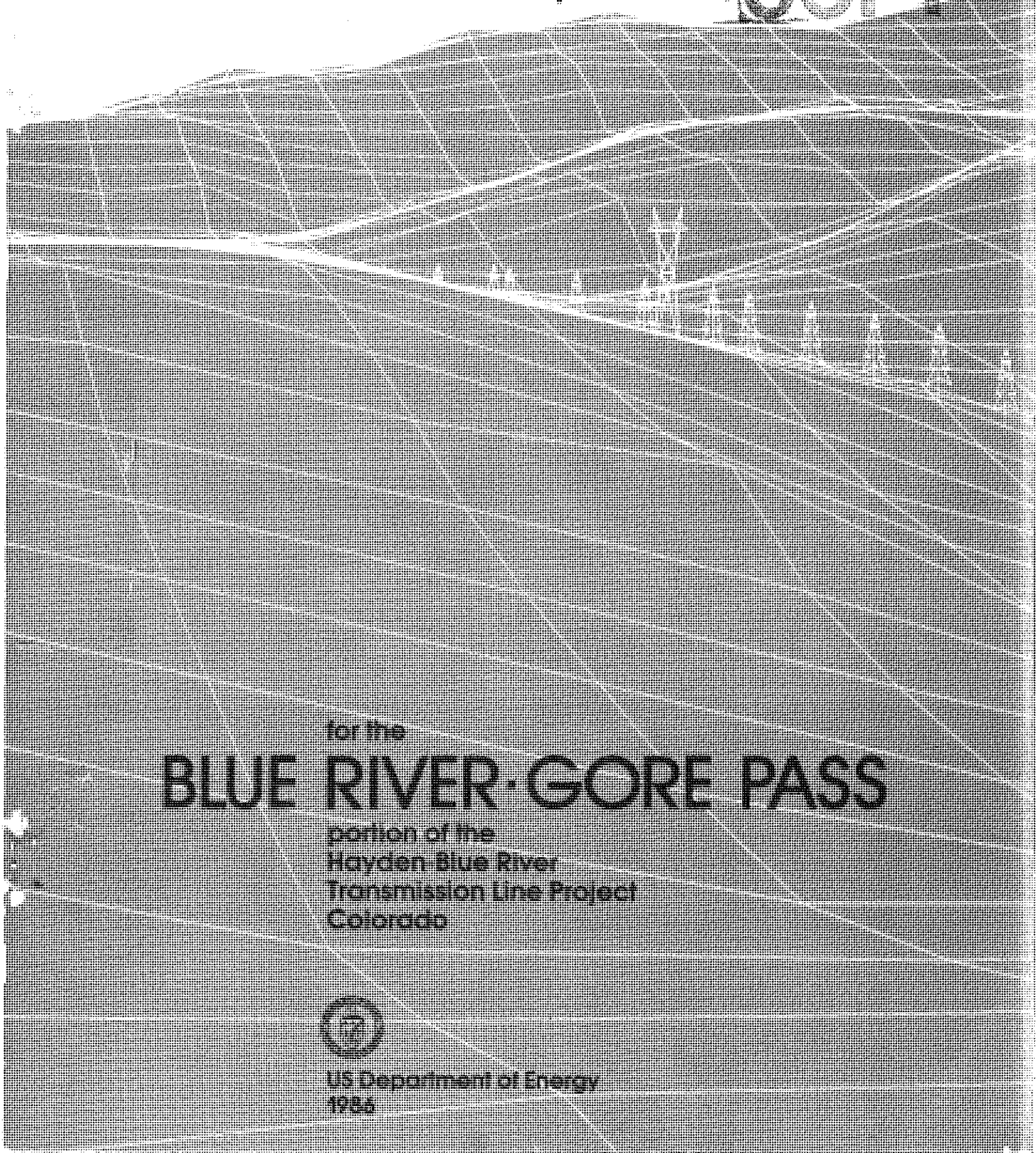
DOE/EIS-0116-FS

Final Supplemental Environmental Impact Statement



for the

BLUE RIVER·GORE PASS

portion of the
Hayden-Blue River
Transmission Line Project
Colorado

US Department of Energy
1986

COVER SHEET

DOE/EIS-0116-FS
Final Supplemental Environmental Impact Statement
for the
Blue River-Gore Pass Portion of the
Hayden-Blue River Transmission Line Project

Grand and Summit Counties, Colorado

Lead Agency

U.S. Department of Energy, Western Area Power Administration

Cooperating Agencies

U.S. Department of Agriculture, Forest Service
U.S. Department of Agriculture, Rural Electrification Administration
U.S. Department of the Interior, Bureau of Land Management

Abstract

This environmental impact statement (EIS) assesses the environmental effects of constructing, operating, and maintaining about 30 miles of 230/345-kV transmission line between the existing Gore Pass Substation northwest of Kremmling, Colorado, and a proposed new substation (not part of this action) near the Ute Pass Road. The action includes minor work at the Gore Pass Substation and at two taps, and also the removal of two existing transmission lines; a 69-kV line between Gore Pass Substation and Green Mountain Power Plant and a 115-kV line between Green Mountain Power Plant and Blue River Tap. The purpose of the project is to provide additional transmission capacity into the areas of Gore Pass, Granby, Green Mountain, Dillon, Climax, Oak Creek, and Keystone, and between the generation plants in western Colorado and the major load areas in eastern Colorado. Alternatives assessed include routing and design alternatives plus the alternatives addressed in the Hayden-Blue River Final EIS, issued by the Rural Electrification Administration in July, 1982.

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This final supplemental EIS must be used in conjunction with the Draft Supplemental EIS. The Final Supplemental EIS contains only changes and additions to the draft, comments on the draft, and responses to these comments.

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CHANGES & ADDITIONS TO THE DSEIS
CHAPTER 1 - SUMMARY AND INTRODUCTION

A. PROJECT BACKGROUND

The Western Area Power Administration (Western) in cooperation with the Bureau of Land Management (BLM) and the Forest Service (FS) has developed a supplemental environmental impact statement (EIS) for the Blue River-Gore Pass portion of the Hayden-Blue River transmission line project. This supplemental EIS addresses specific corridor routings within the Williams Fork and Blue River drainages, each previously designated as environmentally preferred and environmentally acceptable corridors, respectively, by the Rural Electrification Administration (REA).

The Blue River-Gore Pass portion of the Hayden-Blue River project was originally proposed in the REA EIS for the Hayden-Blue River 345-kV transmission line project (USDA-REA-EIS ADM: 82-2), with the difference that REA originally proposed to build a new Middle Park Substation near Kremmling. This proposal involved constructing, operating, and maintaining a 90-mile electric transmission line and associated facilities from Western's existing Hayden Substation near Hayden, Colorado, to the proposed Blue River Substation northwest of Dillon, Colorado. The proposed line would be constructed at 345-kV, but initially energized at 230-kV. Western, the FS, and the BLM cooperated in the development of the REA EIS.

REA issued a record of decision (ROD) for the project on September 30, 1982, which was followed by decisions from the Forest Service on November 7, 1982, and the BLM on November 9, 1982. REA issued a supplemental ROD on September 23, 1983. The decisions addressed the construction of the Hayden-Blue River 345-kV transmission line in one of two corridors. Specifically, the Forest Service's ROD granted an easement on forest lands to Tri-State Generation and Transmission Association, Inc. (Tri-State) for the construction of the Hayden-Blue River Transmission Line Project. However, Grand County and the Grand River Ranch Corporation opposed the decisions and appealed the Forest Service's ROD. This appeal was remanded by the Forest Service pending the outcome of local permitting activities, and construction was stayed on lands administered by the USFS. In June 1984, the Grand County Board of County Commissioners granted a permit to Tri-State for the Gore Pass to Hayden portion of the project between the Gore Pass Substation and the Grand County-Routt County border. In December 1984, Grand County withdrew its appeal for the portion of the project to which the County had granted a permit -- the Gore Pass to the Grand-Routt County line portion. Grand County did not withdraw its appeal for the portion of the line addressed in this supplemental EIS. The Forest Service, in responding to Grand County's withdrawal and in consultation with the Grand River Ranch Corporation, lifted the stay of construction for the Gore Pass to Hayden portion of the project. The Blue River-Gore Pass portion of the project is still under a construction stay by the Forest Service and appeal by Grand County and the Grand River Ranch Corporation.

Since completion of REA's EIS, Western, Tri-State Generation and Transmission Association Inc. (Tri-State), and the other participants in the Hayden-Blue River transmission line project have reviewed their long-range needs and have amended

the project participation agreement. The agreement now provides different ownership terms, cost and capacity sharing, and construction management responsibilities. Specifically, the new cost and capacity shares for the project are as follows: Tri-State, 34 percent; Colorado-Ute Electric Association (Colorado-Ute), 22 percent; Platte River Power Authority (Platte River), 22 percent; and Western, 22 percent. The previous participation percentages were: Tri-State, 50 percent; Colorado-Ute, 20 percent; Platte River, 20 percent; and Western, 10 percent. The agreement now provides for Tri-State to be project manager and to construct the northern portion of the line from Hayden to the existing Tri-State substation at Gore Pass near Kremmling, Colorado. It also provides for Western to be the project manager and to construct the southern portion from the Gore Pass Substation to the Blue River Substation. In the previous agreement, Tri-State was project manager and would have constructed the entire line from Hayden to Blue River.

These changes have occurred due to a reassessment of the project participants' needs. Tri-State's local and regional needs were reassessed, resulting in their reduced participation. Western's original participation was for the purpose of enhancing transmission line reliability. Since the Hayden-Blue River project was originally defined, Western has studied the underlying 115/69-kV system and recognized an opportunity to incorporate its needs into a more comprehensive plan. Western's participation in the Blue River-Gore Pass portion of the project and associated interconnections now allows Western to remove sections of the 115/69-kV system in the project area.

The network of alternative corridors addressed in this Supplemental EIS is generally contained within the two broad corridors addressed in the REA EIS. An exception occurs along the Williams Fork Mountains; the two corridors addressed in the REA EIS, though adjacent for much of their length, exclude an area approximately 8 miles long and 2.5 miles wide which is generally centered on the highest portion of the Williams Fork Mountains. Portions of several alternative corridors addressed in this Supplemental EIS are located within the area not addressed in the REA EIS.

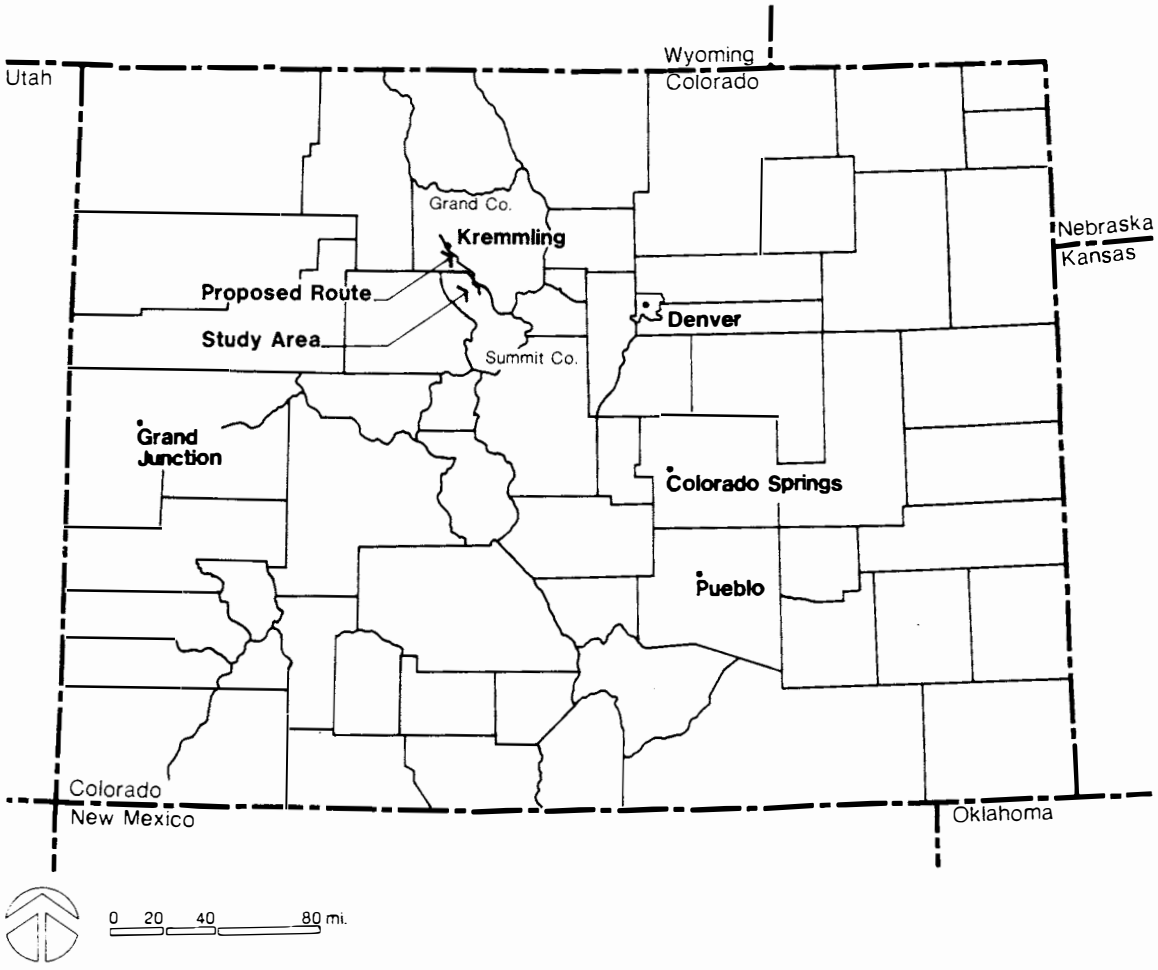
B. DESCRIPTION OF THE PROPOSED ACTION

Western proposes to construct, operate, and maintain a new transmission line in north-central Colorado. The project region is shown in Figure 1-1. The line will be a steel lattice structure, single circuit, 345-kV line, initially energized at 230-kV. It will extend from the existing Gore Pass Substation, seven miles northwest of Kremmling in Grand County, to the proposed new Blue River Substation that will be located in Summit County near the Ute Pass Road about one mile from its junction with State Highway 9.

As part of the action, the existing 115-kV wood H-frame transmission line between Blue River Tap and Green Mountain Power Plant will be removed. This line generally parallels Highway 9 and the Blue River or the southwest shore of Green Mountain Reservoir. The existing 69-kV line between Green Mountain Power Plant and Gore Pass Substation, which generally parallels Highway 9, will also be removed. The existing 138-kV line, which shares a common ROW with the existing 69-kV line between Green Mountain and Gore Pass, will remain in place.

Figure 1-1 Revised

Location Map



US Department of Energy
Western Area Power Administration

Blue River-Gore Pass Transmission Line

The action also includes enlargement of the Gore Pass Substation and minor work at the Blue River Tap, near the Ute Pass/Highway 9 junction. The Kremmling Tap near Highway 9 will also require minor modifications to connect the 69-kV line from Windy Gap to the 138-kV line.

In the DSEIS, the examination and comparison of various alternative corridors was explained (in Appendix A and Chapter 5), and Alternative D was presented as Western's preferred alternative.

As a result of public review of the DSEIS, several persons and organizations expressed opposition to Alternative D, both in letters of comment and at public hearings (see Chapter 7 of this FSEIS), on the grounds that Alternative D would impact hang gliding activities on the west side of the Williams Fork Range.

About this time, the Forest Service requested that Western evaluate a variant of Alternative D, to be located on the east-facing side of the Williams Fork Range, in order to compare visual impacts. Western then re-examined and compared the expanded network of corridors to include the Forest Service's suggested variant to D (referred to in this FSEIS as Alternative Corridor D2), and to take full account of the impact to hang gliding.

Western presented the results of this re-examination to the Grand County Board of Commissioners at a public meeting on October 22, 1985. Two representatives of the hang gliders were present at this meeting. The Commissioners adamantly objected to any alternative located in the Williams Fork drainage on the grounds that this would add a new transmission line to a pristine and remote area. They felt that this was particularly true of Alternative D2. They emphasized that this has been and always will be their position.

In an attempt to resolve this impasse, Western approached the President of the Rocky Mountain Hang Gliding Association regarding the possibility of developing an alternative hang gliding site to replace the site impacted by Alternative D. The Association and the local hang gliding organization (the Summit Soaring Society) reacted favorably to Western's suggestion, and worked with Western to identify an alternative site. Five sites were evaluated and a proposed site was identified. It is shown in Figure 5-5 in this FSEIS. Acceptance of Alternative D by the Rocky Mountain Hang Gliding Association and the Summit Soaring Society (on the condition that an alternative hang gliding site be constructed) is recorded in a letter from the Association to Western dated November 8, 1985. This letter appears in Appendix H in this FSEIS.

However, during Western's process of completing environmental evaluation of the alternative hang gliding site and producing this FSEIS, the Rocky Mountain Hang Gliding Association retracted its acceptance of Alternative D and of Western's offer to construct an alternative hang gliding site, and instead expressed support for Alternative D2. Letters explaining this retraction also appear in Appendix H in this FSEIS.

The characteristics of the proposed hang gliding area are described in detail on Pages 5-17 to 5-19 of this FSEIS. In summary, the similarity of the terrain of the new area to the terrain of the existing area, in terms of height, steepness, and orientation to the prevailing winds, indicates that the new area will be generally similar to the existing one in its suitability for hang gliding.

Despite the hang gliders' retraction of their support for Alternative D, Western believes that construction of the proposed alternative hang gliding area effectively mitigates the impacts of Alternative D to the activity and, therefore, Alternative D remains as Western's proposed alternative.

Western will continue to work with the Rocky Mountain Hang Gliding Association and the Summit Soaring Society to make adjustments in the location of the proposed hang gliding area to maximize its suitability and to precisely locate the takeoff and landing sites.

Western's selection of Alternative D as its preferred course of action is based on a cost evaluation; environmental, engineering, and maintenance feasibility considerations; and public and local officials' concerns.

Western believes it has made a good faith effort to objectively evaluate all reasonable alternative routes and their ensuing environmental impacts. Extensive meetings have been held with concerned organizations, as well as Federal and State agencies, county officials, and the general public. Thus, Western is confident that the environmental, engineering, economic, and other input obtained support the recommendation of Alternative D, including appropriate mitigation, as the most feasible route for this transmission line. Western recognizes that the proposal will not satisfy everyone, but feels it is the best compromise available that will allow the line to be built in a timely, cost effective, and environmentally acceptable manner and still provide a reasonable and safe project for all concerned.

C. PURPOSE AND NEED

Numerous studies have been completed which support the need for the Hayden-Gore Pass-Blue River transmission line. The need can be summarized as two distinct requirements:

- The areas around Gore Pass-Granby-Green Mountain (Tri-State and Western), Dillon-Climax (Public Service), and Oak Creek-Keystone (Colorado-Ute) need additional transmission support.

- There is insufficient transmission capacity between western Colorado and the load areas of eastern Colorado.

D. ALTERNATIVES INCLUDING THE PROPOSED ACTION

A number of alternatives was evaluated in response to the stated need for additional transmission capacity and improved power supply reliability in and around the project area. These alternatives include:

- No action
- Conservation of Energy
- Local Renewable Energy Systems
- Reduction in Quality of Electrical Service
- Alternative Transmission Technologies

- o Alternative Transmission Line Systems
- o Alternative Design Characteristics
- o Alternative Corridor Locations
- o The Proposed Action

An evaluation of these system and design alternatives concluded that construction of an aboveground, 345-kV line, initially energized at 230-kV, is the best option available.

A comprehensive study was conducted to develop and evaluate a network of alternative corridors for locating the proposed transmission line. This study process is described in detail in Appendix A in the DSEIS. The result of this process was the development of a network of 19 alternative corridors, as shown in Figure 3-2. Seven of the 19 alternative corridors were designated primary alternatives in order to simplify the presentation and reduce the bulk of this document. Primary alternatives, identified as Corridors A, B, C, D2, D, D1, and E, are alternatives which represent distinct routing choices and offer advantages over other corridor variations that were evaluated. The locations of the seven primary alternative corridors are shown in Figure 3-3.

The total impacts of each of the seven primary alternative corridors were then evaluated, as explained in Chapter 5 in the DSEIS. These impacts were compared, and the advantages and disadvantages of each corridor documented.

Next, the cost and engineering feasibility of each corridor were determined, taking into consideration the high altitude and existing poor access condition of major parts of the project area, and the need for accelerated construction schedules because of seasonal wildlife restrictions. The costs of constructing each of the seven primary alternatives are shown in Table 3-1. Alternative D was selected as the preferred corridor.

E. OVERALL COMPARISON OF IMPACTS BETWEEN PRIMARY ALTERNATIVES

This section highlights the relative level of impacts of the seven primary alternatives and provides a comparison between them. Table 1-1 is a summary comparison of the seven primary alternatives. A complete discussion of impacts is provided in Chapter 5 of the DSEIS. Changes and additions appear in Chapter 5 of this FSEIS.

As shown in Table 1-1, all seven primary alternatives cause significant impacts to visual resources. Alternative E clearly has the highest level of impacts, followed by Alternative A. Alternatives B, C, D2, D (the proposed alternative), and D1 have the least amount of impacts and have only relatively minor differences between them.

Alternative D1 has significant impacts on land use where it crosses 3.54 miles of a hang glider area. Alternative E has the next highest amount of impacts on land use (though none of these reaches the significant level), followed by Alternative A. The Proposed Alternative (D) and Alternatives B, C, and D2 have a similar, relatively low level of impact on land use.

Resource Area	Condition	Impact Type and Level		Corridor A (miles or number)	Corridor B (miles or number)	Corridor C (miles or number)	Corridor D2 (miles or number)	Corridor D (miles or number)	Corridor D1 (miles or number)	Corridor E (miles or number)
Soils and Vegetation	Sensitive Soil Units	Short Term	Moderate	2.29	3.37	3.16	3.07	4.26	3.56	0.08
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short Term	Moderate	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	--	0.49	0.49	0.49	0.49	0.49	--
			Significant	--	--	--	--	--	--	--
	Canada Goose Production Area	Short Term	Moderate	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	0.70	0.70	0.70	0.70	0.70	0.70	0.70
			Significant	--	--	--	--	--	--	--
	Duck Concentration Area	Short Term	Moderate	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	1.93	1.93	1.93	1.93	1.93	1.93	5.68
			Significant	--	--	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short Term	Moderate	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	2.50	2.50	2.50	2.50	2.50	2.50	20.44
			Significant	--	--	--	--	--	--	--
Land Use	Residential Site	Short Term	Moderate	--	--	--	--		--	(8)
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	(8)
			Significant	--	--	--	--	--	--	--
	Residential Subdivision	Short Term	Moderate	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	1.36	--	--	--	--	--	1.80
			Significant	--	--	--	--	--	--	--
	Recreation Site	Short Term	Moderate	--	--	--	--	--	--	(3)
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	(3)
			Significant	--	--	--	--	--	--	--
	Recreational Trail Crossing	Short Term	Moderate	(1)	(1)	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	(1)	(1)	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
	Hang-Glider Area Zone where low level flight sometimes occurs	Short Term	Moderate	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--
			Significant	--	--	--	--		**3.54**	--
	Developed Recreation Area	Short Term	Moderate	--	--	--	--	--	--	2.41
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	2.41
			Significant	--	--	--	--	--	--	--
Visual Resources	Visual Impacts	Short Term	Moderate	0.76	--	--	--	--	--	0.49
			Significant	--	--	--	--	--	--	--
		Long Term	Moderate	13.20	10.80	10.98	10.80	11.50	12.78	10.85
			Significant	**3.33**	**2.58**	**2.58**	**2.58**	**2.58**	**2.58**	**20.59**
Total Land Affected in Acres		Short Term		143.3 ac.	137.6 ac.	126.4 ac.	116.9 ac.	139.5 ac.	125.4 ac.	74.0 ac.
		Long Term		54.3 ac.	52.0 ac.	44.9 ac.	39.7 ac.	49.0 ac.	44.1 ac.	19.6 ac.
Total Route Length in Miles				31.63	30.66	29.28	30.08	33.84	29.77	31.76

Legend

2.50 - Linear Miles of Moderate Impact
3.54 - Linear Miles of Significant Impact
(3) - Number of Occurrences of Moderate Impact

Notes

For locations of corridors, see Figure 3-3

Table 1-1 Revised
Impact Quantification Summary

Two resource categories are included within the moderate but non-significant impact rating -- soils/vegetation and wildlife. In terms of soils and vegetation disturbance, Alternative E has the lowest level of impact, primarily because of the availability of existing access. Alternative A, which traverses more relatively level terrain, has the next lowest level. The Proposed Alternative (D) and Alternatives B, C, D2, and D1 have a similar level of impacts in this resource category.

All the alternatives have a similar level of impact on wildlife resources with the exception of Alternative E, which has a much greater effect on duck concentration areas and bald eagle winter concentration areas.

All the alternatives have little or no adverse effect on cultural and paleontological resources, hazards, and surface water. These resource categories, therefore, provide no basis on which to distinguish between alternative corridors.

Based on the above discussion, Alternative E was identified as having the highest level of adverse impacts. Alternative D1 is the next most impacting alternative. The overall impact levels of Alternative A were in the mid-range of the alternatives studied. The Proposed Alternative (D) and Alternatives B, C, and D2 have similar, relatively low levels of adverse impacts, with only minor differences to distinguish between them.

CHANGES AND ADDITIONS TO THE DSEIS
CHAPTER 2 - PURPOSE AND NEED

Pages 2-3 to 2-5

Replace Section A.3.(a) with the following:

3. SPECIFIC NEEDS OF PROJECT PARTICIPANTS

(a) Tri-State

Tri-State needs the Hayden-Blue River 230-kV transmission line to support the loads of its member cooperative in the Gore Pass-Granby-Green Mountain area. Consumer load in this area is served by Tri-State's member, Mountain Parks Electric, Inc. (Mountain Parks), of Granby, Colorado.

The 1983 and 1984 load forecasts (summer and winter) for Mountain Parks are shown in Table 2-1. Mountain Parks' 1984 load forecast is approximately 30,000 kW lower than the 1983 load forecast for the summer seasons beyond 1984 because the Windy Gap Water Project load is to be served by Western now instead of Mountain Parks. The 1983 load projection presented in Table 2-1 is from Tri-State's approved July 1983 Load Forecast. The 1984 load projection is from Tri-State's approved July 1984 Load Forecast.

There are three transmission sources into the Gore Pass-Granby-Green Mountain area:

1. Hayden-Gore Pass 138-kV transmission line

2. Climax-Green Mountain 115-kV transmission line

3. Estes-Granby 69-kV transmission line

An examination of 1988 projected summer conditions, based on the 1983 load projection, reveals the following voltage conditions within the Gore Pass-Granby-Green Mountain area (Western and Tri-State, 1983):

1. Under normal operating conditions during peak 1988 loads, the Windy Gap voltage could be as low as 93 percent of the rated 138 kV. The minimum acceptable voltage is 95 percent. Marginally acceptable voltages of 95 and 96 percent of rated 138 kV would be experienced on the Gore Pass and Green Mountain lines.

TABLE 2-1
(Revised)

PROJECTED LOADS (DEMAND)
MOUNTAIN PARKS ELECTRIC, INC.

	1983 Load Forecast		1984 Load Forecast	
Year	Summer (kW)	Winter (kW)	Summer (kW)	Winter (kW)
1982	25,652 (actual	40,189 (actual	25,652 (actual)	40,189 (actual)
1983	28,144 (actual)	44,882 (12/83 act.)	28,144 (actual)	44,882 (actual)
1984	27,870	39,250	31,194 (actual)	48,243 (actual)
1985	57,780 (1)	41,120	29,250 (1)	58,960
1986	58,820	42,950	30,650	66,010
1987	59,860	44,790	32,030	68,820
1988	60,870	46,630	33,370	71,660
1989	61,900	48,470	34,760	74,490
1990	62,940	50,310	36,130	77,330
1991	63,960	52,160	37,520	80,140
1992	65,010	53,980	38,900	82,950
1993	66,020	55,840	40,240	85,790
1994			41,620	88,570

(1) The large difference in the summer 1985 demand between the 1983 load forecast and the 1984 load forecast is due to the fact that Mountain Parks was not able to obtain the right to serve the Windy Gap Water Project load. The Windy Gap Water Project load will be served by Western Area Power Administration.

Note: a. Western is responsible for providing transmission service for a portion of the load served by Tri-State. In addition, Western serves directly three intermountain diversion water delivery pumping loads, totaling approximately 55,000 kW in the summer and 25,000 kW in the winter. All of the electrical load in the Gore Pass-Granby-Green Mountain area is served by either Tri-State or Western.

b. Summer - May through September
Winter - October through April

2. During an outage of the Hayden-Gore Pass 138-kV line, voltages as low as 85 percent, 86.2 percent, and 87.9 percent of nominal voltage (138 kV) could be experienced at the Windy Gap Substation, Gore Pass Substation, and Green Mountain Substation, respectively. The minimum acceptable voltage is 92 percent of nominal for this emergency condition.

3. During an outage of the Climax-Green Mountain 115-kV line, voltages as low as 90 percent of nominal could be experienced at the Gore Pass Substation. The minimum acceptable voltage is 92 percent of nominal for this emergency condition.

The three conditions described above demonstrate the need for system additions prior to 1988. It should be noted that all the case studies contained in this section are based on Mountain Parks' 1983 projections and not on the 1984 projections. The major difference between Mountain Parks' 1983 load forecast and the 1984 load forecast for the summer season is the Windy Gap Water Project load. This load is now being served by Western instead of Mountain Parks. However, the total summer load in the Mountain Parks area is projected to increase slightly in the 1984 load forecast, and the results of the case studies are still valid.

After accounting properly for the Windy Gap Water Project load, Mountain Parks' load experienced in the summer of 1984 (31,194 kW) actually exceeded that expected for the summer of 1988 in the 1983 load forecast (60,870 kW - 30,000 kW = 30,870 kW).

An examination of 1988 projected winter conditions, based on the 1983 load projections, reveals similar low voltage problems in the Gore Pass-Granby-Green Mountain area (Western and Tri-State, 1983). Under normal operating conditions during peak loads, only marginally adequate voltage on the transmission system can be maintained. During an outage of the Hayden-Gore Pass 138-kV line, voltages as low as 90 percent of nominal could be experienced at Windy Gap and Gore Pass Substations. Mountain Parks' load experienced in the winter of 1984 (48,243 kW) actually exceeded that expected for the winter of 1988 in the 1983 load forecast (46,630 kW). System additions are required to adequately serve both the summer and winter loads currently being experienced.

The updated 1984 load forecast for the winter season reflects a substantial increase over the 1983 load forecast. The severity of the low voltages during both the summer and winter seasons in the Gore Pass-Windy Gap area and the projected growth in the area indicate that system additions are required and should be constructed in a timely manner.

The addition of the Hayden-Blue River line will provide adequate and long-term bulk transmission support to the loads in the entire Gore Pass-Granby-Green Mountain area. If the Hayden-Blue River line is not constructed in conjunction with the other participants, it is expected that Tri-State would initiate an independent 230-kV between Hayden and Gore Pass to support these loads.

Tri-State owns approximately 200 MW of generating capacity at the Craig Station and the right to 180 MW of capacity in the Craig-Ault 345-kV line. The Craig-Ault line is the only line available to deliver Craig generation to the Tri-State load in eastern Colorado and Wyoming. If every electric utility owning transmission between eastern and western Colorado schedules the use of its entire owned capacity rights, the transmission system would not be strong enough to support everyone's simultaneous usage. Under such a transmission system limitation, Tri-State's capacity allocation is 140 MW.

The addition of the Hayden-Blue River 230/345-kV line will allow Tri-State to transfer all of its generation from the Craig Station to its members loads under normal conditions. Assuming that the transmission system is operating under normal conditions, generation curtailments will no longer be required at the Craig Station due to transmission limitations between eastern and western Colorado.

An additional benefit that the Hayden-Blue River line will provide to Tri-State is a second path of power from the Craig Station. Currently, the Craig-Ault 345-kV line is the only means of delivering Tri-State's Craig generation to its members' loads in eastern Colorado and Wyoming. The Hayden-Blue River line will provide an alternative path which is necessary to improve the reliability of the generation facilities.

Tri-State is reducing its participation in the Hayden-Blue River line from 50 percent to 34 percent. A recent study (1983 Yampa Operating Study) indicates that the reduced participation will allow full use of Tri-State's generation at Craig under normal transmission system conditions. If the Craig-Ault 345-kV line is out of service, Public Service will wheel Tri-State's entire generation capacity at Craig Station, less the load of Mountain Parks, to eastern Colorado. During "normal" operations, Public Service Company will accept up to 110 MW at the Blue River and Weld interconnections for delivery to other points of interconnection with Tri-State.

Page 2-8

Replace the third paragraph of Section B.1. with the following:

> The Rock Creek/Muddy Creek Project, proposed by the Colorado River Water Conservation District, would involve the construction of a reservoir, either on Muddy Creek near Kremmling or on Rock Creek near Gore Pass. The U.S. Forest Service is preparing an Environmental Impact Statement for the project. If a hydroelectric component becomes part of the project, a transmission line could be built to interconnect with the area's transmission system.

Table 2-2, following Page 2-9

Replace the first page of Table 2-2 with the following:

TABLE 2-2
(Revised)

FEDERAL AND STATE AUTHORIZING ACTIONS

Project Feature	Nature of Action	Authority
	DEPARTMENT OF AGRICULTURE	
	U.S. Forest Service, Rocky Mountain Regional Office, White River and Routt National Forests, Middle Park and Dillon Ranger Districts	
Environmental Analysis	Cooperating Agency	40 CFR 1501.6
Decision on the Project	Record of Decision	40 CFR 1505.2
Technical Site Investigations and Areas Required Only During Construction	Issue Temporary Use Permits	36 CFR 251.54(8)
Power Transmission System (including access)	Grant Special Use Permit following Environmental Process	Title V of Federal Land Policy and Management Act of 1976 (90 Stat. 2776, et seq.)
	DEPARTMENT OF AGRICULTURE	
	Rural Electrification Administration	
Produce Informational Supplement. September 1985	Announce changes in participation in the project	7 CFR 1794
Gore Pass to Blue River Transmission Line Project	Approval of financing assistance for construction and operation of the proposed project for two of the participants	Rural Electrification Act of 1936 (49 Stat. 1363; 7 U.S.C. Chap. 31; 7 U.S.C. 90-950(6))
Environmental Analysis	Cooperating Agency	40 CFR 1501.6

Section D.2. Add the following after the last paragraph:

Western conducted public hearings on the DSEIS in Kremmling and Silverthorne, Colorado, on August 6 and 8, 1985, respectively. A verbatim transcript of each hearing was taken by a Colorado certified court reporter, with the exception of a portion of each hearing which was devoted to answering questions and providing clarifications on the project and Western's environmental review process. Each hearing was again opened after the question and clarifications portion to provide persons a second opportunity to comment. Copies of the public hearing transcripts are available for public inspection at Western's Loveland Area Office, 5555 East County Road 26, Loveland, Colorado; and Western's Headquarters Office, 1627 Cole Boulevard, Building 18, Denver West Office Park, Golden, Colorado.

Summaries of the concerns expressed at the hearings are provided in Chapter 7 of this FSEIS, with references to the portions of the FSEIS where these concerns are addressed.

In addition to public hearings held by Western, other meetings were held with local governments. These include a meeting with the Lower Blue River Planning Commission on August 2, 1985, a meeting with the Grand County Commissioners on August 6, 1985, a public hearing with the Summit County Commissioners on August 21, 1985, a public hearing with the Summit County Commissioners on September 5, 1985, and a meeting with the Grand County Commissioners on October 22. Meeting notes from these meetings are available for public review at Western's Loveland Area Office.

CHANGES AND ADDITIONS TO THE DSEIS
CHAPTER 3 - ALTERNATIVES INCLUDING THE PROPOSED ACTION

Page 3-8

Replace Section G.5 with the following:

5. SINGLE CIRCUIT 230/345-kV LINE ON NEW OR EXISTING ROW

Under this system alternative, a single circuit lattice structure transmission line, initially to be energized at 230-kV, designed to be operated at 345-kV, would be constructed between the new Blue River Substation and the existing Gore Pass Substation. This alternative would use new ROW and, where appropriate, segments of the ROWs of the existing Blue River Tap to Green Mountain Power Plant 115-kV line and/or the Green Mountain Power Plant to Gore Pass Substation 69-kV line, both of which would be removed. The existing Green Mountain Power Plant to Gore Pass Substation 138-kV line would be retained. The Kremmling Tap and the Gore Pass Substation would be modified.

o Advantages:

- Opportunity for use of existing ROWs where appropriate (though all of these would have to be widened).
- Opportunity to avoid many sensitive environmental conditions along portions of the existing ROWs.
- Freeing up all or parts of existing ROWs has beneficial effects on wildlife, land use, and visual resources.
- Relatively little substation/tap work.
- Meets all project needs.

o Disadvantages:

- Existing ROWs pass through areas of sensitive wildlife, land use, and visual conditions.

This system alternative would maximize the benefits of the project and provide the opportunity to minimize environmental impacts. It is the proposed alternative.

Page 3-9

Replace Section H.2.(a) with the following:

(a) Construction Using Single or H-Frame Steel or Concrete Pole Structures

These structure types are common with 230/345-kV lines and are customarily used where views of the line within the viewer's foreground are inevitable and visual quality is important as, for example, in urban areas, or where a line is adjacent to a recreation area. At longer distances, the types are often more visible than lattice types since their individual structural members are so much larger.

Because most segments of the proposed line are viewed at considerable distances, these structure types are not proposed for the project. However, in order to respond to a concern of Summit County, a photographic simulation has been produced to illustrate the appearance of the single pole structure type and allow comparison with the proposed lattice type. This simulation has been reproduced in black and white at report size, and appears in the FSEIS as Figure 5-11b. Figure 5-11a is a simulation showing the lattice structure type from the same viewpoint.

Pages 3-10 and 3-11

Replace Section I with the following:

I. ALTERNATIVE CORRIDOR LOCATIONS

A comprehensive study was conducted to develop and evaluate a network of alternative corridors. This study process is described in detail in Appendix A. The result of this process was the development of a network of 19 alternative corridors, as shown in Figure 3-2 in the FSEIS. At the northwest end of the study area, there is only one corridor in the network of alternatives. This corridor follows the established transmission line ROW for 7.5 miles between Gore Pass Substation and a point west of Junction Butte. In this area, no alternative corridors exist that offer any advantages over the existing one. Routes farther to the southwest would conflict with the potential wild and scenic designation of the Colorado River, the scenic Gore Canyon Area, and probably with a bald eagle roost. Routes farther to the northeast would conflict with the community of Kremmling, the Kremmling Airport Clearance Zone, and possibly with presently undisturbed and sensitive wildlife conditions along the Colorado River.

As described in Appendix A, seven of the 19 alternative corridors were designated primary alternatives in order to simplify the presentation of study results and reduce the bulk of this document. Primary alternatives are alternatives which represent distinct routing choices or offer advantages over other corridor variations that were evaluated. The locations of the seven primary alternative corridors are shown in Figure 3-3 in the FSEIS.

The total impacts of each of the seven primary alternative corridors were then evaluated, as explained in Chapter 5. These impacts were compared, and the advantages and disadvantages of each corridor documented.

Next, the cost and engineering feasibility of each corridor were determined taking into consideration the high altitude and roadless condition of major parts of the project area, and the need for accelerated construction schedules because of seasonal wildlife restrictions. The costs of constructing each of the seven primary alternatives are shown in Table 3-1 in the FSEIS. Alternative D, the least expensive of the environmentally acceptable corridors, was selected as the preferred corridor.

Page 3-11

Replace the fourth paragraph of Section J.1. with the following:

> As described in Appendix A, various alternative corridors were examined and Alternative D was selected as the proposed corridor.

Table 3-1, following Page 3-11

Replace Table 3-1 with the following:

TABLE 3-1
(Revised)

COST COMPARISON OF
PRIMARY ALTERNATIVE CORRIDORS

	Alternative A	Alternative B	Alternative C	Alternative D2	Alternative D	Alternative D1	Alternative E
Length (Miles)	31.63	30.66	29.28	30.08	33.84 [1]	29.77	31.76
Road Cost	$ 470	$ 540	$ 370	$ 210	$ 370	$ 350	---
Line Cost	9,030	9,080	8,850	9,230	8,760	8,610	$ 7,840
Subtotal, Construction Costs	**$ 9,500**	**$ 9,620**	**$ 9,220**	**$ 9,440**	**$ 9,130**	**$ 8,960**	**$ 7,840**
ROW Costs	360	210	150	180	180	180	420
Engineering Costs	1,040	1,060	1,010	1,040	1,000	990	860
Environmental Costs	440	440	440	440	490 [1]	440	440
Admin. and General Costs	1,800	1,830	1,750	1,790	1,740	1,700	1,490
GRAND TOTAL	**$13,140**	**$13,160**	**$12,570**	**$12,890**	**$12,540**	**$12,270**	**$11,050**

All costs in $1,000's

Basis for Cost Estimate:

- o Base cost of line per mile - $246,400
  - Increase from 10% to 40% for terrain, geology, forest cover, and access for slopes up to 30%
  - Increase by 60% where there is no access and slopes are in excess of 30%
- o Base cost of access roads per mile - $20,000
  - Length increased for rough terrain and accessibility to existing roads.
- o ROW based on mileage of line on private lands.
- o Engineering costs assessed at 11% of construction costs excluding acceleration costs.
- o Administration and general costs assessed at 19% of construction costs.
  - This also includes contingencies.

Note:

[1] The length of Alternative D and its cost include 3.4 miles and $50,000 for an access road to an alternative hang gliding area (2.3 miles upgrading of existing road and 1.1 miles of new road). This is provided as mitigation for the impacts of Alternative D on an existing hang gliding area.

CHANGES AND ADDITIONS TO THE DSEIS
CHAPTER 4 - THE AFFECTED ENVIRONMENT

Page 4-1

Replace the first paragraph of Section A with the following:

A. INTRODUCTION

This chapter is a description of the existing environmental conditions that, when considered as constraints, influenced the location of the network of alternative corridors, as described in Appendix A; or that could be impacted by any part of the network of alternative corridors, resulting in known quantities of impacts that allow comparison of the alternative corridors, as described in Chapter 5.

Page 4-6

Section E.2. Replace the last paragraph on Page 4-6 with the following:

The vegetation of the project area is a complex mosaic resulting from the interaction of climate, elevation, aspect, soils, and past and present disturbances. Moisture is the major limiting factor affecting the distribution of vegetation (James and Marr, 1966). The vegetation types of the project area are characterized by lower and upper elevational limits locally modified by topography. North- and south-facing slopes often have contrasting vegetation. The vegetation characteristics of the project area have been modified by disturbance. Much of the forested area burned in major fires late in the nineteenth century, while other areas have been logged. Consequently, many of the vegetation types present in the project area represent successional stages in the progression towards stable climax communities.

Page 4-11

Replace the first, second, and fifth paragraphs of Section F.2.(a) with the following:

(a) Big Game

Large mammals, particularly deer and elk, are of special concern in Colorado because of their economic and recreational value, sensitivity to disturbance and habitat modification, and limited reproductive potential compared to most smaller species. Of particular importance in the life histories of big game species is "critical" range, including severe winter

range (used during severe winters), winter concentration areas (used by a large percentage of the herd), and production areas, especially elk calving areas. These areas may be classified as critical because they limit the population size and/or are used during a time of the year when the animals are particularly vulnerable or sensitive.

Deer and elk critical winter range are mostly mutually exclusive, deer generally preferring lower elevation sagebrush and mountain brush, and elk preferring slightly higher elevations with better tree cover. The longer legs of elk allow them to move freely through deeper snow, and their larger bodies increase their tolerance of cold temperatures.

Critical big game ranges are fairly extensive in the project area, reflecting the vegetational and topographic diversity afforded by the Williams Fork Mountains and adjacent terrain. The most extensive such ranges are deer and elk critical winter range between the Blue River and the southwest-facing flanks of the Williams Fork Mountains. Smaller critical winter range areas are mapped along lower slopes between the Williams Fork Mountains and the lower Williams Fork River, and between the Blue River and Gore Range.

Page 4-12

Replace the first paragraph of Section F.2.(c) with the following:

(c) Gamebirds

Critical ranges or important use areas for these species are sage grouse strutting grounds and winter range, waterfowl concentration areas, and Canada goose production areas.

Pages 4-19 and 4-20

Replace Section H.6.(d) with the following:

(d) Hang Glider Areas

At the time the DSEIS was produced, Western believed (based on information provided in October, 1984, by Front Range Hang Gliders) that only launch and landing zones were important. Neither the Forest Service nor the Bureau of Land Management had any specific information on hang gliding in the area. Take-off and landing zones were mapped on Figure 4-9 in the DSEIS.

Since distribution of the DSEIS, new information has come to light showing that there is a larger area surrounding the landing and take-off areas where low level flight sometimes occurs, especially when conditions deteriorate during flying, and that this larger area is, therefore, also of concern.

This area can be described as follows:

- Northeast boundary. A line 1,500 feet northeast of the main ridge of the Williams Fork Mountains and parallel to it.

- Northwest boundary. The ridge that forms the northwest edge of the gulch known to hang glider pilots as "Freddies Funnel." (This is the gulch that descends from the main ridge of the Williams Fork range about one mile northwest of the radio towers.)

- Southwest boundary. The existing transmission lines parallel to Highway 9, and the shore of Green Mountain Reservoir.

- Southeast boundary. The ridge that forms the northwest edge of Mumford Gulch and Cox Gulch.

This area is shown on Figure 5-5 in this FSEIS. There are existing artificial obstructions within this flight zone: two existing transmission lines are located along its western edge; an existing distribution line cuts through the center of the zone, passing within 500 feet of the main launch area; and a group of communication towers is located on top of the ridge, immediately above the main launch area. Flights outside the area where low level flight sometimes occurs are long distance, cross-country flights which are generally started at great altitude from above the launch areas.

Flying at the Williams Fork Mountains takes place when the winds are from the western half of the compass, though it is better the closer the wind is from due west. There is also some flying in calm conditions.

Flight patterns were observed on Saturday, August 31, 1985. Conditions were good for flying, with moderately strong west to northwest winds. Except at takeoff, landing, and (in one case) during a deliberate low pass, most flying took place a minimum of several hundred feet above the terrain. A total of 13 pilots used the area during the day. Two were in the air at 1:00 p.m., five in the air between 2:00-4:00 (two departed on cross-country flights, one landed), and eight in the air after 4:00 p.m. When conditions are good, most pilots make one or, at most, two flights of up to several hours duration in a day.

The season of use at the Williams Fork Mountain depends on when the access road is open, and usually extends from early May to the end of October. If one assumes a 25-week season, two weekend days flying per week, 5-15 persons per weekend day, and 20% additional use during the week, the person days per year of hang gliding would probably average about 600.

The western slope of Junction Butte, near Kremmling, is also used for hang gliding when permission can be obtained from the Colorado Division of Wildlife, which is only during the fall hunting season. The landing area at Junction Butte is in the angle between the 69-kV line to Windy Gap and the two existing transmission lines that parallel the highway.

There are few other popular hang gliding sites in the state. These include sites at Breckenridge, Aspen, and Mount Princeton, which have relatively short seasons and are mostly suitable only for expert pilots, whereas the Williams Fork site is also suitable for intermediate level pilots.

There are currently about 6,000 hang glider pilots who are members of a nationwide organization. The number of participants in the sport is variously estimated at 8,000 to 25,000. There were four deaths nationwide from hang glider accidents in 1984.

Section M.3.(b). Replace the second paragraph on Page 4-34 with the following:

> The first important modifying variable is the condition of the land. A modification such as a road or transmission tower on a steep, open, sage-covered hillside would probably be much more visible than the same modification in an area of flat terrain covered by a mixture of forest types. Similarly, the addition of a new access road would be more noticeable in a landscape setting that was in a natural condition than in one already containing existing road scars. The condition of the landform, vegetation, and existing structures was, therefore, inventoried as a way of understanding these modifying influences. Figure 4-12 contains an indication of how much disturbance or difference would be created by the proposed action based upon the specific landscape and structure conditions occurring there. This is shown above each alternative corridor's centerline in the Figure as H (high), M (moderate), L (low), VL (very low), or N (none) over a slash (/) followed by a second H, M, L, VL, or N rating. The first rating is the assessed degree of change or disturbance that would be caused by the project to the landform or vegetation, whichever is higher. The second rating is the assessed degree of change for structures. In general, ratings were assessed higher for landforms which were steeper and uniform in slope, and lower for flatter slopes or highly complex landforms. Vegetation was considered more sensitive where short and open to view, and less revealing in heavily forested areas, especially flat, forested areas where trees would provide the greatest screening (see visibility discussion below). Also areas containing a complex mixture of vegetation forms and densities were rated low because of the broken pattern creating a camouflage effect. Transmission line structures must be considered within the context of the extent and character of existing structures and their potential combined effect in the existing setting. These considerations are based on the condition of the land only, irrespective of the further modifying influence of visibility which is necessary to assess the overall visual effect.

Add the following at the end of Section M.4.(a):

> The above analysis was conducted as part of the initial corridor siting analysis and played no part in the assessment of impacts along the detailed network of alternatives. The impact process is discussed in Subsection (b) following.

Page 4-36

Replace the fourth paragraph of Section N.1. with the following:

> Economic developments readily explain the way population is distributed. Almost 90% of the growth since 1970 has occurred in two areas -- the strip from Winter Park to Granby and the Kremmling area of western Grand County.

Page 4-37

Section N.1. Replace the first table on Page 4-37 with the following:

	1975	1979
Labor Force, Grand County	4,026	5,036
Total Employment, Grand County	3,887	4,940
Unemployment Rate, Grand County	3.5	1.9
Unemployment Rate, State of Colorado	5.2	3.2

CHANGES AND ADDITIONS TO THE DSEIS
CHAPTER 5 - ENVIRONMENTAL CONSEQUENCES

Pages 5-1 and 5-2

Section A. Replace the last paragraph on Page 5-1 with the following:

> If, for example, a new transmission line is to be built parallel to an existing one, the strike hazard to waterfowl and other birds will be less than if the line had been located on new ROW, since the new parallel line only adds to an existing obstruction. Similarly, with effects on visual quality, it would generally be better to parallel an existing line that has been well sited than to create a new visual impact in an otherwise natural area of equal or greater visual value. If an access way already exists and can be used during construction, the total level of disturbance will be less than if a new access way is required and will be restricted primarily to the disturbance at structure sites. Similarly, when helicopter or other special roadless construction is used, the area of disturbance is considerably reduced. Thus, in order to assess impacts accurately, it is necessary to define the type of action along each segment of the network of potential corridors. The types of action are shown on Figure 5-1. The levels of potential impact of each type of action on each environmental condition appear on Tables 5-8 through 5-15 in the Draft SEIS. (A revised version of Table 5-12b appears in this Final SEIS.)

Page 5-2

Section A. Replace the third paragraph on Page 5-2 with the following:

> Other variables strongly affect impact levels. The most notable of these is mitigation. A very extensive and complete set of mitigation measures will be implemented as part of the project. Some of these measures essentially eliminate impacts that otherwise would be expected to occur, as with seasonable avoidance of crucial wildlife habitat. The proposed mitigation measures for each of the environmental conditions assessed are explained in this chapter and listed on Tables 5-8 through 5-15 in the Draft SEIS. (A revised version of Table 5-12b appears in this Final SEIS.)

Page 5-3

Section A. Replace the fourth paragraph on Page 5-3 with the following:

The three above impact levels were evaluated on both a short-term and long-term basis. Short-term impacts are those affecting a resource during the period of construction of the project. They derive from the activities required to construct the line or from the disturbance caused by these activities. Examples of short-term impacts are those on wildlife from construction in a crucial zone during the period of use, or the effects of construction disturbance (noise, dust, and vibration) on adjacent residential sites. Long-term impacts are those affecting a resource during the entire life of the project. They derive from the presence of the line, the action of passing electricity through its conductors, or from the periodic or emergency maintenance operations it requires. Examples of long-term impacts include bird mortality from striking the overhead ground wires and most visual impacts.

Pages 5-3 and 5-4

Section A. Replace the last paragraph on Page 5-3 and the second paragraph on Page 5-4 with the following:

After assigning impact levels according to the considerations outlined above and examining the entire network of potential corridors with respect to its effect on all of the relevant environmental conditions that occur in the study area, the following environmental conditions were determined to be potentially subject to significant or moderate impacts:

o	Geology	- Landslide deposits (some areas potentially active).
o	Soils/Vegetation	- Sensitive soil units.
o	Wildlife	- Sage grouse strutting ground. - Canada goose production area. - Duck concentration area. - Bald eagle winter concentration area.
o	Land Use	- Residential site. - Residential subdivision. - Recreation site. - Recreational trail crossing. - Hang glider area; zone where low level flight sometimes occurs. - Developed recreation area.
o	Visual Resources	- Visual impacts.

Table 5-1 in this FSEIS quantifies the impacts of each of the 28 links that make up the network of potential corridors and lists the links in each of the 19 feasible corridors that can be defined through the network. The corridors can be identified on Figure 3-2 in this FSEIS. The exact locations of the impacts are shown on Figure 5-2 in the DSEIS and on revised Figures 5-3 through 5-6 in this FSEIS.

Pages 5-4 and 5-5

Replace Section B with the following:

B. OVERALL COMPARISON OF IMPACTS BETWEEN PRIMARY ALTERNATIVES

This section highlights the relative level of impacts of the seven primary alternatives and provides a comparison between them. Table 5-2 is a summary comparison of the seven primary alternatives; Tables 5-3 through 5-9 provide a detailed accounting of the specific conditions which make up the ratings shown in Table 5-2. These tables list all the environmental conditions that are impacted at moderate or significant levels by any part of the network of primary alternative corridors. With each of the primary alternative corridors, A through E, many of the environmental conditions are not impacted at these levels; therefore, the tables show only blanks for these conditions. A complete discussion of impacts is provided in Section C of this chapter.

As shown in Table 5-2, all seven primary alternatives cause significant impacts to visual resources. Alternative E clearly has the highest level of impacts, followed by Alternative A. Alternatives B, C, D2, D (the proposed alternative), and D1 have the least amount of impacts and have only relatively minor differences between them. These ratings are based primarily on the fact that Alternative E has 20.59 miles of significant, long-term visual impact, compared to 3.33 miles for Alternative A, and 2.58 miles for the Proposed Alternative (D) and Alternatives B, C, D2, and D1.

Alternative D1 has significant impact on land use where it crosses 3.54 miles of a hang glider area. Alternative E has the next highest amount of impacts on land use (though none of these reaches the significant level), followed by Alternative A. The Proposed Alternative (D) and Alternatives B, C, and D2 have a similar, relatively low level of impact on land use. Alternative E's higher impact rating derives from the fact that it is located in close proximity to eight developed residential sites and passes through two subdivisions, as well as being located close to three recreation sites and through a developed recreation area for a distance of 2.4 miles. Alternative A is located through a subdivision for a distance of 1.4 miles and crosses an established USFS recreational trail. Alternative B avoids the subdivision but makes the same trail crossing as Alternative A. The Proposed Alternative (D) and Alternatives C and D2 have only minor impacts on land use. Alternative D crosses the same hang gliding area as D1, but its impact on the activity is mitigated by provision of an alternative hang gliding area elsewhere.

TABLE 5-2
(Revised)

IMPACT COMPARISON OF PRIMARY ALTERNATIVE CORRIDORS

		Corridors						
		A	B	C	D2	D	D1	E
SIGNIFICANT IMPACTS								
Visual Resources	Impact Level	■	■	■	■	■	■	■
	Ranking	○	+	+	+	+	+	−
Land Use (residential and recreational)	Impact Level	◪	◪	□	□	□	■	◪
	Ranking	○	+	+	+	+	−	−
MODERATE BUT NON-SIGNIFICANT IMPACTS								
Wildlife	Impact Level	◪	◪	◪	◪	◪	◪	◪
	Ranking	+	○	○	○	○	○	−
Soils/Vegetation	Impact Level	◪	◪	◪	◪	◪	◪	◪
	Ranking	○	−	−	−	−	−	+
LOW OR NO IMPACTS								
Cultural and Paleontological	Impact Level	□	□	□	□	□	□	□
	Ranking							
Hazards	Impact Level	□	□	□	□	□	□	□
	Ranking							
Surface Water	Impact Level	□	□	□	□	□	□	□
	Ranking							

LEGEND

Impact Level

- □ - Low or no impacts
- ◪ - Moderate but non-significant impacts
- ■ - Significant impacts

Ranking

- + - Best among alternatives
- ○ - Mid-range among alternatives
- − - Worst among alternatives

RESOURCE AREA	CONDITION	IMPACT TYPE AND LEVEL		LINKS[1] 1	2	5	11	11b	12	15	17	19	21	24	25	26	Hang Glider Access Road[4]	TOTAL IMPACT Feet or #	Miles or #
Geology and Hazards	Landslide Deposits (some areas potentially active)	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soils and Vegetation	Sensitive Soil Units	Short	Moderate	--	--	--	700	--	1,200	2,100	10,500	--	5,200	--	--	--	2,800	22,500	4.26
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	2,600	--	--	--	--	--	--	--	--	--	--	--	2,600	0.49
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Canada Goose Production Area	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	3,700	--	--	--	--	--	--	--	--	--	--	--	--	--	3,700	0.70
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Duck Concentration Area	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	10,200	--	--	--	--	--	--	--	--	--	--	--	--	--	10,200	1.93
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	13,200	--	--	--	--	--	--	--	--	--	--	--	--	--	13,200	2.50
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Land Use	Residential Site	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Residential Subdivision	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Recreation Site	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Recreational Trail Crossing	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hang Glider Area (zone where low level flight sometimes occurs)	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	--	--	--	--	--[5]	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Developed Recreation Area	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Visual Resources	Visual Impacts	Short	Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term	Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long	Moderate	30,400	1,500	--	--	--	4,600	2,600	1,400	1,000	5,800	3,100	5,800	4,500	1,500	62,200	11.78
		Term	Significant	11,500	2,100	--	--	--	--	--	--	--	--	--	--	--	--	13,600	2.58
Total Land Affected[3] in Acres		Short Term		18.3	3.8	14.4	9.4	3.3	4.9	8.2	20.1	3.9	34.9	1.4	2.5	2.0	12.4	--	139.5
		Long Term		4.8	1.2	5.8	3.7	1.4	1.8	2.7	8.1	1.0	12.4	0.4	0.7	0.5	4.4	--	49.0
Length of Action Type A in Feet				--	1,600	11,300	6,900	2,800	2,900	3,100	15,900	--	18,300	--	--	--	6,000	68,800	13.03
Length of Action Type B1 in Feet				--	4,400	2,000	2,800	--	3,200	5,400	2,600	--	--	--	4,300	1,200	12,000	37,900	7.18
Length of Action Type B2 in Feet				--	--	--	--	--	--	4,900	--	9,000	8,300	3,100	1,500	--	--	26,800	5.08
Length of Action Type C1 in Feet				--	--	--	--	--	--	--	--	--	--	--	--	3,300	--	3,300	0.63
Length of Action Type C2 in Feet				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D1 in Feet				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D2 in Feet				41,900	--	--	--	--	--	--	--	--	--	--	--	--	--	41,900	7.94
Total Length in Feet				41,900	6,000	13,300	9,700	2,800	6,100	13,400	18,500	9,000	26,600	3,100	5,800	4,500	18,000	178,700	33.84

Legend[2]

19,800 - Linear Feet of Moderate Impact
2,400 - Linear Feet of Significant Impact

Notes

1 For locations of links and types of action, see Figure 5-1.

2 For explanation of impact level related to type of action, see Tables 5-8 through 5-15.

3 For explanation of amount of land affected by each type of action, see Pages 3-12 and 3-13 in the DSEIS.

4 The action in this portion of the project consists of the construction or upgrading of a road alone, but since the terrain is relatively steep, the same amount of disturbance per mile is assumed as for a road and transmission line.

5 There is a 13,200-foot length of moderate long-term impact to the hang glider area when Link 15 is used as part of other routes, but none when it is used as part of Route D because of the provision of an alternative hang gliding area elsewhere.

Types of Action[1]

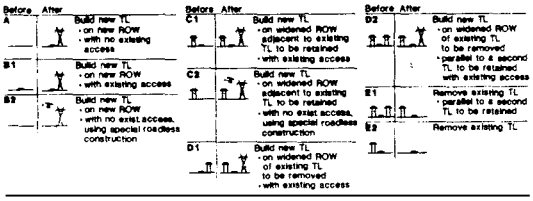


Table 5-3 Revised

Impact Quantification Proposed Route D

RESOURCE AREA	CONDITION	IMPACT TYPE AND LEVEL	LINKS[1] 1	2	4	8	20	23	24	25	26	TOTAL IMPACT Feet or #	Miles or #
Geology and Hazards	Landslide Deposits (some areas potentially active)	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
Soils and Vegetation	Sensitive Soil Units	Short Moderate	--	--	500	5,300	300	6,000	--	--	--	12,100	2.29
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
	Canada Goose Production Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	3,700	--	--	--	--	--	--	--	--	3,700	0.70
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
	Duck Concentration Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	10,200	--	--	--	--	--	--	--	--	10,200	1.93
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	13,200	--	--	--	--	--	--	--	--	13,200	2.50
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
Land Use	Residential Site	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
	Residential Subdivision	Snort Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	7,200	--	--	--	--	--	7,200	1.36
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
	Recreation Site	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
	Recreational Trail Crossing	Short Moderate	--	--	--	--	①	--	--	--	--	①	①
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	①	--	--	--	--	①	①
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
	Hang Glider Area (zone where low level flight sometimes occurs)	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
	Developed Recreation Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
Visual Resources	Visual Impacts	Short Moderate	--	--	--	4,000	--	--	--	--	--	4,000	0.76
		Term Significant	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	30,400	1,500	--	18,600	2,400	3,400	3,100	5,800	4,500	69,700	13.20
		Term Significant	11,500	2,100	--	4,000	--	--	--	--	--	17,600	3.33
Total Land Affected[3] in Acres		Short Term	18.3	3.8	15.2	66.8	17.2	16.1	1.4	2.5	2.0	--	143.3
		Long Term	4.8	1.3	6.3	27.3	7.1	5.9	0.4	0.7	0.5	--	54.3
Length of Action Type A in Feet			--	1,600	12,700	54,600	14,400	9,600	--	--	--	92,900	17.59
Length of Action Type B1 in Feet			--	4,400	--	3,900	--	--	--	4,300	1,200	13,800	2.61
Length of Action Type B2 in Feet			--	--	--	--	--	10,500	3,100	1,500	--	15,100	2.86
Length of Action Type C1 in Feet			--	--	--	--	--	--	--	--	3,300	3,300	0.63
Length of Action Type C2 in Feet			--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D1 in Feet			--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D2 in Feet			41,900	--	--	--	--	--	--	--	--	41,900	7.94
Total Length in Feet			41,900	6,000	12,700	58,500	14,400	20,100	3,100	5,800	4,500	167,000	31.63

Legend[2]

19,800 - Linear Feet of Moderate Impact
2,400 - Linear Feet of Significant Impact
③ - Number of Occurrences of Moderate Impact

Notes

1 For locations of links and types of action, see Figure 5-1.

2 For explanation of impact level related to type of action, see Tables 5-8 through 5-15.

3 For explanation of amount of land affected by each type of action, see Pages 3-12 and 3-13 in the DSEIS.

Types of Action[1]

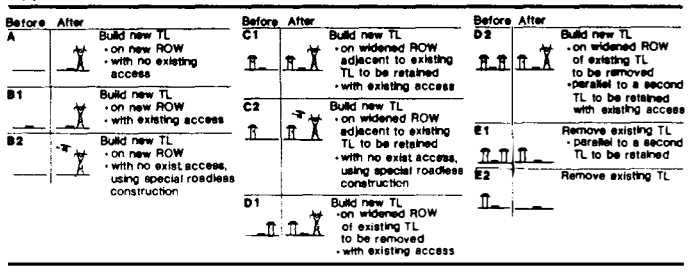


Table 5-4 Revised

Impact Quantification Primary Alternative A

RESOURCE AREA	CONDITION	IMPACT TYPE AND LEVEL		LINKS[1] 1	2	5	10	13	20	23	24	25	26	TOTAL IMPACT Feet or #	Miles or #
Geology and Hazards	Landslide Deposits (some areas potentially active)	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Soils and Vegetation	Sensitive Soil Units	Short Term	Moderate	--	--	--	9,200	2,300	300	6,000	--	--	--	17,800	3.37
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	2,600	--	--	--	--	--	--	--	2,600	0.49
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Canada Goose Production Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	3,700	--	--	--	--	--	--	--	--	--	3,700	0.70
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Duck Concentration Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	10,200	--	--	--	--	--	--	--	--	--	10,200	1.93
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	13,200	--	--	--	--	--	--	--	--	--	13,200	2.50
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Land Use	Residential Site	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Residential Subdivision	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Recreation Site	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Recreational Trail Crossing	Short Term	Moderate	--	--	--	--	--	(1)	--	--	--	--	(1)	(1)
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	(1)	--	--	--	--	(1)	(1)
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Hang Glider Area (zone where low level flight sometimes occurs)	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Developed Recreation Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Visual Resources	Visual Impacts	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	30,400	1,500	--	5,900	--	2,400	3,400	3,100	5,800	4,500	57,000	10.80
			Significant	11,500	2,100	--	--	--	--	--	--	--	--	13,600	2.58
Total Land Affected[3] in Acres		Short Term		18.3	3.8	14.4	28.3	33.6	17.2	16.1	1.4	2.5	2.0	--	137.6
		Long Term		4.8	1.3	5.8	11.6	13.9	7.1	5.9	0.4	0.7	0.5	--	52.0
Length of Action Type A in Feet				--	1,600	11,300	23,200	28,200	14,400	9,600	--	--	--	88,300	16.72
Length of Action Type B1 in Feet				--	4,400	2,000	1,400	--	--	--	--	4,300	1,200	13,300	2.52
Length of Action Type B2 in Feet				--	--	--	--	--	--	10,500	3,100	1,500	--	15,100	2.86
Length of Action Type C1 in Feet				--	--	--	--	--	--	--	--	--	3,300	3,300	0.63
Length of Action Type C2 in Feet				--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D1 in Feet				--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D2 in Feet				41,900	--	--	--	--	--	--	--	--	--	41,900	7.94
Total Length in Feet				41,900	6,000	13,300	24,600	28,200	14,400	20,100	3,100	5,800	4,500	161,900	30.66

Legend[2]

19,800 - Linear Feet of Moderate Impact
2,400 - Linear Feet of Significant Impact
(3) - Number of Occurrences of Moderate Impact

Notes

1 For locations of links and types of action, see Figure 5-1.

2 For explanation of impact level related to type of action, see Tables 5-8 through 5-15.

3 For explanation of amount of land affected by each type of action, see Pages 3-12 and 3-13 in the DSEIS.

Types of Action[1]

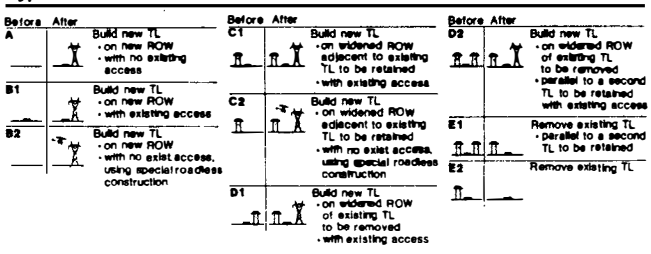


Table 5-5 Revised

Impact Quantification Primary Alternative B

RESOURCE AREA	CONDITION	IMPACT TYPE AND LEVEL		LINKS[1] 1	2	5	10	14	19	21	24	25	26	TOTAL IMPACT Feet or #	Miles or #
Geology and Hazards	Landslide Deposits (some areas potentially active)	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Soils and Vegetation	Sensitive Soil Units	Short Term	Moderate	--	--	--	9,200	2,300	--	5,200	--	--	--	16,700	3.16
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	2,600	--	--	--	--	--	--	--	2,600	0.49
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Canada Goose Production Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	3,700	--	--	--	--	--	--	--	--	--	3,700	0.70
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Duck Concentration Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	10,200	--	--	--	--	--	--	--	--	--	10,200	1.93
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	13,200	--	--	--	--	--	--	--	--	--	13,200	2.50
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Land Use	Residential Site	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Residential Subdivision	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Recreation Site	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Recreational Trail Crossing	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Hang Glider Area (zone where low level flight sometimes occurs)	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Developed Recreation Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Visual Resources	Visual Impacts	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	30,400	1,500	--	5,900	--	1,000	5,800	3,100	5,800	4,500	58,000	10.98
			Significant	11,500	2,100	--	--	--	--	--	--	--	--	13,600	2.58
Total Land Affected[3] in Acres		Short Term		18.3	3.8	14.4	28.3	16.9	3.9	34.9	1.4	2.5	2.0	--	126.4
		Long Term		4.8	1.3	5.8	11.6	6.4	1.0	12.4	0.4	0.7	0.5	--	44.9
Length of Action Type A in Feet				--	1,600	11,300	23,200	11,000	--	18,300	--	--	--	65,400	12.39
Length of Action Type B1 in Feet				--	4,400	2,000	1,400	--	--	--	--	4,300	1,200	13,300	2.52
Length of Action Type B2 in Feet				--	--	--	--	8,800	9,000	8,300	3,100	1,500	--	30,700	5.81
Length of Action Type C1 in Feet				--	--	--	--	--	--	--	--	--	3,300	3,300	0.63
Length of Action Type C2 in Feet				--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D1 in Feet				--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D2 in Feet				41,900	--	--	--	--	--	--	--	--	--	41,900	7.94
Total Length in Feet				41,900	6,000	13,300	24,600	19,800	9,000	26,600	3,100	5,800	4,500	154,600	29.28

Legend[2]

19,800 - Linear Feet of Moderate Impact
2,400 - Linear Feet of Significant Impact

Notes

1 For locations of links and types of action, see Figure 5-1.

2 For explanation of impact level related to type of action, see Tables 5-8 through 5-15.

3 For explanation of amount of land affected by each type of action, see Pages 3-12 and 3-13 in the DSEIS.

Types of Action[1]

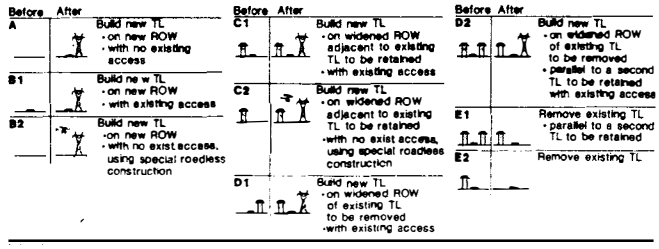


Table 5-6 Revised

Impact Quantification Primary Alternative C

RESOURCE AREA	CONDITION	IMPACT TYPE AND LEVEL		LINKS[1] 1	2	5	11	11a	19	21	24	25	26	TOTAL IMPACT Feet or #	Miles or #
Geology and Hazards	Landslide Deposits (some areas potentially active)	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Soils and Vegetation	Sensitive Soil Units	Short Term	Moderate	--	--	--	700	10,300	--	5,200	--	--	--	16,200	3.07
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	2,600	--	--	--	--	--	--	--	2,600	0.49
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Canada Goose Production Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	3,700	--	--	--	--	--	--	--	--	--	3,700	0.70
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Duck Concentration Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	10,200	--	--	--	--	--	--	--	--	--	10,200	1.93
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	13,200	--	--	--	--	--	--	--	--	--	13,200	2.50
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Land Use	Residential Site	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Residential Subdivision	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Recreation Site	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Recreational Trail Crossing	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Hang Glider Area (zone where low level flight sometimes occurs)	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
	Developed Recreation Area	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
Visual Resources	Visual Impacts	Short Term	Moderate	--	--	--	--	--	--	--	--	--	--	--	--
			Significant	--	--	--	--	--	--	--	--	--	--	--	--
		Long Term	Moderate	30,400	1,500	--	--	4,900	1,000	5,800	3,100	5,800	4,500	57,000	10.80
			Significant	11,500	2,100	--	--	--	--	--	--	--	--	13,600	2.58
Total Land Affected[3] in Acres		Short Term		18.3	3.8	14.4	9.4	26.3	3.9	34.9	1.4	2.5	2.0	--	116.9
		Long Term		4.8	1.3	5.8	3.7	9.1	1.0	12.4	0.4	0.7	0.5	--	39.7
Length of Action Type A in Feet				--	1,600	11,300	6,900	12,300	--	18,300	--	--	--	50,400	9.55
Length of Action Type B1 in Feet				--	4,400	2,000	2,800	3,500	--	--	--	4,300	1,200	18,200	3.45
Length of Action Type B2 in Feet				--	--	--	--	23,100	9,000	8,300	3,100	1,500	--	45,000	8.52
Length of Action Type C1 in Feet				--	--	--	--	--	--	--	--	--	3,300	3,300	0.63
Length of Action Type C2 in Feet				--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D1 in Feet				--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D2 in Feet				41,900	--	--	--	--	--	--	--	--	--	41,900	7.94
Total Length in Feet				41,900	6,000	13,300	9,700	38,900	9,000	26,600	3,100	5,800	4,500	158,800	30.08

Legend[2]

19,800 - Linear Feet of Moderate Impact
2,400 - Linear Feet of Significant Impact

Notes

1 For locations of links and types of action, see Figure 5-1.

2 For explanation of impact level related to type of action, see Tables 5-8 through 5-15.

3 For explanation of amount of land affected by each type of action, see Pages 3-12 and 3-13 in the DSEIS.

Types of Action[1]

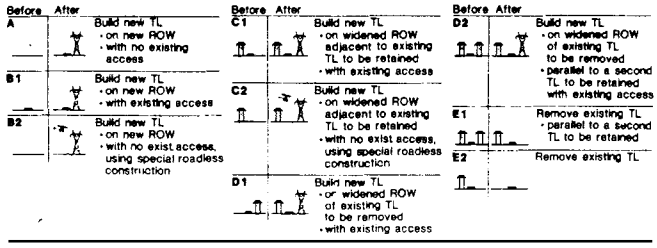


Table 5-7 Revised

Impact Quantification
Primary Alternative D2

RESOURCE AREA	CONDITION	IMPACT TYPE AND LEVEL	LINKS[1] 1	2	5	11	11b	12	15	18	21	24	25	26	TOTAL IMPACT Feet or #	Miles or #
Geology and Hazards	Landslide Deposits (some areas potentially active)	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soils and Vegetation	Sensitive Soil Units	Short Moderate	--	--	--	700	--	1,200	2,100	9,600	5,200	--	--	--	18,800	3.56
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	2,600	--	--	--	--	--	--	--	--	--	2,600	0.49
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Canada Goose Production Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	3,700	--	--	--	--	--	--	--	--	--	--	--	3,700	0.70
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Duck Concentration Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	10,200	--	--	--	--	--	--	--	--	--	--	--	10,200	1.93
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	13,200	--	--	--	--	--	--	--	--	--	--	--	13,200	2.50
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Land Use	Residential Site	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Residential Subdivision	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Recreation Site	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Recreational Trail Crossing	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hang Glider Area (zone where low level flight sometimes occurs)	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	13,200	5,500	--	--	--	--	18,700	3.54
	Developed Recreation Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Visual Resources	Visual Impacts	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	30,400	1,500	--	--	--	4,600	2,600	9,300	5,800	3,100	5,800	4,500	67,500	12.78
		Term Significant	11,500	2,100	--	--	--	--	--	--	--	--	--	--	13,600	2.58
Total Land Affected[3] in Acres		Short Term	18.3	3.8	14.4	9.4	3.3	4.9	8.2	22.3	34.9	1.4	2.5	2.0	--	125.4
		Long Term	4.8	1.1	5.8	3.7	1.4	1.8	2.7	8.6	12.4	0.4	0.7	0.5	--	44.1
Length of Action Type A in Feet			--	1,600	11,300	6,900	2,800	2,900	3,100	15,600	18,300	--	--	--	62,500	11.84
Length of Action Type B1 in Feet			--	4,400	2,000	2,800	--	3,200	5,400	8,400	--	--	4,300	1,200	31,700	6.00
Length of Action Type B2 in Feet			--	--	--	--	--	--	4,900	--	8,300	3,100	1,500	--	17,800	3.37
Length of Action Type C1 in Feet			--	--	--	--	--	--	--	--	--	--	--	3,300	3,300	0.63
Length of Action Type C2 in Feet			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D1 in Feet			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D2 in Feet			41,900	--	--	--	--	--	--	--	--	--	--	--	41,900	7.93
Total Length in Feet			41,900	6,000	13,300	9,700	2,800	6,100	13,400	24,000	26,600	3,100	5,800	4,500	157,200	29.77

Legend[2]

19,800 - Linear Feet of Moderate Impact
2,400 - Linear Feet of Significant Impact

Notes

1 For locations of links and types of action, see Figure 5-1.

2 For explanation of impact level related to type of action, see Tables 5-8 through 5-15.

3 For explanation of amount of land affected by each type of action, see Pages 3-12 and 3-13 in the DSEIS.

Types of Action[1]

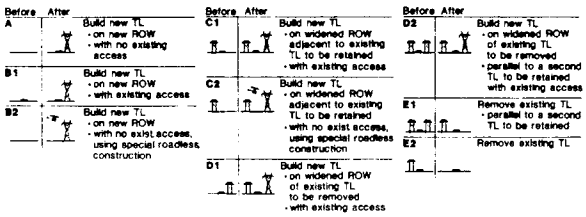


Table 5-8 Revised

Impact Quantification Primary Alternative D1

RESOURCE AREA	CONDITION	IMPACT TYPE AND LEVEL		LINKS[1] 1	3	7	TOTAL IMPACT Feet or #	Miles or #
Geology and Hazards	Landslide Deposits (some areas potentially active)	Short Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
Soils and Vegetation	Sensitive Soil Units	Short Term	Moderate	--	--	400	400	0.08
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
	Canada Goose Production Area	Short Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
		Long Term	Moderate	3,700	--	--	3,700	0.70
			Significant	--	--	--	--	--
	Duck Concentration Area	Short Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
		Long Term	Moderate	10,200	--	19,800	30,000	5.68
			Significant	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
		Long Term	Moderate	13,200	--	94,700	107,900	20.44
			Significant	--	--	--	--	--
Land Use	Residential Site	Short Term	Moderate	--	--	(8)	(8)	(8)
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	(8)	(8)	(8)
			Significant	--	--	--	--	--
	Residential Subdivision	Short Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	9,500	9,500	1.80
			Significant	--	--	--	--	--
	Recreation Site	Short Term	Moderate	--	--	(3)	(3)	(3)
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	(3)	(3)	(3)
			Significant	--	--	--	--	--
	Recreational Trail Crossing	Short Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
	Hang Glider Area (zone where low level flight sometimes occurs)	Short Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	--	--	--
			Significant	--	--	--	--	--
	Developed Recreation Area	Short Term	Moderate	--	--	12,700	12,700	2.41
			Significant	--	--	--	--	--
		Long Term	Moderate	--	--	12,700	12,700	2.41
			Significant	--	--	--	--	--
Visual Resources	Visual Impacts	Short Term	Moderate	--	--	2,600	2,600	0.49
			Significant	--	--	--	--	--
		Long Term	Moderate	30,400	--	26,900	57,300	10.85
			Significant	11,500	6,900	90,300	108,700	20.59
Total Land Affected[3] in Acres		Short Term		18.3	3.0	52.7	--	74.0
		Long Term		4.8	0.8	14.0	--	19.6
Length of Action Type A in Feet				--	--	1,200	1,200	0.23
Length of Action Type B1 in Feet				--	--	--	--	--
Length of Action Type B2 in Feet				--	--	--	--	--
Length of Action Type C1 in Feet				--	--	4,900	4,900	0.93
Length of Action Type C2 in Feet				--	--	--	--	--
Length of Action Type D1 in Feet				--	--	64,000	64,000	12.12
Length of Action Type D2 in Feet				41,900	6,900	48,800	97,600	18.48
Total Length in Feet				41,900	6,900	118,900	167,700	31.76

Legend[2]

19,800 - Linear Feet of Moderate Impact
2,400 - Linear Feet of Significant Impact
(3) - Number of Occurrences of Moderate Impact

Notes

1 For locations of links and types of action, see Figure 5-1.

2 For explanation of impact level related to type of action, see Tables 5-8 through 5-15.

3 For explanation of amount of land affected by each type of action, see Pages 3-12 and 3-13 in the DSEIS.

Types of Action[1]

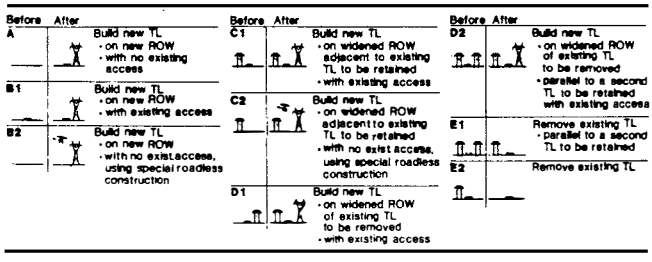


Table 5-9 Revised

Impact Quantification
Primary Alternative E

Two resource categories are included within the moderate but non-significant impact rating -- soils/vegetation and wildlife. In terms of soils and vegetation disturbance, Alternative E has the lowest level of impact, primarily because of the availability of existing access. Alternative A, which traverses more relatively level terrain, has the next lowest level. The Proposed Alternative D and Alternatives B, C, D2, and D1 have a similar level of impacts in this resource category. These ratings reflect the fact that Alternative E would disturb only about 7 acres of sensitive soil units. Alternative A would disturb approximately 21 acres of sensitive soil units. Alternatives B, C, D2, and D1 would each disturb between 27 and 31 acres of sensitive soil units. The Proposed Alternative D would disturb approximately 34 acres of sensitive soil units. A small amount of this disturbance is caused by the access road to the alternative hang gliding area that mitigates the impacts that D would otherwise have on the activity.

All the alternatives have a similar level of impacts on wildlife resources, with the exception of Alternative E. Alternative E has approximately 3.8 more miles through duck concentration areas and 17.9 more miles through bald eagle winter concentration areas than the other alternatives. For this reason, Alternative E is the worst alternative from a wildlife perspective. However, Alternatives B, C, D2, D, and D1 do affect one sage grouse strutting ground, while Alternative A avoids it.

All the alternatives have little or no adverse effect on cultural and paleontological resources, hazards, and surface water. These resource categories, therefore, provide no basis on which to distinguish between alternative corridors.

Based on the above discussion, Alternative E was identified as having the highest overall level of adverse impacts, being the worst of all of the alternatives in visual resources, land use, and wildlife. Alternative D1 is the next most impacting alternative, primarily because of its significant effect on hang gliding.

The overall impact levels of Alternative A are in the mid-range of alternatives studied, partly because of adverse visual and land use impacts on a subdivision.

Alternatives B, C, D2, and D (the proposed alternative) have similar, relatively low levels of adverse impacts, with only minor differences to distinguish between them.

Pages 5-7 and 5-8

Replace Section C.1.(e) with the following:

(e) Impacts of the Primary Alternatives (Geology & Hazards)

Figure 5-2 in the DSEIS shows the hazard conditions impacted at moderate or higher levels by any part of the network of corridors. The following is a description of the impacts of each of the primary alternative corridors, starting with the Proposed Alternative D, then proceeding through the remaining six primary alternatives in order from northeast to southwest.

(1) Proposed Alternative D

The proposed alternative crosses one potentially active fault east of Lawson Ridge. Construction of the proposed transmission line will not have any effect on movement of the fault, nor are the transmission structures likely to be affected by fault movement. The proposed alternative also crosses the floodplain of the Colorado River near Kremmling, but will not have a measurable effect on flood flows. The floodplain at this point is approximately 1.6 miles wide; this would require the construction of as many as seven transmission structures within the floodplain. The transmission structures will be located and designed to resist potential damage from flooding. In this area, there is either an existing access way, or special roadless construction will be used; therefore, disturbance that could initiate movement will be minor. The potential for inducing movement of this deposit is unknown at present. Detailed geotechnical studies will be conducted prior to construction to develop construction methods and a project design which will minimize the risk of inducing slope movement.

(2) Primary Alternative A

This alternative crosses a potentially active fault east of Williams Peak and the floodplain of the Colorado River near Kremmling. For the reasons stated in the discussion of the proposed alternative, no measurable impacts are expected.

(3) Primary Alternative B

This alternative makes three crossings of a potentially active fault northeast of the Williams Fork Mountains and crosses the floodplain of the Colorado River near Kremmling. For the reasons stated in the discussion of the proposed alternative, no measurable impacts are expected.

(4) Primary Alternative C

This alternative crosses a potentially active fault near Lawson Ridge and crosses the floodplain of the Colorado River near Kremmling. For the reasons stated in the discussion of the proposed alternative, no measurable impacts are expected.

(5) Primary Alternative D2

This alternative crosses a potentially active fault east of Lawson Ridge and the floodplain of the Colorado River near Kremmling. For the reasons stated in the discussion of the proposed alternative, no measurable impacts are expected.

(6) Primary Alternative D1

This alternative corridor crosses one potentially active fault east of Lawson Ridge and the floodplain of the Colorado River near Kremmling. For the reasons stated in the discussion of the proposed alternative, no measurable impacts are expected. It also crosses one large landslide deposit area near the ridge of the Williams Fork Mountains. For the reasons stated in the discussion of the Proposed Alternative D, disturbance that could initiate movement will be minor.

(7) Primary Alternative E

This alternative crosses the floodplain of the Colorado River near Kremmling, and also has several structures within the Blue River floodplain, including three crossings between Green Mountain Reservoir and the Blue River Substation. It also crosses four landslide deposit areas along the banks of Green Mountain Reservoir. For the reasons stated under the discussion of the proposed alternative, no measurable impacts are expected.

Pages 5-10 and 5-11

Replace Section C.2.(e) with the following:

(e) Impacts of the Primary Alternatives (Surface Water)

(1) Proposed Alternative D

The proposed alternative crosses the Colorado River once and Muddy Creek three times near Kremmling. It also crosses a small pond on the southwest slope of the Williams Fork Range and makes four crossings of small creeks near the Ute Pass Road. Only minor, short-term impacts to water quality are expected during the construction phase; no measurable long-term effects are anticipated.

(2) Primary Alternative A

This alternative crosses the Colorado River once and Muddy Creek three times near Kremmling. It also crosses two creeks running northeast off the Williams Fork Range and makes five creek crossings in the Ute Pass vicinity. Only minor, short-term impacts to water quality are expected; no measurable long-term effects are anticipated.

(3) Primary Alternative B

This alternative crosses the same surface water features as Alternative A. Only minor, short-term impacts to water quality are expected during the construction phase; no measurable long-term effects are anticipated.

(4) Primary Alternative C

This alternative crosses the Colorado River once and Muddy Creek three times near Kremmling. It also crosses one creek on the northeast slope of the Williams Fork Range and makes four creek crossings in the Ute Pass vicinity. Only minor, short-term impacts to water quality are expected during the construction phase; no measurable long-term effects are anticipated.

(5) Primary Alternative D2

This alternative crosses the Colorado River once and Muddy Creek three times near Kremmling. It also makes four creek crossings in the Ute Pass area. Only minor, short-term impacts to water quality are expected during the construction phase; no measurable long-term effects are anticipated.

(6) Primary Alternative D1

This alternative crosses the same surface water features as the Proposed Alternative D. Only minor, short-term impacts to water quality are expected during the construction phase; no measurable long-term effects are anticipated.

(7) Primary Alternative E

This alternative crosses the edge of a bay of Green Mountain Reservoir and also crosses the tail waters of the reservoir just below where (at high reservoir levels) the Blue River enters. It also crosses the Colorado River once near Kremmling and the Blue River three times -- once near the Green Mountain Reservoir Dam and twice upstream of the reservoir. It makes three crossings of Muddy Creek near Kremmling, three crossings of creeks flowing off the Williams Fork Mountains, and four crossings of creeks entering the Blue River from the Gore Range. Only minor, short-term impacts to water quality are expected during the construction phase; no measurable long-term effects are anticipated.

Pages 5-13 to 5-15

Replace Section C.3.(e) with the following:

(e) Impacts of the Primary Alternatives (Soils & Vegetation)

Figure 5-3 in this FSEIS shows the soils/slope and vegetation conditions impacted at moderate or higher levels by any part of the network of potential corridors. Estimated distances for each construction condition, i.e., roadless, existing access, etc., are given for each primary alternative in Tables 5-3 through 5-9 in this FSEIS. Figures for the overall network of corridors are given in Table 5-1 in the FSEIS.

(1) Proposed Alternative D

Construction of the proposed alternative would result in disturbance to approximately 140 acres. Approximately 34 acres of this disturbance is located within sensitive soils/slope units. This estimate is based upon several factors, including the construction method that would be used and the availability of existing roads. As noted in Chapter 3, a disturbance factor of 6.3 acres/mile was used for those areas where construction would be by conventional means, and 2.6 acres/mile for those areas with existing access or where special roadless construction methods would be used. These figures include the disturbance resulting from the construction of access to an alternative hang gliding area as mitigation for the

impacts of Alternative D on an existing hang gliding area. Although this action consists of the construction or upgrading of a road alone, since the terrain is relatively steep, the same amount of disturbance per mile is assumed as for a road and transmission line.

The total area permanently occupied by transmission structures and new access ways is approximately 49 acres. Estimates for area permanently occupied were derived from the application of a factor of 2.3 acres/mile where new access roads are required, and 0.6 acres/mile where existing access is available or roadless construction methods will be used.

The corridor crosses four narrow zones of riparian/wetland vegetation -- two near the Colorado River and two near Ute Pass Road. Only minor adverse effects are expected because of the committed mitigation.

Special Status Species

This alternative, in common with the other six primary alternatives, crosses the edge of an area northwest of Kremmling containing communities of a plant species under consideration for Federal threatened or endangered status. Because of the committed mitigation, no adverse effects are expected.

(2) Primary Alternative A

Construction of this alternative would result in the disturbance of approximately 143 acres. Approximately 21 acres of this disturbance is located within sensitive soil/slope units. The total area permanently occupied by transmission structures and new access ways is approximately 54 acres.

Seven narrow areas of riparian/wetland vegetation, widely distributed along the corridor, are crossed. Only minor adverse effects are expected because of the committed mitigation measures.

Special Status Species

This alternative crosses the edge of one area northwest of Kremmling containing communities of a plant species under consideration for Federal threatened or endangered listing. No adverse effects are expected because of the committed mitigation.

(3) Primary Alternative B

Construction of this alternative would result in the disturbance of approximately 138 acres. Approximately 27 acres of this disturbance are located within sensitive soil/slope units. The total area permanently occupied by transmission structures and new access ways is approximately 52 acres.

This alternative also crosses a total of five narrow wetland/riparian areas -- two near the Colorado River, one west of Battle Mountain, and the others near the Ute Pass Road. Only minor adverse effects are expected because of the committed mitigation measures.

Special Status Species

This alternative crosses the edge of the same area containing communities of a plant species under consideration for Federal threatened or endangered listing. No adverse effects are expected.

(4) Primary Alternative C

Construction of this alternative would result in the disturbance of approximately 126 acres. Approximately 28 acres of this disturbance are located within sensitive soil/slope units. The total area permanently occupied by transmission structures and new access ways is approximately 45 acres.

The corridor also crosses four narrow bands of wetland/riparian vegetation -- two near the Colorado River and two near the corridor's southeast end. Only minor adverse effects are expected because of the committed mitigation.

Special Status Species

This alternative crosses the edge of the same area containing communities of a plant species proposed for Federal threatened or endangered species status or listing. No adverse effects are expected.

(5) Primary Alternative D2

Construction of this alternative would result in the disturbance of approximately 117 acres. Approximately 31 acres of this disturbance are located within sensitive soil/slope units. The total area permanently occupied by transmission structures and new access ways is approximately 40 acres.

The alternative crosses a total of four narrow zones of riparian/wetland vegetation -- two near the Colorado River and two near Ute Pass Road. Only minor adverse effects are expected because of the committed mitigation.

Special Status Species

This alternative crosses the edge of the same area containing communities of a plant species proposed for Federal threatened or endangered status listing. No adverse effects are expected.

(6) Primary Alternative D1

Construction of this alternative would result in the disturbance of approximately 125 acres. Approximately 30 acres of this disturbance are located within sensitive soil/slope units. The total area permanently occupied by transmission structures and new access ways is approximately 44 acres.

The alternative crosses a total of four narrow zones of riparian/wetland vegetation -- two near the Colorado River and two near Ute Pass Road. Only minor adverse effects are expected because of the committed mitigation.

Special Status Species

This alternative crosses the edge of the same area containing communities of a plant species proposed for Federal threatened or endangered status listing. No adverse effects are expected.

(7) Primary Alternative E

Construction of this alternative would result in the disturbance of approximately 74 acres. Approximately 7 acres of this disturbance are located within sensitive soil/slope units. The total area permanently occupied by transmission structures or new access ways is approximately 20 acres. The entire length of this alternative either parallels existing transmission line and/or occupies the widened ROW of an existing transmission line that is to be removed.

Alternative E also crosses a total of 12 wetland/riparian areas widely distributed along the corridor's length. Only minor adverse effects are expected because of the committed mitigation.

Special Status Species

The corridor has the same relationship to potential threatened and endangered plant species as the other six and, in addition, crosses the edge of another similar area northeast of Green Mountain Reservoir. No adverse effects are expected.

Page 5-17

Section C.4.(b). Replace special mitigation measure Number (1) with the following:

> Prior to construction, surveys of all potentially affected nesting habitat of raptor species of concern, including one helicopter survey in early spring and another in mid-summer, will be conducted to identify and map as many occupied nests as is feasible. Survey techniques and specific timing will be coordinated through USFWS, CDOW, Forest Service, and BLM.

Pages 5-18 through 5-21

Replace Section C.4.(e) with the following:

(e) Impacts of the Primary Alternatives (Wildlife)

Figure 5-4 in this FSEIS shows the wildlife conditions impacted at moderate or higher levels by any part of the network of alternative corridors.

(I) Proposed Alternative D

This alternative passes through about 13 miles of elk critical winter range, which are located to the northeast of Lawson Ridge and at either end of the Williams Fork Range. Because no disturbance will occur during the winter use season and because the loss of habitat (approximately 23 acres) represents a small fraction of the available habitat, only a minor adverse effect is expected.

The northernmost 10 miles of the corridor (most of which parallels the existing transmission line) is within mule deer critical winter range. Only a minor adverse effect is expected on mule deer critical winter range for the same reasons stated above. The amount of this habitat type permanently affected by the project is less than 7 acres.

This alternative, as with all other alternatives, crosses a Canada goose production area and a duck concentration area near the confluence of the Blue and Colorado Rivers. In these areas, the proposed alternative would replace an existing transmission line in a corridor which already has two lines. The new transmission structures would be approximately twice the average height of the tallest existing transmission line in the corridor -- 110 feet versus about 58 feet. Recent studies on the subject of avian collisions with transmission lines indicated that the vast majority of collisions (83 to 93 percent) occur with the overhead ground wire rather than the conductors (Faanes, 1983). These studies also indicate that transmission lines are inevitably a source of avian mortality to some degree, but the numbers of individuals killed is not biologically significant, even when study areas included "worst case" wetland areas. Further, the studies indicate that the mortality rate can be reduced by as much as half through marking the overhead ground wire.

Given the commitment to mark overhead ground wires in critical areas, a moderate adverse effect is expected as a result of the increased potential for avian collisions with the transmission structures. However, it is possible that construction of the project will actually reduce avian collision due to the removal of 30.5 miles of existing 69-kV and 115-kV line which are located along the Blue River. In other words, the project will actually result in a reduction in the amount of transmission line located within waterfowl concentration areas.

This alternative crosses one sage grouse strutting ground, which could result in increased predation on the sage grouse by raptors using the line structures as perches.

Approximately five miles of the corridor cross sage grouse winter range. Although no specific mitigation is proposed for this habitat type, only a minor adverse effect is expected due to the small amount of habitat lost (11 acres).

No adverse effects are expected on fisheries from any alternative because of committed mitigation measures.

Threatened and Endangered Species

The proposed alternative crosses a bald eagle winter concentration area near the confluence of the Blue and Colorado Rivers. Although it appears to be rare, collisions between bald eagles and transmission structures have been reported. Juvenile birds are more susceptible than adults. The proposed line, therefore,

poses a minor collision hazard to bald eagles. Overall, however, the proposed action will result in a reduction in the amount of transmission line located within bald eagle concentration areas. This reduction is associated with the removal of 30.5 miles of existing line along the Blue River.

(2) Primary Alternative A

This alternative crosses about six miles of elk critical winter range which is located northeast of Lawson Ridge and also near Ute Pass. For the reasons stated under the discussion of the proposed alternative, only minor adverse effect is expected. Alternative A would permanently affect less than nine acres of this habitat type.

This alternative is also located through approximately 5.5 miles of elk calving area which is located along the base of the east side of Williams Fork Range. Again, because of the commitment to avoid disturbance during the calving season and the minor amount of habitat lost (approximately 14 acres), only a minor adverse effect is expected.

Alternative A would affect an additional 4.8 acres (11.8 acres total) of mule deer critical winter range than the proposed alternative, but would still have only a minor adverse effect for the reasons stated earlier.

Alternative A would have essentially the same effect on waterfowl as the proposed alternative, and would have only a minor adverse effect on sage grouse.

Threatened and Endangered Species

This alternative would have the same potential effect as was described in the proposed action.

(3) Primary Alternative B

This alternative crosses approximately one additional mile of elk critical winter range than Primary Alternative A, but would have essentially the same minor degree of adverse effect as was described for that alternative. Alternative B crosses the greatest distance of any alternative through elk calving areas. It would cross this habitat type for approximately 9.5 miles, through an area located along the base of the east side of the Williams Fork Range. As a result, this alternative would result in the loss of approximately 25 acres of elk calving area, which is still considered a minor adverse effect given the amount of available habitat and the proposed mitigation.

Alternative B would have essentially the same effect on waterfowl and sage grouse as was described for the proposed alternative.

Threatened and Endangered Species

This alternative would have the same potential effect as was described for the proposed action.

(4) Primary Alternative C

This alternative crosses about 2.5 miles of elk calving area northeast of the Williams Fork Mountains, resulting in the loss of approximately seven acres of this habitat type. For the reasons stated earlier, this will result in only a minor adverse effect. Other than elk calving areas, the effects of this alternative on wildlife resources are essentially identical to those described for Alternative B.

Threatened and Endangered Species

This alternative would have the same potential effect as was described for the proposed action.

(5) Primary Alternative D2

This alternative passes through about 12 miles of elk critical winter range, which is located to the northeast of Lawson Ridge and at either end of the Williams Fork Range. Because no disturbance will occur during the winter use season and because the loss of habitat (approximately 21 acres) represents a small fraction of the available habitat, only a minor adverse effect is expected.

It would have the same potential effect on mule deer, sage grouse, and waterfowl as the proposed alternative.

Threatened and Endangered Species

This alternative would have the same effect as was described for the proposed alternative.

(6) Primary Alternative D1

The effect of this primary alternative on wildlife would be essentially identical to that of Primary Alternative D.

(7) Primary Alternative E

The entire length of this alternative parallels or replaces existing transmission lines.

Alternative E crosses about one mile of elk critical winter range west of Lawson Ridge, resulting in the loss of less than one acre of this habitat type. This alternative also crosses about 19 miles of mule deer critical winter range, mostly in the northern half of the projected area, with one segment near the upstream end of Green Mountain Reservoir. Because of the availability of existing access roads, construction of the proposed transmission facilities would result in the loss of less than 12 acres of this resource.

In common with all other alternatives, Alternative E crosses the Canada goose production area and duck concentration area near the confluence of the Colorado and Blue Rivers. In addition, this alternative crosses about four miles of duck concentration area. As a result of this greater distance through sensitive habitats, Alternative E presents the greatest risk of increased avian collisions of all the alternatives considered. Alternative E also crosses three miles of raptor nesting area and two miles of sage grouse winter range. Because of the committed mitigation to avoid construction around raptor nest sites during the critical time of year, the project is not expected to have any adverse effects on raptors. Little or no adverse effect to sage grouse is expected, for the reasons stated earlier.

Threatened and Endangered Species

This alternative also crosses the bald eagle winter concentration area near the confluence of the Colorado and Blue River. In addition, the corridor crosses 18 miles of winter concentration area that is located along the Blue River and Green Mountain Reservoir. Alternative E, therefore, poses the greatest collision hazard to bald eagles of all the alternatives considered.

Pages 5-21 and 5-22

Section C.5.(a). Replace Types and Causes of Potential (Land Use) Impacts Numbers 5 and 8 with the following:

(5) Presence of structures in cultivated areas impedes movement of agricultural equipment and limits the use of agricultural equipment higher than 18' below conductors. Note: There are no known movable irrigation rigs in the project area.

(8) Presence of the line in an area used for take-off and landing of hang gliders, or in an area where low level hang glider flight sometimes occurs, is a direct conflict and either prevents the established use or is a severe hazard.

Page 5-22

Replace Section C.5.(b)(2) with the following:

(2) **Special Mitigation Measures**

(1) Overhead ground wires will be marked for visibility at air strips.

(2) Provide alternative hang gliding site.

As shown on Figure 5-5 in this FSEIS, the Proposed Route D, Primary Alternative D1, and those alternatives that use Link 16 (alternatives 13, 14, and 17; not primary alternatives) cross a hang glider area (zone where low level flight sometimes occurs) on the southwest slopes of the Williams Fork Range, resulting in significant impacts because the presence of the line presents a hazard to the activity.

Hang gliding takes place only above the southwest facing windward slopes of the range and, therefore, the opportunity exists with Route D (though not with the other impacted routes) to mitigate this impact by providing an alternative hang gliding area to the southeast of the existing one. This is possible because Route D crosses over the ridge of the Williams Fork Range near the radio towers and proceeds southeast down the leeward northeast facing slope of the range for 3.8 miles before crossing back again near Williams Peak.

This alternative hang gliding area is centered on a launch site located on a flat topped prominence at an elevation of 9,520 feet, located east of the head of Mumford Gulch. The launch area is accessed by a road that leaves Highway 9 between Mumford Gulch and Horse Creek. Most of this road (about 2.3 miles) follows the alignment of an existing jeep road. The uppermost portion (about 1.1 mile) is on new alignment. Two relatively level areas suitable for landing sites exist along the road. Ample level terrain exists at the launch area and both landing areas to allow for vehicle parking.

The access road will be a graded 12-foot minimum width road, not generally steeper than 15%. The only disturbance necessary at the launch and landing areas will be selective removal of brush.

The elements of this alternative hang gliding area are shown on Figure 5-5 in this FSEIS.

The alternative hang gliding area is very similar to the existing one which is shown on Figure 4-9 in this FSEIS. Its width, 3.8 miles, as influenced by the length of the range where Route D is located on the northeast facing slope, is almost identical to the width of the existing area where low level flight sometimes occurs. The alternative hang gliding area, like the existing one, extends back 1,500 feet beyond the ridge to provide an emergency forced landing zone for gliders that are blown back across the ridge. The altitude of the new launch area is about 100 feet greater than that of the old. The length of the new

access road from the point it runs off Highway 9 is 0.2 mile less than the equivalent length for the access road to the main existing launch area. The new road should not exceed 15 percent grade. Portions of the existing road do exceed 15 percent.

The terrain of the alternative area is very similar to that of the existing area. However, the precise characteristics of the areas of lift, or rising masses of air, that occur over the terrain of the alternative area when the wind is from the west half of the compass are unknown, whereas the equivalent characteristics over portions of the existing area are known to be favorable for hang gliding.

The new area has certain advantages over the existing one. At the existing site, hang glider pilots must carry their gliders about 700 feet from the parking area to the main launch area. At the new launch area, it will be easy to get vehicles close to the actual launch point. There are several dangerous artificial obstructions at the existing area, particularly the radio towers on the ridge, an electrical distribution line that cuts through the center of the flight area (passing within 500 feet of the main launch), and two transmission lines that cross part of the downhill edge of the area. There are no known artificial obstructions in the alternative area.

About 0.8 mile of the access road to the alternative hang gliding area crosses private land. The remainder of the road and the launch and landing areas are on public (National Forest) land.

Western held discussions in early November 1985 with the president of the Rocky Mountain Hang Gliding Association and with representatives of the local hang gliding group, the Summit Soaring Society, regarding the proposal by Western to provide the alternative hang gliding area described above as mitigation for the impacts of the Proposed Route D at the existing area. Subsequent to these discussions, Western received a letter dated November 8, 1985, from the Rocky Mountain Hang Gliding Association stating that the Association and the Summit Soaring Society would accept Route D on the condition that an alternative hang gliding site be constructed to the southeast along the Williams Fork Mountains.

On November 14, Western received a letter (dated November 12) from Dale Lanan, a hang glider pilot, expressing the opinion that an alternative site elsewhere would not be a replacement for the existing one. On November 25, Western received a second letter from the Rocky Mountain Hang Gliding Association stating that an undetermined number of pilots in the hang gliding community opposed Route D, even with the provision of an alternative area, and favored Route D2. The letter stated that the Association's first letter (of November 8) was rescinded, pending a special meeting of the Association to vote on the issue. On December 10, a third letter (dated December 5) was received from the Association reporting the result of this special vote, which was

that the Colorado hang gliding community would oppose Route D, therefore declined the offer to construct an alternative hang gliding area, and were amenable to the selection of Route D2.

The four letters mentioned above appear in this FSEIS as Appendix H.

Despite the positions expressed in the second, third, and fourth of the letters mentioned above, Western believes that construction of the alternative hang gliding area effectively mitigates the impacts to this activity and, therefore, Alternative D, with the alternative hang gliding area, continues to be the proposed action.

However, this mitigation does have its own impacts, and these are included as part of the proposed action.

The impact levels of the construction and operation of the alternative hang glider area are as follows:

o Geology & Hazards	Low to none
o Surface Water	Low to none
o Soils/Slope & Vegetation	Moderate short-term impacts for sensitive soil units, low to none for other environmental conditions
o Wildlife	Low to none
o Land Use	Low to none
o Land Use Plans	Low to none
o Cultural Resources	Low to none
o Paleontological Resources	Low to none
o Visual Resources	Moderate long-term visual impacts
o Socioeconomics	No effect is anticipated. Since the alternative hang gliding site is very similar to the existing one, it is probable that future use patterns will be the same, with and without the action.
o Public Health, Safety & Comfort	Low to none

Impacts at or below the low level are not a factor in the comparison of routes and, therefore, only the moderate level impacts (to soils/slope & vegetation and to visual resources) are of concern for this purpose.

The soils/slope & vegetation impacts of this mitigation measure are illustrated on Figure 5-3, explained in Chapter 5, Section C.3.(e), and quantified on Tables 5-1 and 5-3 in this FSEIS.

The visual impacts of this mitigation measure are illustrated on Figure 5-6, explained in Chapter 5, Section C.9.(d), and quantified on Tables 5-1 and 5-3 in this FSEIS.

Page 5-23

Section C.5.(c). Replace the seventh significance criterion on Page 5-23 with the following:

- Impacts to recreation are considered significant if the presence of the line prevents the safe operation of hang gliders at an established use area.

Pages 5-23 through 5-25

Replace Section C.5.(e) with the following:

(e) Impacts of the Primary Alternative (Existing Land Use)

Figure 5-5 in this FSEIS shows the land use conditions impacted at moderate or significantly higher levels by any part of the network of potential corridors.

(1) Proposed Alternative D

The Proposed Alternative passes through about 3.6 miles of a hang glider area (a zone where low level flight sometimes occurs). Because of the committed mitigation (the provision of an alternative hang gliding area, as shown on Figure 5-5 and described in Section C.5.(b)(2)), the impact of Route D on the activity is low. The only other sensitive land use condition affected by this alternative is agriculture. Two areas totaling about 1.25 miles in length are crossed by the corridor while paralleling an existing transmission line in the bottomlands of the Colorado River near Kremmling. The corridor also crosses a narrow band of cultivated land near the Ute Pass Road. Depending on when construction is scheduled, crossing these lands may result in short-term crop damages. Less than 0.5 acre of cultivated land would be lost as a result of the placement of new transmission structures. However, because some of the existing lines currently located within cultivated lands will be removed, the project's overall effect will be to reduce the amount of agricultural land precluded from cultivation. The alternative also passes through a designated firewood cutting area in the Williams Fork Range. This might result in the need to impose restrictions on cutting timber near the proposed ROW.

Table 5-12b, following Page 5-23

Replace Table 5-12b with the following:

Revised Oct.1985
Table 5-12b
Land Use 2
Impact Assessment

Environmental Condition	Relationship to Action	Constraint Value	Types and Causes of Impacts [1]	Mitigation Measures [1]	Types of Action [2]	Resulting Impact Levels: Short Term			Resulting Impact Levels: Long Term		
						Significant	Moderate	Low to None	Significant	Moderate	Low to None
Recreation Site	crossed (buildings in ROW)	H	1, 2	Stand.	A		●			●	
					B1/B2		●			●	
					C1/C2		●			●	
					D1/D2		●			●	
Recreation Site	crossed (buildings not in ROW)	H	1, 2, 3	Stand.	A		●			●	
					B1/B2		●			●	
					C1/C2		●			●	
					D1/D2		●			●	
Outfitters Camp	Crossed or closely approached (within 300')	H	1, 2	Stand.	A		●			●	
					B1/B2		●			●	
					C1/C2		●				●
					D1/D2		●				●
Recreational Trail	crossed	H	1, 2	Stand.	A		●			●	
					B1/B2		●			●	
					C1/C2		●				●
					D1/D2		●				●
River on the Wild and Scenic Rivers Inventory	crossed	H	1, 2	Stand.	A		●			●	
					B1/B2		●			●	
					C1/C2		●				●
					D1/D2		●				●
Airstrip Clearance Zone	crossed	VH	7	1	A			●	●		
					B1/B2			●	●		
					C1/C2			●	●		
					D1/D2			●	●		
Operating Railroad	crossed	L	9	Stand. 2.	A			●			●
					B1/B2			●			●
					C1/C2			●			●
					D1/D2			●			●
Hang Gliding Area (zone where low-level flight sometimes occurs)	crossed	VH	8	—	A			●	●		
					B1/B2			●	●		
					C1/C2			●		●	
					D1/D2			●		●	

(2) Primary Alternative A

This alternative crosses the Copper Creek subdivision in Grand County for a distance of about 1.33 miles. In addition to the impacts on cultivated lands that were already described for the proposed alternative, Alternative A crosses a small agricultural area near Battle Mountain. This narrow area can be spanned, however, and would not require the placement of structures within cultivated land. Overall, the effect on agriculture is the same as described for the proposed alternative. Finally, Alternative A crosses a recreational trail on the northeast slope of the Williams Fork Range.

(3) Primary Alternative B

Alternative B has the same effects on agricultural lands as were described for the proposed alternative. Alternative B crosses the same recreational trail mentioned under the discussion of Alternative A.

(4) Primary Alternative C

Alternative C has the same effects on existing land use as were described for the proposed alternative.

(5) Primary Alternative D2

This alternative has the same effect on agricultural land as was described for the proposed alternative.

(6) Primary Alternative D1

This alternative has an essentially identical effect on land use as Alternative D, but in addition passes through about 3.8 miles of hang glider area (zone where low level flight sometimes occurs). A line sited in Corridor D1 would either prevent the activity or constitute a severe hazard to it. With Alternative D1, there is no opportunity to mitigate this impact by providing an alternative hang gliding area (as is done with Alternative D), since D1 does not cross to the downwind side of the Williams Fork Range.

(7) Primary Alternative E

The entire length of this alternative either parallels an existing transmission line and/or occupies the widened ROW of an existing transmission line that is to be removed. The corridor passes sufficiently close to eight developed residential sites that it is likely that ROW restrictions would apply to the residential lots associated with these sites. Because of this proximity, construction activities would result in an adverse effect on these residential sites. Long-term effects include potential limitations on future development; these effects are reduced by the fact that the alternative would be located in an established corridor and would utilize a portion of the existing ROW. Alternative E also crosses over a distance of almost two miles through two subdivisions located along Highway 9 between Green Mountain Reservoir and Lawson Ridge in Grand County. ROW restrictions would present minor limitations to additional development within these subdivisions; however, the greatest impacts are associated with visual effects. Alternative E also passes close to three developed recreation sites and is located through

a total of 2.5 miles of the area surrounding Green Mountain Reservoir that is designated as a developed recreation area. The primary effect on these recreation sites/areas is visual.

In addition to the effects described for the proposed alternative, Alternative E crosses three miles of cultivated land in scattered parcels through the southwest shore of Green Mountain Reservoir and upstream along the Blue River. Crossing these lands may result in crop damage during the construction phase. Long-term adverse effects will be minor, and possibly a net beneficial effect will result due to the removal of the existing line and its replacement with a smaller number of larger structures.

Pages 5-25 and 5-26

Replace Section C.6.(e) with the following:

(e) Impacts of the Primary Alternative Routes (Proposed Land Use)

(1) Proposed Alternative D

The proposed alternative (in common with all the others), while paralleling an existing transmission line, crosses the edge of a proposed residential area outside Kremmling. Because the proposed transmission line would replace an existing line within an established utility corridor, only a minor adverse effect would result to future residential development. The proposed alternative also crosses several miles of USFS lands designated for management to emphasize wood fiber production (Map Unit 7E). The proposed line may present a physical obstacle for future timber harvest, i.e., special care would have to be taken while harvesting in the vicinity of the ROW.

(2) Primary Alternative A

This alternative crosses about 0.75 mile of USFS land that is designated for management as semi-primitive, non-motorized recreation (Map Unit 3A), which is located northwest of Ute Pass. The transmission line would not have any direct physical effect on recreation use in this unit, but would represent an adverse visual impact. It also crosses the edge of the same proposed residential area outside Kremmling that was discussed under the proposed alternative.

(3) Primary Alternative B

This alternative has the same effects on proposed land uses as Alternative A.

(4) Primary Alternative C

This alternative has the same effects on proposed land uses as the proposed alternative.

(5) Primary Alternative D2

This alternative has the same effects on proposed land uses as the proposed alternative.

(6) Primary Alternative D1

This alternative has the same effects on proposed land uses as the proposed alternative, except that it has an additional two miles that cross USFS lands designated for wood fiber production.

(7) Primary Alternative E

This alternative, occupying the widened ROW of an existing transmission line that will be removed, crosses about 2.25 miles of Summit County's designated developed recreation facilities/summer oriented business/low density residential area on the southwest shore of Green Mountain Reservoir. Because the line would replace an existing line, the widened ROW and associated restrictions would probably present only minor direct limitations to future development. Visual impacts would probably be the major concern; their effect on future development cannot be readily determined. Alternative E also crosses the edge of the same proposed residential area outside Kremmling that was described for the proposed alternative.

Page 5-28

Replace Section C.7.(e) with the following:

(e) Impacts of the Primary Alternatives

Impacts to cultural resources cannot be accurately described until a detailed survey has been conducted. In any event, little or no adverse effect is expected due to the committed mitigation. No construction activities will take place at or near eligible cultural resources until the Section 106 procedures are completed. The following discussion is based only on recorded sites.

(1) Proposed Alternative D and Primary Alternatives B, C, D2, and D1

These alternatives closely approach one recorded cultural site in the northern segment of the project area.

(2) Primary Alternative A

This alternative does not approach any recorded cultural sites.

(3) Primary Alternative E

This alternative, while occupying the widened ROW of an existing transmission line that will be removed, crosses the edge of a large recorded cultural site in the southern segment of the project area.

Pages 5-29 and 5-30

Replace Section C.8.(e) with the following:

(e) Impacts of the Primary Alternatives

Impacts to paleontological resources will be kept to a minimum. There will be few or no adverse effects due to the standard mitigation measures. The following discussion is based on known paleontological resources.

(1) Proposed Alternative D and Primary Alternatives A, B, C, D2, and D1

These alternatives closely approach a known vertebrate fossil location in the northern segment of the study area.

(2) Primary Alternative E

This alternative has no effect on known vertebrate fossil locations.

Pages 5-30 and 5-31

Replace Section C.9.(a) with the following:

9. VISUAL RESOURCES

(a) Types and Causes of Potential Impacts

Figure 5-6 in the FSEIS shows the visual conditions impacted at moderate or higher levels by any part of the network of alternative corridors.

Impacts to visual resources were determined on the basis of whether the predicted visual change caused by the proposed action and alternatives would be within the management guidelines for that area. In order to determine this, a modified version of BLM's visual contrast rating process was used. The procedure involves comparing the existing visual condition against the visual appearance of the area following the addition of the transmission line and access road, if needed. The difference between these two conditions, as seen from sensitive viewpoints, is

referred to as the degree of visual contrast. The degree of visual contrast is compared to the BLM's or the USFS's management guidelines for the area to determine whether it is within or exceeds the allowable degree of visual contrast for that area.

This process was conducted from every sensitive viewpoint in the project area for all alternatives that would be within view of it. As a result, there were a large number of viewpoints looking at alternatives crossing a wide diversity of landscape types. In order to ensure consistency in rating the large number of viewer-project interactions and to document the process in clear steps, the contrast rating procedure was organized into three distinct efforts:

- Evaluation of the landscape conditions: Landscape condition data gathered in the inventory were reviewed in order to predict the physical effect that project facilities would have.

- Evaluation of viewing conditions: Visibility data gathered in the inventory were used to determine the nature and degree to which the on-site physical modifications (identified in the preceding step) would be seen from various viewpoints as a visual contrast.

- Determination of impacts: These were determined by comparing the predicted level of visual contrast with the visual management guidelines for that area.

As a further check on the impact assessments that were made, a large number of visual simulations were prepared so that the project could be "seen" in more concrete terms. Viewpoints for these simulations were selected following consultation with Grand County, Summit County, USFS, and BLM personnel. The first step in production of the simulations was the preparation of large computer-generated perspective plots. In order to do this, elevation data were digitized from 7 1/2 minute quads (1:24,000 scale maps with 40-foot contour intervals). Following this, the proposed tower locations and the tree cover along the corridor centerline were entered. From this input, accurately located and scaled plots were generated from the desired viewpoints giving correct perspective views of the terrain, structures, and screening trees. These plots were then matched to enlarged photographs taken from the same viewpoint. Graphic artists then rendered the towers realistically onto the matching enlarged color photographs ensuring their proper location, scale, orientation, and color. Given the reclamation and other mitigation measures committed to, new access ways were judged to rarely be visible in any of these simulated views of the project. In some cases, the computer perspective plot alone was enough to verify the impact results.

Figures 5-8 through 5-17 in this FSEIS are reproductions of the visual simulations that were produced. In their original form, as used to refine the judgments on visibility, they were about 300% of the size that appears here and the photographs were in color. The original images are available for inspection at Western's offices in Loveland, Colorado.

Wherever the structures of the primary alternative being illustrated are within about two miles of the viewer, the simulation is presented in its final photographic form, though not all of the structures may be visible due to the limitations of scale and feasible printing processes. Figures 5-9 through 5-12 are such photographic simulations.

When all structures in the primary alternatives being illustrated are more than two miles from the viewer, it was judged that the transmission line structures would not be visible when printed. In these cases, the preliminary perspective plot images are presented. It must be kept in mind when using these that they are accurate as to the size and portion of the structures, but they are not realistic in terms of the visual contrast of the structures. Figures 5-13 through 5-17 are such perspective plot simulations.

Figure 5-8 shows an example of a single simulation in both its preliminary perspective plot form and its final photographic form.

Figure 5-7 is an index to the simulations, showing for each its viewpoint, field of view, and corridors illustrated.

Types of visual contrast include modification of the landform, modification of vegetation, and addition of structures. Landform contrasts without mitigation would have resulted in levels from imperceptible to highly significant. Helicopter construction or other nonconventional means, however, was prescribed in steep or rocky areas where impacts would result in high levels of disturbance. Landform modifications were, therefore, limited to ratings of moderate or less throughout the study area.

Vegetative modifications could also have resulted in significant levels of visual contrast if the once common practice of clear cutting the ROW were done. However, mitigation requires trees only to be topped where clearing is necessary. Based on observations of the Henderson-Dillon line in similar settings, very little vegetative modification could be detected. Helping the situation also is the viewer position which, with minor exceptions, does not afford views down the ROW in forested areas. Rather, views are generally across the ROWs and the modifications are usually well screened. As a result, vegetative modifications were, in all cases, rated at moderate and lower.

Structure modifications were most often rated as high because of their large size and unnatural appearance in often natural surroundings. This rating was reduced only where the setting had already been substantially altered by other man-made modifications.

Pages 5-33 through 5-35

Replace Section D.9.(d) with the following:

(d) Impacts of the Primary Alternatives (Visual Resources)

(1) Proposed Alternative D

The proposed alternative would result in significant visual impacts in only one area. This is a 2.2-mile segment along Highway 9, south of the Colorado River, with an adjacent 0.5-mile segment where the corridor leaves Highway 9 and

proceeds east. This impact would result from the long-term effects of the structures. Even though the addition of the 345-kV structures to the existing corridor of smaller wood pole lines was only rated as a moderate contrast, the Retention (high value) management designation in this area provides only for changes which "would not be evident or attract attention."

North of the Colorado River along Highway 9, the management designation is lower (partial retention) and the long-term structure impacts, therefore, drop to moderate. Visual contrasts in such an area "may be evident but should not be dominant." Because of this lower management designation, coupled with decreased visibility, only scattered areas of moderate impact occur throughout the remainder of this alternative. These include three short occurrences (see Figure 5-16a) and one 1.4-mile segment of skylining or other visual prominence along the Williams Fork Mountains, and a relatively long segment leading down off the Williams Fork Mountains and across the Ute Pass Road. It is only the lower visual management designation that keeps the impacts from being significant in the Ute Pass area (see Figures 5-8 and 5-11a).

As mitigation for the impacts of Alternative D on an existing hang glider area, an alternative hang glider area will be provided. The access road to this area causes a short segment of moderate long-term visual impact. This results from high landform, vegetation, and structure contrast, with moderate visibility in an area of Partial Retention visual management designation.

Overall, Alternative D causes 2.58 miles of significant long-term impact and 11.78 miles of moderate long-term impact. There would be no moderate or significant short-term construction impacts due to a combination of existing access and committed special roadless construction. A large segment of Alternative D is located in an area which is totally screened and unseen from any sensitive viewpoint. This area is north and east of Lawson Ridge.

The proposed alternative would also result in beneficial visual impacts associated with removal of the existing 69-kV and 115-kV lines. These lines are located in close proximity to Highway 9, Green Mountain Reservoir, and other sensitive viewpoints along the Blue River Valley. The visual benefits associated with removal of the existing transmission lines would be most apparent in Summit County between the Green Mountain Reservoir Power Plant and the Blue River Tap near the Ute Pass Road. Between these two points, removal of the existing 115-kV line would result in the elimination of the only transmission line that is highly visible from portions of Highway 9. The effect of this removal is shown in Figure 5-12b.

A lesser benefit will result between the Green Mountain Power Plant and the Kremmling Tap. Here, removal of the existing 69-kV line would still leave a 138-kV line in close proximity to Highway 9. The net visual change would, therefore, be relatively minor.

(2) Primary Alternative A

Alternative A would result in the same amounts of significant and moderate impacts as the proposed alternative along Highway 9. Alternative A, however, would result in 0.9 mile of additional significant long-term impact where it would cross through the Copper Creek subdivision. In addition, Alternative A would

result in a long segment of moderate long-term impacts in the vicinity of Battle Mountain due to its proximity to and visiblity from Grand County Road 3. Alternative A would also cross a recreational trail where it would create moderate impact for only a short distance due to the restricted visibility in this forested setting. It would also result in about the same amount of moderate impacts in the Ute Pass area as the proposed alternative (see Figure 5-12a).

As a result, Alternative A would have 0.8 mile more significant long-term impact and 1.4 miles more moderate long-term impact than the proposed alternative.

It would have the same beneficial impacts as were described for the proposed alternative.

(3) Primary Alternative B

Alternative B is identical to Alternative A, except in the area of the Copper Creek subdivision and Battle Mountain. Alternative B would be in view of the Copper Creek subdivision, but would not cross through it. As a result, it would result in 1.1 miles of moderate long-term impact in this area (see Figure 5-10a). It would be significantly further from Grand County Road 3 than Alternative A, and located in a forested environment rather than in the open. Therefore, Alternative B would result in only low or very low impacts in this area.

Overall, Alternative B would have the same amount of significant long-term impacts as the proposed alternative, and 1.0 mile less moderate long-term impact.

It would have the same beneficial impacts as were described for the proposed alternative.

(4) Primary Alternative C

Alternative C is also common with the proposed alternative until it diverges east of Lawson Ridge. For some distance beyond this, it is common with Alternative B and, therefore, would have the same effect as Alternative B on the Copper Creek subdivision.

Where Alternative C crosses the top of the Williams Fork Mountains, it would be briefly skylined and result in a short segment of moderate impact, as does the proposed alternative in this area. From here on, it is common with the proposed alternative, resulting in the same impacts in the Ute Pass area. As noted earlier, Figure 5-8 is a visual simulation which shows this alternative's appearance from a portion of the Ute Pass Road where it is common with the proposed alternative.

Overall, Alternative C would have the same level of significant impacts as the proposed alternative, and 0.8 mile less moderate long-term impact.

It would have the same beneficial impacts as were described for the proposed alternative.

(5) Primary Alternative D2

This alternative is identical to the proposed alternative, except for the segment that traverses the northern half of the Williams Fork Range. In this area, there is a 0.7-mile segment and two short segments of moderate impact generated by visibility from the Copper Creek Subdivision (see Figure 5-10b). The alternative also creates a short distance of moderate impact where it crosses the ridge of the Williams Fork Mountains, resulting in skylining of at least one structure.

Overall, Alternative D2 would have the same amount of significant visual impact and 1.0 mile more moderate impact than the proposed alternative.

It would have the same beneficial effects as were described for the proposed alternative.

(6) Primary Alternative D1

This alternative has identical visual impacts as the proposed alternative, except in a four- to five-mile segment located along the central portion of the main ridge of the Williams Fork Mountains. In this segment, Alternative D1 causes 1.7 miles of moderate impact because of visibility from Highway 9 (see Figure 5-13b).

Overall, Alternative D1 would have the same amount of significant impact and 1.0 mile more of moderate impact than the proposed alternative.

It would have the same beneficial visual effects as were described for the proposed alternative.

(7) Primary Alternative E

Alternative E would result in significantly worse impacts than the proposed alternative. It would be highly visible within the Blue River Valley along Highway 9 and Heeney through a scenic, well used area to which the Forest Service has given the Retention management objective. The great majority of Alternative E would, therefore, result in significant long-term impacts. Figure 5-9a is a visual simulation which demonstrates Alternative E's high visibility and associated adverse impacts from Highway 9. Alternative E would also result in a small area of significant short-term impacts in the area of the Green Mountain Reservoir Dam. Here the terrain is extremely steep and rugged, and alternative construction methods which minimize surface disturbance have not been proposed.

Overall, Alternative E would result in far higher impacts than the proposed or any other alternative. It would cause 18.0 more miles of significant long-term impacts than the proposed alternative and 0.9 mile less moderate long-term impacts.

Page 5-37

Replace the sixth paragraph of Section D with the following:

> There would be only minor short-term effects on wildlife. All crucial habitats would be avoided during the season of use. Soil/vegetation disturbance would have a minor temporary adverse effect on some species. Long-term effects on wildlife would be minor, since the amounts of habitat there that would be removed are so small. Although parts of the new transmission line present an increased collision hazard to waterfowl and immature bald eagles, the action also includes removal of greater lengths of existing lines that have the same effect.

CHANGES & ADDITIONS TO THE DSEIS

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* Many of those attending the August 6 and 8, 1985, Public Hearings (ref. page G-1) picked up copies of the DSEIS for use during the Hearings. Some attendees kept their copy and some did not. No actual record was kept of those keeping said report. In addition, several copies were sent to Grand and Summit County Planning Departments for their subsequent distribution.

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Box 456
Kremmling, CO 80459

Ms. Anita Thompson
Box 216
Kremmling, CO 80459

Mr. Bob Thompson
Colorado Division of Wildlife
Box 617
Kremmling, CO 80459

Mr. James F. Torrence
Regional Forester
Region 2
Rocky Mountain Region
U.S. Forest Service
Box 25127
Denver Federal Center
Denver, CO 80225

Ms. Christine Tracy
Middle Park Times
Gore Pass Route
Kremmling, CO 80459

Mr. Dale Vodehnal
Chief, Environmental Assessment Branch
Environmental Protection Agency
Region VIII
One Denver Place, Suite 1300
999 - 18th Street
Denver, CO 80202-2413

Mr. Daryl Webber
U.S. Bureau of Reclamation
Engineering & Research Center Code 150
Denver Federal Center, Building 67
Denver, CO 80225

Mr. Jack Weissling
Forest Supervisor
Routt National Forest
P.O. Box 771198
Steamboat Springs, CO 80477

Mr. Barry W. Welch
U.S. Bureau of Indian Affairs
Albuquerque Area Office
P.O. Box 8327
Albuquerque, NM 87198

Mr. John G. Welles, Administrator
Environmental Protection Agency
Region VIII
Lincoln Tower Building, Room 900
1860 Lincoln Street
Denver, CO 80203

Mr. Douglas C. Wellman
624 School Street
Craig, CO 81625

Mr. John E. Wesler
Director, Office of Environment and Energy
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

Mr. Ken Wheatley
6761 Grand County Road 22
Kremmling, CO 80459

Mr. Dick Wheeler
Box 86
Kremmling, CO 80459

Mr. Charles B. White
Kirkland and Ellis
1225 Seventeenth Street
Denver, CO 80202

Mr. Edward Wilczynski
Office of Environmental Affairs
Department of Commerce
14th Street, between Constitution
Avenue and E Street, NW
Washington, D.C. 20230

Mr. Thomas A. Wojatalik
Environmental Engineer
Tennessee Valley Authority
901 Chattanooga Bank Building
Chatanooga, TN 37401

Mr. Richard W. Woodrow
Forest Supervisor
White River National Forest
P.O. Box 948
Glenwood Springs, CO 81602

Mr. Fred E. Yost
Research Services
Utility Data Institute, Inc.
2011 I Street, Suite 700
Washington, D.C. 20006

Mr. Curt Young, Jr.

Mr. John Young
Middle Park Times
Box 295
Kremmling, CO 80459

Mr. Jim Yust
Box 246
Kremmling, CO 80459

CHANGES AND ADDITIONS TO THE DSEIS
CHAPTER 7 - COMMENTS ON THE DSEIS AND RESPONSES

The comment letters are arranged in the order in which they are dated. The letters and responses are followed by a summary of the comments received at the public hearings on the project, with references to the portions of the FSEIS where the concerns expressed in these comments are addressed.

A. COMMENTS RECEIVED

LETTER #	DATE	FROM
1	July 23	Grand County Department of Development & Planning
2	July 25	Mr. & Mrs. Magnuson
3	July 25	Mr. & Mrs. Merriman
4	July 29	U.S. Bureau of Reclamation
5	July 30	U.S. Dept. of Housing & Urban Development
6	August 2	Colorado Historical Society
7	August 6	Colorado Division of Wildlife (David Freddy)
8	August 7	U.S. Fish & Wildlife Service
9	August 9	S. & C. Diltz
10	August 9	Grand County Board of Commissioners
11	August 12	Green Mountain TV Association
12	August 12	State Soil Conservation Board
13	August 12	U.S. Environmental Protection Agency
14	August 13	Rocky Mountain Hang Gliding Association
15	August 14	G.E. Snyder
16	August 15	D. Crabb
17	August 15	D.E. Lanan
18	August 16	Colorado Dept. of Natural Resources
19	August 16	Colorado Division of Wildlife

20	August 16	C. & A. Eckhart
21	August 16	K.L. Grubbs
22	August 16	U.S. Forest Service
23	August 16	W.A. Virbick
24	August 19	U.S. Soils Conservation Service
25	August 22	U.S. Dept. of the Interior
26	September 4	R. Fox
27	September 5	Summit County Planning & Engineering Dept.
28	September 10	U.S. Forest Service

Letter #1

GRAND COUNTY

DEPARTMENT OF DEVELOPMENT AND PLANNING

COURT HOUSE, HOT SULPHUR SPRINGS, COLORADO 80451
PHONE: (303) 725-3347
EXT. 238

MEMORANDUM

TO: Bill Melander, Western Area Power Administration

FROM: Grand County

DATE: July 23, 1985

RE: Blue River-Gore Pass Draft Supplemental E.I.S.

Grand County believes that the majority of Proposed Corridor "D" is located such that the potential negative impacts are adequately mitigated. We continue to object to the portion of the line proposed for the East side of the Williams Fork Mountains. Based on the "Link" numbers given in Figure 3-2, we feel that Links 17 and 19 should be replaced by Link 18. This would eliminate the establishment of a new corridor in the Williams Fork Valley. The Williams Fork Valley does not currently have any major power corridors, while the Blue River Valley does. The removal of the 115 kV line going South from Heeney, should more than adequately compensate for the use of Link 18 in the new routing.

A
B
C
D

If you have any questions concerning the enclosed comments, please contact Paul Grant or Howard Moody at the Grand County Courthouse.

PHG/lc
cc: Board of County Commissioners
R. Howard Moody

RESPONSES

A.

The comment is noted.

B.

Western's choice of Links 17 and 19 (Route D, the preferred route in both the DSEIS and this FSEIS), rather than 18 (Route DI in this FSEIS) is based on the increased impacts incurred along Link 18 as compared with Links 17 and 19. These impacts are shown in Table 5-1 and Figures 5-3, 5-5, and 5-6 in the DSEIS.

Link 18 passes through a secondary hang glider launch area, resulting in moderate, long-term impacts to the activity, as shown in Figure 5-5 in the DSEIS. Links 17 and 19 have no effect on any known hang glider launch area. It should be noted in this connection that (as reported elsewhere in this FSEIS) new information has come to light showing that the proposed transmission line could present a hazard to hang gliders, not only in their launch and landing areas, but also over other portions of their flight areas; and that these areas, in certain conditions, extend above the launch area as high as the ridge of the Williams Fork Mountains. This, with other considerations also reported elsewhere in this FSEIS (see Letter #28), has led to the redefinition of the impacts to hang gliding and the proposal of an alternative hang gliding area as mitigation for the impacts of Alternative D.

As shown in Figure 5-6 in the DSEIS, 9,300 feet of Link 18 result in moderate, long-term visual impacts. Links 17 and 19 together account for 2,400 feet of this level and type of impact.

C.

The comment is noted.

D.

Western's strategy in siting the proposed transmission line has been to consider the line as a whole and to find the best, lowest impact route for it, taking all environmental and engineering cost factors into consideration. Western believes that it is not the intent of the National Environmental Policy Act that impacts be shared out absolutely equally between political entities, as that would result in an overall increase in total impact. Note that of the 30.3 miles of 69-kV and 115-kV line that will be removed as part of this action, 14.8 miles are in Grand County. Note also that, of the power conveyed by the proposed project that will be consumed on the Colorado West slope, the majority goes to Grand County.

Benefits derived from the Hayden-Blue River line are divided as follows between Grand and Summit Counties. Of the power absorbed from the line at the Gore Pass Substation, 32 megawatts will benefit Grand County and none will benefit Summit County. Of the power absorbed from the line at the Blue River Substation, 22 megawatts will benefit Grand County, and 31 megawatts will benefit Summit County. Thus, Grand County's total share of the 280 megawatts conveyed by the line amounts to 54 megawatts (19.3%, or 63.5% of the total power benefiting the two counties). Summit County's share of the 280 megawatts is 31 megawatts (11.1%, or 36.5% of the total power benefiting the two counties).

Letter #2

July 25,1985

Dept. of Energy
Western Area Power Adm.
Loveland-Ft. Collins office
P. O. Box 3700
Loveland, Colorado 80539

Ref: Blue River Gore Pass Co. Transmission Line project

Mr. Mark N. Silverman

A We are submitting this letter in protest to the construction of the proposed high voltage transmission line through corridor 'A' for the following reasons.

1) Running a high voltage transmission line through a residential area will de-value the property greatly.

2) Wildlife patterns in the immediate area are displaced due to the construction and the noise which is inherrent to high voltage transmission lines.

3) Needless loss of trees within the area to provide the right-of-way.

We do however understand that the transmission line is needed, but feel that a route which would have less of an impact on the residents and the enviornment could be chosen. Another concern is the fact that as
B primary property owners we were not notified by the Dept. of Energy of the proposed construction. We were alerted to this proposal and subsequent meeting at the Kremmling Fair grounds from our neighbors in the area who received their information by word of mouth.

RESPONSES

A.

The environmental analysis recorded in the DSEIS (see Table 5-4 and Figures 5-5 and 5-6) concluded that Corridor A would result in moderate, long-term land use impacts; moderate, short-term (construction period) visual impacts; and significant, long-term visual impacts as it passed through the Copper Creek residential subdivision. Partly because of these impacts, Corridor A compares badly with Corridors B, C, and D. It was, therefore, dropped from consideration as the proposed route.

With regard to the three specific points in the comment, however, the following should be noted:

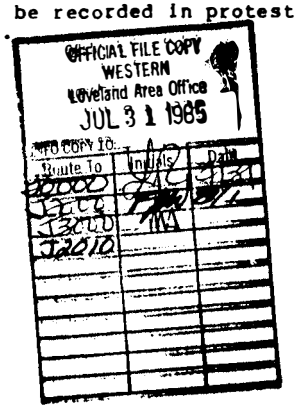
- There are frequent instances of quality residential developments adjacent to major transmission lines with no evidence of significant, adverse effect on property values.
- The standard and special mitigation measures that Western has committed to for potential impacts to wildlife are listed on Pages 5-16 and 5-17 of the DSEIS. These include the avoidance of construction within the appropriate boundaries during critical periods for the wildlife species of greatest concern. Western knows of no evidence that the noise from the operation of transmission lines tends to displace wildlife.
- The standard mitigation measures that Western has committed to for potential impacts to vegetation are listed on Pages 5-11 and 5-12 of the DSEIS. These measures include the minimum removal of vegetation to avoid creating a swath along the ROW. There will, therefore, be no needless removal of trees.

Letter #2 cont.

A | We therefore request that this letter be recorded in protest aginst the transmission line through corridor 'A'.

Sincerely
Mr. and Mrs. Max L. Magnuson
Mr. and Mrs. Max L. Magnuson
11081 Emerson St.
Northglen, Colorado 80233

(Lot 5 Copper Creek)



B.

Western's public involvement process, in compliance with CEQ Regulations, Section 1506.6, was initiated with public notices in the news media and two public planning meetings which were held April 9, 1984, in Frisco, and April 10, 1984, in Kremmling. These meetings were held to obtain additional public comment on the project and to provide updated information on project planning and alternative corridors. Additional meetings were held later in 1984, to describe the environmental study process and to present Western's preliminary preferred corridor. These included a meeting with Summit County's Lower Blue River Planning Commission, followed by a public workshop in Silverthorne on November 29, 1984; a public workshop in Kremmling on December 11, 1984; and a meeting with the Grand County Planning Commission in Hot Sulphur Springs on December 12, 1984.

The DSEIS was distributed to a very broad mailing on June 28, 1985 (see Chapter 6 in this FSEIS), for review and comment by August 19, 1985. The availability notice for the DSEIS and notice of public hearings for August 6 and 8, 1985, in Kremmling and Silverthorne were published in the Federal Register and newspapers prior to those public hearings. Western has attempted to notify as many interested parties as possible.

Letter #3

July 25,1985

Dept. of Energy
Western Area Power Adm.
Loveland-Ft. Collins office
P. O. Box 3700
Loveland, Colorado 80539

Ref: Blue River Gore Pass Co. Transmission Line project

Mr. Mark N. Silverman

A We are submitting this letter in protest to the construction of the proposed high voltage transmission line through corridor 'A' for the following reasons.

1) Running a high voltage transmission line through a residential area will de-value the property greatly.

2) Wildlife patterns in the immediate area are displaced due to the construction and the noise which is inherrent to high voltage transmission lines.

3) Needless loss of trees within the area to provide the right-of-way.

B We do however understand that the transmission line is needed, but feel that a route which would have less of an impact on the residents and the enviornment could be chosen. Another concern is the fact that as primary property owners we were not notified by the Dept. of Energy of the proposed construction. We were alerted to this proposal and subsequent meeting at the Kremmling Fair grounds from our neighbors in the area who received their information by word of mouth.

7-6

RESPONSES

A.

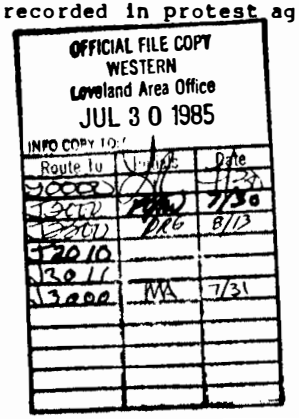
See Response A to Letter #2.

B.

See Response B to Letter #2.

Letter # 3 cont.

A | We therefore request that this letter be recorded in protest aginst the transmission line through corridor 'A'.



Sincerely
Mr. & Mrs. R. A. Merriman
Mr. and Mrs R. A. Merriman
9613 West Virginia Dr.
Lakewood, Colorado 80226

(Lot 10 Copper Creek)

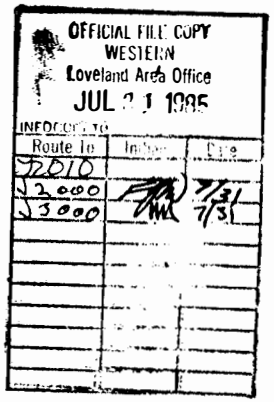
Letter #4

United States Department of the Interior

BUREAU OF RECLAMATION
UPPER COLORADO REGIONAL OFFICE
P.O. BOX 11568
SALT LAKE CITY, UTAH 84147

IN REPLY REFER TO: UC-151
120.1

JUL 29 1985



Mr. Bill Melander
Department of Energy
Western Area Power Administration
Loveland-Fort Collins Area Office
P.O. Box 3700
Loveland, Colorado 80539

Dear Mr. Melander:

We have reviewed the Draft Environmental Impact Statement for the proposed Blue River-Gore Pass Transmission Line Project (DOE EIS-0116-D) and conclude that the statement is well written and contains adequate analyses of alternatives.

The proposed project would not affect any Bureau of Reclamation projects or facilities in the Upper Colorado Region. Thank you for the opportunity to review.

Sincerely yours,

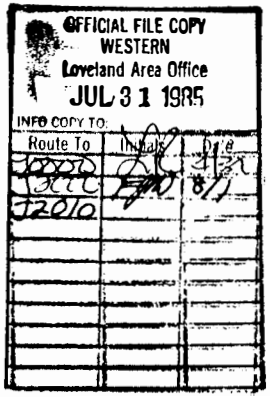
FOR Clifford I. Barrett
Regional Director

RESPONSES

No response necessary.

Letter #5

U.S. Department of Housing and Urban Development
Denver Regional Office, Region VIII
Executive Tower
1405 Curtis Street
Denver, Colorado 80202-2349



July 30, 1985

Mr. Mark N. Silverman
Area Manager
Western Area Power Administration
P.O. Box 3700
Loveland, Colorado 80539

Dear Mr. Silverman:

This is in response to your request for comments on the Draft Supplemental Environmental Impact Statement (DEIS), for the Blue River-Gore Pass portion of the Hayden-Blue River Transmission Line Project in Colorado.

Your DEIS has been reviewed with consideration for the areas of responsibility assigned to the U.S. Department of Housing and Urban Development. This review considered the proposal's compatability with local and regional comprehensive planning and impact on urbanized areas. Within these parameters, we find this document adequate for our purposes.

If you have any questions regarding these comments, please contact Mr. Myron Eckberg, Environmental Specialist, at 844-5121.

Sincerely,

Robert J. Matuschek

Robert J. Matuschek
Director
Office of Community
Planning and Development

RESPONSES

No response necessary.

Letter # 6

COLORADO
HISTORICAL
SOCIETY

Colorado State Museum 1300 Broadway Denver, Colorado 80203

August 2, 1985

Val Tungseth
Colorado Clearinghouse
Division of Local Government
Department of Local Affairs
1313 Sherman Street
Room 520
Denver, Colorado 80203

RE: Blue River - Gore Pass Portion of Hayden - Blue River
Transmission Line, EIS #85-102

Dear Ms. Tungseth:

Thank you for your July 2, 1985, correspondence concerning the draft supplemental EIS for the above proposed project.

We find the cultural resource information contained in this document to be satisfactory. In addition, the level and extent of further cultural resource work proposed appears appropriate. Our office looks forward to reviewing the results of the survey effort.

Sincerely,

Leslie E. Wildesen

Leslie E. Wildesen
Deputy State Historic Preservation Officer

LEW/KKP:ss

7-10

RESPONSES

No response necessary.

Letter #7

STATE OF COLORADO
Richard D. Lamm, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
James B. Ruch, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192

David J. Freddy
Colorado Division of
Wildlife
PO Box 252
Kremmling, CO 80459

August 6, 1985

RECEIVED
AUG 12 1985
EDAW, INC.

Mr. Mark N. Silverman, Area Manager
Department of Energy, WAPA
Loveland-Fort Collins Office
PO Box 3700
Loveland, CO 80539

Dear Mr. Silverman:

I am writing in regards to the effects of the proposed Blue River-Gore Pass powerline on the Colorado Division of Wildlife Junction Butte State Wildlife Area (JBSWA).

The JBSWA is inclusive of Division of Wildlife (CDOW) property, land administered by the Bureau of Land Management (BLM), and a permanent CDOW research facility. These lands and facility provide benefits to wildlife, primarily deer and elk, by: (1) providing critical winter range for mule deer every winter and for elk during severe winters, and (2) providing a unique situation for conducting research on mule deer. The research facility allows the CDOW to effectively work during winter with either resident or captive mule deer. Fundamental to previous and future research conducted on the JBSWA is the use of radio-telemetry.

In a letter to Mr. M. Bowie of EDAW, Inc., on 12 December 1984 and in a public meeting on 11 December 1984, I expressed that the proposed power line route (Alternative D) would seriously disrupt telemetry studies at the research facility and on wild deer inhabiting the JBSWA. I also outlined possible alternative routes to minimize the effects of the powerline on the CDOW research area. These concerns were restated at a meeting between Mr. B. Melander (WAPA) and Mr. L. Carpenter (CDOW) held in Fort Collins, CO, in February 1985.

Letter #7 cont.

The current Draft EIS (DOE/EIS-0116-DS) does not adequately address the CDOW concerns, needs, and requests for the powerline route to be altered.

A | 1. There was never an agreement between CDOW personnel and EDAW-WAPA that a 1/5-mi buffer area around the research facility sufficiently protected the interests of the CDOW as implied on page 4-20 of the Draft EIS. The CDOW has consistently

B | requested that the powerline minimally proceed south across Elliot Creek before turning southeast.

RESPONSES

A.

The second to last sentence on Page 4-20 of the DSEIS was not intended to imply that CDOW personnel agreed to a 1/5-mile buffer zone. A more detailed description of the process whereby the 1/5-mile buffer zone was selected follows. Discussions were held between CDOW, Western, and EDAW personnel that established the existence of a potential conflict between transmission lines and radio telemetry studies. Telonics, Inc., manufacturers of the telemetry equipment in use at the Junction Butte State Wildlife Research Area (JBSWRA), was then contacted and the following information was obtained:

- Telemetry signals become unclear if receiver, transmission line, and transmitting animal are all in a straight line, whether the transmission line is between the transmitter and receiver or beyond the transmitter.
- It is not known if the effect is directly proportional to voltage.
- It is possible that an older, lower voltage line could have a worse effect than a newer, higher voltage line because of its increased corona "sparking."
- Receiver antenna type is a factor.
- There is no known published research on the problem.
- The effect is hard to predict; but if the receiver and transmitter were both on the same side of the transmission line (as would be the case with penned animals), both should be "a city block" (assumed 1/10 mile) distant from the transmission line.

There are existing transmission lines on two sides of the research facility (a 69-kV line to the southeast at a distance of 7/10 mile, and two lines, a 69-kV and 138-kV, to the southwest at a distance of 2/5 mile). These lines were present before the telemetry studies at Junction Butte were initiated. This strongly suggests that the adverse effect of transmission lines on the telemetry studies cannot be very serious. Western, therefore, established a 1/5-mile radius buffer zone around the buildings and pens at the research facility, as shown in the DSEIS (Figure 4-9 and elsewhere). This is double the recommended buffer zone for penned animals. This zone was assigned a high constraint value (Table A-1, third page) in the DSEIS, and the proposed line was sited to avoid it. Western recognizes the continuing concerns of CDOW and has again doubled the width of the buffer zone around the buildings and pens of the research facility to 2/5 mile.

B.

Western has relocated the transmission line, in response to CDOW concerns, to the south side of Elliott Creek, as shown in this FSEIS. This involves one new angle in the line, one increased angle, and a slight increase in length, all of which increase cost.

Letter #7 cont.

C 2. The Draft EIS fails to recognize long-term effects of the powerline on the CDOW research activities on the JBSWA (page 5-3, Table A-1, Fig. 5-5). The powerline will affect the research facility and activities for the expected life of the powerline and facility. The powerline will effectively curtail any planned
D expansion of the research pastures to the south and southwest because of right-of-way restrictions on development (page 3-13) and the limitations of research within such potential pastures that rely on radio-telemetry.

E 3. The uniqueness of the JBSWA places this land in a comparable status of agricultural land. Agricultural areas are assigned a high constraint rating (pages 4-7, 5-23) because of potential productivity lost due to powerline structures with impacts considered significant if structures substantially limit cultivation. The JBSWA research facility and research area is unique in Colorado and offers unique "production." That production is research on mule deer. The proposed powerline route will significantly decrease the productivity of the CDOW investment in the research facility and area. The entire JBSWA, including the attendant BLM land, should receive a high constraint rating.

F 4. High constraint ratings have been placed on specific recreation sites related to hang-gliding (pages 4-18, 20, Fig. 5-5). The proposed powerline route abruptly changes direction and avoids a "secondary" hang-gliding launch area (Fig. 5-5). Hang-gliding may be a passing fancy of the public and requires no permanent investment in launch facilities. The JBSWA and research facility is at least equivalent in importance to hang-gliding launch areas and certainly exceeds any investments associated with hang-gliding. The JBSWA deserves equally high constraint and long-term impact ratings.

C.

The potential long-term effects are recognized in the DSEIS in that the area within 1/5 mile of the research station pens and buildings was assigned a high constraint value (Table A-1, third page) and avoided by the proposed line. The proposed line has been relocated to the south side of Elliott Creek, as shown in this FSEIS, thus avoiding an increased 2/5-mile buffer zone around the pens and buildings of the research facility.

D.

As is stated on Page 3-13 of the DSEIS, construction of buildings is the main activity that is restricted within transmission line rights-of-way. The establishment of future research pastures, as with ordinary agricultural pastures, would not be restricted. Western has no influence over land located outside the 200-foot right-of-way for the new transmission line.

E.

A 1/5-mile radius buffer zone, centered on the existing pens and buildings at the JBSWRA, was assigned a high constraint rating in the DSEIS (Table A-1, third page). Western recognizes the concerns of the CDOW and (as shown in this FSEIS) has established a 2/5-mile buffer zone around the buildings and pens of the research facility. The line has been resited to the south of Elliott Creek so as to avoid this 2/5-mile buffer zone.

F.

The change in direction referred to reflects a decision to establish an alternative corridor on the northeast side of the ridge of the Williams Fork Mountains because of increased, unavoidable impacts on the southwest side of this segment of the ridge. The abruptness of the change in direction of the line is due to the need to cross the ridge at close to 90° at this particular location to minimize visibility on the skyline.

The high constraint rating placed on hang glider launch areas reflects an obvious direct conflict. The presence of a line across a launch area would either prevent the activity, or present a severe safety hazard to those hang glider pilots who continued to use the area. The Forest Service and the Bureau of Land Management both recognize hang gliding on the Williams Fork Mountains as an established recreational activity. The constraint value applied reflects the scarcity of accessible topographically suitable launch sites of this quality, not investment in launch facilities.

A buffer zone, sized according to the best then available information, was established around the buildings and pens of the JBSWRA, assigned the same high constraint rating as the hang glider launch areas, and was likewise avoided in siting the primary alternative corridors.

The line has been resited south of Elliott Creek.

Letter #7 cont.

G 5. WAPA will mitigate for private home television interference (page 5-35) and allows a greater buffer area (1/4 mi)(page 5-22, Table 5-12C) for a communications facility than for the JBSWA research facility (1/5 mi)(Fig. 5-5). WAPA, therefore, admits that the powerline will interfere with radio-TV signals. Mitigation for disruption of future radio-telemetry studies involving wild and captive mule deer on the JBSWA can only involve placement of the powerline as no "after-the-fact" mitigation is feasible.

H 6. The Colorado Division of Wildlife, therefore, demands that the proposed powerline route be altered to maintain the integrity of the Junction Butte State Wildlife Research Area. The powerline should proceed south along the existing powerline corridor across Elliot Creek to a point 1,000 feet south of Elliot Creek before turning southeast.

Respectfully submitted,

David J. Freddy
Wildlife Researcher
303-724-3433

11

xc: B. Thompson
J. Gerrans
J. Morris
B. Clark
P. Barrows
L. Carpenter

G.

It is an established fact that transmission lines interfere with signal reception in certain types of electromagnetic communication systems, such as television and AM radio (FM radio is rarely affected). The process by which this interference operates and the ways to mitigate it (which do not usually include resiting the line) are well understood. As stated in the DSEIS, measures will be taken to mitigate these effects.

Western has always accepted that transmission lines may have an effect on telemetry signals. It is the severity of this effect and its influence by distance, voltage, and the age of the line that remain uncertain.

The proposed line is now sited 1,000 feet south of Elliott Creek. This puts it a minimum of 2,200 feet (2/5 mile) from the buildings and pens at the research facility.

According to the information received from Telonics, Inc., receiver antenna type is a factor and, therefore, mitigation may be possible by adjusting the design of the equipment.

H.

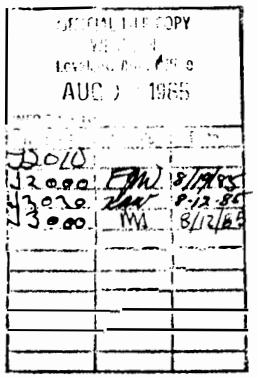
The proposed transmission line has been resited so that it proceeds southeast across Elliott Creek before turning east, and paralleling the Creek at a distance of about 1,000 feet.

Letter #8

IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
COLORADO FIELD OFFICE
730 SIMMS STREET
ROOM 292
GOLDEN, COLORADO 80401



August 7, 1985

Bill Melander
Western Area Power Administration
Loveland-Fort Collins Area Office
P.O. Box 3700
Loveland, CO 80539

RE: Review of Blue River-Gore Pass Draft Supplemental Environmental Impact Statement.

Dear Mr. Melander:

Please accept this letter as our agency's comments on the subject document. We appreciate having an opportunity to comment on the potential effects of this project on wildlife.

Generally, we believe that the DEIS adequately portrays existing wildlife resources and the probable level of impact that would result from overall project development. However, we are concerned over how specific wildlife "conditions" were selected for analysis in the DEIS Impact Quantification Table (Table 5-4). It must be noted that "constraint values" for sage grouse strutting grounds, big game critical winter ranges and calving grounds and raptor nesting areas were equally as high as two of the wildlife features that were included in the analysis (Canada goose and duck concentration sites).

A

7-15

RESPONSES

A.

The process that led to selection of the proposed corridor is explained in Appendix A of the DSEIS. The process contains two basic steps. First, all wildlife and other environmental conditions that are considered general constraints to the siting of transmission lines are defined and mapped individually by discipline (Figures 4-4 through 4-12), and as a composite (Figure A-1). These maps are used to influence the location of a network of alternative transmission line corridors that minimizes crossings of high constraint conditions. All of the wildlife conditions mentioned by the reviewer are included in this process. The constraint values attached to the mapped environmental conditions are shown in Table A-1.

In the second major step of the corridor selection process, specific mitigation measures are formulated for crossings of all environmental conditions by the transmission line, and resulting impact levels (after mitigation) are formulated. These impact levels for wildlife are shown on Tables 5-11a and 5-11b.

Many wildlife conditions are avoided by the network of alternative corridors; others, because of effective mitigation (such as seasonal avoidance), have their impact levels reduced to the low level which enables them to be dropped as considerations in the comparison of corridors.

The remaining wildlife conditions, those that are affected at least once by the network of alternative corridors and where impacts cannot be reduced below the moderate level by feasible mitigation, are the conditions that appear on Tables 5-3 through 5-7 in the DSEIS and contribute to the final impact scores for each primary alternative corridor and to the choice of a proposed corridor.

Only three wildlife conditions fall into this category. They are:

- Canada Goose Production Area
- Duck Concentration Area
- Bald Eagle Winter Concentration Area

Letter #8 cont.

B

Indeed, it is our view that DEIS wildlife and vegetation data indicate, at least intuitivlev, that impacts to wildlife would be greater with construction of Corridor D than either Corridor A or B. Corridor D closelv parallels the ridge line of the Williams Fork Mountains, a locality that is topographically and vegetativelv much more diverse than lands which would be traversed bv Corridor A or Corridor B. Such transitional, highlv diverse habitats can be verv important to a variety of wildlife. Since the significance of specific habitat features to wildlife (use vs availabilitv of habitat types) was not actuallv evaluated, we believe that the levels of overall project impact to local wildlife communities cannot be realisticallv determined. In our opinion, therefore, Corridor A and Corridor B should be given greater consideration as environmentallv preferred alternatives.

Other specific comments include:

C

1. Threatened and Endangered Species. Section 7(c) of the Endangered Species Act (ESA) requires that the action agencv prepare a biological assessment to address whether or not proposed and listed species will be affected bv project development. Page 5-19 of the DEIS states that WAPA has initiated a review of the potential project effects in accordance with section 7 of the ESA, and will consult with USFWS. Our agency will provide specific comments relating to listed and candidate species following receipt of the biological assessment. We request, therefore, that the biological assessment not only analyze impacts to bald eagles and peregrine falcons, but also the candidate species Ousterhout milkvetch, Harrington penstemon, and Swainson's hawk. Furthermore, we believe that conservation measures should be included in the assessment which would be designed to avoid impacts to bald eagles, peregrine falcons and Swainson's hawks. Such measures should include avoidance of riparian trees that may serve as roosting/perching habitat for bald eagles and nesting habitat for Swainson's hawks, avoidance of cliffs that may potentially support nesting peregrine falcons, adoption of construction "windows" to avoid critical periods and adoption of corridors that will avoid sensitive areas for these species. We also request that USFWS personnel participate in any pre-construction surveys to identify specific areas that may be occupied bv listed or candidate species.

B.

Western recognizes that diverse habitats are valuable for wildlife, but believes that the amounts of habitat that would be disturbed by construction of the various project alternatives and permanently altered by their presence are so small, that the differences between the wildlife impacts of the alternatives that traverse the most diverse habitats versus those that traverse the least diverse habitats would not be measurable; and that, therefore, diversity of habitat is not, in this case, a useful basis for comparison of alternatives.

The total land altered, i.e., habitat disturbed or altered, by each of the primary alternatives, is shown on Table I-1 in the DSEIS. As the table shows, the greatest difference in long-term habitat change between Alternatives A, B, and D is 9.8 acres. Loss or modification of habitat was included in the list of types and causes of impacts that were considered when wildlife impact levels were being assessed, as shown in the fourth column of Tables 5-1 Ia and 5-1 Ib.

C.

Western has conducted a biological assessment and determined that the proposed action will not jeopardize the continued existence of any listed, proposed, or candidate endangered species. Western has forwarded this determination to the USFWS and is awaiting review and concurrence.

Letter #8 cont.

D

2. Raptors. The DEIS acknowledges that potential project impacts may occur to raptors (Page 4-12). Raptor nesting areas delineated in Figure 4-7 generally circumscribe cliff nesting habitats. Appendix B lists the possible occurence of both Accipitrine hawks and Swainson's hawks in the project area. These species (along with red-tailed hawks and golden eagles) may be found nesting in trees throughout the project region. We recommend, therefore, that mitigation item (2)(1), Page 5-17 be expanded to include:

   A) Surveys of all potentially affected nesting habitat.

   B) That two aerial, rotor-winged surveys be performed (one in early spring, one in mid-summer) to maximize the potential for detection of occupied nest sites.

   C) That survey techniques and timing be coordinated through USFWS and CDOW.

   D) That site specific mitigation plans be developed for all nests sites that may be potentially affected by project construction through consultations with USFWS and CDOW.

E

Additionally, we wish to recommend that some of the existing 115-kg and 69-kg transmission line poles that are to be removed be left in place as a raptor enhancement feature. The pressence of some of these structures in large expanses of open habitat can be highly benefical to raptors as potential perch and nest sites.

F

We also wish to bring to your attention the possibility of conflicts with nesting raptors on the proposed 345-kv line. Raptors nesting on the towers may interfere with the operation and maintenance of the line. Any activities that are likely to disturb raptors nesting on transmission lines should be brought to the attention of the USFWS. Any efforts to resolve conflicts with raptors on transmission towers must be coordinated through USFWS and CDOW.

D.

Special mitigation Measure 1 on Page 5-17 of the DSEIS has been expanded as recommended.

E.

On public lands, Western will consider leaving some single poles from the existing 115-kV line between Green Mountain Power Plant and Blue River Tap in place in locations where they might be advantageously used as perches by raptors, and where the anticipated beneficial effects on visual quality (from their removal) would not be excessively compromised. The location of such perch poles will be coordinated through USFS, BLM, USFWS, and CDOW. Operation and maintenance of such poles will be turned over to the USFS or BLM. No poles need be left in place along the 69-kV line that is to be removed between Gore Pass Substation and Green Mountain Power Plant because (as shown in Figure 1-2 in the DSEIS) this line is paralleled by an existing 138-kV line that will not be removed, but will remain in place and continue to provide raptor perch sites. In any case, it would not be practical to leave poles in position along most of this line, as its right-of-way will be occupied by the new line and the poles would interfere with the electrical clearance of the new conductors.

F.

If raptors build nests on the structures of the proposed line and these nests seem likely to interfere with the operation and maintenance of the line, Western will contact USFWS and CDOW before taking any action to resolve the problem.

Letter #8 cont.

G

3. Aspen. The value of aspen habitat was well characterized in Appendix B. We request that impacts to this habitat type be minimized to the extent possible; and, that any permanent impacts to aspen be mitigated through management practices designed to enhance aspen growth such that no net loss in habitat availability occurs.

H

4. Access. We are concerned that the project may increase access to potentially sensitive wildlife areas. We request, therefore, that construction roads be totally reclaimed wherever possible; and, that access along the corridor be controlled to prevent non-essential uses.

Again, we appreciate having an opportunity to comment on the Blue River-Gore Pass DEIS. If you have any questions regarding these comments, or if we can be of any further assistance, please do not hesitate to call either myself at 303-236-2675 (FTS 776-2675) or Mike Lockhart at 303-243-2778 (FTS 322-0351).

Sincerely yours,

Lenard D. Hetting

Assistant Field Supervisor
Ecological Services

cc: CDOW, Denver, Grand Junction
USFWS, Salt Lake City, Grand Junction
FWS/HR, Denver

G.

As part of the siting process, hypothetical centerlines were defined within 3,000-foot wide corridors in order to allow for comparison of impacts. The hypothetical centerline of the proposed route (total length approximately 30 miles) crosses three significant aspen stands for a total distance of about 3,100 feet. During the detail design phase of the project, Western will coordinate with USFS, BLM, USFWS, and CDOW to reduce the amount of aspen disturbed. If required, Western will formulate management measures to enhance aspen growth in disturbed areas.

H,

Western proposes to retain all construction access roads to provide maintenance access. However, as stated in special wildlife mitigation measure Number 5 on Page 5-17 of the DSEIS, new access roads will have gates installed at fences to permit easy closure during critical periods to wildlife.

Letter #9

August 9, 1985

Dear Mr. Silverman,

A We are year round residents of Copper Creek Subdivision. We have worked hard on our cabin for 6 years, bringing it up to the present comfortable living conditions. At one time (5 years ago), we lived without water or electricity, so we apperciate the modern conveniences, but the thought of having a power line a few yards out of our front door, makes us desire "the good old days" again. If you choose route A for the power line it will block our view of the majestic Continental Divide and ruin our peaceful life.

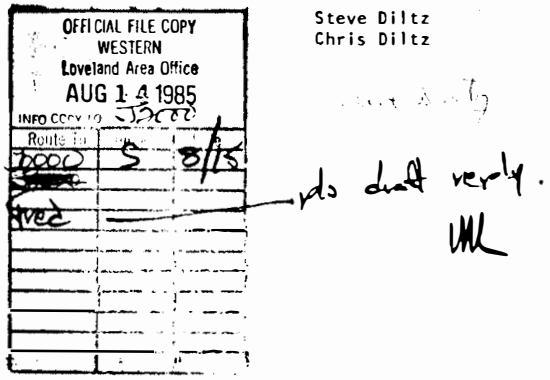
We are astronomers by hobby and have shared in this peaceful viewing with friends and neighbors. Their excitement and wonder of looking at these "ancient lights" would fizzle away, if they had to look through the proposed power line.

We understand that the line has to go somewhere, but PLEASE, don't let it be through a small subdivision, out in the wilderness where people are trying to live quietly away from the hum-drum of society.

Thank you for listening to our comments and not choosing route A!

Sincerely,

Steve Diltz
Chris Diltz



RESPONSES

A.

The environmental analysis recorded in the DSEIS concluded that Corridor A would result in moderate, long-term land use impacts; moderate, short-term (construction period) visual impacts; and significant long-term visual impacts as it passed through the Copper Creek residential subdivision. Partly because of these impacts, Corridor A compares badly with Corridors, B, C, and D. It was, therefore, dropped from consideration as the proposed route.

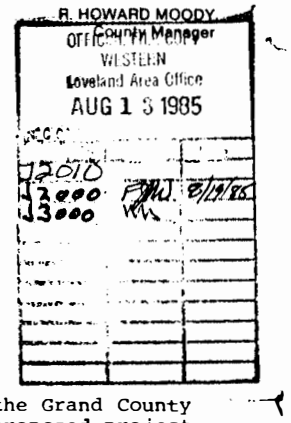
Letter #10

GRAND COUNTY BOARD OF COMMISSIONERS

RICHARD "DICK" LEONARD
District I, Fraser 80442
W.A. (BILL) NEEDHAM
District II, Granby 80446
HERBERT A. RITSCHARD
District III, Kremmling 80459

COURTHOUSE, HOT SULPHUR SPRINGS, COLORADO 80451
PHONE: 303-725-3376
303-725-3347

R. HOWARD MOODY
County Manager



August 9, 1985

Bill Melander
Western Area Power Administration
Loveland - Fort Collins Area Office
P,O, Box 3700
Loveland, CO 80539

RE: Blue River - Gore Pass Draft Supplemental EIS

Dear Mr. Melander:

Pursuant to our public meeting on August 6, 1985 at the Grand County Courthouse, we submit the following comments on the proposed project. The majority of proposed Corridor "D" is located such that the potential negative impacts are adequately mitigated. However, the portion of the line proposed for the east side of the Williams Fork Mountains presents a problem for Grand County.

Letter #10 cont.

A | Placing a new corridor and line on the east side opens up an entirely new area previously undisturbed. Based on the "link" numbers given in Figure 3-2, we feel that links 17 and 19 should be replaced by link 18. The removal of the 115 KV line going south from Heeney should more than adequately compensate for the use of Link 18. Plus, the additional costs of links 17 and 19 are prohibitively more excessive than link 18 (approximately $200,000 more). Costs should certainly be a factor in designing this tax-supported facility.

B

C

D

E | The majority of the line runs through Grand County and we have no major problems other than this one small section. We feel that since Grand County is bearing the brunt of the impacts, that our wishes be adherred to on this one segment.

Sincerely,

Herbert A. Ritschard

Herbert A. Ritschard
Chairman

HAR/bsc

RESPONSES

A.

The east side of the ridge of the Williams Fork Mountains is not completely undisturbed. There is a group of communication towers on a high point on the ridge that is equally visible from the east and west sides. Although the only road that climbs to the ridge of the Williams Fork Mountains does so from the west side, the existing road along the summit of the ridge is located on the east side of the divide for a greater distance than it is on the west side.

B.

See Response B to Letter Number #1.

C.

See Response D to Letter Number #1.

D.

The greater cost of Links 17 and 19 over Link 18 is due to their greater length (5.11 miles as opposed to 4.54 miles), steeper terrain, and more forest cover. Western believes that the greater impacts associated with Link 18, particularly the hazards to hang glider pilots and the greater visual impacts, justify the choice of Links 17 and 19 and outweigh their greater cost.

E.

About 62% of a straight line drawn between the proposed transmission line's origin (the Gore Pass Substation) and its destination (the Blue River Substation) is in Grand County. More than one-half of Primary Alternative E, the alternative that leaves Grand County at the earliest possible opportunity, is within the county. Therefore, it is inevitable that the majority of the proposed line, however sited, runs through the county. Primary Alternative A and B, neither proposed as the location of the project, have considerably greater percentages of their total length in Grand County than D. Grand County is projected to consume 63.5% of that portion of the power to be conveyed by the proposed project that will benefit Grand and Summit Counties together. Therefore, Western believes that Grand County's share of the total impacts of the project is not excessive.

Letter #11

GREEN MOUNTAIN TV ASSOCIATION INC.
BLUE RIVER ROUTE 82A
DILLON CO. 80435 AUGUST 12.1985

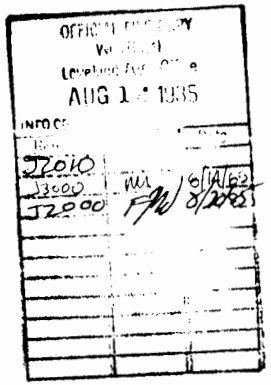
BILL MELANDER
WESTERN POWER ADMINISTRATION
P. O. BOX 3700
LOVELAND CO. 80539

DEAR SIR ,
THIS LETTER IS A COMMENT ON THE EIS DOE/EIS-0116-DS. BLUE RIVER-GORE PASS PORTION OF THE HAYDEN-BLUE RIVER TRANSMISSION LINE PROJECT.

A THIS ASSOCIATION OPERATES A TELIVISION TRANSLATOR AT THE NORTHERN END OF THE WILLIAMS FORK MOUNTAINS. VERY NEAR YOUR PROPOSED POWER LINE CORRIDOR. IT IS MORE EXACTLY LOCATED AT THE FOREST SERVICE ELECTRONIC SITE IN SECTION 31. R79W. T1S.
OUR TRASLATOR RECEIVES CHANNEL 4 FROM DENVER AND TRANSMITTS ON CHANNEL 11. IT SERVES ABOUT 200 FAMILIES IN THE TROUBLESOME AND WILLIAMS FORK VALLEYS AND THE LOWER PART OF THE BLUE RIVER VALLEY. WE ARE MOST CONCERNED WITH ANY DEGRADATION OF OF OUR TV SIGNALS THAT MIGHT BE CAUSED BY THIS NEW POWER LINE.
THANK YOU.

TRULY YOURS.

RICHACD G. PHILIPS
PRESIDENT.



RESPONSES

A.

The corridor that approaches closest to the television translator is D, the proposed route. This route passes the translator at a distance of approximately 2,200 feet (0.45 mile) horizontally and is 800 feet below the translator. Considering these relationships, Western does not anticipate any degradation of the TV signals received or transmitted by the existing translator. Western will make radio signal measurements before and after the line is constructed. If there is any degradation of the signal, it would be Western's obligation to restore it to its original strength.

Letter #12

COLORADO DEPARTMENT OF NATURAL RESOURCES

STATE SOIL CONSERVATION BOARD

STEVEN W. HORN, Ph.D., Director

Richard D. Lamm
Governor

RECEIVED
AUG 12 1985
Division of Local Government

MEMORANDUM

TO: State Clearinghouse

FROM: Terry Keane

DATE: August 12, 1985

SUBJECT: Blue River-Gore Pass Portion of Hayden-Blue River Transmission Line

OFFICIAL FILE COPY
WESTERN
Loveland Area Office
SEP 16 1985
INFO COPY TO:

Route To	Initial	Date
32010		

A The use of soil erosion control measures will be important in areas where new access routes are cut and where land disturbance occurs. I suggest that the Western Area Power Administration contact the local Soil Conservation Service office in Kremmling, 724-3456, for site-specific information.

B

TEK/vaw

RESPONSES

A.

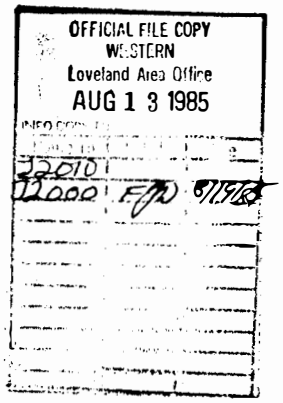
Western recognizes the importance of soil erosion control measures and has committed to an extensive list of practices to mitigate impacts to soil resources. These mitigation measures appear on Page 5-12 of the DSEIS.

B.

Western will contact the Soil Conservation Service in Kremmling and will obtain any available site-specific soils information that may be relevant during the reclamation phase of the project.

Letter #13

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
ONE DENVER PLACE — 999 18TH STREET — SUITE 1300
DENVER, COLORADO 80202-2413



AUG 12 1985

Ref: 8PM-EA

Bill Melander
Western Area Power Administration
Loveland - Fort Collins Area Office
P.O. Box 3700
Loveland, CO 80539

Dear Mr. Melander:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Region VIII Office of the Environmental Protection Agency (EPA) has reviewed the Blue River/Gore Pass Draft Supplemental Environmental Impact Statement.

The EIS contains a good discussion on the need for the project and its relationship to other projects. The use of tables and photographs are helpful to the reader in better understanding the alternatives, their impacts and their differences. We support the water quality, soil and vegetation mitigation measures listed on pages 5-8-5-13.

Based on our review we have rated the Blue River/Gore Pass Draft Supplemental EIS as LO. This means we do not have any objections to the project as described in the EIS, assuming the mitigation measures outlined are adopted. If we can be of further assistence, please contact Dennis Sohocki at (303) 293-1702 or FTS 564-1702.

Sincerely,

for Dale Vodehnal, Chief
Environmental Assessment Branch

RESPONSES

No response necessary.

Letter # 14

Rocky Mountain Hang Gliding Association
333 Wright St. 6-106
Lakewood, CO 80228
(303) 985-0984

August 13, 1985

Western Area Power Administration
Loveland - Ft. Colline Area Office
Box 3700
Loveland, CO 80539

RE: IMPACT OF PROPOSED BLUE RIVER/GORE PASS PORTION OF HAYDEN/BLUE RIVER TRANSMISSION LINE ON HANG GLIDING ALONG WILLIAMS FORK RANGE

A The Route D delineation of the above-referenced, proposed transmission line preferred by the Western Area Power Administration is unacceptable due to the extreme hazard it represents to hang glider pilots.

Whereas we make every effort to maintain a safe margin from such hazards as power lines, it must be understood that hang gliders are powerless aircraft heavily reliant on local meteorology (i.e., wind direction, velocity, etc.) to bear them aloft.

Consequently, it cannot be assumed that meteorological conditions under all circumstances would preclude a hang glider from flying into the power lines.

B We therefore ask you to avoid selecting a delineation that jeopardizes the safety of people who regularly use the Williams Fork Range for a recreational activity that has limited alternative facilities elsewhere.

Very truly yours,

Connally Keating
President

cc: Governor Richard Lamm, State of Colorado

RESPONSES

A.

The comment is noted. Western recognizes that a portion of Alternative Corridor D could constitute a hazard, as it crosses a portion of the western slope of the Williams Fork Mountains where hang gliders are sometimes forced to fly low when conditions deteriorate during a flight. It should be noted, however, that there are existing artificial hazards within this flight zone: two existing transmission lines are located along its western edge; an existing distribution line cuts through the center of the zone, passing within 500 feet of the main launch area; and a group of communication towers is located on top of the ridge, immediately above the main launch area.

B.

As shown in this FSEIS, Western proposes to construct access to an alternative hang gliding area as part of the proposed Alternative D, as mitigation of the impacts to the activity at the existing area.

Letter #15

① 8/14/84

Western Area Power Administration
Loveland - Fort Collins Office:
Attention:
Mark Silverman

OFFICIAL FILE COPY
WESTERN
Loveland Area Office
AUG 19 1985

INFO COPY TO		
30000		8/19
12000	FWD	8/19
13000	RWA	
12010		

Dear Sir,

This letter pertains to the proposed Blue River - Gore Pass Transmission Line Project.

After careful study of the Environmental Impact Statement for said project, I would like to express my concerned opinion regarding proposed alternate routes for the transmission line in the Williams Fork Mountain area. As a resident of Copper Creek subdivision, I consider alternate corridors A, B, & C totally unexceptable.

A

RESPONSES

A.

The comment is noted.

Letter #15 cont.

B

Myself and my neighbors have invested considerable time and money creating residence in an area of serenity and natural scenic beauty. Disruption of the naturalness of our residential community would be an infringement of our rights to pursue happiness in an environment of our choosing.

The impact of a transmission line accross our properties would be destructive to the very reasons of our residency, including wildlife, scenic beauty, peace and quiet, and ascetic wilderness atmosphere.

B.

The environmental analysis recorded in the DSEIS (see Table 5-4 and Figures 5-5 and 5-6) concluded that Corridor A would result in moderate, long-term land use impacts; moderate, short-term (constructian period) visual impacts; and significant long-term visual impacts as it passed through the Copper Creek residential subdivision. The analysis also concluded that Corridors B and C would cause moderate, long-term visual impacts as they pass to the southwest of Copper Creek residential subdivision (at a distance of 1/4 mile from the nearest residence) (see Tables 5-5 and 5-6 and Figure 5-6). Western believes that these conclusions accurately represent the effect that the proposed line would have on the area.

Partly because of these impacts, Corridor A compares badly with Corridors B, C, and D, and was dropped from consideration as the proposed route. The impacts of Corridors B and C in this area, however, are solely visual, are not exceptional, and are of the same level as the visual impacts unavoidably generated by several other portions of all the alternative corridors (see Figure 5-6 in the DSEIS). While Corridors B and C are not proposed as the location of the line, their overall impact levels are similar to those of the proposed corridor (see Table 5-2 in the DSEIS).

As to the specific effects mentioned by the commentatar, Western believes that potential effects on natural scenic beauty, naturalness, and aesthetic wilderness atmosphere are accurately covered by the visual impact levels assigned and that potential effects on serenity, and peace and quiet are accurately covered by the land use impact levels assigned. It should be noted that the road cuts and overhead distribution lines of the Copper Creek Subdivision themselves affect the visual quality of the area. The adverse effect on wildlife, from Corridors A, B, or C, would be at most low during construction, and low to none during the life of the project.

In response to this concern, Western has included in the FSEIS photographic and computer graphic simulations illustrating Alternatives B/C and D2 in the Copper Creek Subdivision area (Figures 5-10a, 5-10b, and 5-15a).

Letter #15 cont.

C

Any continued pursuance for construction in coridors A, B, or C will result in community opposition on both governmental and political fronts.

Sincerly,
G. Edward Snyder

Any written responses to my comments would be appreciated.

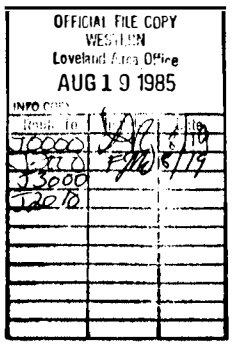
G. EDWARD SNYDER
Lot 14 COPPER CREEK
P.O. Box 434
PARSHALL, Colo. 80468

C.

The comment is noted.

Letter #16

David Crabb
420 Wright #102
Lakewood, Co 80228
August 15, 1985



Western Area Power Admin.
Loveland/ Ft Collins Office
Box 3700
Loveland, Co 80539

Re:Williams Fork Power Line Blue River Section

Dear WAPA:

I would like to make some comments on the proposed construcation of a new power line up on the Willaims Fork range, specifically the section along the Blue River from Green Mtn reservoir south towards Silverthorn.

A I am a hang gliding enthusiast and have been for years. One of the best places (there are few sites in the state), for us to fly is up in the Williams Peak range. This area has been used as a flying site for years and as such probably has made us pilots the most frequent users of that land.

B I have heard about the power line in the planing stages now and would like to say I am not in favor of either the "D" or "E" route.

C As a pilot, the "D" route has a direct effect on the flying safety in that area. The proposed path of the towers would pass through at least two of the major flight paths on the mountain. We take off from a point just east of Haystack Mountain and use the ridge east of launch as our "airway" to the upper parts of the hill. On certain days where the wind blows more from the north we use a gully to the north of launch (we call it Freddies Funnel) as our source of lift.

Due to our relying solely on wind currents for our flights, we are very much at the mercy of the local weather and terrain for getting a good flight. There can be days where conditions could cause a pilot to be fairly close to the hill. The possibility of hitting a tower or the high voltage wires (which may be hard to see in flight), would make a significant reduction in the safety of the flying.

D As just a resident of Colorado I would not like to see a power line on either route "D" or route "E" simply because of the aesthetics of the area. Highway 9 is a fairly heavily traveled and populated road. I would not like to drive down the road and see any more man made objects than necessary. A big power line, to me, would detract from the beauty of the region and should be put in an area where it is the least visible to the majority of the people traversing the area.

Thank You

RESPONSES

A.

Western recognizes that the area is a valuable site for the activity, that such sites are rare in Colorado, that the area has been in use for some years, and that hang glider pilots are among the most frequent users of the area.

B.

The comment is nated.

C.

Western recognizes that the proposed transmission line could constitute a hazard if sited across that portion of the western slope of the Williams Fork Mountains where hang gliders are sometimes forced to fly low when conditions deteriorate during a flight. It should be noted, however, that there are existing artificial hazards within this flight zone. Two existing transmission lines are located along its western edge; an existing distribution line crosses it, passing within 500 feet of the main launch area; and a group of communication towers is located on top of the main ridge, immediately above the main launch area.

As shown in the FSEIS, Western proposes to construct access to an alternative hang gliding area as part of the Proposed Alternative D, as mitigation of the impacts to the activity at the existing area.

D.

The visual effects of all routes were considered in detail in the DSEIS. As shown in Table 5-2, Route D's visual impacts are in the mid-range among the alternatives considered. Route E's visual impacts are the worst among alternatives.

Letter #17

57 Springdale Place
Longmont, Co 80501
August 15, 1985

Dear Sirs:

Enclosed you will find the copy of a letter reiterating my views on the proposed route for the Blue River - Gore Pass power line.

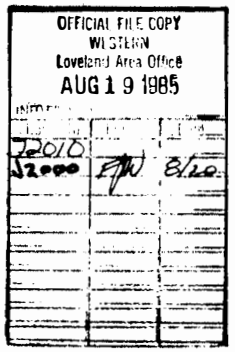
Once again, I wish to state that route D will have serious negative effects on the hang gliding at the Williams Fork mountain range.

Thank you for attention.

Sincerely,

Dale F. Lanan

Dale F. Lanan



A I would like to express some alarm about the choice by the Western Area Power Administration of route D as the preferred route for the Blue River - Gore Pass transmission line. The line will go from Kremmling, CO to Ute Pass, which is 10 miles north of the Eisenhower tunnel. The lives of the hang glider pilots who fly the Williams
B I Fork mountain range will be in jeopardy if route D is installed.

Line D as proposed will consist of 230 kV to 345 kV wires hung from 120 ft. tall towers spaced at large distances. This route will strech the entire length of the Williams Fork Mountains on the west side
C I and the summit. Line D will interfere with a heavily used west-facing hang gliding site for almost the whole length of the mountain, about twelve miles.

RESPONSES

A.

The comment is noted.

B.

See response to Comment C, Letter #14.

C.

In the DSEIS, Western acknowledged that portions of the potential alternative corridors could cause impacts to hang gliding at take-off and landing areas, and attempted to eliminate alternative routes that would affect these areas. Since distribution of the DSEIS, Western has discovered that a portion of Route D that is sited across the area within which low level flights sometimes occur, could also interfere with the activity. Based on observations at the main launch area and discussion with hang glider pilots, Western believes that this area can be defined as follows:

- Northeast boundary. A line 1,500 feet northeast of the main ridge of the Williams Fork Mountains and parallel to it.
- Northwest boundary. The ridge that forms the northwest edge of the gulch known to hang glider pilots as "Freddies Funnel." This gulch descends from the main ridge of the Williams Fork range about one mile northwest of the radio towers.
- Southwest boundary. The existing transmission lines parallel to Highway 9, and the shore of Green Mountain Reservoir.
- Southeast boundary. The ridge that forms the northwest edge of Mumford Gulch and Cox Gulch.

Western does not agree that a transmission line would cause impacts to the entire west-facing slope of the Williams Fork range. Based on observations and discussions with hang glider pilots, Western believes that flights outside the area where low level flight sometimes occurs, are long distance, cross-country flights which are generally started at great altitude from above the launch areas. Western recognizes that a pilot attempting a long distance cross-country flight may lose altitude or be forced to deliberately lose altitude because of deteriorating conditions. However, such a pilot may descend at any point over a very large area and can reasonably expect to encounter and avoid obstacles of many sorts when approaching ground level. It should be noted that an existing transmission line crosses the Williams Fork range at Ute Pass, and a line parallels the range on its west side between the Ute Pass Road and Silverthorne. As shown in this FSEIS, Western proposes to construct access to an alternative hang gliding area as part of the Proposed Alternative D, as mitigation of the impacts to the activity at the existing area.

Letter #17 cont.

Western Area Power Authority (WAPA) has held public meetings in Kremmling and Silverthorn concerning the line which I have attended and commented at, on August 6 and 8th. The route only became known to me in detail when I attended the Kremmling meeting. I alerted approximately 20 other pilots from Aspen, Salida, Boulder, Denver, Longmont and Breckenridge who then attended the following meeting in Silverthorn. We also invited a Breckenridge news reporter to attend and are trying to enlist the aid of Colorado Open Space, Outward Bound, and the Sierra Club. At the meeting, the United States Hang Gliding Association (USHGA), the Rocky Mountain Hang Gliding Association and the Summit Soaring Society (Summit County) were represented. The USHGA is recognized by the FAA as the organization responsibl for safety and self-regulation for hang glider pilots.

B, D, E — Jim Zeiset, USHGA Region 4 director, stated at the meeting that route D, if installed, would be a major hazard to pilot safety and supports the use of existing corridor E, as do I. Many other pilots also stated their concern for safety. John Coyne from Arvada, CO came to testify although he only left the hospital the previous day, and is suffering from 2nd and 3rd degree burns over 16% of his body, from colliding with a power line. He testified about the consequences of contacting a 14,000 V line with a hang glider. He was in intensive care for two weeks after hitting power lines near the Blue Mesa Reservoir a month ago. The proposed route would be of much higher voltage.

D — I am not against progress, but I am in favor of using existing corridors if they exist, particularly if they are the cheapest to install and the easiest to maintain. Route E, one of the proposed routes that WAPA has not chosen is such an existing power line corridor.

F, G — WAPA's environmental Impact Statement did not list hang gliding as a recreational use of the affected area but as a "Specialized Land Use" and did not add it into the environmental impact calculations as a recreation site that would be affected. Yet to the FAA we are considered a recreation and are not protected by the FAA from having such structures built near launch areas, landing areas, lift zones

D.

As shown on Table 5-2 in the DSEIS, Alternative Corridor E has the highest impacts of all the five primary alternatives in visual resources, wildlife, and land use (residential and recreational). Corridor E was included in the analysis because it is based on an existing line, in order to ensure that a full range of siting strategies was considered, even though almost all of the corridor passed through areas of high or very high constraints to the siting of transmission lines, as shown on Figure A-1 in the DSEIS. Western believes that any advantages of the line derived from its relatively low cost and relative ease of maintenance are outweighed by its high impacts.

E.

Western is fully aware of the consequences of someone, such as a hang glider pilot, coming in contact with or being connected to a metal structure that contacts a high voltage transmission line, and realizes that this could cause severe injuries or wounds, depending on the circumstances. However, Western cannot assume liability for such accidents, particularly when it has taken all prudent and cost-effective mitigation measures.

F.

Hang gliding is described as "an established recreational use" on Page 4-19 of the DSEIS. At the time Western was producing the DSEIS, the U.S. Forest Service had no information on hang gliding use of the area and, therefore, the activity is not included in Table 4-2, Recreation Use Levels, in the DSEIS. The FSEIS includes an analysis of the impacts on the hang glider zone where low level flight sometimes occurs.

G.

At the time the DSEIS was produced, Western believed (based on information provided in October, 1984, by Front Range Hang Gliders) that only launch and landing zones were important. Neither the Forest Service nor the Bureau of Land Management had any specific information on hang gliding in the area. Take-off and landing zones were mapped on Figure 4-9. The constraints to transmission line siting that were applied to these areas were listed on Table A-1 and mapped on Figure A-1. The resulting impact levels of routing a line across any part of them were listed on Table 5-12b and mapped on Figure 5-5. The actual amounts of impacts appeared on Table 5-1 (all impacts occurred along Links 16 and 18). When the five primary alternative corridors were defined, these conditions avoided Links 16 and 18, partly because of the impacts to hang glider launch and landing areas. Hang gliding was, therefore, an important factor in the corridor siting and impact assessment process reported in the DSEIS.

Letter #17 cont.

and flyways. This was pointed out to WAPA at the meeting. However, I feel that our pilots' safety is held as less or equal in value by the officials present at the meeting than the value they hold for having a "nice view" from houses or roads along the other routes. The value of the loss of our particular form of recreation in Summit County for Colorado and all visiting pilots I feel has not been given its proper respect and importance.

Proposed route D which is their proposed route would threaten the lives of the pilots, sharply restricting the site's use for that activity. There are not many hang gliding sites left in this area, and this is the most popular site in the state due to its proximity to Denver.

If route D were installed, pilots would have to fly above and behind the power line in order to gain altitude and get to the top of the mountain. Gaining altitude, which is the initial goal of any soaring flight on a glider, would be less likely due to the effective elimination of a prominent ridge known as Fred's Funnel, one of the best places to get the lift on the mountain needed for the gliders to gain altitude. Route D would cut right across this area. Any pilot who did get across and to the top of the mountain would have to cross the power line into the wind to reach the only landing areas possible given the capabilities of a hang glider's glide angle, speed and sink rate. Sometimes the weather changes quickly, necessitating a hasty landing. (Hang gliders do not have engines.) If the wind were to pick up while a glider is between the mountain top and the power line the glider could become trapped. A collision with a 345 kV line would cause an explosion, killing the pilot and very possibly causing a forest fire.

Hang gliding is a colorful sport, pictures of which are often used in tourist promotions for our state, cities, TV station advertisements and etc, Hang gliding is an international sport and deserves some respect as a viable recreation. It brings in visitors and pilots to the state and is proud to have a good and improving safety record. Hang gliding sites are being closed or destroyed quickly in the rapidly growing East/Central section of Colorado. This power line would essentially destroy one of the best sites in the state. How does this future fit in with "Colorful Colorado"?

H

The impact levels of the proposed transmission line on hang gliding launch and landing areas were defined as "Significant" for primary areas and "Moderate" for secondary areas in the DSEIS (Table 5-12b), based on the significance criterion listed on Page 5-23: "Impacts to recreation are considered significant if the presence of the line prevents the safe operation of hang gliders at an established use area." It now appears, on the basis of the new information obtained on hang gliders in the Williams Fork Mountains, that, in the absence of mitigation, impacts may reasonably be applied to the area within which low level flight sometimes occurs.

Visual contrasts which exceed the limits allowed by the Forest Service's management guidelines for a given area are defined as "Significant."

Western believes that, while it may be impossible to get agreement from all the different interests on the relative values of the resources with which each is concerned, the approach used in the DSEIS (that of defining impact levels based on "significance criteria") is fair and reasonable and does not undervalue hang gliding.

I.

Western recognizes the scarcity of existing hang gliding sites and, therefore, the value of this one.

J.

Western recognizes the popularity and, therefore, the value of the Williams Fork range hang gliding area.

Letter #17 cont.

The proposed routes are lettered from east to west as A through E and would effect hang gliding as follows:

C Route D would close Williams Fork mountain range to hang gliding by increasing the danger to participants to an unacceptable level. It would severly affect launches by restricting the use of the main lift areas on the mountain; thus gliders would be unable to gain altitude and clear the launch areas for others to take off. Without this altitude gain, pilots would be unable to use the flyway and lift areas which follow the mountain crest to the south. Thus it would severly affect hang gliding for twelve miles of the power line's route. The danger of hitting power lines or unper ground wires or towers would increase as wind velocity or turbulence increases. The visibility of these lines from the air is less than from the ground, making them a veritable spider's web. As wind velocity approaches a hang glider's top speed, the pilot's ability to move sideways is reduced, unless he wants to be blown over the back of the mountain into the rotor. A glider's performance is decreased as speed is increased near his top speed of 40 to 58 mph. At these wind velocities horizontal air and turbulance can be expected. This also reduces the ship's ability to maintain altitude and penetrate forward, toward the valley and the landing areas to the west. Any glider trapped between the mountain top and these proposed power lines, away from all possible landing areas would be in iminent danger. Route D for the power lines would be a disasterous choice for hang gliding at Williams Peak.

K Route C could be a compromise route because it would not shut down hang gliding completely. It allows the power line to be near the summit of the mountain as does route D, but does not impact hang gliding nearly as severly because it does not cross and separate the major lift areas on the northern-most mountain (where the TV antennas are) from the landing areas in the valley to the west. When route C does cross to the west side of the mountain it does so on the high ridge to the south where there is a glider flyway. It would not affect the main lift areas as route D would. Route C would affect mainly a six mile long strech on the south end of the mountain and have little or no impact on flying to the north.

L Routes A and B would have very little or no impact on hang gliding. they would come near a subdivision on the solidly forested east side of the mountain and very close to an area under study as a possible wilderness area southeast of Ute Pass. These lines would necessitate roads which would change the character of this large tract of unbroken forest, but their impact on hang gliding would be negligible.

K.

See the last paragraph of Response C above.

L.

As shown on Figures 4-9 and 4-11 in the DSEIS, the closest approach of Routes A and B to the potential wilderness area is 1.0 mile. An existing highway and an existing transmission line approach within a few hundred feet of its boundary at that point.

Letter #17 cont.

D
M I propose the use of the existing route E for the new power lines. Williams Fork mountain range is still, for the most part, in its natural state. Route E would follow the valley along U.S. 9 going south and the go past Heeney via the Green Mountain Reservoir hydroelectric plant and then south to Ute Pass along the west side of the Green Mountain Reservoir. There is existing visual
N pollution at present along this corridor in the form of high voltage power
D lines. This route is the cheapest to install by $1.5 million and the
N easiest to repair. Visual pollution of this sort is often seen along highways and both these power lines could run together, thus eliminating the need for another corridor along the length of a beautiful 15-mile mountain range adjacent to a proposed wilderness area.

Please help us stop the proposed route D for this power line. The respons period for written comment ends on August 19th. If you could contact Bill Melander, of the Western Area Power Administration to discourage the choice of route D, it would be greatly appreciated. (address below)

Bill Melander
Western Area Power Administration
Loveland-Ft.Collins Area Office
P.O. Box 3700
Loveland CO 80539 (303) 224-7231

Thank you very much for your time and any help you may be able to give for the preservation of hang gliding at this site.

Sincerely,
Dale F. Lanan

Dale F. Lanan

M.

The Williams Fork range has a radio tower on a high point of its ridge and a road along most of the ridge, as shown on Figure 4-9 in the DSEIS. The Forest Service's plans for the upper portions of the west-facing slopes of the range emphasize wood fiber production, as shown on Figure 4-10 in the DSEIS.

N.

As shown on Figure 1-2 in the DSEIS, the existing transmission line that runs southeast from Green Mountain Power Plant will be removed as part of this action. See also Response D above.

Letter # 18

STATE OF COLORADO RICHARD D. LAMM, Governor

DEPARTMENT OF NATURAL RESOURCES

DAVID H. GETCHES, Executive Director
1313 Sherman St., Room 718, Denver, Colorado 80203 866-3311

Geological Survey
Board of Land Commissioners
Mined Land Reclamation
Division of Mines
Oil and Gas Conservation Commission
Division of Parks & Outdoor Recreation
Soil Conservation Board
Water Conservation Board
Division of Water Resources
Division of Wildlife

August 16, 1983

Mr. Bill Melander
Western Area Power Administration
P.O. Box 3700
Loveland, CO 80539

Dear Mr. Melander:

A | State agencies have had an opportunity to review the Draft Supplemental EIS for the Blue River-Gore Pass portion of the Hayden-Blue River Transmission Line Project. The State Soil Conservation Board and the Colorado Historical Society have submitted the enclosed comments.

RESPONSE

A.

The referenced comments from the State Soil Conservation Board and the Colorado Historical Society have been received (Letters #12 and #6) and responded to.

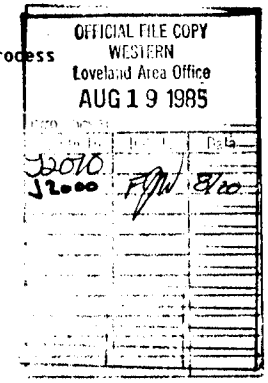
Letter # 18 cont.

B Additionally, the Division of Wildlife has expressed concern about the proposed transmission line corridor. As we discussed on August 16, someone from the Division will call you by the 19th to outline the agency's comments and discuss the recent changes you have made in the corridor alignment. Depending on the outcome of that conversation, the Division will follow up with written comments or perhaps suggest that a meeting be arranged to discuss their comments further.

We appreciate your willingness to respond constructively to state agency comments.

Sincerely,

STEVE NORRIS
Program Director
Colorado Joint Review Process



SN:sc
7121
cc: Bill Clark, Division of Wildlife

B.

The referenced comments from the Colorado Division of Wildlife have been received (Letters #7 and #19) and responded to.

Letter #19

STATE OF COLORADO
Richard D. Lamm, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
James B. Ruch, Director
6060 Broadway
Denver, Colorado 80216 (297-1192)
711 Independent Ave.
Grand Junction, CO 81505

August 16, 1985

Mr. Mark N. Silverman, Area Manager
Department of Energy, WAPA
Loveland-Fort Collins Office
PO Box 3700
Loveland, CO 80539

Dear Mr. Silverman:

A Field personnel of the Colorado Division of Wildlife wish to make additional comments to those you have previously recieved from D.J. Freddy, Wildlife Researcher, in regards to the Blue River-Gore Pass Transmission Line Draft Environmental Statement (DES). This is to inform you we prefer Corridor E over Corridor D, your preferred alternative, for the following reasons.

B Mule deer and elk concentrate on the breaks of the west side of Blue Ridge. There is currently adequate access to these concentrations of deer and elk and additional access through the concentration areas could result in displacement of these animals to private lands. The State would be liable for higher monetary payments to private landowners as a result of WAPA's action should you build the powerline as proposed.

RESPONSES

A.

The comment is noted.

B.

It is assumed that the Blue Ridge is the main ridge of the Williams Fork Mountains, and that the concentrations of mule deer and elk referred to are winter concentrations. The concentration areas (derived from CDOW data) appear on Figure 4-7 of the DSEIS. The levels of impact assumed to result from crossing these areas are shown in Table 5-11a in the DSEIS, and are low to none for both the construction period (short-term impacts) and over the life of the project (long-term impacts). This is because Western has committed to the list of mitigation measures shown on the table and explained on Pages 5-15 and 5-17. (Standard measures and special measures 2, 3, 5, and 6.) These include:

- Avoidance of constructian, and substantial periodic maintenance operations, within the boundary of the concentration areas during the critical periods;
- Installation of gates at fences that cross new construction access roads to permit easy closure during critical periods; and
- Consultation with wildlife agencies (including CDOW) to determine detailed application of mitigation measures.

Western believes that with the application of these measures, there would be no measurable displacement of elk or mule deer attributable to the project.

Letter # 19 cont.

C Secondly, management of these deer and elk populations is dependent on collecting population data from helicopters. Corridor D, because of the lay of the land, would place our personnel in greater jeopardy from the powerlines then Corridor E as they conduct these flights to gather data. The value of the data is enhanced by repetitive collection of data from previously selected quadrats, which are randomly selected one square mile sections of land, identified by markers visible from the air. The use of these quadrats year after year greatly enhances the statistical precision and accuracy of the resulting population estimates. If we had to abandon any of these quadrats for safety reasons, 16 years of data collected at a very real and great expense to the State would be lost.

D Finally, we do not concur with your statement on page 1-4 that "Corridor E is considered the worst alternative from a wildlife perspective" and we feel the statement is an overemphasis of the existing situation. The concern is over a duck concentration area and bald eagle winter concentration area currently affected by existing powerlines. It is our opinion that upgrading the existing powerlines and marking the overhead ground wires would be of far less impact to the relatively few numbers of birds affected then building an entirely new set of powerlines.

C.

Western routinely operates helicopters in close proximity to transmission lines, and believes that the additional hazards of doing this (as compared to the hazards of ordinary helicopter operation) are negligible. Western will consult with CDOW during the detailed design phases of the project to determine where the proposed line crosses CDOW's survey quadrats.

D.

As was stated in the DSEIS on Page 5-5, Alternative E has approximately 3.8 more miles through duck concentration areas and 17.9 more miles through bald eagle winter concentration areas than the other alternatives. Even though Alternative E utilizes an existing corridor, the new transmission structures would be approximately 55 feet higher than the existing ones. Increased mortality of birds from collisions with elements of the transmission line, especially the overhead ground wires, is the primary type of impact that would probably occur in these areas. There would also be some minor loss of habitat (see DSEIS, Page 5-15 and 5-16, Items 1 and 3). Even though habitat loss will be minimized (as stoted in the DSEIS, Page 5-16, Item 1; and Page 5-17, Item 4), Western believes that the maderate impact level assigned to these conditions (see Tables 5-11a and 5-11b in the DSEIS) is the correct one, particularly as the bald eagle is an endangered species and as concern has invariably been expressed to Western by wildlife agencies in situations where a transmission line was being sited across such areas, including crossings with existing transmission lines.

In contrast to these impacts (which Western believes are not mitigoble below the moderate level), the type of wildlife impacts found along the portion of Route D that is separate from Route E are all mitigable to the low to none level by the use of the mitigation measures listed on Page 5-17 of the DSEIS, particularly seasonal avoidance and closure of access roads.

Given the mitigation measures committed to, Western believes that Corridor E is the worst of all the alternatives examined from the wildlife point of view.

Letter # 19 cont.

E | It seems your preference for Corridor D over Corridor E is based on the economics of building the line by new roads vs. by helicopter. It may be that if the Bureau of Land Management were to require helicopter construction of Corridor D on the west side of Blue Ridge then the economics of "D" vs "E" might be equalized thereby negating your
F | preference for Corridor D. It is not clear in DES what the BLM's position is, if in fact, they have even formulated a position.

Please feel free to discuss this matter with Jim Morris of my staff. Perhaps it would be good for us to meet as suggested by Mr. Steve Norris of the Department of Natural Resources.

Cordially,

Perry D. Olson
Northwest Regional Manager

PDO/WDC/ps
Encl.
xc:
B. Thompson
J. Gerrens
J. Morris
P. Barrows
D. Freddy
S. Norris
File

E.

Western's preference for Corridor D (and its variants) over Corridor E is based primarily on Corridor D's lower wildlife, land use, and visual impacts (see Table 5-2 in the DSEIS). As shown in Table 3-1 in the DSEIS, Alternative E is, in fact, less expensive than Alternative D, but this cost benefit to Alternative E is outweighed by its considerably higher impacts. Helicopter construction has already been committed to for the steepest portion of Alternative D, except where there is an existing access road, as shown on Figure 5-1 in the DSEIS. This has been factored into the cost figures shown on Table 3-1 (the base cost per line mile has been increased by 60% where there is no existing access road and slopes are in excess of 30%).

F.

The BLM's comments on the DSEIS appear in the U.S. Department of the Interior's letter (Letter #25).

Letter #20

August 16, 1985

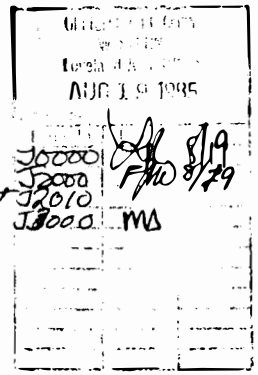
A | We are property owners in the Copper Creek Subdivision southwest of the Williams Fork Reservoir.

We wish to protest the building of a high power energy line thru that area. The Environmental Statement # DOE/EIS-0116-DS.

B | We feel corridor A, B, & C are unacceptable and that corridor E should be considered.

Calvin & Alice Eckert
2515 So. Gilpin St.
Denver, Colo. 80210

Phone- 722-1895



RESPONSES

A.

The environmental analysis recorded in the DSEIS (see Table 5-4 and Figures 5-5 and 5-6) concluded that Corridor A would result in moderate, long-term land use impacts; moderate, short-term (construction period) visual impacts; and significant, long-term visual impacts as it passed through the Copper Creek residential subdivision.

The analysis also concluded that Corridor B and C would cause moderate, long-term visual impacts as it passed to the southwest of Copper Creek residential subdivision (at a distance of 1/4 mile from the nearest residence). (See Tables 5-5 and 5-6 and Figure 5-6).

Western believes that these conclusions accurately represent the effect that the proposed line would have on the area.

Partly because of these impacts, Corridor A compares badly with Corridors B, C, and D, and was dropped from consideration as the proposed route. The impacts of Corridors B and C in this area, however, are solely visual, are not exceptional, and are of the same level as the impacts generated by several other portions of all the alternative corridors (see Figure 5-6 in the DSEIS). While Corridors B and C are not proposed as the location of the line, their overall impact levels are not significantly greater than those of the proposed corridor (see Table 5-2).

B.

Corridor E was considered in the same level of detail as all the other alternatives. As explained in the DSEIS (Table 5-2 and Page 5-4 and 5-5), it has the highest impacts of all the alternatives considered in visual resources, wildlife, and land use. It was, therefore, dropped from consideration as the proposed route.

Letter #21

16 August 1985

Western Area Power Administration
P.O. Box 3700
Loveland, Colo 80539
Attn: Mr. Mark N. Silverman, Area Manager

Dear Mr Silverman,

A | I would like to state my limited opposition to the proposed Route "D" earmarked by the draft E.I.S. for the Blue River - Gore Pass transmission line.

B | As a hang glider pilot with seven years of Williams Fork Range flying experience I can state with some certainty that Route "D" would eliminate all or most hang gliding activity at the existing flying site. This

RESPONSES

A.

The comment is noted.

B.

Western recognizes that the portion of Route D that is sited across the area within which low level flight sometimes occurs could interfere with the activity.

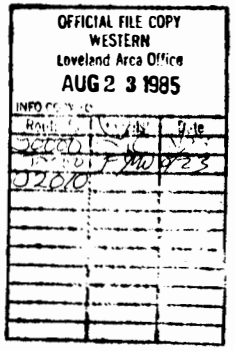
Letter #21 cont.

C | site is probably the most popular summer flying site in the State of Colorado. Any hang
D | gliding done with the proposed line in place would be extremely hazardous.
E | The hang gliding community would like to point out that Route "C" or a modified Route C would be entirely acceptable at a very modest cost increase. The
F | critical portion of Route "D" would be links 11-15. Please feel free to contact me or any other hang glider who was present at the Silver Thorne meeting on August.
My address is:

Kenneth L. Grubbs
17325 Rimrock Dr.
Golden Colo 80401

Sincerely

K L Grubbs



C.

Western recognizes the popularity and, therefore, the value of the area.

D.

Western does not agree that any hang gliding done with Route D in place would be extremely hazardous, and believes (based on observations of hang gliding at the site and discussion with hang glider pilots) that, in good conditions, the degree of hazard would not be greater than slight.

E.

While Alternatives C and D are relatively close in cost and in overall impacts, Alternative C has certain specific impacts on the Copper Creek subdivision that are opposed by some of its residents. As shown in this FSEIS, Western proposes to construct access to an alternative hang gliding area as part of the Proposed Alternative D, as mitigation of the impacts to the activity at the existing area.

F.

Western believes that the portion of Route D that could measurably interfere with hang gliding is restricted to Link 15 and the northwest end of Link 17, that Links 11 and 12 are outside the area where low level flight sometimes occurs (as described in Response B to Letter #15), and that, therefore, they cannot be described as critical.

Letter #22

United States Department of Agriculture | Forest Service | Rocky Mountain Region | 11177 W. 8th Avenue Box 25127 Lakewood, CO 80225

Reply to: 2720

Date: AUG 16 1985

Frank W. Silverman, Area Manager
Department of Energy
Western Area Power Administration
Loveland Area Office
P. O. Box 3700
Loveland, CO 80539

Dear Mr. Silverman:

We have enclosed our comments on the Draft Supplemental Environmental Impact Statement for the Blue River-Gore Pass 345 kV transmission line project.

A | In late July, Dave Davies of my staff, and Mr. Fred J. Weiss, Western's Assistant Area Manager in Engineering, discussed an Alternative Corridor not considered in the Draft Supplemental Environmental Impact Statement. On August 27 representatives from the Forest Service and Western are going to fly over and discuss this Alternative Corridor. Messrs. Weiss and Davies agreed that the Forest Service could submit additional comments on the Draft Supplemental Environmental Impact Statement after the field trip, and we plan to submit those comments, if any, within two weeks of the August 27 field trip.

B |

RESPONSES

A.

A refinement of the Forest Service's new suggested corridor, D2, is analyzed in this FSEIS.

B.

Additional comments were received from the Forest Service (Letter #28).

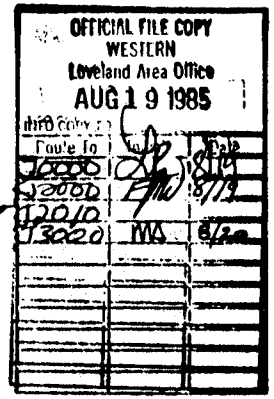
Letter # 22 cont.

Sincerely,

for JAMES E. TORREICE
Regional Forester

Enclosure

cc: Routt National Forest
White River National Forest
POI



FS-6200-28(7-82)

Letter # 22 cont.

COMMENTS ON THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

for the

BLUE RIVER - GORE PASS
portion of the
Hayden-Blue River
Transmission Line Project
1985

Comments By Forest Service, Region 2

PAGE 1-1

C 3rd Paragraph. The Final EIS should clearly state that an easement has already been issued to Tri-State Generation and Transmission Co. for the construction, operation and maintenance of the entire Transmission line. The easement, and Record of Decision has not been changed by the Forest Service nor has Tri-State relinquished any portion of the Easement.

D The Final EIS should also state that both Grand County and the Grand River Ranch Corporation have withdrawn their appeal of the decision to allow construction of the line between Hayden (crossing the Routt National Forest over Gore Pass) and the Kremmling substation. The portion between Kremmling substation and, up the Williams Fork, to the proposed Blue River substation is still under appeal.

C.

The recommended changes have been made.

D.

The recommended changes have been made.

Letter # 22 cont.

E

PAGE 1-4

E. OVERALL COMPARISON OF IMPACTS BETWEEN PRIMARY ALTERNATIVES

According to the 2nd paragraph, 2nd sentence "Alternatives B, C, and D (the proposed alternative) have the least amount of impacts and have only minor differences between them." In a March 11, 1985 letter to Western, the Forest Service commented on the Preliminary Draft Supplemental Enviromental Report for the Blue River-Gore Pass 345 kV transmission line project. In that letter we stated,

> "Page 1.4, first paragraph. We disagree with assertion that the differences between Alternatives B, C and D are minor. As we have stated in meeting with EDAW and Western and in our November 9, 1984
>
> letter, Alternative B was not analyzed correctly in the Ute Pass area. The Routt and White River National Forests have commented on this before, in meeting with EDAW, Western and in written comments on the Work Plan (letter to Regional Forester Dated 11/9/84) that the visual analysis does not accurately portray the visual impact of the transmission line in the Ute Pass area. The Adopted Visual Quality Objectives (AVQO) established in the two Forests' Land Management Plans are Retention and Partial Retention. Alternative B will not meet these AVQO's. With this in mind it is not accurate to state that Alternative B will have similar impacts a as Alternatives C and D which can be designed to meet the AVQO's."

The above statement is still correct and needs to be addressed in your Final Environmental Impact Statement.

7-46

E.

The information supplied to Western by the forest landscape architects for the White River and Routt National Forests at the time of the analysis for the DSEIS indicated Visual Quality Objectives (VQO's) of "partial retention" and "modification" in the Ute Pass area. Recent information (September 1985) from the Forest Service is that the "modification" designation in this area is in the process of being eliminated, so that the VQO's along Corridors A, B, C, and D in the Ute Pass area will become entirely "partial retention."

The management guidelines for partial retention are as follows:

- Management activities remain visually subordinate to the characteristic landscape when managed according to the partial retention visual quality objective.
- Activities may repeat form, line, color, or texture common to the characteristic landscape, but changes in their qualities of size, amount, intensity, direction, pattern, etc., remain visually subordinate to the characteristic landscape.
- Activities may also introduce form, line, color, or texture which are found infrequently or not at all in the characteristic landscape, but they should remain subordinate to the visual strength of the characteristic landscape.

Western's analysis of the effect of the various alternatives in the Ute Pass area concluded that Alternatives B, C, and D all result in moderate, long-term impacts in the locations shown on Figure 5-6 in the DSEIS. The results of this analysis were confirmed and refined, using realistic photographic simulations based on accurate PERSPECTIVE PLOT computer graphic images (see Figures 5-8, 5-11a, 5-11b, and 5-12a in the FSEIS).

The moderate impact level (as specified on Page 5-32 of the DSEIS) indicates visual conflicts that do not exceed the level allowed by the management class.

For partial retention, this means that the transmission line must not dominate the setting, but may cause a noticeable adverse visual change. Western believes that this is an accurate assessment of the real effect that the alternative routes would have in this area.

A field survey was conducted in September 1985, by Forest Service and EDAW inc. personnel. It was concluded that this adverse effect could be reduced along the proposed route (Alternative D/D2) in the Ute Pass area by selective location and darkening of the transmission line structures. Western will consult with the Forest Service during the detailed design phase of the project prior to construction to achieve this.

Letter # 22 cont.

F

PAGE 3-8

5. SINGLE CIRCUIT 230/345-kV LINE ON NEW OR EXISTING ROW

In all alternatives, except the proposed alternative, Western has listed the disadvantages of each alternative. Are there any disadvantages to the proposed alternative? If so, they should be stated, or a statement should be made asserting that there are no disadvantages.

G

PAGE 3-8

(a) Construction Using Single or H-Frame Steel or Concrete Pole Structures

2nd paragraph - This statement eliminates the use of different types of structures if they are needed to mitigate any special type of impacts.

F.

A disadvantage of the proposed alternative is that portions of the existing ROW's that it may use pass through sensitive wildlife, land use, and visual conditions. This statement has been added to the FSEIS narrative.

G.

The comment actually applies to Page 3-9, not 3-8 of the DSEIS.

Western has considered other structure types and has concluded that the conventional, self-supporting steel lattice structure is the best, lowest impact type for the overall project. The reasons for the choice are given on Page 3-9 of the DSEIS.

The same choice was made by the Rural Electrification Administration in the Final EIS for the overall Hayden-Blue River 345-kV Project in July 1982, and explained as follows (Page 3-28 of the DSEIS).

> "Self-supporting steel lattice towers for the 345-kV line are generally preferred because they require no guy wires, require fewer structures per unit distance compared with wood structures, are able to withstand severe weather conditions, and are better suited for rugged terrain because the design can easily be modified to suit specific structure site locations."

It should also be noted that the single pole type of structure precludes helicopter or other special roadless construction.

Western prefers to use the lattice type structure throughout the entire project for reasons of economy and visual consistency.

Letter # 22 cont.

H | PAGE 3-10

(b) Special Roadless Construction

In our March 11, 1985 letter to Western we said:

> "The disadvantage of special roadless construction is its higher cost." This is not necessarily true. If a comparison is made between road construction at Forest Service standards in rough and/or steep terrain, the cost probably would be comparable. Also, additional costs that are not considered in standard road construction methods

I | are that the Forest Service may require complete road obliteration and restoration. There are

J | several transmission lines in the area that were constructed by "special roadless construction". This was setting towers and some foundations by use of helicopters. The line voltage ranged from 115 kV to 230 kV."

K | "It has been found that the risk of using helicopters for construciton is no greater than installing the structures using ground cranes. In fact, sometimes the risk of using ground cranes is greater."

The above statements are still correct and should be addressed in your Final Environmental Impact Statement.

L | TABLE 3-1

What are the "Environmental Costs"?

H.

The DSEIS states in the referenced paragraph:

> "A preliminary estimate for the project area is that special roadless construction will cost . . . somewhat more than conventional roaded construction in steep and/or rough terrain."

Western believes that this is very close to the Forest Service's assertion that in these conditions, the cost of the two types of construction probably would be comparable and believes that the difference between the two positions is so slight that there are no implications for route comparison.

I.

Western believes the most probable and reasonable scenario is that after construction disturbance has been reclaimed, construction access roads will remain in place to be used for purposes of maintenance access only (subject to necessary seasonal restrictions and closure to the public, as outlined in the sections in the DSEIS that list the mitigation measures committed to).

This scenario was used as the basis for comparison of alternatives. If the Forest Service requires complete road obliteration and restoration, this requirement can readily be discussed in terms of the permitted route only. Western does not believe that omission of this contingency from the comparison of alternatives in any way affects the validity of the comparison.

J.

The comment is noted.

K.

The comment is noted.

L.

Environmental costs include the costs of producing the Environmental Impact Statement and the Forest Service's required Construction, Operation, and Maintenance Plan (with related coordination between Western and the Bureau of Land Management, and private landowners). They also include the costs of the required cultural resources survey of all areas likely to be disturbed, and of potential sensitive areas for threatened or endangered plants.

Letter # 22 cont.

M

PAGE 3-16

Structure Sites, Wire Handling Sitea, and Material Yards
Clearing and Grading

Last sentence, 1st paragraph, atatea "Leveling and benching of the site will be the minimum necesaary to allow structure assembly and erection." In our March 11, 1985 letter we stated "In a recent proposed permit for the construction of the Rifle-San Juan 345 kV transmission line, there was a clause in the permit which prohibits the leveling and benching of sites for the construction of transmisaion structures. However, the permit does allow, at the end of the spur road, a leveled platform for a crane to use for the assembly and erection of the tower. The same requirement would be applicable for this line."

If this project ia to be constructed across National Forest System lands, you will still be prohibited from leveling and benching tower sites.

N

PAGE 4-6

Last paragraph - The statement, "Much of the forested area burned in major fires late in the nineteenth century, while other areas have been logged.", implies that the whole Blue Ridge range has been disturbed by man. Thia is not an accurate statement. The foreat fires that are referred to occurred naturally 80 to 120 years ago and the timber is reestablished. A small area was logged 38 years ago to control a Spruce Bud Worm

O

outbreak. The private land has been modified, but it is a considerable distance from the proposed corridor and does not have an influence on the analysis of the

M.

There is no intent to level and bench tower sites. The sentence immediately before the one quoted states: "Structures will be designed to fit the terrain." The statement "leveling and benching of the site will be the minimum necessary to allow structure assembly and erection" refers to the necessary minimum level platform for the crane used for the assembly and erection of the towers. The reference to spur roads is only applicable to those portions of the project where an existing road is within a few hundred feet of the structure site.

N.

The sentence prior to the one quoted has been modified in the FSEIS narrative to read: "The vegetation characteristics of the project area have been modified by disturbance."

O.

The material on Page 4-6 that apparently gave rise to this comment is part of a brief background description of, or introduction to, the vegetation of the study area. This is, in turn, part of the Description of the Existing Environment (Chapter 4 of the DSEIS).

Modified land, as such (private or otherwise), is not considered even a slight opportunity for transmission line siting. It, therefore, does not appear an Table A-1 or Figure 4-9 in the DSEIS.

It, therefore, has no direct, immediate connection to the "analysis of the transmission line impacts." Therefore, the location of modified private land relative to the corridors is not an issue.

However, Western does not understand the reviewer's statement that private land is a considerable distance from the proposed corridor. Figure 4-8 in the DSEIS shows the network of potential corridors overlaid on the land ownership types, and indicates (as also shown on Table 4-1) that all corridors cross considerable amounts of private land.

Letter # 22 cont.

P transmission lines' impacts. This type of misleading discussion is also mentioned on page 4-19, paragraph C, which states that the planned timber activities create siting opportunities. The planned timber sale is a considerable distance from the corridor and the sale has been designed to meet Visual Quality Objectives for the area to be cut. The analysis portion of the Forest

Q Service Visual Resource Management System does not subscribe to the notion that, it is least impacting to disturb an area that is already modified than an area that is not.

P.

Western believes that the statement on Page 4-19 of the DSEIS where the proposed timber harvest area is considered a slight opportunity for line siting is reasonable and should not be changed. As explained in Note 1 to Table A-1 in the DSEIS, slight siting opportunities were not included on the Composite Constraint/Opportunity Map, being dropped from further consideration as influences on siting because of the slight degree of their effect.

The distance of the planned timber sale from the proposed corridor has no relevance to the process that was used to determine the best location for the proposed corridor. This process is described in detail in Appendix A of the DSEIS and is summarized below.

The process can be divided into two basic steps. In the first step, all environmental conditions in the project area (that area within which all feasible routes between the project's origin and its destination are contained) are examined with regard to their constraint to, or opportunity for, the siting of the project. Conditions that are determined to constitute considerable constraints or opportunities are mapped and used to influence the siting of a network of potential alternative routes for the line that minimizes the crossing of constraining conditions, and maximizes the use of siting opportunities. In the second basic step of the process, the impacts to those constraining conditions that are crossed are assessed and the results used to compare alternatives and select the proposed corridor.

Q.

As stated on Page 5-30 of the DSEIS, a modified version of the Bureau of Land Management's visual contrast rating process was used to determine the visual change caused by the project. In this system, the degree of existing disturbance of an area is one factor among several that influences the visual contrast of an action. The system does not automatically conclude that "it is least impacting to disturb an area that is already modified than an area that is not." However, the system does make the assumption that, other factors being equal, it is less impacting to disturb an area with existing visible disturbance than an area without such disturbance.

Letter # 22 cont.

R

PAGE 4-21

In the March 11, 1985 letter to Western, we requested that Management Area 9A, which deals with riparian ecosystems, be included in the Draft Statement and how they will be treated. That request was not put in this draft.

S

PAGE 4-35

(a) Constraint Values for Corridor Siting, 2nd paragraph

Our March letter pointed out that the majority of the Ute Pass area is very visible and has little potential for screening.

T

PAGE 5-1

In our comments to the preliminary Draft EIS (March 11, letter), we stated that "As mentioned in previous meetings with Western and EDAW, the assumption that adding a 345 kV line to an area that has a 115 kV transmission line does not increase the visual impact is not valid. Increasing the number of facilities in an area increases the magnitude of degradation of that area. The fact that another line is present only makes it more difficult to meet the Adopted Visual Quality Objective and maintain the areas aesthetic characteristics." You did not address the effect of adding a transmission line to an area that already has one. The draft states that it is acceptable to place a transmission line where one exists. This "concept" still needs to be clarified. Using this rationale, the transmission line would have the least impact on the visual resource if it were placed next to Highway 9. There is an attempt to explain this "concept" in the second paragraph on page 4-34; however, it is not clear what the writer is attempting to explain.

R.

Management Unit 9A - Riparian Area Management - does not appear on the Forest Service's Land and Resource Management Plan Map and, therefore, was not addressed in Chapter 4 of the DSEIS.

The riparian/wetland vegetation type or community is mapped on Figure 4-6 and described on Page 4-7 of the DSEIS. The constraint value attached to riparian/wetland is low, as shown on Table A-1 in the DSEIS. This is because of the minor effect that construction of the transmission line would have across the narrow bands of riparian/wetland vegetation in the study area.

As stated on Page 5-14 on the DSEIS, the proposed alternative crosses four narrow zones of riparian/wetland vegetation, two near the Colorado River, and two near Ute Pass Road. Only minor adverse effects are expected because of the committed mitigation measures (which are listed on Pages 5-11 and 5-12 of the DSEIS).

S.

The paragraph referred to on Page 4-35 of the DSEIS has no direct reference to the visibility conditions that were a factor in assessing visual impacts in the Ute Pass area or in the other portion of the study area. Instead, it describes the results of the visual input for the corridor siting process and should not be confused with the impact assessment process which is discussed in Section (b). A sentence has been added at the end of Section (a) to indicate this more directly. The high constraint areas referenced in the paragraph in question represent early siting avoidance areas defined for visual reasons. These areas are places that had both retention VQO and a low VAC.

See Response P for a summary description of the two basic steps in the siting/impact assessment process.

T.

The results of Western's analysis show that the existing lines, both in the Ute Pass area and along Highway 9, are the worst of all places to locate the proposed new transmission line. Western's analysis, therefore, did <u>not</u> make the assumption that "adding a 345-kV line to an area that has a 115-kV line does not increase the visual impact." A statement has been added to both Page 5-1 and 4-34 to clarify the approach used.

Letter # 22 cont.

U

PAGE 5-27
(b) Mitigation

3rd mitigation - States "Construction activities will be monitored or sites flagged to prevent inadvertent destruction of any cultural resource for which the agreed mitigation was avoidance." If the mitigation was avoidance, flagging of cultural resources defeats that purpose. Flagging of any cultural resources on National Forest System lands will not be allowed.

V

TABLE A-1

The following comments were made in our March 11, 1985 letter to Western:

> "The first paragraph stated that the Douglas-fir/Juniper Woodland was assigned a high constraint value. We disagree with the rating. This rating assumes that the stand is going to be cut completely. However, experience has shown that in this tree type, the Douglas-fir can be topped and the Juniper can be spanned. Therefore, there would be little or no regrowth required. Douglas-fir/Juniper should be assigned a low constraint value."

W

Our letter continues:

> "Aspen was assigned a low contraint value because of its regrowth within two years or less. However, because you cannot top Aspen with any degree of success, it is necessary to clear cut the stand the line goes through. This creats a "slot" effect for a number of years. We believe the rating should have been medium value."

U.

Western requires its construction contractors to avoid cultural resource sites for which the agreed mitigation is avoidance. Western's practice has been to require the contractor to flag the boundaries of cultural resource sites within the right-of-way based on a delineation of the site boundaries on a set of plan and profile drawings provided by Western. The construction contractor is then required to avoid these sites throughout the construction of a transmission line. Western believes that unless the sites are flagged, the contractor may inadvertently traverse the sites, causing some disruption. All flagging would be removed after construction.

Western will not require flagging if it is inconsistent with the mitigation requirements developed for the project. Western will consult with the Forest Service on mitigation strategies following the completion of an intensive cultural resource survey on Forest Service lands.

V.

Table A-I has no paragraphs. It is assumed that the disagreement is with the entry for Douglas Fir/Juniper in the Table.

The constraint rating does not assume that the stand is going to be cut completely. The rating is based on the relative susceptibility of the community to disturbance of various sorts. While it is true that Douglas Fir can be topped and Juniper can be spanned, the type within the project area (as stated in Page 4-8 of the DSEIS) often occurs on steep and unstable weathered shale outcrops; and is, therefore, particularly susceptible to construction disturbance. Thus, while little regrowth of the trees would be necessary, the regrowth of the ground cover necessary to prevent soil erosion would be relatively slow and difficult. This justifies its constraint rating of high, which was used in the initial corridor development phase of the study. However, as shown in Table 5-10, Douglas Fir and Douglas Fir/Juniper were eliminated as a specific resource category for impact analysis and were replaced by a sensitive soil unit category.

W.

The following conditions combine to confirm the low constraint rating for aspen. First, aspen in the project area are relatively low. There are many instances where the line could span clear over aspen with no need for cutting at all. Second, if cutting were necessary, because of the small height of the species, it would be restricted to relatively small lengths at mid-span. These would not result in a marked slot effect, but rather (at worst) the effect of a number of not entirely natural appearing openings along the line (which could readily be enlarged to appear like natural openings). Third, aspen in the project area (as shown on Figure 4-6 in the DSEIS) does not occur as large unbroken expanses, but as isolated patches, often small. This distribution would effectively mitigate any adverse visual effects from clearing of aspen. Fourth, aspen often regenerate rapidly and profusely from root sprouts, and this regeneration (if it occurred) would greatly speed and facilitate reclamation.

Letter # 22 cont.

X

"Lodgepole pine was assinged a very low constraint value. Normally, Lodgepole pine stands in this area are overmature and with little or no vegetstion undergrowth. As in Aspen, it is difficult to top Lodgepole pine. As a result, it creates a "slot" effect for a number of years. Growth from reproduction would not be accomplished within the two years as assigned. A good example of this is the Hayden-Archer 230 kV transmission line that crosses the Routt and Roosevelt National Forests. The right-of-way was clear cut in about 1965. There is little evidence of regrowth of lodgepole pine in the clearcut right-of-way."

The above input to the preliminary is still valid for the Draft Supplement EIS and should be addressed in the final Environmental Impact Statement.

X.

The existing 115/230-kV transmission line between the Ute Pass Road and Dillon (continuing on to the Keystone area) is located through very large stands of lodgepole pines and, as far as Western has been able to determine, from observations from Highway 9 between Blue River Tap and Dillion, and from examinations of the right-of-way near Dillon and near Keyston, has been successfully topped. No evidence of a slot effect has been observed along this line by Western. Therefore, Western believes that it is reasonable to assume that topping of lodgepole would be equally successful in the project area immediately to the north and that, therefore, the very low constraint value applied to the lodgepole pine community is correct and should stand.

Letter # 23

Box 398
Berthoud, Co 80468
August 16, 1985

Department of Energy
Western Area Power Administration
Loveland - Fort Collins Area Office
Box 3700
Loveland Co 80539

Attention: Mark M. Silverman

Gentlemen -

As requested in your cover letter of June 28, 1985 I am furnishing comments as an interested party on the proposed Bias River - Gore Pass Transmission Line Project.

A | The environmental impacts of this project are awesome. I'm sure they will not be acceptable to many people whose land is involved. It is obvious, however, that the greatest impact will be on people such as myself who have residences in the affected areas. Our money, labor, life-styles and dreams of quiet mountain retirement living will be completely negated. There is no sufficient

B | compensation for this kind of loss

C |

RESPONSES

A.

The environmental analysis recorded in the DSEIS (see Table 5-4 and Figures 5-5 and 5-6) concluded that Corridor A would result in moderate, long-term land use impacts; moderate, short-term (construction period) visual impacts; and significant, long-term visual impacts as it passed through the Copper Creek residential subdivision. The analysis also concluded that Corridors B/C would cause moderate, long-term visual impacts as it passed to the southwest of Copper Creek residential subdivision (at a distance of over 1/4 mile from the nearest residence).

Partly because of these impacts, Corridor A compares badly with Corridors B, C, and D. It was, therefore, dropped from consideration as the proposed route.

The impacts of Corridors B and C in this area, however, are solely visual, are not exceptional, and are of the same level as the impacts unavoidably generated by several other portions of all the alternative corridors (see Figure 5-6 in the DSEIS). While Corridors B and C are not proposed as the location of the line, their overall impact levels are similar to those of the proposed route (see Table 5-2).

Western believes that these conclusions on impact levels accurately represent the effect that the proposed line would have on the Copper Creek residential subdivision.

B.

There are two types of impacts that affect residences: land use impacts (explained on Page 5-21 in the DSEIS) and visual impacts (explained on Page 5-30). There are three levels of impacts defined in the DSEIS: significant, moderate, and low to none. As shown on Figure 5-5 of the DSEIS, none of the alternative routes studied generate residential land use impact levels higher than moderate, which is the level applied to Route A as it passes through Copper Creek subdivision. As shown on Figure 5-6 of the DSEIS, there are numerous instances of significant visual impact levels, the affected viewpoints including residences, highways, and recreation facilities. Alternative A is considered to generate significant visual impacts in the Copper Creek subdivision vicinity. Alternatives B and C, where they pass the Copper Creek subdivision, at a distance of about 1/4 mile causes moderate visual impacts. This level of visual effect is unavoidably widespread along all of the alternative routes.

C.

Western believes that the levels of impact described in Response A above are accurate and realistic, and that the values listed would be impacted (as described), but by no means completely negated.

Letter # 23 cont.

D

E

F

G

H

For this reason only Corridors D & E should be considered. Corridors A, B, C should be dropped as acceptable alternatives.

Of equal importance to me as a taxpayer is the lack of persuasion as to the need for this project at all. Only conditions of benefits are shown, not demonstrated needs. I am aware of no urgent future need for this in Grand County. At best it's a "nice to have" not a requirement.

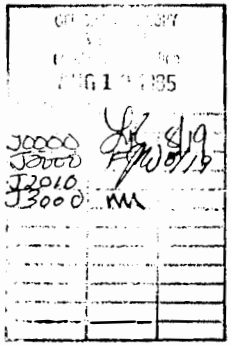
I will be writing to Congressman Strang of the Third Congressional District requesting his assistance and that of the Interior Committee in evaluating the public need for this project.

Lastly, I resent the fact that I had to learn of the possible adverse effect of this project in a conversation with a neighbor. Your communication with those affected as we need of great improvement. I hope you will respond to this letter by keeping me advised of the project's effect upon me in the future.

Very truly yours,

Walter A Virbick

WALTER A. VIRBICK
1817 CLAIRS RUN, BOX 398
PARSHALL, CO 80468



D.

Corridor D was designated as the proposed route in the DSEIS. New information has emerged revealing significant impacts to recreational hang gliding from one segment of it. Western therefore proposes to construct access to an alternative hang gliding area as part of Proposed Alternative D, as mitigation of these impacts.

Corridor E, as explained in the DSEIS (table 5-2 and Pages 5-4 and 5-5), has the highest impacts of all the alternatives considered in visual resources, wildlife, and land use. It was, therefore, dropped from consideration as the proposed route.

E.

As painted out in Response A above, Alternative A was dropped from consideration as the proposed corridor. Corridors B and C, although not being considered as the proposed corridor, have similar overall levels of impact.

F.

There is a definite need for additional transmission into Grand County. Even if this particular project were not constructed, new transmission lines would have to be constructed into Grand County solely to support the county loads. Projected load growth in Grand County reveals that, in 1988, the existing transmission system in the county will not be capable of maintaining adequate voltage levels during peak loads. Past and present winter loads in Grand County have reached a critical level, so that loss of any one line in the area will require dumping critical loads in order to maintain minimum voltage levels. There is an explanation of Grand County's need for the project and the project's benefits to the County in Chapter 2 of this FSEIS.

G.

The comment is noted.

H.

See Response B to Letter #2.

Letter #24

United States Department of Agriculture
Soil Conservation Service
Bldg A, 3rd Floor, DHOC
2490 West 26th Avenue
Denver, Colorado 80211

August 19, 1985

Mark Silverman, Area Manager
Department of Energy
Western Area Power Administration
Loveland-Fort Collins Area Office
P.O. Box 3700
Loveland, Colorado 80539

Re: Comments on: Draft Supplemental EIS for the Blue River-Gore Pass Portion of the Hayden-Blue River Transmission Line Project/Colorado

Dear Mr. Silverman:

Thank you for the opportunity to comment on the above document.

The draft supplemental EIS appears to be very comprehensive in that it recognizes impacts and includes a plan to mitigate for the adverse impacts. We are appreciative that a portion of the mitigation will include revegetation of disturbed areas accompanied by follow-up efforts until this reclamation is successful.

RESPONSES

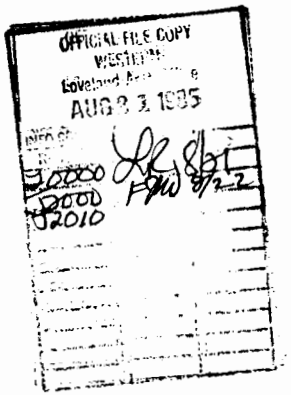
No response necessary.

Letter # 24 cont.

One other laudable feature is removal of a portion of the existing transmission line along the Blue River Corrider.

If additional information is needed in your effort to revegetate disturbed areas, you may contact the SCS Field Office at Kremmling. The address and telephone number are:

District Conservationist
Soil Conservation Service
111 Central Avenue
P.O. Box 265
Kremmling, Colorado 80459
Telephone: 303-724-3456



Sincerely,

Sheldon G. Boone
State Conservationist

Letter #25

United States Department of the Interior

OFFICE OF THE SECRETARY
OFFICE OF ENVIRONMENTAL PROJECT REVIEW
Room 488, Building 67
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

ER 85/1045

August 22, 1985

Mr. Bill Melander
Western Area Power Administration
Loveland-Fort Collins Area Office
P.O. Box 3700
Loveland CO 80539

Dear Mr. Melander:

We have reviewed the draft supplemental environmental impact statement for the Blue River-Gore Pass portion of the Hayden-Blue River 230/345 kV Transmission Line Project, Grand and Summit Counties, Colorado, and offer the following comments.

Wildlife Resources

A Generally, we believe that the statement adequately portrays existing wildlife resources and the probable level of impact that would result from overall project development. However, we are concerned over how specific wildlife "conditions" were selected for analysis in the Impact Quantification Table (Table 5-4). It must be noted that "constraint values" for sage grouse strutting grounds, big game critical winter range and calving grounds, and raptor nesting areas were equally as high as two of the wildlife features included in the analysis (Canada goose and duck concentration sites).

RESPONSES

A.

See Response A to Letter #8.

Letter # 25 cont.

B It is our view that the wildlife and vegetation data presented indicate that impacts to wildlife would be greater with construction of Corridor D than either Corridors A or B. Corridor D closely parallels the ridge line of the Williams Fork Mountains, a locality that is topographically and vegetatively much more diverse than lands which would be traversed by Corridors A or B. Such transitional, highly diverse habitats can be very important to a variety of wildlife. Since the significance of specific habitat features to wildlife (use versus availability of habitat types) was not actually evaluated, we believe that the level of overall project impact to local wildlife communities cannot be realistically determined. We suggest that Corridor A and Corridor B be given greater consideration as environmentally preferred alternatives.

C The draft statement acknowledges that potential project impacts may occur to raptors (p. 4-12). Raptor nesting areas delineated in Figure 4-7 generally circumscribe cliff nesting habitats. Appendix B lists the possible occurrence of both Accipitrine hawks and Swainson's hawks in the project area. These species (along with red-tailed hawks and golden eagles) may be found nesting in trees throughout the project region. We recommed that mitigation item (2)(1) on page 5-17 be expanded to include:

1) surveys of all potentially-affected nesting habitat,

2) that two aerial, rotor-winged surveys be performed (one in early spring, one in mid-summer) to maximize the potential for detection of occupied nest sites,

3) that survey techniques and timing be coordinated with the U.S. Fish and Wildlife Service (FWS) and the Colorado Division of Wildlife (CDOW), and

D 4) that, in consultation with these agencies, site-specific mitigation plans be developed for all nest sites potentially affected by project construction.

E Additionally, we wish to recommend that some of the existing 115-kV and 69-kV transmission line poles be left in place as a raptor enhancement feature. The presence of some of these structures in large expanses of open space can be highly beneficial to raptors as potential perch and nest sites.

F We also wish to bring to your attention the possibility for conflicts with nesting raptors on the proposed 345-kV line. Raptors nesting on the towers may interfere with operation and maintenance of the line. Any such activities that are likely to disturb raptors should be brought to the attention of the FWS. Any efforts to resolve conflicts with raptors must be coordinated through FWS and CDOW.

G The value of aspen habitat is well characterized in Appendix B. We request that impacts to this habitat types be minimized wherever possible, and that any permanent impacts to aspen be mitigated through management practices designed to enhance aspen growth, such that no net loss in habitat availability occurs.

B.

See Response B to Letter #8.

C.

See Response D to Letter #8.

D.

See Response E to Letter #8.

E.

See Response F to Letter #8.

F.

See Response G to Letter #8.

G.

See Response H to Letter #8.

Letter # 25 cont.

H We are concerned that the project may increase access to potentially sensitive wildlife areas. We request that construction roads be reclaimed wherever possible, and that access along the corridor be controlled to prevent non-essential use.

I In addition, we recommend that construction be suspended during the big game hunting season.

J There is no attempt to avoid the CDOW research facility on Junction Butte. The Bureau of Land Management land adjacent to this area may be used for a proposed elk/cattle forage competition study. The potential impacts of the powerline could be alleviated by moving the corridor about 1000 feet south of Elliot Creek.

K In several instances (e.g. pp. 4-11, 4-12, 5-2, 5-3, 5-37), the term "critical" habitat is used. Since this term is most commonly associated with the Endangered Species Act, the use of "crucial habitat" or "critical range" would be more appropriate and be less confusing to the reader.

L Threatened and Endangered Species

Page 5-19 of the statement states that WAPA has initiated a review of potential project effects in accordance with Section 7 of the Endangered Species Act, and will consult with the U.S. Fish and Wildlife Service. Specific comments relating to listed and candidate species will be provided following receipt of your biological assessment.

The biological assessment should analyze impacts not only to bald eagles and peregrine falcons, but also the candidate species Ousterhout milkvetch, Harrington penstemon, and Swainson's hawks. Furthermore, we believe that conservation measures should be included in this assessment which would be designed to avoid impacts to bald eagles, peregrine falcons, and Swainson's hawks. Such measures should include avoidance of riparian trees that may serve as roosting/perching habitat for bald eagles and nesting habitat for Swainson's hawks, avoidance of cliffs that may potentially support nesting peregrine falcons, adoption of construction "windows" to avoid critical periods, and selection of corridors that avoid sensitive areas for these species. We also request that FWS personnel participate in any pre-construction surveys to identify specific areas that may be occupied by listed or candidate species.

M Mineral Resources

Mineral resources in the project area are acknowledged and given a low constraint priority. Because of the small land area affected by the proposed corridor and the low level of mineral-related activity in the area, we concur in the low constraint assessment given on page 4-1. A proposed tailings disposal site was appropriately given a high constraint priority (p. 4-20). We believe the document adequately addresses mineral resources.

H.

See Response I to Letter #8.

I.

The construction season for the proposed project is short because of the elevation of the area. There are additional periods that may intrude into this season, when construction within areas critical to various wildlife species (elk, mule deer, sage grouse, Canada goose, and bald eagle) will be avoided, as specified on Page 5-17 of the DSEIS (special mitigation Measure 2). Western will consult with the USFWS and the CDOW during the detailed design phase of the project to agree upon any minimum necessary further intrusions into the construction season.

J.

The corridor has been moved about 1,000 feet south of Elliott Creek, as shown in the FSEIS.

K.

Adjustments have been made in the FSEIS.

L.

See Response C to Letter #8.

M.

No response necessary.

Letter # 25 cont.

N | Visual Resources

Standard mitigation measures do not mitigate impacts to visual resources during the winter season, when the degree of contrast between the powerline structures and the surrounding landscape will be much higher. With the exception of item 2a on page 3-9, there is no discussion of alternate tower structures which would blend into the surrounding landscape. Also, the statement in item 2b about decreased visibility of lattice structures (as opposed to single or H-frame steel or concrete pole structures) is not universally accepted. We suggest that the statement be qualified.

O |

Miscellaneous

P | Mitigation should address construction during the spring or other wet periods. Care should be taken to avoid driving trucks and heavy equipment through private hay meadows during these periods of high soil moisture.

Q | The analysis of roadless construction costs does not discuss the added expense of rehabilitating roads used to do convential road construction. Adding this cost should make the cost per mile more comparable to roadless construction.

Sincerely,

Robert F. Stewart
Regional Environmental Officer

N.

While the visual contrast of the transmission line structure is certainly greater in winter, the number of viewers, the hours of daylight, and the average clarity of the atmosphere are all less. Moreover, all the visual mitigation measures listed on Pages 5-31 and 5-32 of the DSEIS still perform their function of mitigating the level of impact that would occur in their absence, even if that initial level would be slightly higher in winter.

O.

A visual simulation (Figure 5-11b) showing a single pole type structure (from the same viewpoint as a simulation of a lattice structure) has been prepared and is reproduced in this FSEIS (Figure 5-11b), thus facilitating comparison.

The discussion on Page 3-9 states only that at longer distances the single pole structure type is often more visible than lattice, and that at these distances, lattice is often used. Western believes these are reasonable statements.

P.

Special mitigation Measure 1 for impacts to soils and vegetation (Page 5-12 of the DSEIS) states that construction activities will be curtailed, if necessary, to minimize damage to saturated soils. This applies to private hay meadows, as well as to other lands.

Q.

Western believes the most probable and reasonable scenario is that, after construction disturbance has been reclaimed, construction access roads will remain in place to be used for purposes of maintenance access only (subject to necessary seasonal restrictions and closure to the public).

This scenario was used as the basis for comparison of alternatives. If complete road obliteration and restoration is required, this can readily be discussed in terms of the permitted route only. Western does not believe that omission of this contingency from the comparison of alternatives in any way affects the validity of the comparison.

Letter #26

Western Area Power Administration
Loveland-Ft. Collins Area Office
P.O. Box #3700
Loveland, CO 80539

Dear Sirs;

My letter addresses your Proposed construction of a high powered transmission line along the Williams Fork Mountain Range in Northern Summit County. In particular I wish to discuss your proposed route D for the power line.

A Your route D runs right through the middle of premier hang-gliding sites of Colorado. This particular flying site holds the distinction of being the launch site for the state's most historic record breaking flights. The unique geographic placement of this site marks it as being one the primary flying sites

B in all of Colorado. But these distinctions are not the reason I suggest that an alternate route be taken but rather to prove that even despite the presence of major power lines well within the flight pattern of this site, that hang-glider pilots will continue to fly this site. I can only see the construction of

RESPONSES

A.

Western recognizes the value of the Williams Fork hang gliding site.

B.

Western recognizes the possibility that, if Alternative D were built and in the absence of any prohibition of the activity by the Forest Sevice and/or the Bureau of Land Management, hang gliding pilots might continue to use the Williams Fork area despite any hazard from the presence of the line.

Letter # 26 cont.

C | power lines along this route or anywhere east of Green Mountain Reservoir along the Williams Fork Range as a certain prelude to the tragic loss of life to some pilot. Admittedly the sport of hang-gliding does not hold a candle to or possess the clout of

C.

Western recognizes that the proposed transmission line could constitute a hazard if sited across that portion of the western slope of the Williams Fork Mountains where hang gliders are sometimes forced to fly low when conditions deteriorate during a flight.

Based on observations of the main launch area and discussion with hang glider pilots, Western believes that this area can be defined as follows:

- Northeast boundary. A line 1,500 feet northeast of the main ridge of the Williams Fork Mountains and parallel to it.
- Northwest boundary. The ridge that forms the northwest edge of the gulch known to hang gliders as "Freddies Funnel." This gulch descends from the main ridge of the Williams Fork range from a point about one mile northwest of the radio towers.
- Southwest boundary. The existing transmission lines parallel to Highway 9, and the shore of the Green Mountain Reservoir.
- Southeast boundary. The ridge that forms the northwest edge of Mumford Gulch and Cox Gulch.

It should be noted, however, that there are existing artificial hazards within this flight zone: two existing transmission lines are located along its western edge; an existing distribution line cuts through the center of the zone, passing within 500 feet of the main launch area; and a group of communication towers is located on top of the ridge, immediately above the main launch area.

Western does not agree that Corridor D would measurably increase the hazards to hang gliders outside the zone where low level flight sometimes occurs. Based on the above mentioned observations and discussions, Western believes that flights outside this area are long distance, cross-country flights which are generally started at great altitude from above the launch areas. Certainly, a pilot attempting a long distance cross-country flight may lose altitude or be forced to deliberately lose altitude because of deteriorating conditions. But such a pilot may descend at any point over a very large area and can reasonbly expect to encounter and avoid obstacles of many sorts when approaching ground level. It should be noted that an existing transmission line crosses the range at Ute Pass, and a line parallels the range on its west side between the Ute Pass Road and Silverthorne.

As shown in this FSEIS, Western proposes to construct access to an alternative hang gliding area as part of the Proposed Alternative D, as mitigation of the impacts to the activity at the existing area.

Letter # 26 cont.

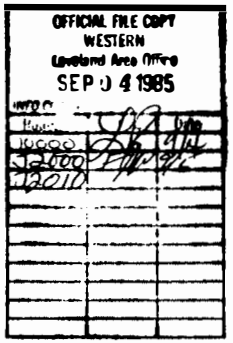
D our public's demand for electrical utility, however I hope the cost of one life or even more, carry the weight sufficient to dissuade WAPA from using proposed Route D to supply the needs of the public.

Please heed the Plea of a small band of Americans who find their freedom in the sky as well as the land and spare the life of the unsusspecting pilot who may blunder into your monument of industry. Thank you for your time in reading this letter.

Sincerely yours,

Richard Fox

Richard Fox
P.O. Box #952
Indian Hills, CO 80454



D.

Western has assessed the potential hazard to hang gliding and has proposed a measure to mitigate them. Western believes, however, that it is not reasonable to present the results of the construction of this segment of Alternative D (without mitigation) as a certain death. There are other possible results, such as an end to the activity at the site or continued use with an absence of fatal accidents attributable to the line.

It is also unreasonable to characterize a pilot endangered by a line sited in Corridor D as "unsuspecting." If Alternative D were sited as shown, it would be impossible to use any of the launch areas in the Williams Fork area without being aware of the line's presence.

Letter #27

SUMMIT COUNTY
PLANNING & ENGINEERING DEPARTMENT

September 5, 1985

Mr. Bill Melander
Western Area Power Administration
Loveland-Fort Collins Area Office
P. O. Box 3700
Loveland, CO 80539

Re: Blue River-Gore Pass 345 kV Transmission Line, Draft Supplemental Environmental Impact Statement

Dear Mr. Melander:

Based on County review of the above referenced document, we would like the following comments and conditions to be addressed in the final supplementary Environmental Impact Statement (sEIS):

A 1. WAPA shall provide a more complete visual simulation of the transmission line. Only two simulations were included in the June, 1985 draft sEIS. All of the available photographs are to be included in the final sEIS issued in October, 1985.

B 2. The east and west sides of Williams Peak are significant views for Summit and Grand County. Of even greater significance is the panoramic view of the Gore Range from Ute Pass. Due to the visual sensitivity of the two areas, WAPA should examine the actual tower locations at Williams Peak and along Ute Pass on the west side just below the summit. Tower siting studies shall be submitted to the County for review.

RESPONSES

A.

As was stated in the second paragraph on Page 5-31 of the DSEIS, no attempt was made to reproduce all the simulations since, in many of them, the structures are so distant that they would scarcely be visible in photographic images reduced to report size and reproduced without color.

The original photographic simulations are large, typically 12" x 36", and consist of images of transmission line structures painted onto color photographs. The visible portions of the images of transmission structures at typical distances of about two miles actually measure about 3/16" on the photographs. In a report, the simulations cannot feasibly be reproduced larger than about 4" x 12" (see for example, Figure 5-7 in the DSEIS). This means that the visible portions of these structures would measure only about 1/16" on the report figure.

In response to the comment, however, Western has included in this FSEIS all those simulations where at least some structures were close enough to the viewer (within about two miles) that they had some chance of being detectable in the reduced printed images. When all structures are beyond that distance, Western has included the perspective plot images that were the basis for the photographic simulations. It must be kept in mind when using these that they are accurate as to the size and position of the structures, but they are not realistic in terms of the visual contrast of the structures.

As stated in the DSEIS, the original images are available for inspection at Western's offices in Loveland, Colorado.

B.

Western recognizes that the areas mentioned are visually important.

The prime purpose of the planning process recorded in this FSEIS is to arrive at a decision on the best location for a 3,000-foot wide corridor for the proposed transmission line. Although a hypothetical centerline has been defined within this corridor to serve as a basis for impact assessment, and although structure positions are defined along this centerline as is necessary for the visual simulations, further refinements in the location of the centerline, and of specific structures, have yet to take place. These refinements will occur prior to construction, during the detailed design phase of the project. This phase involves production of a Construction, Operation, and Maintenance Plan for the Forest Service and consultation with the Bureau of Management and private landowners. Western will involve Summit County in this process.

Letter # 27 cont.

C

3. WAPA shall analyze the feasibility of using the single-pole type of tower structure in lieu of the lattice tower in visually sensitive areas such as Williams Peak and near the Ute Pass summit. The analysis should include additional visual simulations of the transmission line using the single-pole type of support structure at Williams Peak and on Ute Pass; the simulations should include the same viewpoints used to simulate the impact of the steel lattice towers for purposes of comparison. These additional simulations shall also be included in the final sEIS.

C.

Western has analyzed the feasibility of using single pole structures. Two factors are pertinent: distance of the structure from the viewer, and method of construction.

As explained on Page 3-9 of the DSEIS, single pole type structures are generally regarded as reducing the visual effects of a transmission line (as compared to lattice structures) only when they are relatively close to the viewer. In these circumstances, they are usually felt to have a slightly more acceptable appearance. At greater distances, however, the appearance of the structure loses its importance and visibility becomes the more important consideration. In these circumstances, single pole structures suffer by comparison with lattice structures. This is because their structural members are very much larger and, hence, more visible at these greater distances. The main pole of a single pole structure is typically several feet in diameter at the base, whereas the largest member of a lattice structure does not measure more than several inches.

Lattice structures can be erected (feasibly) using helicopters (or other special techniques). This greatly reduces the need for construction access roads which, in turn, greatly reduces impacts to soils and to visual resources. Single pole structures cannot economically be built using helicopters, because the sections from which they are assembled are too heavy for the helicopters available in the construction industry.

Western believes, therefore, that single pole structures generally only have advantages when two conditions coincide: relative proximity of visually sensitive viewers, and existing access (or relatively level terrain, across which access could be easily obtained). As is shown on Figure 5-1 of the DSEIS, Western has proposed using helicopter construction in most steep, visually sensitive areas, including the crossing of the ridge near Williams Peak by the proposed route (Link 19) and near Ute Pass (Links 21 and 24). These segments are viewed from considerable distances. In these segments, Western believes that replacing lattice structures with single pole structures would increase impacts; and, therefore, single pole structures are not considered a viable alternative.

However, the southernmost portion of Alternative D, the proposed route (the south half of Link 25 and Link 26), occurs on relatively level terrain and is seen at relatively close distances from the Ute Pass Road and Highway 9. Western has, therefore, produced a simulation illustrating the use of single pole structures here (Figure 5-11b) for purposes of comparison with lattice structures seen from the same viewpoint (Figure 5-11a). Western continues to propose lattice structures for the entire line, however.

Letter # 27 cont.

D | 4. WAPA shall submit the construction drawings and plan for construction operations to the County for review prior to commencement of construction. This will enable the County to examine the extent of tree cutting, actual tower siting, the amount of grading and road construction, any steep sloped areas where roadless construction is needed and the revegetation plan. Allowance shall be made for additional mitigation measures for site specific impacts revealed by review of these plans.

E | 5. Prior to the commencement of construction, final Board of County Commissioner approval shall be secured for the detailed construction plans, specifications and mitigation measures as proposed by WAPA.

F | 6. The County, the U.S. Forest Service and the Colorado Division of Wildlife shall be given the authority to inspect all impacted areas to insure the satisfactory completion of revegetation and other mitigation measures during construction. The inspection shall occur by the end of the first growing season after seeding to insure successful establishment of vegetation.

G | In their September 4, 1985 meeting, the Summit County Board of County Commissioners passed the following motion:

1. Approval of that portion of Alternative D in Summit County only, as proposed by WAPA.

2. Conditions outlined in the Letter of Agreement will be submitted to WAPA in a letter of comment.

3. The County will finalize a Letter of Agreement with WAPA after the final sEIS has been reviewed.

Thank you for this opportunity to comment on the proposed project.

Sincerely,

Ruth Murayama

Ruth Murayama
Planner

RM/kk

SUMMIT COUNTY GOVERNMENT · POST OFFICE BOX 68 · BRECKENRIDGE, COLORADO 80424 · 303-453-2561

D.

Western agrees to submit the Construction, Operation, and Maintenance Plan to the County for review prior to construction, and to consider additional feasible site specific mitigation for impacts revealed by this review.

E.

Prior to construction, Western will submit its construction plans to Summit County for review. However, Western cannot apply for or receive o permit from the County.

F.

The Forest Service, as the management agency responsible for most of the land along the proposed corridor in Summit County, will have the authority to inspect the mitigation measures with Western and to require compliance with the Construction, Operation, and Maintenance Plan. The County and other interested agencies, such as the Colorado Division of Wildlife, will have the opportunity to participate in this process.

G.

No response necessary.

Letter # 28

United States Department of Agriculture | Forest Service | Rocky Mountain Region | 11177 W. 8th Avenue Box 25127 Lakewood, CO 80225

Reply to: 2720

Date: [illegible]985

Mark N. Silverman, Area Manager
Department of Energy
Western Area Power Administration
Loveland Area Office
P.O. Box 3700
Loveland, CO 80539

Dear Mr. Silverman:

In our August 16, 1985 letter, we promised additional comments to the Draft Supplemental Environmental Impact Statement for the Blue River-Gore Pass 345 kV transmission line project.

As you are aware, on August 27 we met with Western staff to discuss the possibly of an additional corridor that would need to be studied for inclusion in the Final EIS.

A After flying the area the members of the Forest Service group recommended that Western should complete visual, vegetative, and soils studies from Western's preferred alternative corridor over the saddle near Copper Mountain to where the corridor ties back to Western's preferred alternative. This alternative corridor, which we are calling the Copper Mountain Alternative, should be included in Western's Final EIS. It

B appears that this alternative corridor offers the opportunity to adequately screen the potential 345 kV transmission line from the Copper Creek Subdivision and Highway 9. It would

C also help mitigate problems associated with Hang Gliders take off point, on Alternative "D".

RESPONSES

A.

A refinement of the variant to Corridor D referred to (now known as Corridor D2) is analyzed in this FSEIS.

B.

The appearance of this new corridor segment is illustrated in a photographic simulation from near the southwest edge of the Copper Creek subdivision (Figure 5-10b), in a perspective plot simulation from near the northeast edge of the same area (Figure 5-15a), and in a perspective plot simulation from Highway 9 two miles northwest of Willows Campground (Figure 5-16b). The visual impacts of the new line segment are included in the analysis and are, at worst, moderate where the line unavoidably crosses the skyline, as shown on Figure 5-6 in this FSEIS.

C.

The potential effect on hang gliding from Alternative D is not connected with take-off (all major take-off areas were deliberately avoided by the corridor), but with the zone within which low level flight sometimes occurs. Western believes that its proposed provision of an alternative hang gliding area would adequately mitigate the impacts to hang gliding as explained in the responses to Letters #14, #16, #17, #21, and #26.

Letter # 28 cont.

B

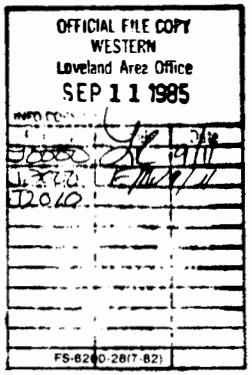
The studies should include doing a "Perspective Plot", which is a graphic presentation of a landscape perspective, from the Copper Mountain Subdivision as well as from Highway 9 (Blue River Corridor area).

Sincerely,

Hector Nimgk

FOR JAMES F. TORRENCE
Regional Forester

cc: Routt and White River National Forests, POI



B. HEARINGS

1. Kremmling Hearing: August 6, 1985.

Twenty-two persons attended the Kremmling hearing, thirteen of whom commented. Ten persons expressed opposition to the proposed action with the exception of Alternative E, the existing corridor, because of:

- o Cost (Alternative E is the cheapest route);
- o Desire to utilize an existing corridor with transmission lines already present;
- o Concerns over visual pollution and visual impacts to the Copper Creek Subdivision;
- o Concern over the Williams Peak hang gliding launch and landing areas; and
- o Concern over the project's impacts to the Junction Butte State Wildlife Area.

Western's responses to these concerns are given in the responses to the comment letters received.

In summary, they are as follows:

- o Cost -- The high impacts of Alternative E outweigh its low cost.
- o Use of Existing Corridors -- These are used where appropriate, north of Kremmling Tap. South of that point, the use of existing corridors gives higher impacts then appropriate new corridors.
- o Visual Impacts -- These are addresed in detail in the DSEIS. Figure 5-6 (revised) in this FSEIS gives an overview of the visual impacts of all the potential corridors.
- o Impacts on the Williams Fork Range hang gliding area are discussed in the responses to Letters #14, #16, #17, #21, and #26.
- o Impacts on the Junction Butte State Wildlife Research Area are discussed in the responses to Letter #7.

One person commented on the conflicts and dangers that Alternative D would present to hang gliders using the Williams Peak area. New information on this use appears on Figure 4-9 in this FSEIS. The impacts of those routes that cross the area are shown on Figure 5-5 and are included in the impact analysis in this FSEIS. Western proposes to construct access to an alternative hang gliding area as part of the Proposed Alternative D, as mitigation of the impacts to the activity at the existing area.

Three residents of the Copper Creek Subdivision expressed concern over the project's potential to interfere with TV and radio reception in the Williams Fork Valley. This concern is addressed in the responses to Letter #11.

Another person questioned the need for the project in Summit County. The overall need for the project is explained on Pages 2-2 and 2-3 of the DSEIS. The specific needs of the project participants are explained on Pages 2-3 through 2-7 of the DSEIS. An expanded explanation of the specific needs in Grand County and Summit County is presented in the response to Comment F in Letter #23.

2. Silverthorne Hearing: August 8, 1985.

Eighteen persons attended the Silverthorne hearing, and eleven persons commented. Nine persons commented on the problems that the project, if built along Alternative D, would cause to hang gliders using the Williams Peak area. Problems include the proximity of Alternative D to landing areas and primary and secondary launch areas, the elimination of other hang gliding areas in the state due to development and land owner restrictions, and the potential of the transmission line causing injury or death to hang glider pilots. Several of these persons favored Alternative E because it would have the least conflict with hang gliding. One person also questioned the adequacy of the information presented in the EIS about the hang gliding area and the impact values assigned to hang gliding use.

Figures 4-9 and 5-5 in this FSEIS show the hang glider flight area (zone where low level flight sometimes occurs) and the impacts of several of the alternative corridors on it. The environmental analysis in this FSEIS considers the impacts on the activity and proposes a measure to mitigate these impacts. The responses to Letters #14, #16, #17, #21, and #26 discuss impacts on hang gliding in detail.

The question was also asked who would be responsible for liability on bodily injury or death resulting from a collision with this power line, or for the cost of putting out a forest fire caused by an energized conductor broken in a collision with a hang glider. This comment has been responded to in the response to Comment E in Letter #17.

Two other commentators expressed concerns about the visual impacts the transmission line would have if it were located in the Williams Fork Mountain range. Visual impacts are addressed in detail in the DSEIS. Figure 5-6 (revised) in this FSEIS gives an overview of the visual impacts of all the potential corridors.

The Chairman of the Board of the Summit County Commissioners was in attendance and expressed concern over the use of Alternative E because of visual impacts and the potential of conflicts with future development in the Blue River Valley. The Commissioner indicated a preference for Alternative C and the interest the County had in relocating Western's Blue River to Summit transmission line.

CHANGES AND ADDITIONS TO THE DSEIS
APPENDIX A - CORRIDOR EVALUATION PROCESS

Pages A-5 and A-6

Replace Section 3.(c)(2) with the following:

(2) Potential Corridors

All the potential combinations of corridors between Blue River Substation and Gore Pass Substation were identified. As shown on Figure 3-2 in this FSEIS, 28 discrete links which can be combined into a total of 19 alternative corridors were identified. Links are numbered in sequence from left to right, and from top to bottom as the project base map is oriented. A feasible corridor combination is one that does not double back on itself at an intersection between links.

Alternative Corridor	Primary Alternative Corridor	Links
1		1, 2, 4, 8, 20, 22, 26
2	(A)	1, 2, 4, 8, 20, 23, 24, 25, 26
3		1, 2, 4, 9, 10, 13, 20, 22, 26
4		1, 2, 4, 9, 10, 13, 20, 23, 24, 25, 26
5		1, 2, 5, 10, 13, 20, 22, 26
6	(B)	1, 2, 5, 10, 13, 20, 23, 24, 25, 26
7		1, 2, 4, 9, 10, 14, 19, 21, 24, 25, 26
8	(C)	1, 2, 5, 10, 14, 19, 21, 24, 25, 26
9		1, 2, 4, 9, 11, 11b, 12, 15, 17, 19, 21, 24, 25, 26
10	(D)	1, 2, 5, 11, 11b, 12, 15, 17, 19, 21, 24, 25, 26, and hang gliding access road
10a	(D2)	1, 2, 5, 11, 11a, 19, 21, 24, 25, 26
11		1, 2, 4, 9, 11, 11b, 12, 15, 18, 21, 24, 25, 26
12	(D1)	1, 2, 5, 11, 11b, 12, 15, 18, 21, 24, 25, 26
13		1, 2, 4, 9, 11, 11b, 12, 16, 25, 26
14		1, 2, 5, 11, 11b, 12, 16, 25, 26
15		1, 3, 6, 12, 15, 17, 19, 21, 24, 25, 26
16		1, 3, 6, 12, 15, 18, 21, 24, 25, 26
17		1, 3, 6, 12, 16, 25, 26
18	(E)	1, 3, 7

Pages A-6 and A-7

Replace Section 3.(c)(4) with the following:

In order to reduce the large number of alternative corridors described in (2) above to a smaller, more manageable number, the network of corridors was examined for sub-loops, i.e., for situations where relatively small portions of the network diverged and then converged again. Where one of the two ways around the sub-loops clearly had lower impacts, it was selected as the path for a primary alternative. These judgments were not made on the basis of the generalized constraints described in Chapter 4, but on the specific impacts along hypothetical corridor centerlines, as explained and illustrated in Chapter 5.

There are three such sub-loops, as follows. (Refer to Figure 3-2).

- o Between Link 1 and Link 12. Links 2, 5, 11 are preferred over Links 3, 6 because of impacts, primarily visual. Links 3 and 6 are more visible from Highway 9.

- o Between Link 12 and Link 25. Links 15, 17, 19, 21, 24 are preferred over Link 16. Link 16 crosses an area of geologic instability and an important hang glider launch area, and has considerably greater visual impacts.

- o Between Link 20 and Link 26. Links 23, 24, 25 are preferred over Link 22 because of impacts, primarily visual. Link 22, even though it mostly follows an existing transmission line, has much higher visibility from the Ute Pass Road.

When the rejected sides of the above sub-loops are eliminated, a simplified network of corridors remains, in which Links 6, 9, 16, and 22 do not appear. This simplified network includes seven corridors which make up the network of Primary Alternatives. These are:

Primary Alternative Corridor	Links
A	1, 2, 4, 8, 20, 23, 24, 25, 26
B	1, 2, 5, 10, 13, 20, 23, 24, 25, 26
C	1, 2, 5, 10, 14, 19, 21, 24, 25, 26
D	1, 2, 5, 11, 11b, 12, 15, 17, 19, 21, 24, 25, 26, and hang gliding access road
D2	1, 2, 5, 11, 11a, 19, 21, 24, 25, 26
D1	1, 2, 5, 11, 11b, 12, 15, 18, 21, 24, 25, 26
E	1, 3, 7

Figure 3-3 in this FSEIS illustrates these primary alternative corridors.

A factor in the selection of the five primary alternatives was the benefit of presenting corridors which represent a wide range of strategies for siting the line. Thus, for example, Corridor E, which follows existing transmission lines for its entire length, is included as a primary alternative even though it was evident

from the composite constraint/opportunity map that most of its length is located within areas of severe constraints. The use of existing corridors, however, is a distinct (and often beneficial) strategy that must be assessed.

As explained in Chapter 5, Section B, Overall Comparison of Impacts Between Primary Alternatives, the relative impacts of the five primary alternatives were evaluated and compared.

CHANGES AND ADDITIONS TO THE DSEIS
APPENDIX B - OTHER WILDLIFE COMPONENTS

No changes or additions.

CHANGES AND ADDITIONS TO THE DSEIS
APPENDIX C - PUBLIC HEALTH, SAFETY AND COMFORT

Page C-12

Replace Section 2.(a) with the following:

(a) Direct Electrical Contact

The greatest hazard from transmission lines is direct electrical contact with conductors of any voltage. In fact, contact is more likely with lower-voltage transmission lines because of their lower clearance compared to high-voltage transmission lines. The minimum ground clearance beneath the conductors of the proposed project is 27 feet. Physical contact between a grounded object and the high-voltage conductors is not necessary for electrical contact to be made. Arcing can occur across an air gap.

The following list of precautions indicates the care that must be taken near a high-voltage line to avoid direct electrical contact. Extreme caution must be used when operating tall equipment, such as cranes or drilling equipment, near the line. Irrigation pipes and systems must not be tipped up near the line. Trees near the transmission line must not be felled onto the conductors. Kites must not be flown near transmission lines. Towers must not be climbed.

As there would be adequate clearance to the conductors of the proposed transmission line, normal agricultural and other activities using equipment up to 17 feet high can be carried on safely.

CHANGES AND ADDITIONS TO THE DSEIS
APPENDIX D - REFERENCES

No changes or additions.

CHANGES AND ADDITIONS TO THE DSEIS
APPENDIX E - GLOSSARY

Page E-3. Glossary Item.

Hz (hertz)	A measure of frequency. 60 Hz equals 60 cycles per second.

CHANGES AND ADDITIONS TO THE DSEIS

APPENDIX F - LIST OF PREPARERS

Page F-1

Replace the list of preparers with the following:

RESPONSIBILITIES AND QUALIFICATIONS OF PREPARERS

NAME	EIS ASSIGNMENT	EDUCATION	EXPERIENCE
Western Area Power Administration			
David Swanson	Review and Coordination	B.A., Biological Sciences	10 years in environmental compliance and planning with Federal Agencies and consulting firms
Fred J. Weiss	Engineering Coordination	B.S., Electrical Engineering	25 years as electrical engineer with Western and Bureau of Reclamation
McConnell Stewart	Construction Coordination	B.S., Civil Engineering	22 years as civil engineer with Western and Bureau of Reclamation
William C. Melander	Environmental Coordination	B.S., Wildlife Management	26 years as biologist and environmental specialist with Western, Bureau of Reclamation, and other State and Federal Agencies
J.F. Sato & Associates			
William O. Lockman	Review and Coordination	M.A., Geography	18 years in environmental management of natural resources with mining, mineral processing, electrical, and consulting companies
William R. Killam	Cultural Resources	B.A., Anthropology, Sociology, & Psychology	10 years in cultural resources management, contract administration, project supervision, field work and report preparation
EDAW Inc.			
Tom Keith	Principal-In-Charge	M.S., Regional Resource Planning	11 years in environmental management and planning with industry and consulting firms
Michael Bowie	Project Manager	Master of Landscape Architecture	17 years as environmental planner and landscape architect with consulting firms
Craig Taggart	Visual Resources, Perspective Plot Computer Graphics	Master of Landscape Architecture	11 years as environmental planner and landscape architect with BLM and consulting firms
Lee Schindler	Photographic Simulations	B.S., Graphic Design	13 years as graphic designer
Linda Howe	Graphics Production	Studies at Colorado and Portland State Universities	6 years as graphic specialist
Tom Flack	Soils Resources	M.S., Agronomy/Soil Science	5 years as soils specialist
Western Resource Development Corporation			
David Johnson	Vegetation Resources	B.S., Mathematics; M.A., Environmental Toxicology & Plant Ecology	12 years as a professional biologist
David Buckner	Vegetation Resources	B.A., Environmental Biology; Ph.D. & M.A., Plant Ecology	10 years as a professional plant ecologist
Alan Crockett	Wildlife Resources	B.S., Geology; Ph.D., Animal Ecology; J.D. Env. Law	10 years as a professional wildlife ecologist
Ron Green	Wildlife Resources	M.S., Wildlife Biology	4 years as a professional wildlife ecologist
Western Cultural Resource Management Inc.			
Tom Lennon	Task Leader, Archaeology	Ph.D., Anthropology	12 years in cultural resource management
Dena Sabin	Task Leader, History	Ph.D., History	7 years in cultural resource management
Jane Westlye	Task Leader, Paleontology	M.A., Paleontology	5 years in paleontological resource management

CHANGES AND ADDITIONS TO THE DSEIS
APPENDIX G - ATTENDEES AT PUBLIC HEARINGS

1. KREMMLING; AUGUST 6, 1985

B.T. Porter	307 Tucson, Aurora, CO 80011
Russell A. Frost	Box 315, Parshall, CO 80468
Edward Snyder	Box 434, Parshall, CO 80468
Dale F. Lanan	57 Springdale Place, Longmont, CO 80501
Walter Virbick	Box 398, Parshall, CO 80468
Steve Schake	Box 282, Kremmling, CO 80459
D.A. Adams	Box 370, Parshall, CO 80468
Dave Freddy	Colo. Div. Wildlife, Box 252, Kremmling, CO 80459
Bob Thompson	Div. of Wildlife, Box 617, Kremmling, CO 80459
Steve Diltz	Star Route, Parshall, CO 80468
Roger Corner	Middle Park R.D., Box 278, Kremmling, CO 80459
Penny Lewis	1421 C.R. #34, Parshall, CO 80468
Carl Wood	1057 C.R. #34, Parshall, CO 80468
John Walker	Box 339, Parshall, CO 80468
Karl Knorr	B.R. Rt., Kremmling, CO 80459
Kevin Riordan	P.O. Box 775, Kremmling, CO 80459
Jim Yust	Box 246, Kremmling, CO 80459
Dick Summy	Star Route, Parshall, CO 80468
Elaine Baley	Star Route, Parshall, CO 80468
Steve Summy	Star Route, Parshall, CO 80468
Herb Ritschard	Box 111, Kremmling, CO 80459

2. SILVERTHORNE; AUGUST 8, 1985

Dale Lanan	57 Springdale Place, Longmont, CO 80501
Charles Weber	P.O. Box 982, Breckenridge, CO 80424
Don Shanfelt	Tri-State
Don Crow	Public Service Co.
Jerry Braswell	13154 C.R. #140, Salida, CO 81201
Sandy Krezen	13154 C.R. #140, Salida, CO 81201
James A. Zeiset	13154 C.R. #140, Salida, CO 81201
Arthur R. Peel, Jr.	Box 1554, Breckenridge, CO 80424
W.T. Reynolds	Box 281, Conifer, CO 80433
Barb Keller	Summit Co. Journal, Breckenridge, CO 80424
C.L. Larson	Box 998, Conifer, CO 80433
Dan Peterson	Box 68, Breckenridge, CO 80424
Ian Huss	5000 Butte St., #183, Boulder, CO 80301
Mark H. Rogers	14975 West 77th Drive, Golden, CO 80403
Ruth Murayama	P.O. Box 1729, Frisco, CO 80443
Dianna McFarland	425 Teller Street, Salida, CO 81201
John M. Coyne	6430 Wright Street, Arvada, CO 80002
Kenneth L. Grubbs	17325 Rim Rock Drive, Golden, CO 80401

CHANGES AND ADDITIONS TO THE DSEIS
APPENDIX H - LETTERS REGARDING WESTERN'S PROPOSED PROVISION OF AN ALTERNATIVE HANG GLIDING AREA

Rocky Mountain Hang Gliding Association
Box 28181
Lakewood, CO 80228

November 8, 1985

Mr. Fred Weiss
Mr. William Melander
Western Area Power Administration
Loveland - Ft. Collins Area Office
Box 3700
Loveland, CO 80539

Gentlemen:

To confirm our discussion on November 6, 1985, our organization and the Summit Soaring Society would accept the Route D delineation of the Blue River/Gore Pass portion of the Hayden/Blue River power transmission line on the condition that an alternative hang gliding site be constructed further South along the Williams Fork Mountains.

Specifically, a flat-top prominence exists East of Mumford Gulch and Southeast of Cox Gulch, at an elevation of 9,520' ASL, offering good exposure to prevailing wind, and would be an excellent launch and top-landing area. At the 8,560 level West Southwest of this prominence, a reasonably level area exists adjacent to a jeep trail, close enough underneath the launch to offer good landing area. An alternative for good landing area exists further Southwest at the 8,300' level.

Most if not all of our hang gliding activity would retire to this site from the 9,400' launch adjacent to the Williams Peak Road if 1-2 acres of launch/top-landing area, road access, and 3-4 acres of landing area were constructed for our use. On top we would need area with unobstructed northwest to southwest exposure for the launch, unobstructed area behind for top-landings, and parking for 20 vehicles. We would need a two-wheel road accessible through the months of the year without snow cover. Otherwise, we would need 3-4 acres of flat, round landing area with unobstructed approach from any direction.

Whereas we cannot commit to retiring from the old 9,400' launch altogether, the most effective and comprehensive attraction to the new site would be the construction of an overnight shelter for 20 persons behind the new launch. This is an aspect we need to discuss yet.

The practical aspect of this location for an alternative site along the Williams Fork Mountains lies in the fact that the Route D delineation is situated on the southeast side of the Williams Fork Mountains ridge line in turbulent lee that pilots would assiduously avoid. No hazard exists on the windward side.

We are enthusiastic about the prospects for this new site and hope that the Forest Service will agree to its allocation to our use. We would all benefit, however, from a visit to the site for firsthand inspection. With Winter and other deadlines approaching I suggest that we set a time to go together as soon as possible.

Very truly yours,

Connally Keating

Connally Keating
President

cc: Bill Sloatman, Summit Soaring Society
Chuck Webber, Summit Soaring Society

D. Lanan
57 Springdale Pl.
Longmont, CO 80501
776-9243

November 12, 1985

Dear Mr. Melander:

Thank you for at least asking me if a new launch was a possible solution to the hang gliding danger problem presented by the Blue River-Gore Pass transmission line placed in Route D. Time restricts me from writing a more specific personal letter to your agency at this time, but I thought sending you a copy of a letter I am sending out might help you to understand my position on why a new launch would not solve this danger.

Thank you for your response concerning the safety conflict between a new transmission line on Williams Fork mountains and the existing use of that land as a hang gliding site. The information on the "Possible Route to Resolve Hang Gliding Hazard" now called D_2 by WAPA would reduce the danger presented by the powerline to an acceptable level. This line D_2 would not restrict the use of the site on the North end of Williams Fork mountain range, which is the primary hang gliding use area on the mountain range.

Unfortunately, WAPA does not seem to intend to use D_2 which is 500 yards East of the mountain crest behind the main use area for the sport. Instead, their new Strategy is to hurry to find someone who might be willing to effectively close the site so they can install Route D across the West side of the mountain range in this area and make a new site somewhere else. I have told them this would not do, but they are pressing the idea on other pilots in a timescale that does not allow for normal club meetings to occur to discuss the proposal. I hope they do not intend to take a hurried personal opinion in favor of this to the Forest Service for their blessing because that flying site cannot be replaced.

The route D_2 was presented to the Grand County Commissioners on October 22 in Hot Sulpher Springs. This route was generated by a field study by WAPA officials at the site during its normal use for flying. WAPA does have a sincere concern for our safety and this route was a compromise between concerns of a Copper Creek Subdivision over the visibility of route C as an alternate and our concern for the continued safe use of our site's airspace. D_2 would reduce the danger presented to a minimum yet was as close as possible to our use area to minimize Copper Creek's concerns for visibility. WAPA's fieldwork had shown there was the potential for a collision if route D was installed and that is why D_2 was proposed by the Forest Service as a route and studied.

The Grand County Commissioners said they do not want the powerline on the East side of that mountain range. They said this had been their position from the start and they had not heard anything about hang gliding until that meeting. When WAPA people, myself and Bill Sloatman said there could be a collision with the powerline, and a person from Copper Creek Subdivision said he was not as concerned with the visibility of D_2 as with C, the commissioners reiterated their position about not wanting the powerline on the East side of the mountain and moved on to other business.

Several days after this meeting I received a call from WAPA about making a new launch somewhere else to solve the danger problem and although they did not say it, effectively close the site by installing D as originally planned. I told them that it wasn't launching that was a problem, but what you might fly into after you did launch that was a problem. No other launch site on Williams Fork mountains would solve the problem because a glider pilot's goal is to gain altitude on any soaring flight and launching from any spot, the powerline would be there to meet him after he has. I had said another launch would not help reduce the danger at the Silverthorn meeting months ago.

I am not against opening new sites to fly, but the destruction of the most popular site in the State of Colorado seems a little extreme, particularly if the new launch only allows a portion of the Williams Fork mountains we presently fly to be flown.

Grand County's ability to bear the cost of litigation for an appeal of route D_2 over D is greater than hang glider pilots, therefore I appeal for the proper decision based on the facts to be made in the first place.

A decision for D would be a financial tragedy for me to defeat it in court, but I saw what a powerline can do when John Coyne made it to the Silverthorn powerline meeting. He is not the only friend of mine who has hit powerlines in the past flying a hang glider.

If D is used we would lose the safe use of the area we have been flying for over ten years. I have flown there since 1978, personally. The probability of being able to gain altitude there is very high unlike most front range sites.

This year several foreign pilots from 3 countries have flown there and cross country flights to the front range and beyond have been made for the first time. Flights from the North end of Williams Fork mountains have gone 30 miles East of Brighton, Lakewood, Taryall Reservoir and Buena Vista. Many flights have been made to Silverthorn, Keystone, Breckenridge and Winter

Park. The site is located away from air traffic corridors yet near enough to the Front Range to enable people there to fly the prevailing westerly winds on the windward end of a mountain range.

Please help me to preserve this sport in Colorado at an acceptably safe level of participation.

Sincerely,

Dale Lanan

Rocky Mountain Hang Gliding Association
Box 28181
Lakewood, CO 80228

December 21, 1985

Mr. Fred Weiss
Mr. William Melander
Western Area Power Administration
Loveland - Ft. Collins Area Office
Box 3700
Loveland, CO 80539

Gentlemen:

To confirm our telephone conversation of November 20, 1985, an undetermined number of pilots in our hang gliding community vehemently opposes your imminent decision in favor of the Route D delineation of the Blue River/Gore Pass portion of the Hayden/Blue River power transmission line. This group is strongly in favor of Route D-2. They do not feel that your proposition for building a substitute site satisfies the conflict of interest.

Otherwise, their position is that my correspondence to you of November 8, 1985, expressing conditions under which your proposal would be acceptable, does not represent them.

Therefore, that letter is invalid, at least until the hang gliding community can resolve its position toward the alternatives as a whole. To this effect both sides of the issue were discussed at length last night at our regular monthly club meeting. We have decided to vote at a special meeting on December 4, 1985, for the position the community will want represented in the final Environmental Impact Statement and Record Of Decision.

I shall call on December 5 in this regard and follow up by letter.

Very truly yours,

Connally Keating

Connally Keating
President

Rocky Mountain Hang Gliding Association
Box 28181
Lakewood, CO 80228

December 5, 1985

Mr. Fred Weiss
Mr. Bill Melander
Western Area Power Administration
Box 3700
Loveland, CO 80539

Gentlemen:

It is the decision of the Colorado hang gliding community to oppose the selection of the Route D delineation of the Blue River/Gore Pass portion of the Hayden/Blue River power transmission line. By so choosing we also decline the offer of the Western Area Power Administration to construct a substitute hang gliding site to mitigage the hazard of Route D.

Our position is that Route D will destroy what is historically the most versatile hang gliding site in Colorado. However, we are amenable to the selection of Route D-2, because it is the best mitigation of any delineation along the Williams Fork Mountains.

A new hang gliding site under any circumstances is indeed a generous offer, and we thank you for it.

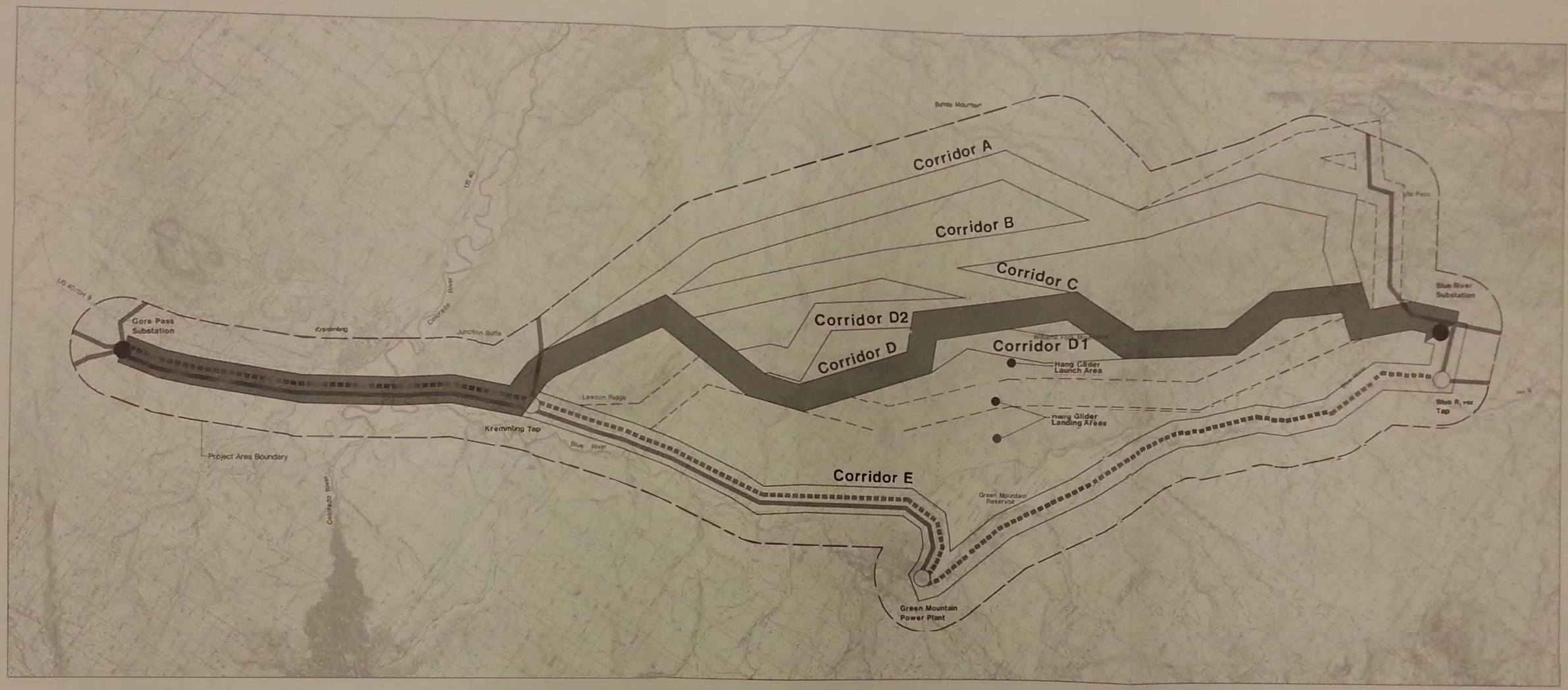
We ask that you record our position in the final Environmental Impact Statement and the Record Of Decision.

Very truly yours,

Connally Keating

Connally Keating
President

cc:



US Department of Energy
Western Area Power Administration

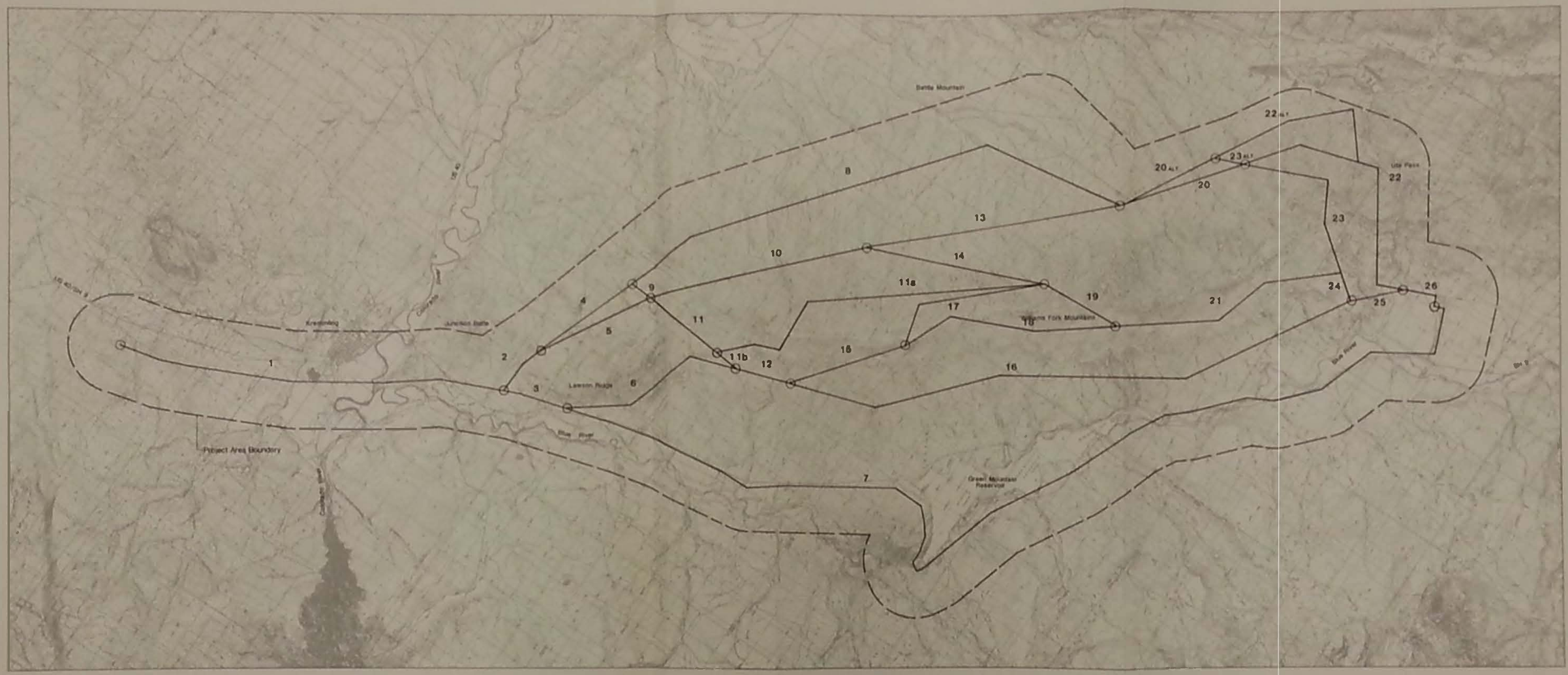
Blue River-Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Figure 1-2 Revised

The Proposed Action

- Proposed Corridor
- Primary Alternative Corridor
- Other Corridor
- Existing Transmission Line to be Removed
- Existing Transmission Line to Remain
- Existing Substation or Tap



US Department of Energy
Western Area Power Administration

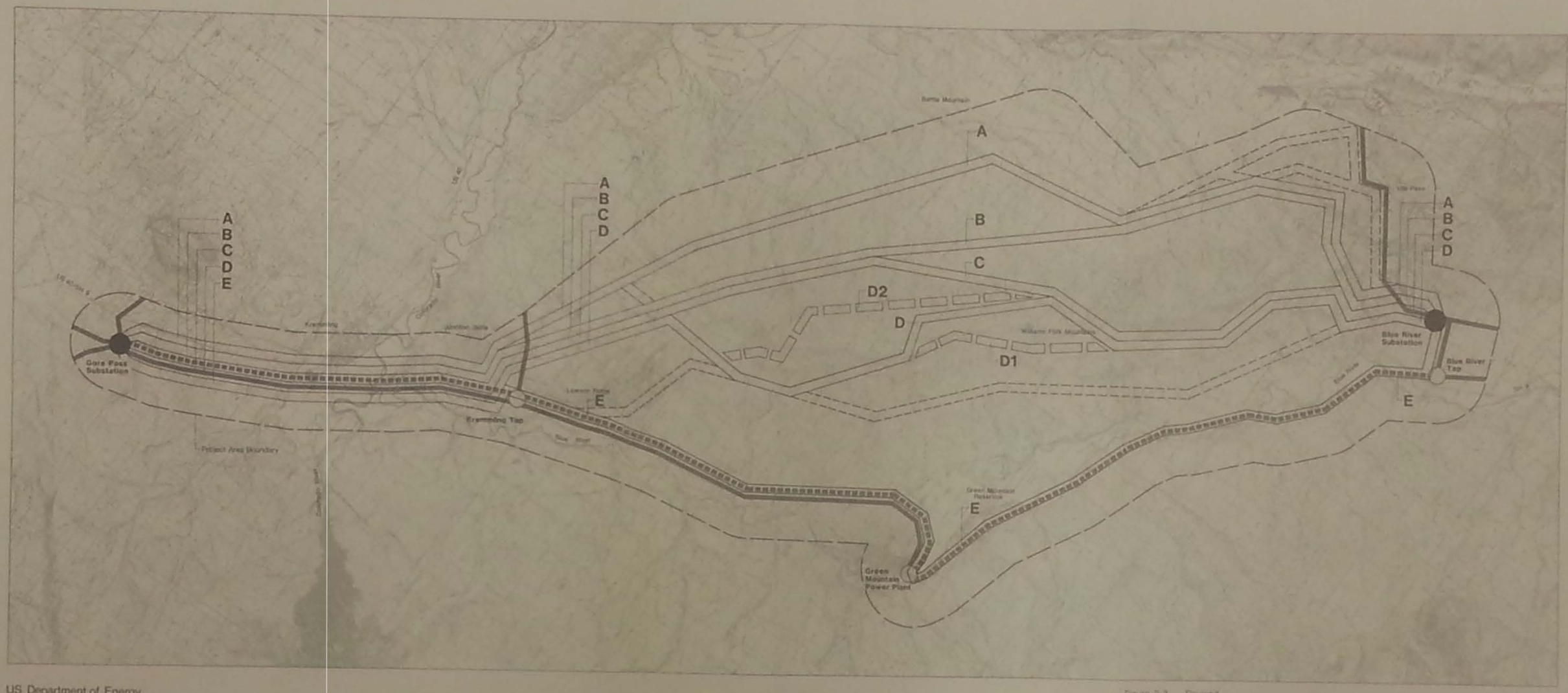
Blue River-Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Figure 3-2 Revised

Network of Links/Corridors

Alternative Corridor	Primary Alternative Corridor	Links
1		1, 2, 4, 8, 20, 22, 26
2	(A)	1, 2, 4, 8, 20, 23, 24, 25, 26
3		1, 2, 4, 9, 10, 13, 20, 22, 26
4		1, 2, 4, 9, 10, 13, 20, 23, 24, 25, 26
5		1, 2, 5, 10, 13, 20, 22, 26
6	(B)	1, 2, 5, 10, 13, 20, 23, 24, 25, 26
7		1, 2, 4, 9, 10, 14, 19, 21, 24, 25, 26
8	(C)	1, 2, 5, 10, 14, 19, 21, 24, 25, 26
9		1, 2, 4, 8, 11, 11b, 12, 15, 17, 19, 21, 24, 25, 26
10	(D)	1, 2, 5, 11, 11b, 12, 15, 17, 19, 21, 24, 25, 26
10a	(D2)	1, 2, 5, 11, 11a, 19, 21, 24, 25, 26
11		1, 2, 4, 9, 11, 11b, 12, 15, 19, 21, 24, 25, 26
12	(D1)	1, 2, 5, 11, 11b, 12, 15, 19, 21, 24, 25, 26
13		1, 2, 4, 9, 11, 11b, 12, 16, 25, 26
14		1, 2, 5, 11, 11b, 12, 16, 25, 26
15		1, 3, 6, 12, 15, 17, 19, 21, 24, 25, 26
16		1, 3, 6, 12, 15, 19, 21, 24, 25, 26
17		1, 3, 6, 12, 16, 25, 26
18	(E)	1, 3, 7



US Department of Energy
Western Area Power Administration

Blue River-Gore Pass Transmission Line

0 1 2 3 4 5 km
0 1 2 5 km

Figure 3-3 Revised

Primary Alternative Corridors

Primary Alternative Corridor (Schematic, Corridor Width Not to Scale)

Other Corridor (Schematic, Corridor Width Not to Scale)

Existing Substation or Tap

Existing Transmission Line to be Removed

Existing Transmission Line to Remain

US Department of Energy
Western Area Power Administration

Blue River-Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Figure 4-5a Revised

Soils/Slope

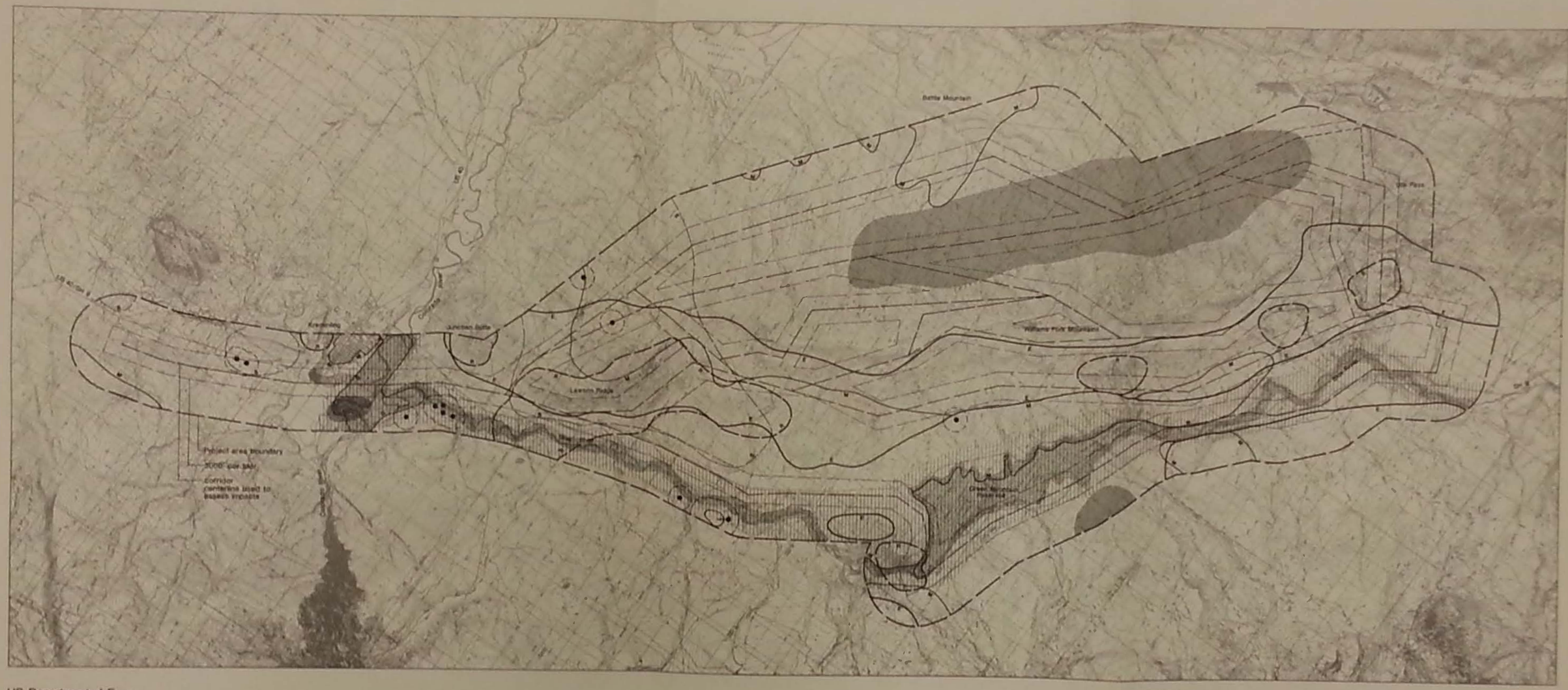
Sensitive Soil Units

Sensitive soil units are all soils on slopes greater than 30%, and soils with a K value greater than .33 that are located on slopes greater than 15%. These are the soils most susceptible to accelerated erosion.

Note: Information on K values is not available for the National Forest portions of the project area. K values were assumed to be less than .33 in these areas.

Sources:

- Soil Survey of Summit County Area, Colorado, USDA Soil Conservation Service, Colorado Agricultural Experiment Station.
- Soil Survey of Grand County Area, Colorado, USDA Soil Conservation Service, USDA Forest Service, Colorado Agricultural Experiment Station.
- USGS Topographic Maps.
- Slope classes were determined through the Perspective Plot computer program.



US Department of Energy
Western Area Power Administration

Blue River·Gore Pass Transmission Line

0 1 2 5 km
0 1 2 8 mi

Figure 4-7 Revised

Wildlife

Big Game Animals
- Elk Calving Area
- Elk Critical Winter Range
- Mule Deer Critical Winter Range

Sage Grouse
- Strutting Ground-1/4 mile buffer 1978
- Winter Range

Waterfowl
- Goose Production Area
- Duck Concentration Area

Raptors
- Eagle Roost
- Bald Eagle Winter Concentration Area
- Raptor Nesting Area

Sources
- Tri-State Studies
- Colorado Division of Wildlife
- BLM, Kremmling

US Department of Energy
Western Area Power Administration

Blue River-Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Sources:

- Aerial Photography
  - SE of Lawson Ridge, USFS color photography, 1" = 550' Sept. 1981
  - NW of Lawson Ridge, Tri-State color photographs, 1:20,000, about 1979
- Tri-State Studies
- Field observations
- USFS, Kremmling
- USFS, Glenwood Springs
- Amax Co., Henderson Mine
- State Highway Dept.
- Grand County Manager's Office
- Grand County Master Plan
- Green Mountain TV Association
- Nat'l Park Service, Nationwide Rivers Inventory
- Summit County Sketch Master Plan Map
- Federal Aviation Regulations, Part 77, Objects Affecting Navigable Airspace

Figure 4-9 Revised

Existing Land Use

- Residential Area or Site
- Subdivision
- Commercial/Industrial Area or Site
- Agricultural Area
- Recreation Site
- Overnight Camp
- Developed Recreation Area
- Paved Road
- Graded Road
- Well Used Track
- Recreational Trail
- River included in Nat'l. Wild & Scenic Rivers Inventory
- Operating Railroad
- ADT 2050 1982 Average Daily Traffic Volume

US Department of Energy
Western Area Power Administration

Blue River-Gore Pass Transmission Line

Figure 4-12 Revised

Visual Resources

Visual Quality Objectives

- Retention
- Partial Retention
- Modification
- Maximum Modification

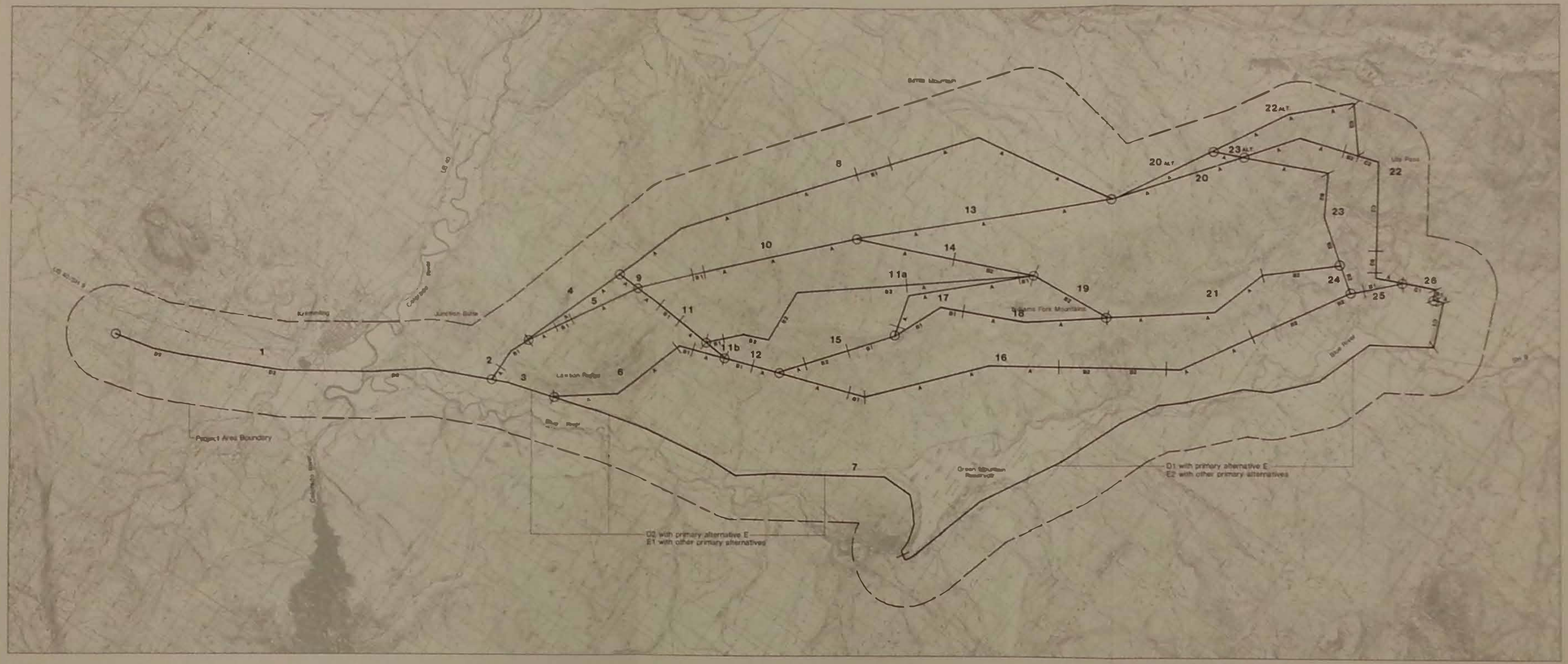
LA/H* / M* Landform-Vegetation/Structure Contrast / Visibility Level

*(SS: Seldom Seen; VL: Very Low; L: Low; M: Moderate; H: High)

Sources

- Field observations
- Tri-State Studies
- USFS Steamboat Springs
- USFS Glenwood Springs

0 1 2 5 km
0 1 2 5 mi



US Department of Energy
Western Area Power Administration

Blue River-Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Alternative Corridor	Primary Alternative Corridor	Links
1		1, 2, 4, 8, 20, 22, 26
2	(A)	1, 2, 4, 8, 20, 23, 24, 25, 26
3		1, 2, 4, 9, 10, 13, 20, 22, 26
4		1, 2, 4, 9, 10, 13, 20, 23, 24, 25, 26
5		1, 2, 5, 10, 13, 20, 22, 26
6	(B)	1, 2, 5, 10, 13, 20, 23, 24, 25, 26
7		1, 2, 4, 9, 10, 14, 19, 21, 24, 25, 26
8	(C)	1, 2, 5, 10, 14, 19, 21, 24, 25, 26
9		1, 2, 4, 9, 11, 11b, 12, 15, 17, 19, 21, 24, 25, 26

Alternative Corridor	Primary Alternative Corridor	Links
10	(D)	1, 2, 5, 11, 11b, 12, 15, 17, 19, 21, 24, 25, 26, and hang gliding access road.
10a	(D2)	1, 2, 5, 11, 11a, 19, 21, 24, 25, 26
11		1, 2, 4, 9, 11, 11b, 12, 15, 18, 21, 24, 25, 26
12	(D1)	1, 2, 5, 11, 11b, 12, 15, 18, 21, 24, 25, 26
13		1, 2, 4, 9, 11, 11b, 12, 16, 25, 26
14		1, 2, 5, 11, 11b, 12, 16, 25, 26
15		1, 3, 6, 12, 15, 17, 19, 21, 24, 25, 26
16		1, 3, 6, 12, 15, 18, 21, 24, 25, 26
17		1, 3, 6, 12, 16, 25, 26
18	(E)	1, 3, 7

Note:
The Action Types shown are assumed for impact analysis and will be refined during preparation of the construction, operation and maintenance plan.

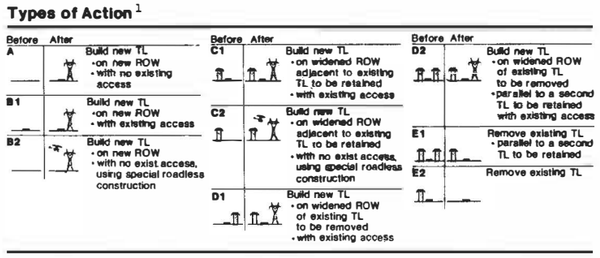
Figure 5-1 Revised

Action Types

Before	After		
A		Build new TL • on new ROW • with no existing access	
B1		Build new TL • on new ROW • with existing access	
B2		Build new TL • on new ROW • with no exist access, using special roadless construction	
C1		Build new TL • on widened ROW adjacent to existing TL to be retained • with existing access	
C2		Build new TL • on widened ROW adjacent to existing TL to be retained • with no exist access, using special roadless construction	
D1		Build new TL • on widened ROW of existing TL to be removed • with existing access	
D2		Build new TL • on widened ROW of existing TL to be removed • parallel to a second TL to be retained with existing access	
E1		Remove existing TL • parallel to a second TL to be retained	
E2		Remove existing TL	

RESOURCE AREA	CONDITION	IMPACT TYPE AND LEVEL	LINKS [1] 1	2	3	4	5	6	7	8	9	10	11	11a	11b	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Hang Glider Access Road [4]
Geology and Hazards	Landslide Deposits (some areas potentially active)	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11,300	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11,300	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soils and Vegetation	Sensitive Soil Units	Short Moderate	--	--	--	500	--	8,800	400	5,300	--	9,200	700	10,300	--	1,200	2,300	2,300	2,100	11,500	10,500	9,600	--	300	5,200	400	6,000	--	--	--	2,800
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wildlife	Sage Grouse Strutting Ground	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	2,600	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Canada Goose Production Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	3,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Duck Concentration Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	10,200	--	--	--	--	--	19,800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bald Eagle Winter Concentration Area	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	13,200	--	--	--	--	--	94,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Land Use	Residential Site	Short Moderate	--	--	--	--	--	--	⑧	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	⑧	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Residential Subdivision	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	9,500	7,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Recreation Site	Short Moderate	--	--	--	--	--	--	③	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	③	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Recreational Trail Crossing	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	①	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	①	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hang Glider Area (zone where low level flight sometimes occurs)	Short Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13,200 [5]	21,300	--	5,500	--	--	--	--	--	--	--	--	--
	Developed Recreation Area	Short Moderate	--	--	--	--	--	--	12,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	--	--	--	--	--	--	12,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Term Significant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Visual Resources	Visual Impacts	Short Moderate	--	--	--	--	--	2,800	2,600	4,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,300	--	--	--	--	--
		Term Significant	--	--	--	--	--	1,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Long Moderate	30,400	1,500	--	--	--	5,000	26,900	18,600	--	5,900	--	4,900	--	4,600	--	--	2,600	64,300	1,400	9,300	1,000	2,400	5,800	8,600	3,400	3,100	5,800	4,500	1,500
		Term Significant	11,500	2,100	6,900	--	--	9,000	90,300	4,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6,300	--	--	--	--	--
Total Land Affected in Acres [3]		Short Term	18.3	3.8	3.0	15.2	14.4	23.7	52.7	66.8	3.0	28.3	9.4	26.3	3.3	4.9	33.6	16.9	8.2	58.1	20.1	22.3	3.9	17.2	34.9	25.3	16.1	1.4	2.5	2.0	12.4
		Long Term	4.8	1.3	0.8	6.3	5.8	9.6	14.0	27.3	1.2	11.6	3.7	9.1	1.4	1.8	13.9	6.4	2.7	22.3	8.1	8.6	1.0	7.1	12.4	9.4	5.9	0.4	0.7	0.5	4.4
Length of Action Type A in Feet			--	1,600	--	12,700	11,300	19,100	1,200	54,600	2,500	23,200	6,900	12,300	2,800	2,900	28,200	11,000	3,100	39,600	15,900	15,600	--	14,400	18,300	15,400	9,600	--	--	--	6,000
Length of Action Type B1 in Feet			--	4,400	--	--	2,000	2,000	--	3,900	--	1,400	2,800	3,500	--	3,200	--	--	5,400	1,800	2,600	8,400	--	--	--	--	--	--	4,300	1,200	12,000
Length of Action Type B2 in Feet			--	--	--	--	--	--	--	--	--	--	--	23,100	--	--	--	8,800	4,900	23,000	--	--	9,000	--	--	8,300	3,900	10,500	3,100	1,500	--	--
Length of Action Type C1 in Feet			--	--	--	--	--	--	4,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,300	--
Length of Action Type C2 in Feet			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11,900	--	--	--	--	--
Length of Action Type D1 in Feet			--	--	--	--	--	--	64,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Length of Action Type D2 in Feet			41,900	--	6,900	--	--	--	48,800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Length in Feet			41,900	6,000	6,900	12,700	13,300	21,100	118,900	58,500	2,500	24,600	9,700	38,900	2,800	6,100	28,200	19,800	13,400	64,400	18,500	24,000	9,000	14,400	26,600	31,200	20,100	3,100	5,800	4,500	18,000

Types of Action [1]



Alternative Corridor	Primary Alternative Corridor	Links
1		1, 2, 4, 8, 20, 22, 26
2	(A)	1, 2, 4, 8, 20, 23, 24, 25, 26
3		1, 2, 4, 9, 10, 13, 20, 22, 26
4		1, 2, 4, 9, 10, 13, 20, 23, 24, 25, 26
5		1, 2, 5, 10, 13, 20, 22, 26
6	(B)	1, 2, 5, 10, 13, 20, 23, 24, 25, 26
7		1, 2, 4, 9, 10, 14, 19, 21, 24, 25, 26
8	(C)	1, 2, 5, 10, 14, 19, 21, 24, 25, 26
9		1, 2, 4, 9, 11, 11b, 12, 15, 17, 19, 21 24, 25, 26,
10	(D)	1, 2, 5, 11, 11b, 12, 15, 17, 19, 21, 24, 25, 26 and hang glider access road.
10a	(D2)	1, 2, 5, 11, 11a, 19, 21, 24, 25, 26
11		1, 2, 4, 9, 11, 11b, 12, 15, 16, 21, 24, 25, 26
12	(D1)	1, 2, 5, 11, 11b, 12, 15, 16, 21, 24, 25, 26
13		1, 2, 4, 9, 11, 11b, 12, 16, 25, 26
14		1, 2, 5, 11, 11b, 12, 16, 25, 26
15		1, 3, 6, 12, 15, 17, 19, 21, 24, 25, 26
16		1, 3, 6, 12, 15, 16, 21, 24, 25, 26
17		1, 3, 6, 12, 16, 25, 26
18	(E)	1, 3, 7

Legend [2]

19,800 - Linear Feet of Moderate Impact
2,400 - Linear Feet of Significant Impact
③ - Number of Occurrences of Moderate Impact

Notes

1 For locations of links and types of action, see Figure 5-1.

2 For explanation of impact level related to type of action, see Tables 5-8 through 5-15.

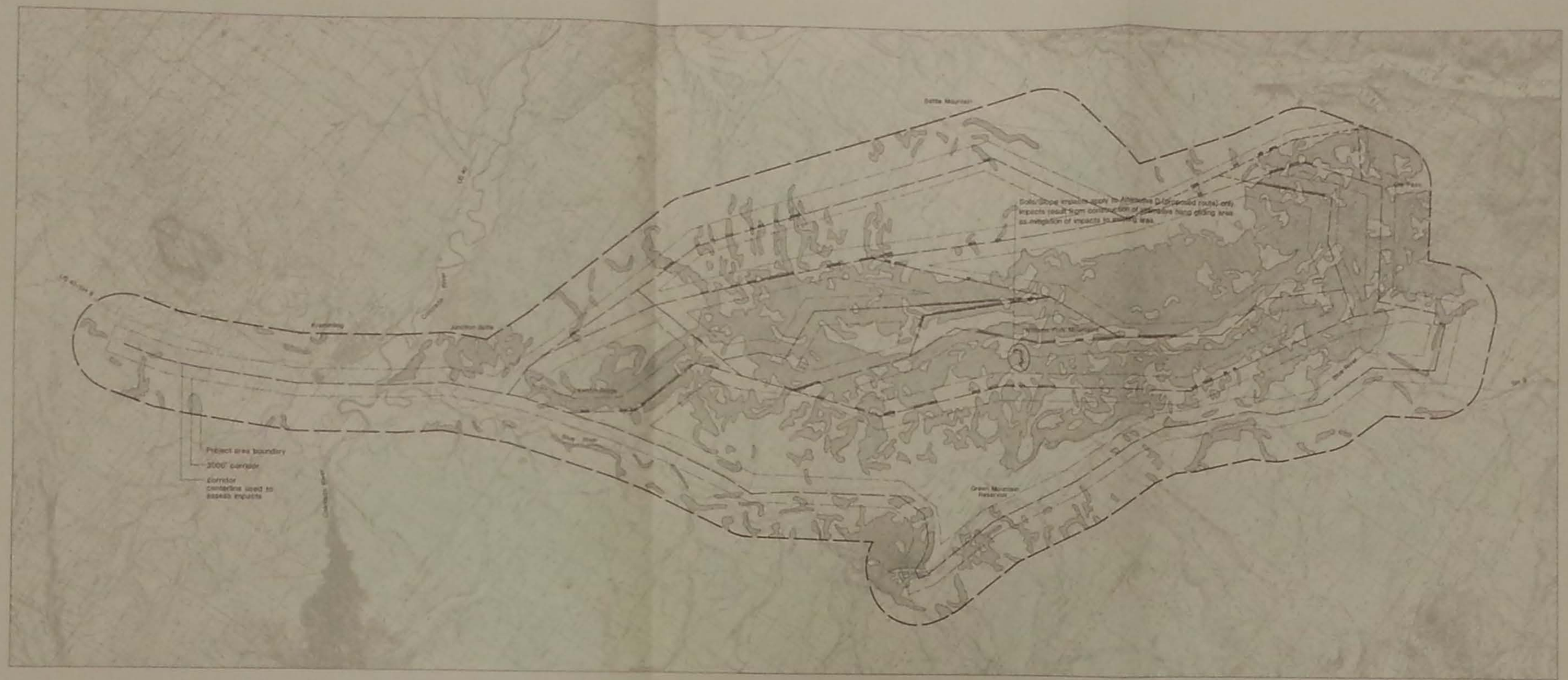
3 For explanation of amount of land affected by each type of action, see Pages 3-12 and 3-13 in the DSEIS.

4 The action in this portion of the project consists of the construction or upgrading of a road alone, but since the terrain is relatively steep, the same amount of disturbance per mile is assumed as for a road and transmission line.

5 Impacts do not apply with Alternative D (proposed route) because of the provision of an alternative hang gliding area elsewhere.

Table 5-1 Revised

Impact Quantification Network of Potential Corridors



US Department of Energy
Western Area Power Administration

Blue River-Gore Pass Transmission Line

0 1 2 3 5 km
0 1 2 5 m

Moderate Impacts

short term
long term

Significant Impacts

short term
long term

Figure 5-3 Revised

Soils/Slope & Vegetation/Impacts

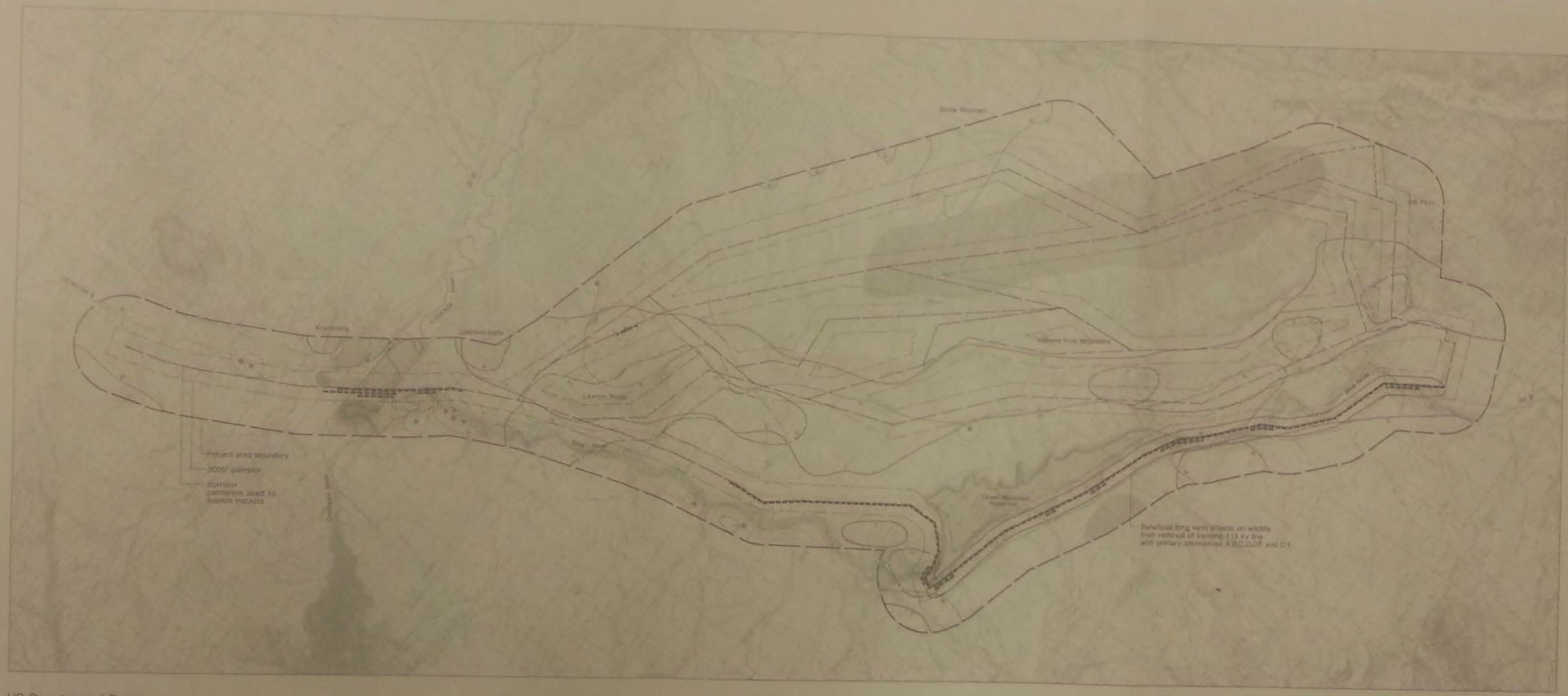
Sensitive Soil Units

Sensitive soil units are all soils on slopes greater than 30%, and soils with a K value greater than .33 that are located on slopes greater than 15%. These are the soils most susceptible to accelerated erosion.

Note: Information on K values is not available for the National Forest portions of the project area; K values were assumed to be less than .33 in these areas.

Sources:

- Soil Survey of Summit County Area, Colorado. USDA Soil Conservation Service, Colorado Agricultural Experiment Station.
- Soil Survey of Grand County Area, Colorado. USDA Soil Conservation Service, USDA Forest Service, Colorado Agricultural Experiment Station.
- USGS Topographic Maps.
- Slope classes were determined through the Perspective Plot computer program.



US Department of Energy
Western Area Power Administration

Blue River-Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Figure 5-4 Revised

Wildlife/Impacts

Big Game Animals
- Elk Calving Area
- Elk Critical Winter Range
- Mule Deer Critical Winter Range

Sage Grouse
- Strutting Ground-1/4 mile buffer zone
- Winter Range

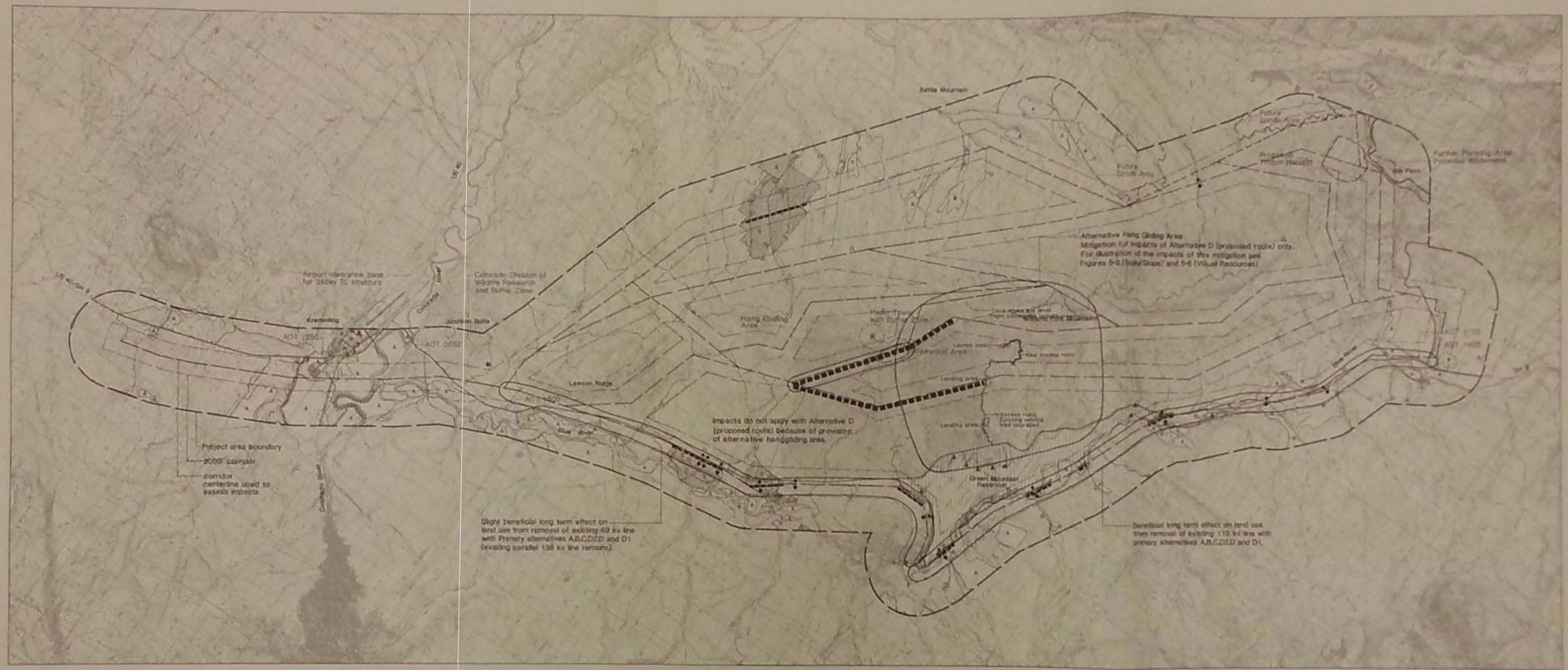
Waterfowl
- Goose Production Area
- Duck Concentration Area

Raptors
- Bald Eagle Roost
- Bald Eagle Winter Concentration Area
- Raptor Nesting Area

Sources
- Tri-State Studies
- Colorado Division of Wildlife
- BLM, Kremmling

Moderate Impacts
- short term
- long term

Significant Impacts
- short term
- long term



US Department of Energy
Western Area Power Administration

Blue River·Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Sources

- Aerial Photography,
  - SE of Lawson Ridge, USFS color photography, 1" = 550' Sept. 1981
  - NW of Lawson Ridge, Tri-State color photography, 1:20,000, about 1978
- Tri-State Studies
- Field observations
- USFS, Kremmling
- USFS, Glenwood Springs
- Amax Co., Henderson Mine
- State Highway Dept.
- Grand County Managers Office
- Grand County Master Plan
- Green Mountain TV Association
- Nat'l Park Service, Nationwide Rivers Inventory
- Summit County Sketch Master Plan Map
- Federal Aviation Regulations, Part 77, Objects Affecting Navigable Airspace

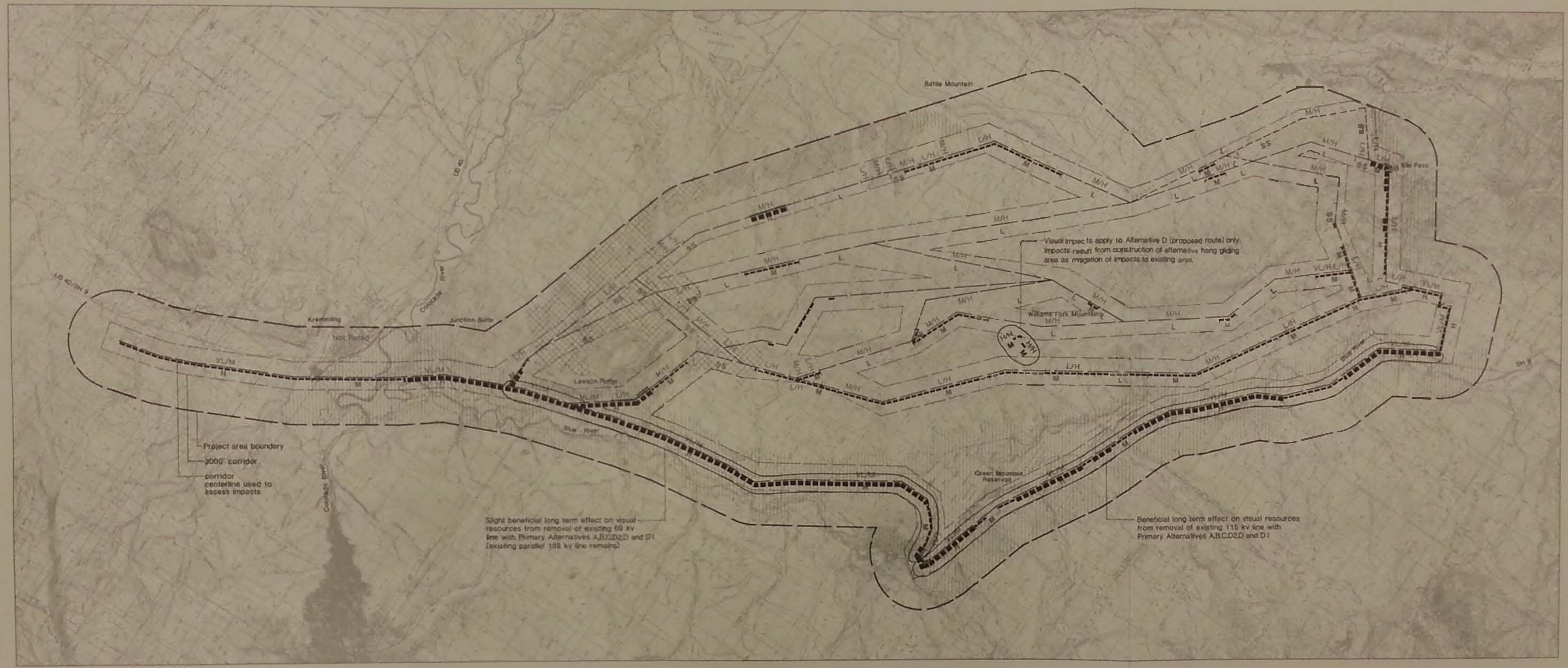
Figure 5-5 Revised

Existing Land Use/Impacts

- Residential Area or Site
- Subdivision
- Commercial/Industrial Area or Site
- Agricultural Area
- Recreation Site
- Outfitters Camp
- Developed Recreation Area
- Paved Road
- Graded Road
- Well Used Track
- Recreational Trail
- River included in Nat'l. Wild & Scenic Rivers Inventory
- Observing Subgrade
- AOT 2060 1982 Average Daily Traffic Volume

Visible Impacts
- short term
- long term

Significant Impacts
- short term
- long term



US Department of Energy
Western Area Power Administration

Blue River·Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Figure 5·6 Revised

Visual Resources/Impacts

Visual Quality Objectives

- Retention
- Partial Retention
- Modification
- Maximum Modification

L/H* / M* Landform-Vegetation/Structure Contrast / Visibility Level

*(SS: Seldom Seen; VL: Very Low; L: Low; M: Moderate; H: High)

Sources

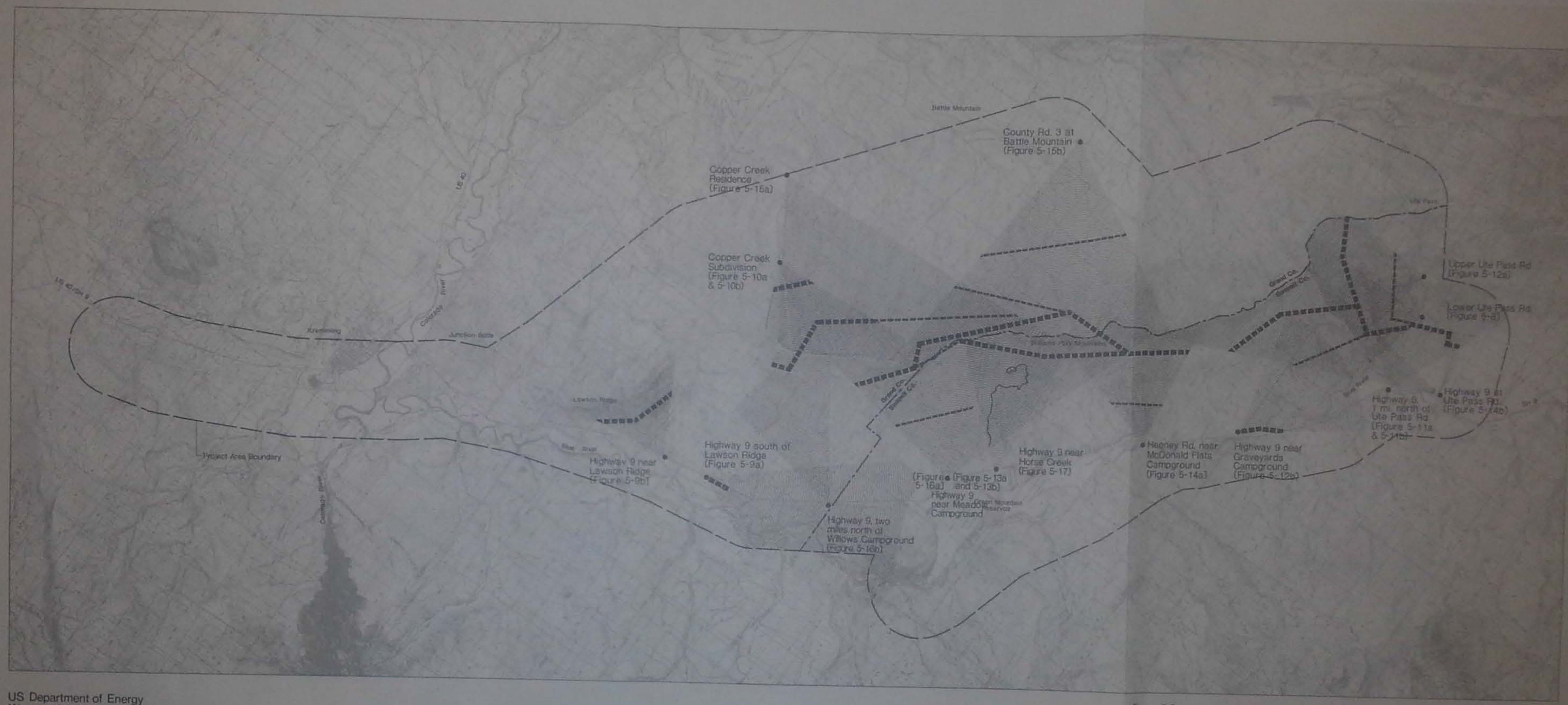
- Field observations
- Tri-State Studies
- USFS Steamboat Springs
- USFS Glenwood Springs

Moderate Impacts

short term / long term

Significant Impacts

short term / long term



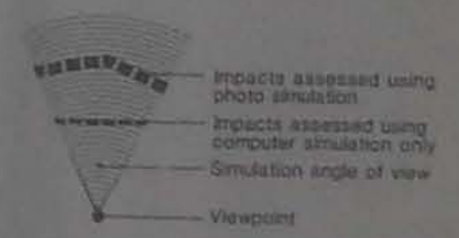
US Department of Energy
Western Area Power Administration

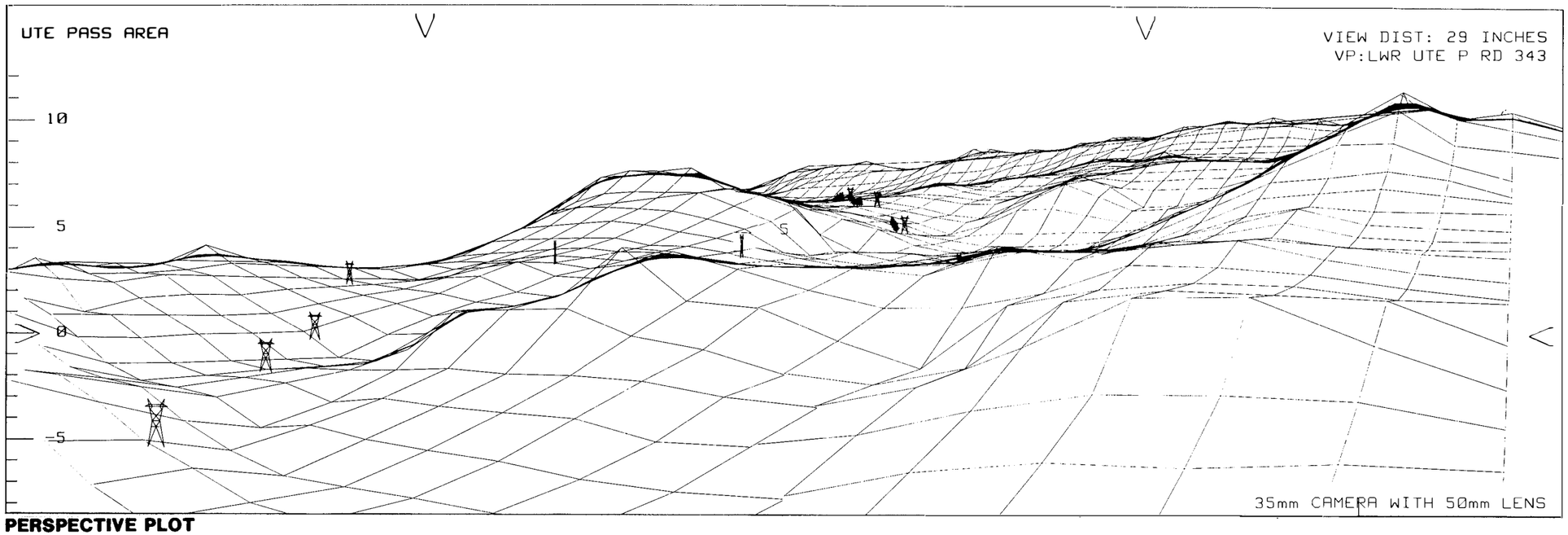
Blue River-Gore Pass Transmission Line

0 1 2 5 km
0 1 2 5 mi

Figure 5-7

Visual Simulation Index





PERSPECTIVE PLOT

PHOTO SIMULATION

Alternative C/D

Viewpoint: Lower Ute Pass Rd.
120 foot towers as seen from 0.6- 1.9 miles

Viewing Distance: 29 inches

Existing Condition

Figure 5-8

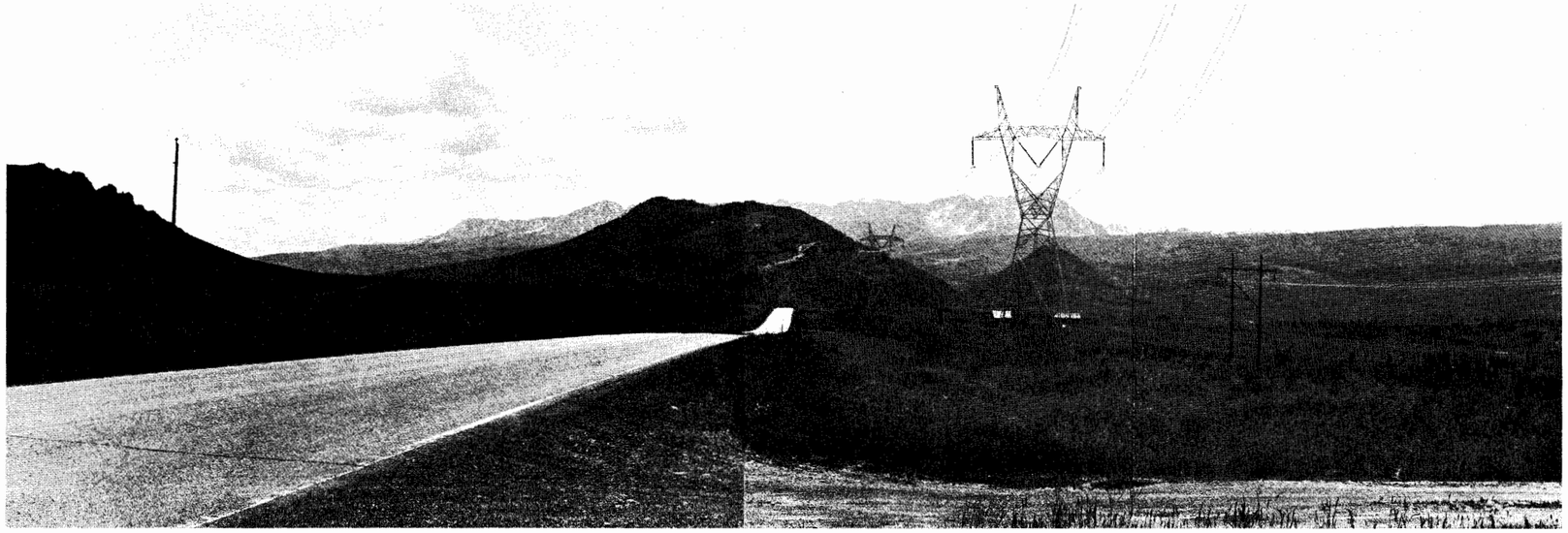


Photo Simulation

Alternative E

Viewpoint: Highway 9 south of Lawson Ridge
120 foot towers as seen from 0.1-0.6 miles

Existing Condition

Figure 5-9a

Photo Simulation

Link 6: Alternatives 15,16 and 17

Viewpoint: Highway 9 near Lawson Ridge
120 foot towers as seen from 0.9-1.5 miles

Existing Condition

Figure 5-9b

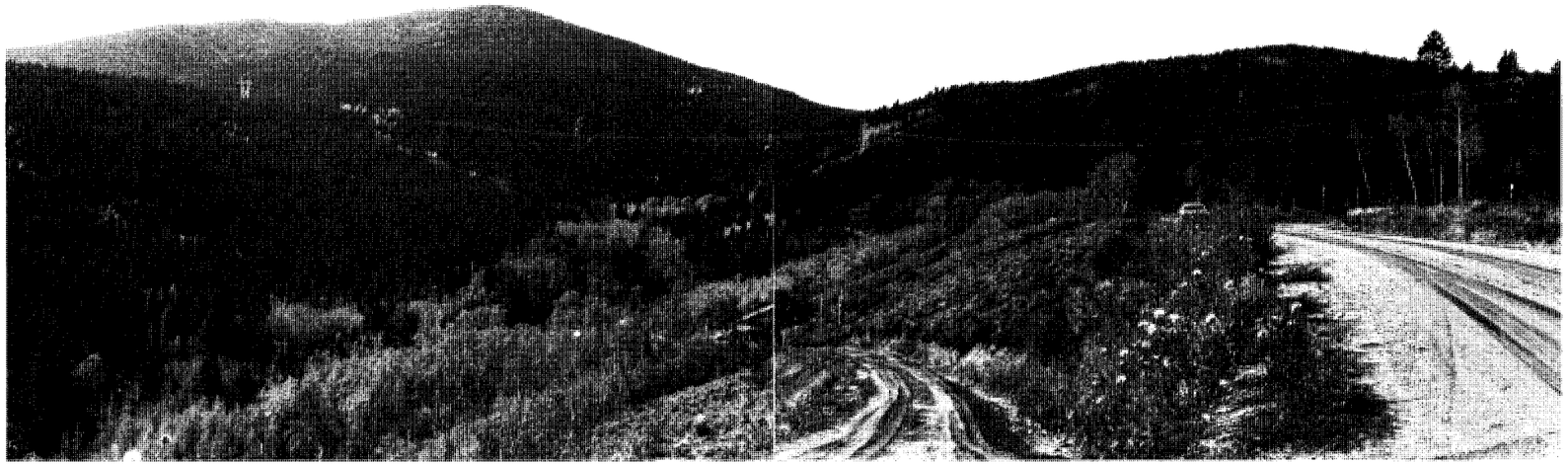


Photo Simulation

Alternative B/C

Viewpoint: Copper Creek Subdivision
120 foot towers as seen from 0.5-0.6 miles

Existing Condition

Figure 5-10a

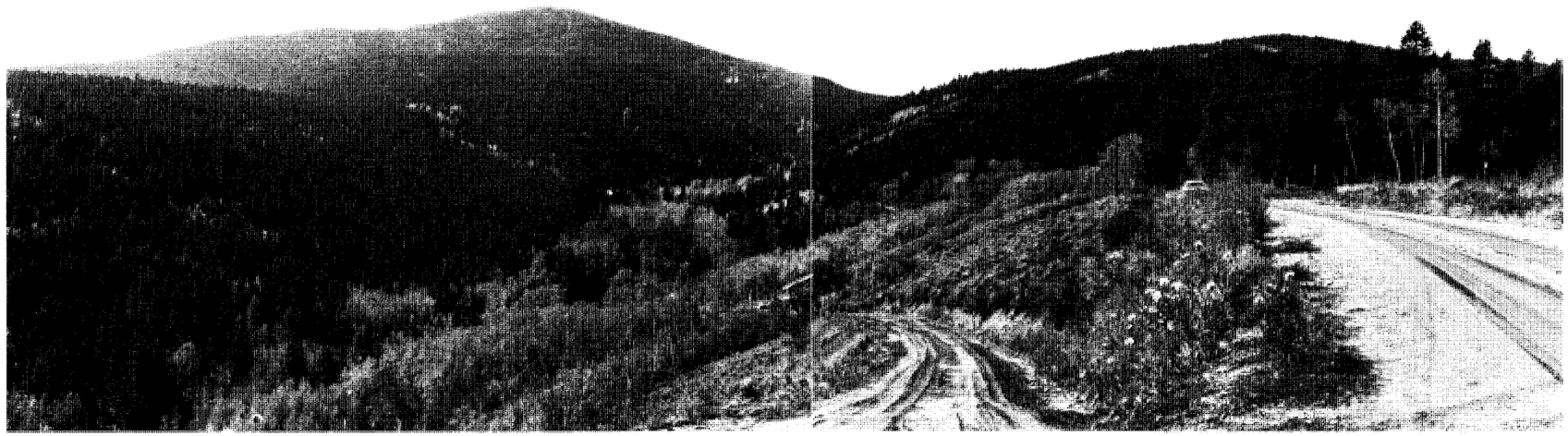


Photo Simulation

Alternative D2

Viewpoint: Copper Creek Subdivision
120 foot towers as seen from 1.4-1.9 miles

Existing Condition

Figure 5-10b

Photo Simulation

Links 25 and 26: Alternatives A,B,C and D

Viewpoint: Highway 9, 1 mile north of junction with Ute Pass Rd.
135 foot towers as seen from 1.3-1.6 miles

Existing Condition

Figure 5-11a

Photo Simulation

Links 25 and 26: Alternatives A,B,C and D

Viewpoint: Highway 9, 1 mile north of junction with Ute Pass Rd.
135 foot towers as seen from 1.3-1.6 miles

Existing Condition

Figure 5-11b

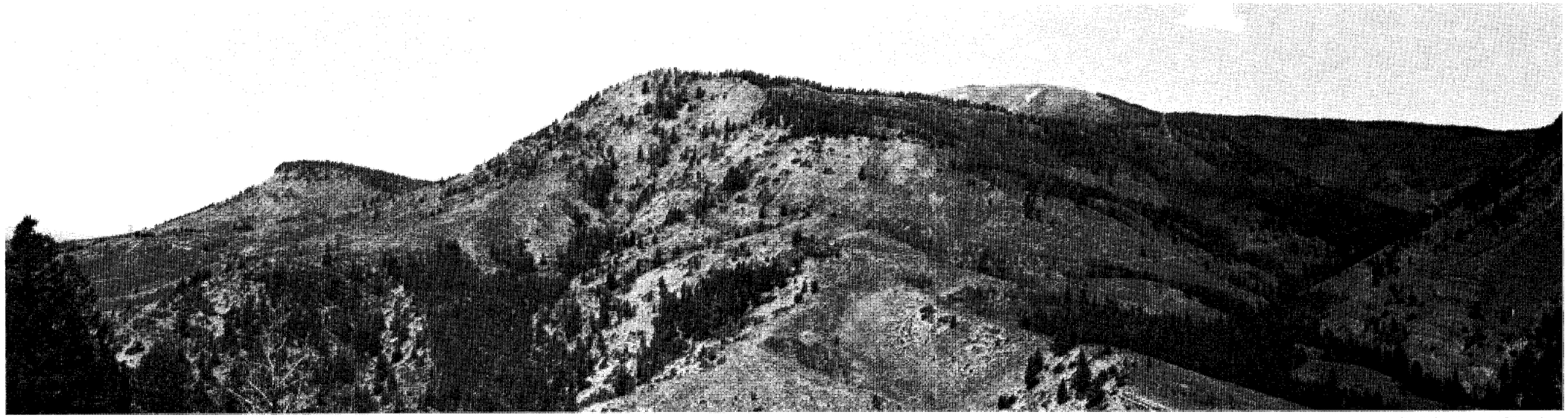


Photo Simulation

Alternative A/B

Viewpoint: Upper Ute Pass Rd.
120 foot towers as seen from 1.5-1.8 miles

Existing Condition

Figure 5-12a

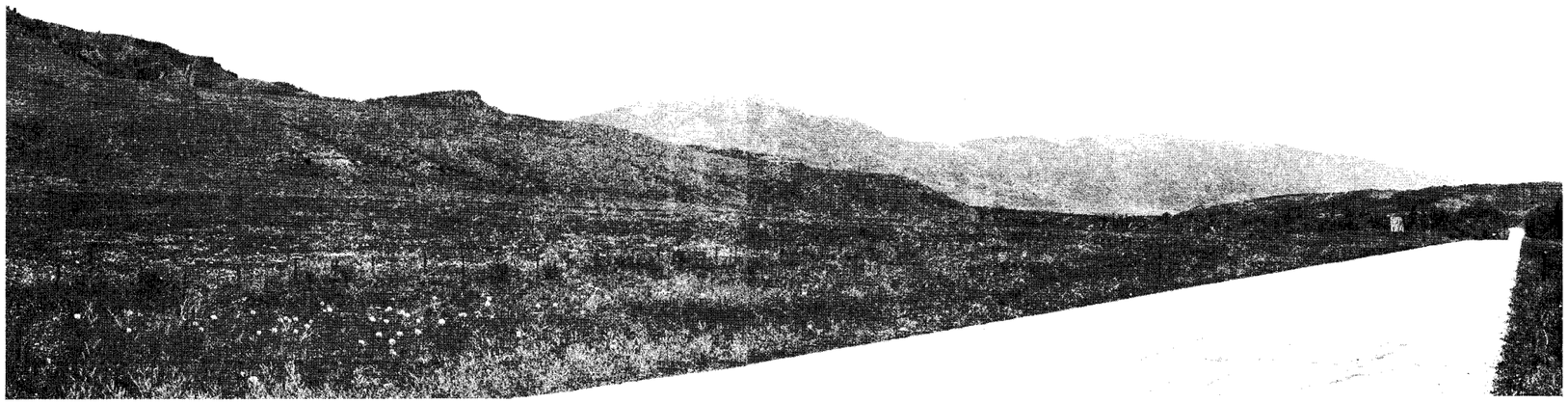


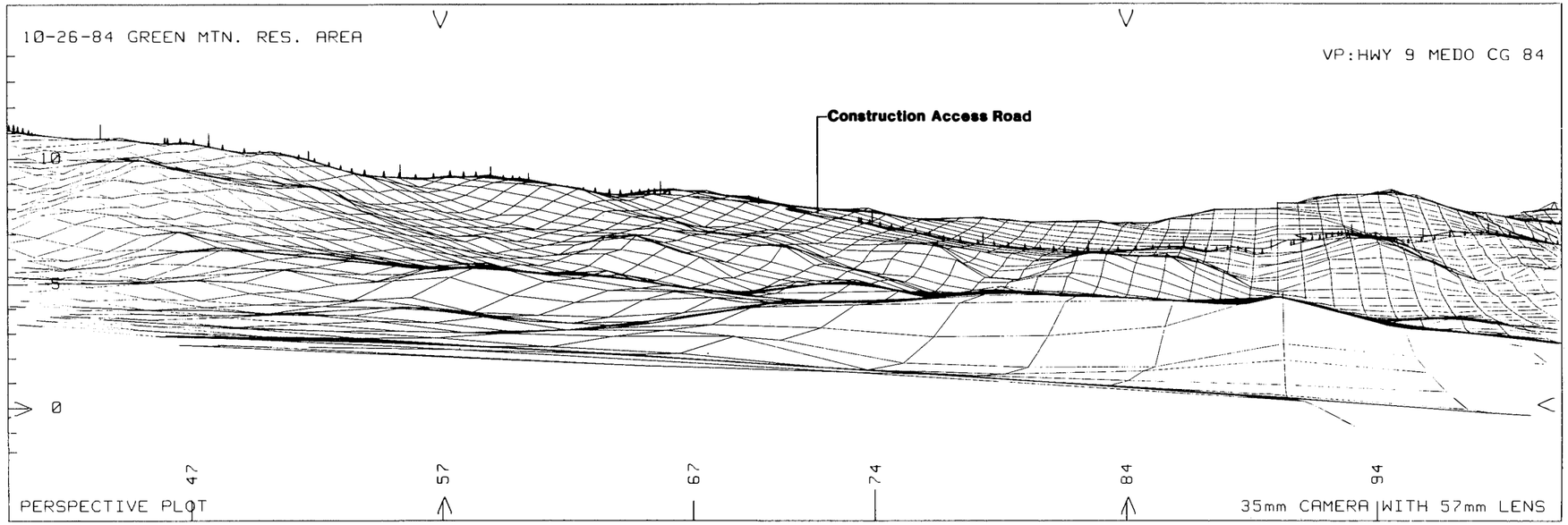
Photo Simulation

Alternatives A,B,C and D

Viewpoint: Highway 9 near Graveyards Campground
Existing 115kv line would be removed

Existing Condition

Figure 5-12b

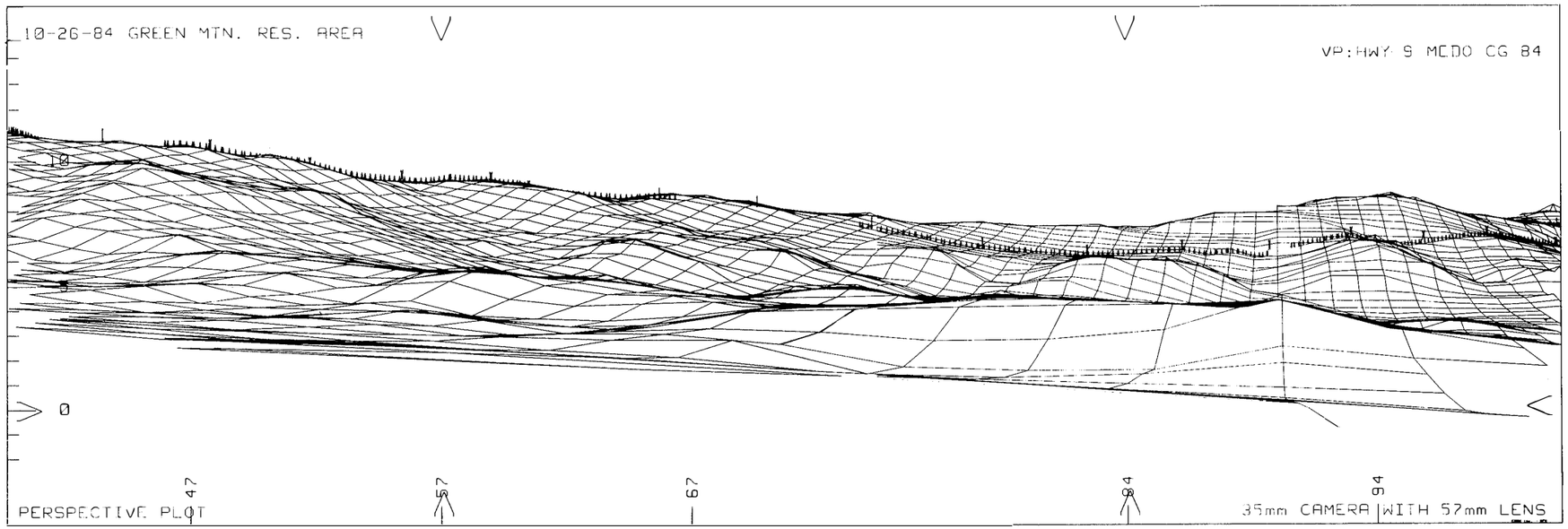


Perspective Plot

Alternative D1

Viewpoint: Highway 9 near Meadow Campground
135 foot single pole towers with construction access road , as seen from 2.4-4.3 miles.

Figure 5-13a

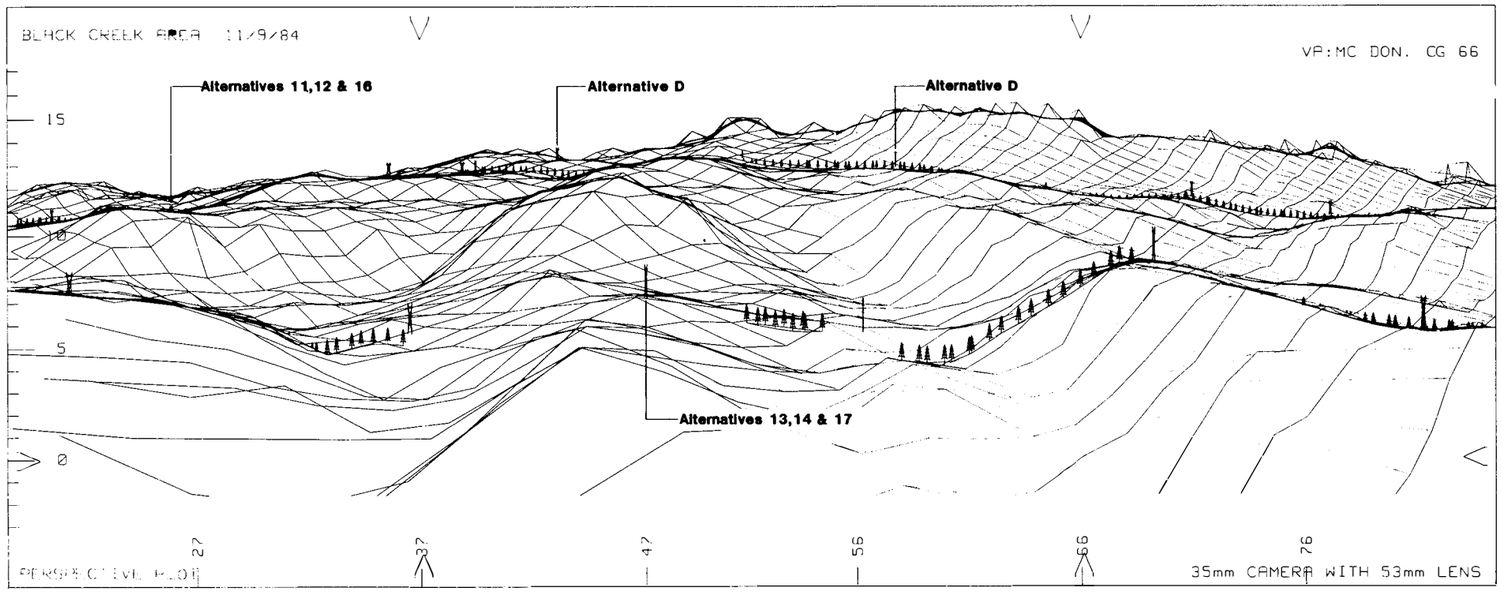


Perspective Plot

Alternative D1

Viewpoint: Highway 9 near Meadow Campground
120 foot towers as seen from 2.4-4.3 miles

Figure 5-13b

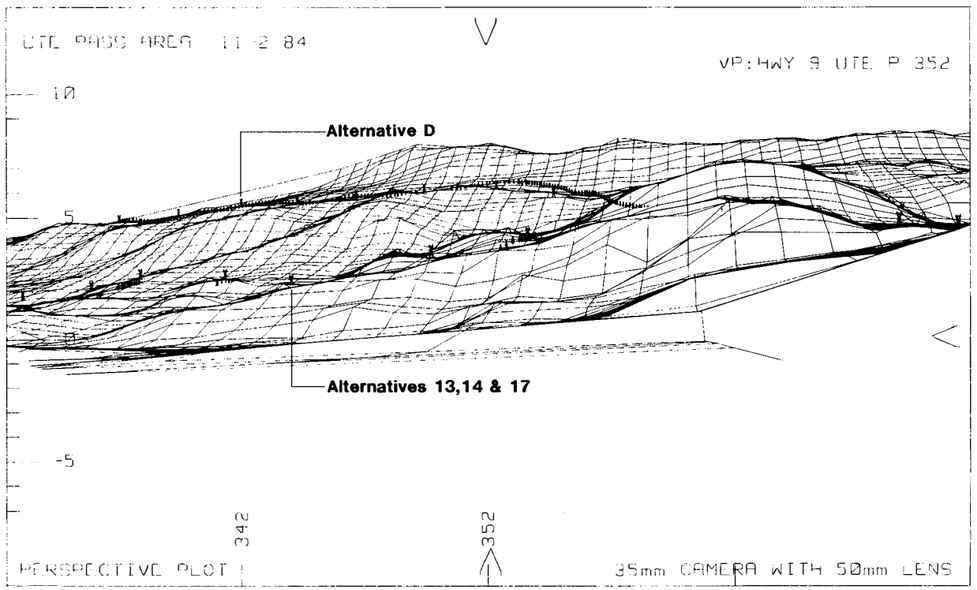


Perspective Plot

Alternatives D, 11, 12 and 16

Viewpoint: Heeney Rd. near McDonald Flats Campground
120 foot towers as seen from 1.9-2.5 miles (Alternative D).

Figure 5-14a

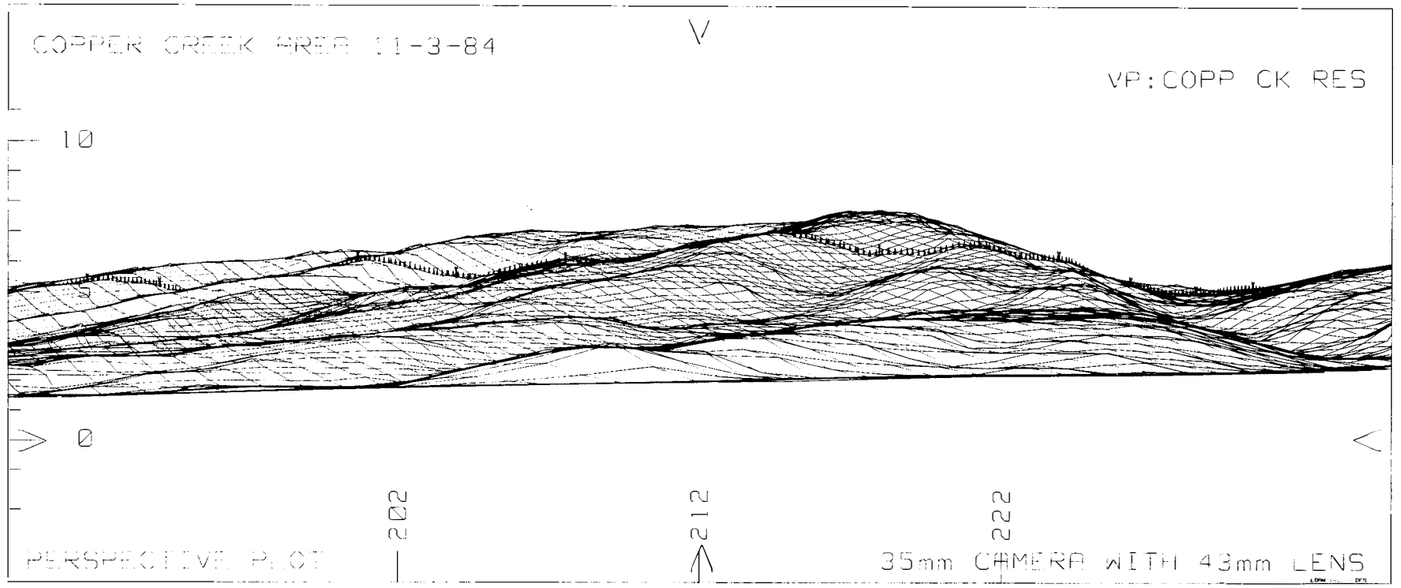


Perspective Plot

Alternatives D,13,14 and 17

Viewpoint: Highway 9 at Ute Pass Rd.
120 foot towers as seen from 3.2-4.5 miles (Alternative D).

Figure 5-14b

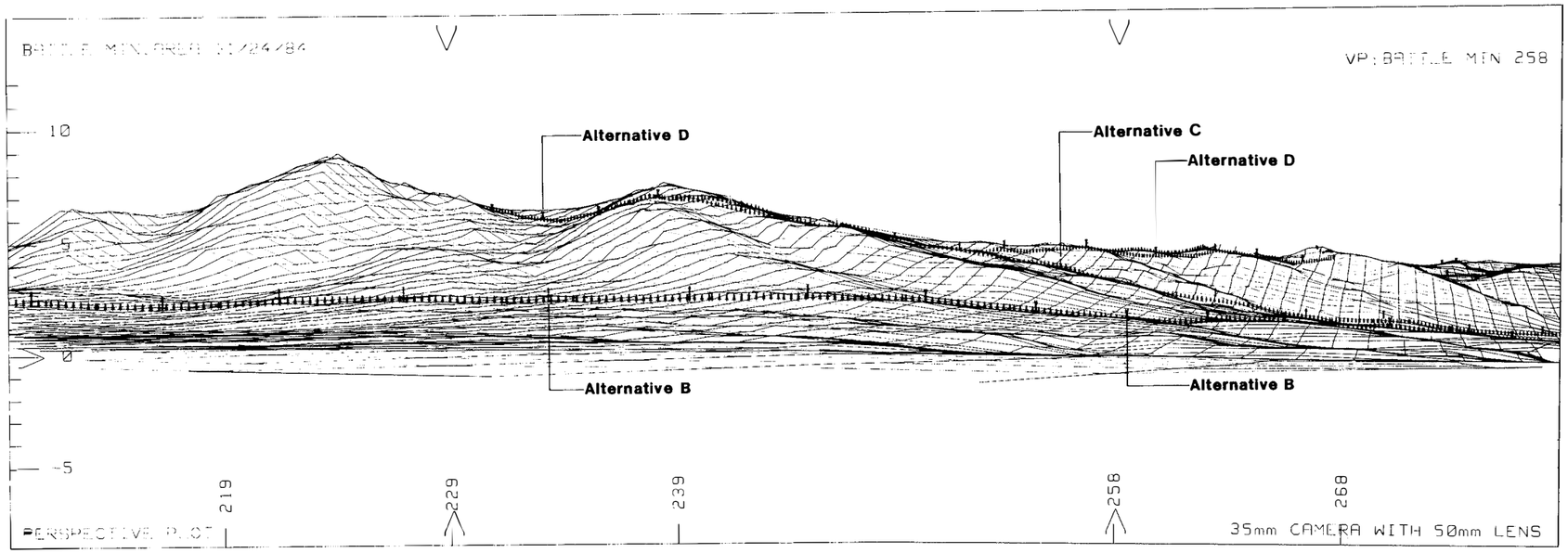


Perspective Plot

Alternative D

Viewpoint: Lower Copper Creek Subdivision
120 foot towers as seen from 3.1-4.6 miles.

Figure 5-15a

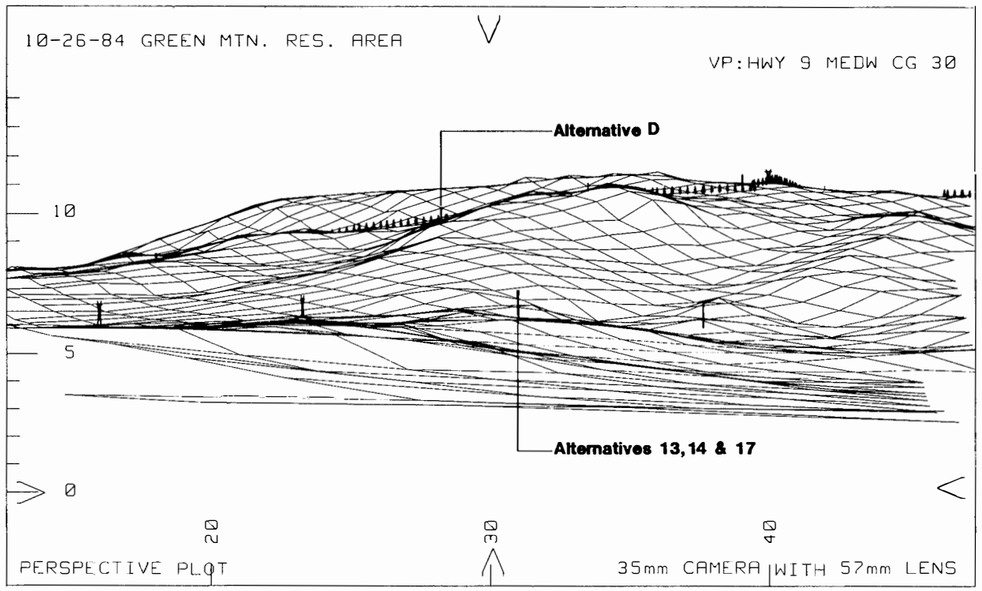


Perspective Plot

Alternatives B, C and D.

Viewpoint: Grand Co. Pd. 3 near Battle Mountain
120 foot towers as seen from 3.4-5.5 miles (Alternative D).

Figure 5-15b

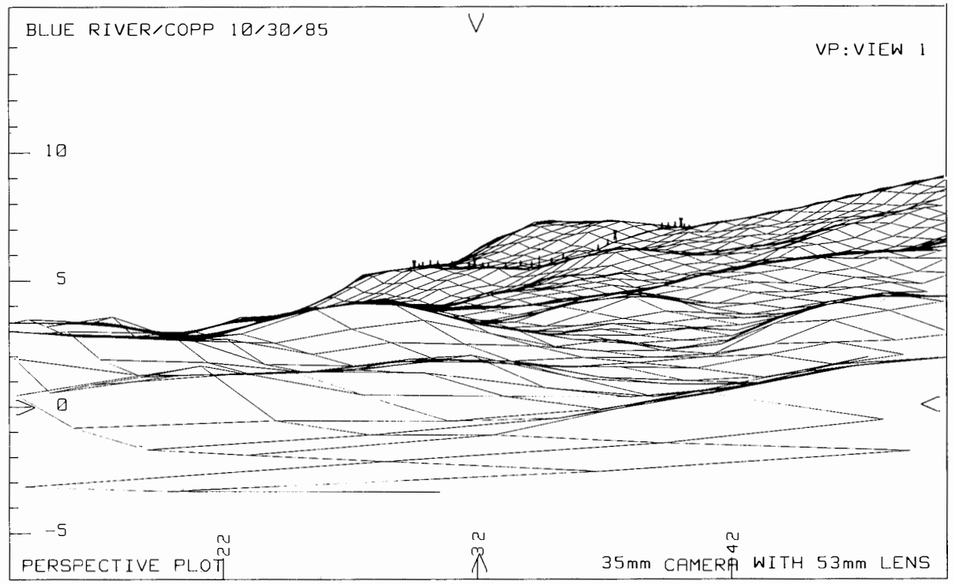


Perspective Plot

Alternatives D,13,14 and 17

Viewpoint: Highway 9 near Meadow Campground
120 foot towers as seen from 2.4-2.6 miles (Alternative D).

Figure 5-16a

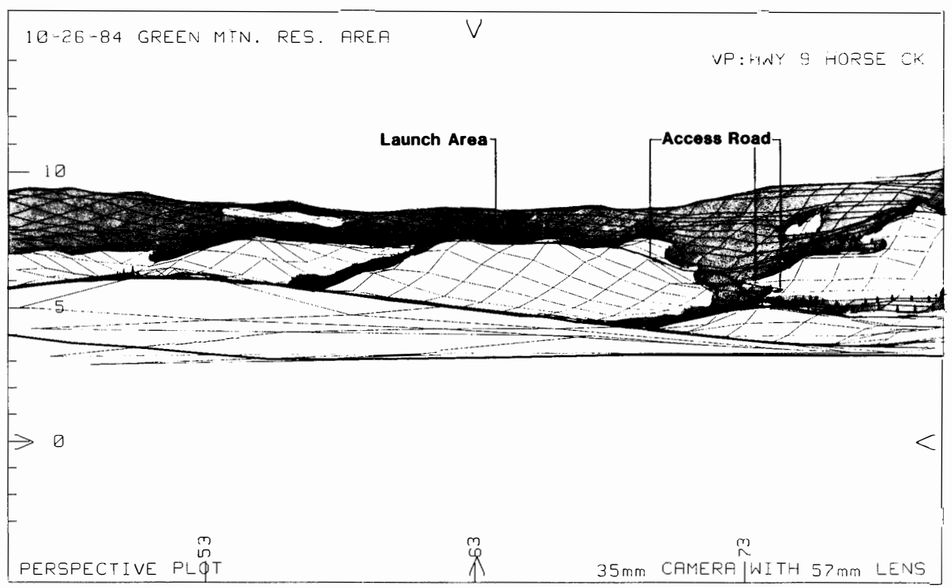


Perspective Plot

Alternative D2

Viewpoint: Highway 9, 2 miles north of Willows Campground
120 foot towers as seen from 2.0-3.2 miles.

Figure 5-16b



Perspective Plot

Alternative D (Hang glider area access road).

Viewpoint: Highway 9 near Horse Creek. Access road as seen from 2.0-2.2 miles. Tone represents forest (based on USGS 1" 2000' scale topographic map).

Figure 5-17