposed undertaking, including locational information and specific project dimensions, is described in the enclosed report: "Cultural Resource Inventory of Western Area Power Administration's Planned Curecanti-Lost Canyon Transmission Line Reroute Montrose County, Colorado" by Alpine Archaeological Consultants. The undertaking is rerouting a segment of the Curecanti-Lost Canyon 230-kV Transmission line, southeast of Montrose, Colorado. Landslides have impacted the existing line, so a 4.9-mile-long segment will be removed and replaced with a 6.6-mile long segment. Another alternative route was identified, but will not be used. The project will include removing the 4.9-mile-long segment of steel lattice structures, and building a 6.6-mile-long segment of lattice steel structures with new access roads. Land status is private and Bureau of Land Management (BLM).

II. Methodology and Reporting – A total of 365 acres were surveyed, 91 acres of BLM and 274 acres of private. The survey covered the 150' right-of-way (ROW) in 15m transects. The ROW for the segment proposed for removal, as well as both alternatives, was surveyed. Shovel holes or trowel probes were excavated at several sites to assess subsurface potential.

III. Resources Located, Identified, and Evaluated (Significance Criteria Considered) – A total of 22 cultural resources sites and 27 isolated finds were recorded. Eight sites are on BLM and 19 are on private. The sites are generally small ephemeral lithic scatters. Of the two historic sites, one is a road and the other a ditch. Three sites are recommended as eligible: 5MN5021, 5MN5025, and 5MN5094. All potentially eligible sites are located on private lands. No resources that appear to qualify for consideration for protection under the American Indian Religious Freedom Act (16 USC 1996) were recorded during the inventory or were known to be present.

The following sites are on BLM lands and either have no likelihood or little likelihood of having buried deposits:

Site 5MN5000 is a small site consisting of nine flakes and one projectile point fragment.

Site 5MN5004 is a sparse lithic scatter comprised of 29 flakes and one projectile point fragment.

Site 5MN5005 is a lithic scatter consisting of 40 chipped stone artifacts.

Site 5MN5008 is a small lithic scatter of five flakes.

Site 5MN5011 is a sparse lithic scatter of five flakes and one biface.

Site 5MN5014 is a small lithic scatter comprised of seven flakes.

Site 5MN5015 is a sparse lithic scatter of about 25 chipped stone artifacts.

IV. Effects Determination and Compliance Decision - Effects determinations are the responsibility of the lead agency. Western has considered the nature of the undertaking and the presence of historic properties that possess the qualities of integrity and potentially meet at least one of the other criteria necessary to be considered for inclusion in the National Register of Historic Places. Western has determined that **no historic properties will be affected** by the undertaking **provided** that Western follows the conditions established below. Western considers that the stipulations of Section 106 of the National Historic Preservation Act, as amended, and the implementing regulations, 36 CFR 800, have been satisfied.

V. Special Conditions of Compliance - The project will avoid all impacts to site 5MN5094, a site located on private lands. Western will flag off the site location, with a buffer area, prior to construction. Construction crews will be briefed on avoidance needs. Should the project be redesigned and impacts could occur, Western will consult with your office on a mitigation plan.

Please comment with our determination of no historic properties affected and eligibility for sites located on BLM lands. If you have any questions, please telephone Rodney Jones, Rocky Mountain Regional Office, at (970) 490-7371, or Mary Barger, Corporate Services Office, at (303) 275-1714.

Sincerely,

Joel K. Bladow
Regional Manager

Enclosure

cc:
Ms. Susan Chandler
President
Alpine Archaeological Consultants, Inc.
P.O. Box 2075
Montrose, CO 81402
(w/o enclosure)

✓Ms. Sally Edwards
S. Edwards, Inc. (SEI)
442 Turman Drive
Fort Collins, CO 80525
(w/o enclosure)

Appendix I
Public Comment on the Environmental Assessment

Letter #1 (received via e-mail, February 11, 1999)

Mr. Joel K. Bladow, Regional Manager
Western Area Power Administration
Rocky Mountain Region
555 East Crossroads Blvd.
Loveland, CO 80539-3003

Re: Comments on WAPA Curecanti-Lost Canyon 230-kV Environmental Assessment (EA)

Dear Mr. Bladow:

A. The draft of the above mentioned EA has many errors (items as minor as misspelled names, incorrect addresses, and disorganized lists, but also very significant errors and omissions in the written interpretations and mapping).

B. The most significant error is the assessment's conclusion that "there will be no impact". To advance such a statement is to eschew the truth. We appreciate that you have exercised your "due diligence" in putting together the assessment. We respectfully decline to argue or comment at this time.

C. The fact remains that your project (during construction and when finally in place) will have a major impact on the Orme Ranch.

I would appreciate an audience with you to discuss:

D. 1) Present and future WAPA uses and the real value of WAPA's presence on the Orme Ranch.

E. 2) Environmental Impact, Aesthetics, and Economics.

F. 3) Significant damages to the residue property value.

G. 4) Possible NEPA violations committed by your agency.

I am available to meet at your offices any time at your convenience.

Respectfully,

Leonard Orme Jr., Limited Partner

Orme Family Partnership, L.L.L.P.
684 Poorman Road
Boulder, CO 80302
ph: (303) 544-6007
fx: (303) 479-1979
email: len-orme@juno.com
dnava@gwe.net

cc: Eleanor M. Orme, General Partner
Elizabeth O. Nava and Douglas Nava, Limited Partners

Responses:

A. We have identified minor typographical errors as you indicated and have corrected those in the final EA. We reviewed the interpretations and mapped data and could not identify errors or omissions. Your disagreement with some interpretations, although not specific, is noted.

B. We could not locate the summary conclusion of "there will be no impact" that you mention. The assessment does in fact identify impacts associated with the project. None of the impacts are identified as significant.

C. Land use in the project area is rangeland, which is used for livestock grazing. Construction of the project would have little, if any, effect on livestock grazing. Operation and maintenance of the relocated transmission line would not affect livestock grazing operations.

D. The impacts on the properties affected by the relocation of the Curecanti-Lost Canyon transmission line were addressed by an appraisal according to Federal rules and procedures. The properties were appraised in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. Furthermore, the appraiser followed the guidelines listed in the Uniform Appraisal Standards for Federal Land Acquisition, as well as the Uniform Standards of Professional Appraisal Practice. The appraiser disregarded any increase or decrease in value of the property in the before value and fully considered the same in the after value. The appraiser was unable to find any damage to the property outside the easement area. Compensation for the easement is based upon the difference of the before value and the after value.

E. Sections 3.12 and 3.15 of the EA address Visual and Socioeconomic impacts.

F. See response to D.

G. Western prepared this environmental assessment in compliance with the National Environmental Policy Act (NEPA), and followed the regulations promulgated by the Council on Environmental Quality (CEQ) for implementing the procedural provisions of NEPA (40 CFR 1500-1508) and the Department of Energy NEPA Implementing Procedures found at 10 CFR 1021.

Individuals, agencies and interested parties who received a copy of the draft EA for review and comment

Mr. Robert Bullington
[redacted]

Mr. Owen R. Vaughn
[redacted]

Mr. Gene Devincentis
and Ms. Judy M. Koch
[redacted]

Mr. Dennis Gurney
and Ms. Pamela R. Gurney
[redacted]

Mr. John Harold
[redacted]

Mr. Gerald E. Holman
and Mrs. Barbara Holman
[redacted]

Mr. Larry Lee
and Mr. Nolan McLaine
[redacted]

Mr. Esten B. Orme
Mr. Leo E. Orme
Ms. Linda O. Daniels
[redacted]

Mrs. Eleanor M. Orme
[redacted]

Mr. Leonard Orme
Orme Family Limited Partnership
684 Poorman Road
Boulder, CO 80302

Mr. Charles W. Nardine
and Mrs. Virginia L. Nardine
[redacted]

Mr. Antonio G. Daranyi
and Mrs. Elizabeth Daranyi
[redacted]

Mr. Tom Hurshman
Realty Specialist, Southwest Center
Bureau of Land Management
2465 S. Townsend Avenue
Montrose, CO 81401

Mr. Mark Stiles
Manager, Southwest Center
Bureau of Land Management
2465 S. Townsend Avenue
Montrose, CO 81401

Mr. Karl Myers
Senior Environmental Specialist
Tri-State Generation and Transmission, Inc.
P.O. Box 33695
Denver, CO 80233-0695

Ms. Judy Knight-Frank
Ute Mountain Ute Tribal Council
General Delivery
Towaoc, CO 81334

Ms. Betsy Chapoose
Cultural Rights & Protection Department
P.O. Box 388
Ft. Duchesne, UT 84026

Mr. Alden Naranjo
Cultural Committee
330 Burns Avenue
Ignacio, CO 81137

Ms. Georgianna Contiguglia
State Historic Preservatioin Officer
Colorado Historical Society
1300 South Broadway
Denver, CO 58505

Western Colorado Congress
P.O. Box 472
Montrose, CO 81402

Ms. Susan T. Moyer
Assistant Colorado Field Suupervisor
U.S. Fish and Wildlife Service
764 Horizon Drive South, Annex A
Grand Junction, CO 81506-3946

Montrose County Commissioners
P.O. Box 1289
Montrose, CO 81402

Mr. J.D. Kendrick
Mr. H.J. Kendrick
[redacted]

Mr. Ernie Etchart
Etchart Sheep Ranch
13621 58.75 Road
Montrose, CO 81401

Mr. Jay Jutton
[redacted]

Ms. Emma Jean Hinson
and Ms. Joyce E. Hinson
[redacted]

Ms. Gay Scheidegger
[redacted]

Ms. Brenda Hernandez
[redacted]