Appendix G-2

USDA Forest Service
Visual Resource Amendments Analysis

Gateway West Transmission Line Project

Prepared by:

Tetra Tech Inc.

Submitted To:

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ACRONYMS AND ABBREVIATIONS

AOI	area of inconsistency
BLM	Bureau of Land Management
BMP	best management practice
EIS	environmental impact statement
Forest Plan	Land and Resource Management Plan
Forest Service	U.S. Department of Agriculture, Forest Service
FSM	Forest Service Manual
Gateway West	Gateway West Transmission Line Project
GIS	geographic information system
IRA	Inventoried Roadless Area
KOP	key observation point
kV	kilovolt
LRT	Linear Routing Tool
MA	Management Area
NF	National Forest
NFS	National Forest System
NHT	National Historic Trail
NWR	National Wildlife Refuge
Project	Gateway West Transmission Line Project
RN	Roaded Natural
ROS	Recreation Opportunity Spectrum
SIO	Scenic Integrity Objective
SMS	Scenery Management System
SPM	Semi-Primitive Motorized
SR	State Route
VMS	Visual Management System
VQO	Visual Quality Objective
WWE	West-Wide Energy

1 INTRODUCTION

This document provides an analysis of locations where the Gateway West Transmission Line Project (Gateway West or Project) may be inconsistent with established scenery objectives. This 1,103-mile high-voltage transmission line consists of 10 segments between the Windstar Substation at Glenrock, Wyoming, and the Hemingway Substation approximately 30 miles southwest of Boise, Idaho (see Figure 1-1).

Portions of the proposed transmission line route or an alternative route would cross three National Forests (NFs). Effects on scenery are analyzed using Scenic Management System (SMS) for the Medicine Bow-Routt NFs and Visual Management System (VMS) for the Caribou-Targhee and Sawtooth NFs. The U.S. Department of Agriculture Forest Service (Forest Service) developed these systems to provide a mechanism for inventory and analysis of landscape resources and the effects of land management activities on those resources. The SMS was developed to eventually replace the VMS and, in October 1996, *Landscape Aesthetics: A Handbook for Scenery Management* (Forest Service 1995) was released to begin the transition to SMS. This handbook supersedes the National Forest Landscape Management, Volume 2, Chapter 1: The Visual Management System (issued April 1974). Scenic management criteria are described below.

1.1 Scenic Management System (SMS)

The SMS entails identifying the landscape character, visual sensitivity, and scenic integrity. The SMS was used to evaluate those portions of the proposed Project and an alternative route that would cross the Medicine Bow-Routt NFs. The SMS provides an overall framework for the orderly inventory, analysis, and management of scenery. It is a tool for integrating the benefits, values, desires, and preferences regarding aesthetics and scenery for all levels of land management planning. The SMS also considers Concern Levels, which are a categorization of the importance of scenic resources to forest visitors. Three concepts of the SMS are of key importance to the present analysis: (1) Scenic Attractiveness, (2) Landscape Character, and (3) Scenic Integrity Objectives. These concepts and landscape character are defined below:

- **Scenic Attractiveness** is the primary indicator of the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landforms, rock outcrops and forms, waterforms, vegetation patterns, and cultural features. It reflects varying visual perception attributes of variety, unity, vividness, intactness, coherence, uniqueness, harmony, balance, and pattern. The frame of reference for scenic attractiveness (generally at the section scale) is landscape character. Three levels of scenic attractiveness are identified during the scenery inventory process: (A) Distinctive, (B) Common or Typical, and (C) Undistinguished (Forest Service Manual [FSM] 2380 – Landscape Management).
- **Landscape Character** is a combination of physical, biological, and cultural images that gives an area its visual and cultural identity and helps to define a "sense of place." Landscape character provides a frame of reference from which to determine scenic attractiveness and to measure scenic integrity (FSM 2380 – Landscape Management).

WYOMING ROUTES
IDAHO AND NEVADA ROUTES
GATEWAY WEST PROJECT AREA
IDAHO
WYOMING
WINDSTAR
Glenrock
Casper
CASPER FO
NATRONA
CONVERSE
MEDICINE BOW NATIONAL FOREST
HEWARD
AEOLUS
Medicine Bow
Rawlins
ALBANY
CARBON
RAWLINS FO
MEDICINE BOW NATIONAL FOREST
Laramie
JIM BRIDGER
ANTICLINE
CRESTON
Kemmerer
Rock Springs
Green River
KEMMERER FO
ROCK SPRINGS FO
Evanston
UINTA
ASHLEY NATIONAL FOREST
WYOMING
COLORADO
UTAH
LINCOLN
SWEETWATER
PINEDALE FO
LANDER FO
FREMONT
SUBLETTE
BRIDGER-TETON NATIONAL FOREST
SHOSHONE NATIONAL FOREST
SALMON-CHALLIS NATIONAL FOREST
BUTTE
BOISE
BOISE NATIONAL FOREST
SAWTOOTH NATIONAL FOREST
CANYON
HEMINGWAY
FOUR RIVERS FO
ELMORE
CAMAS
BLAINE
ADA
Murphy
SHOSHONE FO
BONNEVILLE
BINGHAM
GOODING
LINCOLN
CARIBOU-TARGHEE NATIONAL FOREST
MIDPOINT
BORAH
Pocatello
CARIBOU
JEROME
MINIDOKA
POWER
Twin Falls
BRUNEAU FO
POCATELLO FO
BANNOCK
TWIN FALLS
OWYHEE
POPULUS
JARBIDGE FO
CASSIA
CEDAR HILL
Montpelier
ROGERSON
(ALTERNATIVE TO CEDAR HILL)
BURLEY FO
ONEIDA
FRANKLIN
CACHE NATIONAL FOREST
BEAR LAKE
IDAHO
NEVADA
HUMBOLDT-TOIYABE NATIONAL FOREST
ELKO
WELLS FO
IDAHO
UTAH
RICH
WASATCH-CACHE NATIONAL FOREST
SALT LAKE FO
BOX ELDER
CACHE
0 10 20 30 40
Miles
NATIONAL SYSTEM OF PUBLIC LANDS
Route Features
Proposed Route
Feasible Alternative
Energize Existing 345kV line to 500kV
Project Features
Substation Location
West-Wide Energy Corridor
Segment Number
Administrative
City, Town
State Capital
County Boundary
State Boundary
Transportation
Interstate
airports
Gateway West
Transmission Line Project
Idaho, Nevada, Wyoming
Project Overview
FIGURE 1-1
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- **Scenic Integrity Objectives, referred to as SIOs,** define the degrees of deviation from the landscape character that occur at any given time by using the process described in Agriculture Handbook 701, *Landscape Aesthetics: A Handbook for Scenery Management* (FSM 2380 – Landscape Management).

When discussing SIOs, the degree of alteration is measured in terms of visual contrast with the surrounding natural landscape. The objectives of each SIO classification are included below:

- Very High – Management activities, except for very low visual-impact recreation facilities, are prohibited. Allows for ecological changes only. The existing landscape character and sense of place is expressed at the highest possible level.
- High – Management activities are not visually evident to the casual observer. The landscape character *appears* intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident. Changes in the qualities of size, amount, intensity, direction, pattern, etc., should not be evident.
- Moderate – Management activities remain visually subordinate to the characteristic landscape being viewed. Activities may repeat form, line, color, or texture common to the characteristic landscape but may not change in their qualities of size, amount, intensity, direction, pattern, etc.
- Low – Management activities begin to visually dominate the original characteristic landscape. However, activities of vegetative and landform alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type. Structures must remain visually subordinate to the proposed composition.
- Very Low – Management activities of vegetative and landform alterations may dominate the characteristic landscape. While alterations may not borrow from attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles within or outside the landscape being viewed, they must be shaped and blended with the natural terrain so that elements such as unnatural edges, roads, landings, and structures do not dominate the composition.

The SMS system defines four distance zones for project-level planning and to evaluate potential visibility:

- Immediate Foreground – At this distance people can distinguish details such as individual leaves, flowers, twigs, bark texture, small animals, and can notice the movement of leaves and grasses in light wind (from 0 to 300 feet).
- Foreground – At this distance people can distinguish small boughs of leaf clusters, tree trunks and large branches, individual shrubs, clumps of wildflowers, medium sized animals, and medium-to-large birds. At this distance, people can

also distinguish movement of tree boughs and tree tops in moderate winds (from 0 to 0.5 mile). Forms are dominant.

- Middleground – This is the predominant distance zone at which Forest Service landscapes are seen, except for regions of flat lands or tall, dense vegetation. At this distance, people can distinguish individual tree forms, large boulders, flower fields, small openings in the forest, and small rock outcrops. Tree forms typically stand out vividly in silhouetted situations. Form, texture, and color remain dominant and pattern becomes more visible (from 0.5 to 4 miles).
- Background – At a background distance, people can distinguish groves or stands of trees, large openings in a forest, and large rock outcrops. Texture has disappeared and color has flattened, but large patterns of vegetation or rock are still distinguishable, and landform ridgelines and horizon lines are the dominant visual characteristic (from 4 miles to the horizon).

The SMS process uses particular ecosystems as the environmental context for aesthetics. Ecosystem management broadens understandings of environments by its holistic consideration of the physical, biological, and social dimensions of ecosystems. The social dimension has many aspects, but one of importance for public lands is recreation. A key attribute of recreation is aesthetics. During the inventory process, the SMS uses interdisciplinary collaborative knowledge to discuss constituent input, landscape character, scenic attractiveness, existing scenic integrity, place attachment, concern levels, distance zones, and scenic classes to develop alternatives and achieve landscape character goals (SMS, pg. 5-2).

1.2 Visual Management System

The VMS is used by NFs that have not yet converted to the SMS, such as the Caribou-Targhee and Sawtooth NFs. The VMS provides a framework for establishing the visual landscape as a basic resource and to treat it as an essential part of the basic quality of the land. The Visual Management System identifies a desired level of scenic quality and diversity of natural features based on physical and sociological characteristics of an area, referred to as Visual Quality Objectives (VQOs). A given VQO quantifies the degree of acceptable alterations of the characteristic landscape. A VQO is determined by comparing the variety class with the sensitivity level (Bacon 1974). These terms are described below.

- **Characteristic Landscape** is the naturally established landscape being viewed. It visually represents the basic vegetative patterns landforms, rock formations, and water forms which are in view.
- **Variety Class** designates those landscapes which are most important and those which are of lesser value from the standpoint of scenic quality. The classification is based on the premise that all landscapes have some value, but those with the most variety and diversity have the greatest potential for high scenic quality. There are three variety classes: 1) Class A–Distinctive, 2) Class B–Common, and 3) Class C–Minimal.
- **Sensitivity Level** is a measure of people's concern for the scenic quality of an NF. Sensitivity levels are determined for land areas used by those traveling

through the forest on developed roads and trails and those using areas such as campgrounds, visitor centers, and other recreation areas. There are three sensitivity levels: Level I–Highest Sensitivity, Level 2–Average Sensitivity, and Level 3–Lowest Sensitivity.

- **Distance Zones** are divisions of a particular landscape being viewed. The three distance zones are: foreground (the area from 0.25 to 0.5 mile from the observer), middleground (the area from foreground to 3 to 5 miles from the observer), and background (from middleground to infinity).

The VQOs represent the visual resource objectives under the Land and Resource Management Plan (Forest Plan). The objectives of each VQO classification are listed below:

- Preservation – Management activities are generally not allowed in this setting. The landscape is allowed to evolve naturally.
- Retention – Management activities are not evident to the casual Forest visitor.
- Partial Retention – Management activities may be evident but are subordinate to the characteristic landscape.
- Modification – Management activities may dominate the characteristic landscape but will, at the same time, use naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed as middleground.
- Maximum Modification – Management activities may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

2 PROJECT FEATURES AFFECTING THE VISUAL ENVIRONMENT

2.1 Facility Components

The Gateway West Project facility components that would affect the visual environment include:

- A total of 1,103 miles of transmission lines and associated support structures to be constructed, along with 71 miles to be re-conductored. Of this total:
    - Approximately 252 miles (1,880 structures) would be single-circuit 230-kilovolt (kV) steel H-frame structures between 60 and 90 feet tall with a 700-foot average distance between structures.
    - Approximately 5.5 miles (25 structures) would be single-circuit 345-kV steel H-frame structures between 70 and 110 feet tall with a 700-foot average distance between structures.
    - Approximately 499 miles (2,228 structures) would be single-circuit 500-kV lattice steel structures between 145 and 180 feet tall with a 1,200- to 1,300-foot average distance between structures.

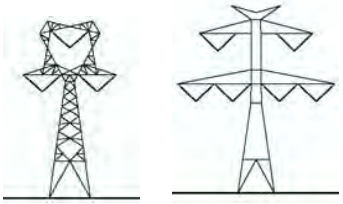
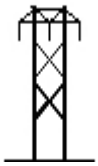
  - Approximately 346 miles (1,506 towers) would be double-circuit 500-kV lattice structures between 160 and 190 feet tall with a 1,200- to 1,300-foot average spans for the Proposed Action.
  - For the Design Variation, approximately 3,012 single-circuit structures would be used, replacing 1,506 double-circuit structures.
- The Project would connect 12 substations, 3 of which are new substations to be built for this Project.
- Ancillary facilities such as up to 16-foot-wide construction roads and 8-foot-wide service roads would be necessary along the transmission line routes. Temporary construction staging areas, regeneration stations, power supply to new substations, and other similar facilities would also be visible in the construction and operations phases of the Project.
- The Proponents propose to acquire a ROW up to 300 feet wide for construction and operation of the double-circuit 500-kV sections of the Project, a 250-foot-wide ROW for the 500-kV single-circuit sections of the Project, and a 125-foot-wide ROW for the 230-kV single-circuit sections of the Project.
- The Proponents have proposed a Design Variation that involves two single circuits instead of one double circuit for Segments 2, 3, and 4.
- The Proponents have proposed a Structure Variation that involves a single-circuit guyed structure in place of the self-supporting lattice structure in areas where directional changes could result in lateral forces requiring the additional directional support of guy wires.

Table 2.1-1 describes aspects of the primary proposed structures that would affect the visual environment.

Within the Medicine Bow-Routt NFs, the proposed transmission line and an alternative route cross an area with an Scenic Integrity Objective (SIO) of Moderate. Within the Caribou-Targhee NF, the proposed transmission line crosses areas with Retention and Partial Retention VQOs. Within the Sawtooth NF, alternative routes for the transmission line cross areas with Partial Retention VQOs. The presence of the transmission line in sensitive visual classes is inconsistent with Forest Plan visual management objectives. Therefore, locations with incursions into these sensitive visual classes were identified as areas of inconsistencies (AOIs).

This appendix reviews each of the AOIs: one in Medicine Bow-Routt NFs, one in Caribou-Targhee NF, and three in Sawtooth NF. It provides background such as the justification for the route location, reasons the route cannot avoid the sensitive visual class, and other features that may be affected if the line were placed in a different location. Visual analyses were conducted at each AOI to estimate the area of impact. These analyses can be used to assist the NFs in identifying actions that would be necessary to bring the transmission line project into conformance with their Forest Plans. Best management practices (BMPs) for tower design and locations would be applied to reduce Forest Plan inconsistencies as much as possible.

Table 2.1-1. Primary Transmission Structures – Visual Description

Project Facility	Description
Transmission Line Segments	
Transmission Line Features Common to All Proposed 500-kV Segments  Example single- and double-circuit structures	• Conductors: Bundled with three subconductors per phase. Non-specular (dull) finish rather than a shiny finish. • Estimated subconductor diameter: 1.504 inches. • Bundle spacing: Distance between subconductors is 18 inches and 25 inches. • Typical ground clearance: 35 feet. • Structure types: lattice steel single and double circuit structures. Dulled galvanized steel finish. • Structure heights: Single-circuit structure varies between 145 and 180 feet. Average height of 156 feet. • Structure heights: Double-circuit structure varies between 160 and 190 feet. Average height of 170 feet. • Approximate distance between structures: 1,200 to 1,300 feet. • ROW width for double-circuit: 300 feet, ROW width for single-circuit: 250 feet.
Transmission Line Features Common to All Proposed 230-kV Segments  Example single-circuit structure	• Conductors: Bundled with two subconductors per phase. Non-specular finish. • Estimated subconductor diameter: 1.196 inches. • Bundle spacing: 18 inches vertical. • Typical ground clearance: 28 feet. • Structure types: steel H-frame structures. • Above-ground structure heights: varies between 60 and 90 feet. • Approximate distance between structures: 700 feet. • ROW width: 125 feet.

There are three likely scenarios available to the NFs. For some AOIs, the Forest Plan may be amended to make the Project consistent with the visual management class objectives. In other cases, an NF may grant a one-time exemption to the visual management requirements to construct the transmission line, knowing the Proponents will construct the line using the mitigation measures described in Section 2.2 to minimize visual effects, and understanding that many other environmental constraints were also analyzed in determining the location of the transmission line. Lastly, the NF may decide that the transmission line in an AOI is incompatible with visual objectives, and the visual resources are so valued that the National Environmental Policy Act environmental impact statement (EIS) process may be used to develop an alternative line location.

2.2 Project-wide Visual Mitigation Measures Proposed by the Proponents

The Proponents have incorporated three mitigation measures into the Project to reduce visual impacts:

1. Transmission towers would be constructed of dulled galvanized steel.

2. Non-specular (dull appearance) transmission line conductors would be used.
3. Self-weathering steel pole H-frame structures would be used in Segment 1 and in certain visually sensitive areas.

3 STUDY ASSUMPTIONS

It is assumed that AOIs in several areas may require an amendment to a Forest Plan to address the proposed Project's nonconformance with visual class objectives. It is not expected that design elements and/or other mitigation measures intended to reduce impacts would reduce visual contrast to a level consistent with an area's visual class.

For the purpose of this study, certain assumptions have been made as detailed below:

- Within the Medicine Bow-Routt NFs, the proposed transmission line and an alternative route would cross an area with an SIO of Moderate. The Project would be inconsistent with an SIO of Moderate.
- Within the Caribou-Targhee NF, the proposed transmission line crosses areas with Retention and Partial Retention VQOs. The Project would be inconsistent with these VQOs.
- Within the Sawtooth NF, alternative routes for the transmission line cross areas with Maximum Modification, Modification, and Partial Retention VQOs. A transmission line would be inconsistent with the Modification and Partial Retention VQOs.
- Direction for considering visual resource values stated in Forest Plans was taken into consideration. Where absent or general in nature, the management direction provided in FSM 2380, Landscape Management, was considered.
- The AOI analysis area covered up to 15 miles from either side of the centerline of the Proposed Route and Route Alternatives.

4 PROJECT-WIDE ALTERNATIVES DEVELOPMENT

During transmission line siting, sensitive visual classifications were avoided where possible. When feasible, the routes also avoided historic trails and monuments, wildlife refuges, state or federal parks or monuments, prominent peaks, and populated areas where either the viewshed was either valued or lines were in view of large population centers. Ground disturbances necessary for construction would be reclaimed and restored to a natural condition as soon as possible. The use of guy wires was avoided where possible, with the exception of transmission line directional changes where forces would require additional directional support.

Constraints analyses have been used for the Gateway West Project to assist in siting the transmission line Proposed Route and Route Alternatives. In the initial phase, the Proponents attempted to locate the routes between required interconnection points (substations) using a comprehensive set of avoidance and opportunity criteria. Using this information, the Proponents initially identified, evaluated, and compared alternative corridors for each of the 10 segments. A Proposed Route was selected and alternative corridors were also evaluated for each segment.

Two general approaches were used to identify and evaluate alternative routes and select the Proposed Route and Route Alternatives carried forward for detailed study for each segment.

1. In proposed and established utility corridors[1] such as the Section 368 Energy Act Draft West-wide Energy (WWE) corridor or Bureau of Land Management– (BLM) and Forest Service–designated utility corridors, and/or where existing transmission lines exist, analyses were completed to characterize the resources present in the areas crossed by the corridors and to determine if use of such corridors would result in significant environmental effects. A combination of constraint mapping, stakeholder input, and field reconnaissance was used to confirm the use of existing or planned corridors. In several cases, new routes deviating from the existing or planned corridors were proposed because of adjacent environmental constraints such as sage-grouse leks, historic features, raptor nests, and oil and gas wells.
2. Where no existing or planned corridors existed, a geographic information system (GIS) computer analysis (Linear Routing Tool [LRT]) was used to identify initial corridors for further evaluation. Using data from numerous public sources, the LRT was used to develop alternative transmission line corridors by considering both routing constraints and opportunities. Constraints are defined as resources or conditions that potentially limit transmission line routing because they negatively affect natural resource features or economic factors. Opportunities are defined as resources or conditions that are favorable to facility construction or operation because of their characteristics.

Opportunities included, but were not limited to, WWE corridors, BLM- or Forest Service–designated utility corridors, and existing transmission lines energized to at least 230 kV. Many constraints were considered; the list included railroads, pipelines, major streets or highways, state and national parks, wildlife refuges, BLM Areas of Critical Environmental Concern, Wilderness Study Areas, Department of Defense land, Bureau of Indian Affairs land or reservations, prime farmland, irrigated agriculture, confined animal feeding operations or dairies, airports, residences, cities and towns, oil and gas wells and leases, surface and underground mining, erodible soils, geologic hazards, steep slopes, paleontological or historical resources, and wetlands and floodplains. A wide variety of plant and animal concerns was also considered, including plant and animal species of concern, sensitive fisheries, sage-grouse leks and core areas, raptor nests, designated big game winter and parturition ranges, and wild horse and burro management areas. Visual considerations included Forest Service SIO Classes moderate, high and very high; Forest Service VQO classes Preservation, Retention, and Partial Retention; scenic overlooks; scenic highways; federally designated scenic areas; and state and local scenic byways. Following selection of Proposed and

[1] In order to achieve the capacity rating needed to serve present and future loads within the Companies' service area, the Western Electricity Coordinating Council requires a minimum separation from existing transmission lines that serve substantially the same load as that served by each of the new Gateway West transmission segments. As described in the Plan of Development, that minimum separation depends on the purpose of the existing line, the load it now serves, and the remaining capacity of the rest of the grid to absorb the load if the several co-located lines fail at once. For the purposes of the initial siting study, the longest span was assumed to be 1,500 feet, thereby dictating the minimum distance between existing and proposed transmission lines serving the same load.

Alternative Routes via the LRT process, the alternatives were further refined by reviewing aerial photography and topographic maps or on the basis of important input received from stakeholders, field reconnaissance, and other sources. The lead federal agency (BLM) evaluated the routes, made adjustments, and added additional routes to minimize impacts. Later cooperators and other stakeholders identified other routes, often to accomplish single-purpose objectives that did not include avoidance of sensitive visual classes. Taking all of the various constraints and opportunities into consideration, crossing of visually sensitive lands could not be completely avoided across the entire Project. Section 5 describes each AOI and provides recommendations for Forest Service action for the Project to remain consistent with Forest Service visual objectives.

5 AREAS OF INCONSISTENCY

This section of the report summarizes the conditions for each AOI. It is organized by NF and individual AOI. Each AOI discussion includes a summary of the applicable Forest Plan and any visual considerations described in the Plan. The route segments and alternatives are then described by location and include the opportunities and constraints used to determine the Proposed Route locations and the locations and justification for any Route Alternatives. Site maps are introduced showing the distribution of visual classes and a visual analysis conducted for an area within a 15-mile radius of the AOI. The general discussion is followed by a summary of the existing landscape conditions that support the visual class designations. The last section of each AOI discussion is a consistency analysis describing the results of the analysis and the degree to which the AOI is consistent with or differs from the visual class objective. The consistency analysis also provides a recommendation for a Forest Service action (Forest Plan amendment or one-time exemption) to resolve each AOI.

The Gateway West Proposed Route or Route Alternatives would require Forest Service actions to account for visual impacts in areas within three different NFs. Transmission line Segments 1E and 1W of the Proposed Route and Alternative 1E-C (Figure 1-1) cross land within the Medicine Bow-Routt NFs. One AOI is located on Segments 1E and 1W and Alternative 1E-C. Segments 2 and 3 do not cross National Forest System (NFS) land. Segment 4 of the Proposed Route crosses the Caribou-Targhee NF and Alternatives 7H and 7I to the Segment 7 Proposed Route cross the Sawtooth NF. Segments 4 and 7 contain a total of four AOIs. Segments 5, 6, 8, 9, and 10 do not cross NFS lands. Table 5-1 lists AOIs by Forest Plan and visual management class.

Table 5-1. Forest Plan Areas of Inconsistency

Forest Plan	Area	AOI	Route Segment/Tower Height (feet)	SIO/VQO Crossed	Simulation (S) or Photos (P)	KOP No.
Medicine Bow Forest Plan	Medicine Bow	MB-1	Proposed Route 1E (90) Proposed Route 1W(a) (90) Proposed Route 1W(c) (90) Alternative 1E-C (90)	Moderate	Yes	105[1/]
Caribou Forest Plan	Caribou	CB-1	Proposed Route 4 (190)	Retention/ Partial Retention	Yes	1346
Sawtooth Forest Plan	Sublett Division	ST-1	Alternative 7H (190) Alternative 7I (190)	Modification	Yes	1273
	Albion Mountain Division	ST-2	Alternative 7H (190)	Modification/ Partial Retention	Yes	1234
	Cassia Division	ST-3	Alternative 7I (190)	Modification/ Partial Retention	Yes	1079

1/ Key observation point (KOP) is south of National Forest boundary. No KOP was established on the Forest due to lack of access.
AOI – Area of Inconsistency
SIO – Scenic Integrity Objective
VQO – Visual Quality Objective

5.1 Medicine Bow National Forest Plan

The Medicine Bow-Routt NFs maintain separate management plans for each proclaimed NF. The Medicine Bow Revised Land and Resource Management Plan (2003) (Medicine Bow Forest Plan) provides direction for managing public lands under the jurisdiction of the Medicine Bow NF in southeast Wyoming. The Forest Plan guides activities on 1,084,390 acres within parts of Albany, Carbon, Converse, Laramie, and Platte Counties, Wyoming (see Figure 1.1-1). Route segments within the Medicine Bow-Routt NFs are 1E and 1W and Alternative 1E-C. The Forest Plan includes Scenery Management Standards and Guidelines, including the following:

Management Standards:

1. Apply the SMS to all NFS lands. Travel routes, use areas, and water bodies determined to be of primary importance are concern level 1, and appropriate scenic integrity objectives are established according to the SMS.
2. Meet the SIO of Moderate within the foreground for all National Scenic and Recreation Trails.

Guidelines:

1. When rehabilitating projects and areas that do not meet SIOs specified for each management area prescription, consider the following when setting priorities for rehabilitation:
   a. Relative importance of the area and the amount of deviation from the scenic integrity objectives.
   b. Length of time it will take natural processes to reduce the scenic impacts so they meet the scenic integrity objective.
   c. Length of time it will take rehabilitation measures to meet the scenic integrity objective.
   d. Benefits to other resource management objectives to accomplish rehabilitation.
2. Meet the scenic integrity objectives of High and Moderate within 1 year after completion of a project. Meet the scenic integrity objective of Low within 3 years after project completion.

The Medicine Bow Forest Plan includes guidelines for utility corridors to minimize scenic impacts and plan for rehabilitation of existing impacts. These include:

- Locate and design utility corridors and electronic sites to blend with the landscape and be compatible with SIOs in adjacent management areas.
- Crossing the Medicine Bow NF along a transmission corridor shall require the preparation of a vegetation management plan for the utility corridor to minimize scenic impacts and plan for rehabilitation of existing impacts.

The NF has recommended the following measures to reduce contrast: feathering the edges on cleared areas to provide a more natural appearance, using towers similar to the existing structures, and using non-reflective materials for the towers.

The Medicine Bow Forest Plan discusses the SMS as applying to all NFS lands. Travel routes, use areas, and waterbodies determined to be of primary importance are concern level 1 and appropriate SIOs are established according to the SMS. Guidelines also include meeting the SIO of Moderate within the foreground for all National Scenic and Recreation Trails. The Medicine Bow NF uses Geographic Areas to create focal points for implementing forest plan decisions based on ecological assessments at various levels in collaboration with other land managers. The Geographic Area on the western side of the NF crossed by proposed Project is managed as the Box Elder Geographic Area, which is considered remote and primitive. The Management Area (MA) prescription for this portion of the Box Elder Geographic Area is 3.31, Backcountry Recreation-Year-round Motorized, with the exception of the area adjacent to the existing 230-kV transmission line, which is MA 8.3, Utility Corridor.

The northern portions of Segments 1E and 1W consist of single-circuit 230-kV transmission lines between the existing Windstar Substation near the Dave Johnston Power Plant at Glenrock, Wyoming, and the planned Aeolus Substation near Hanna, Wyoming. Proposed Route 1W, a portion of Proposed Route 1E, and Alternative 1E-C parallel an existing transmission line. The Proponents proposed to rebuild the existing line (portions of Proposed Route Segment 1W[a] and Proposed Route Segment 1W[c]). The distance between the substations is approximately 75 to 80 miles. Certain factors, such as following the existing WWE corridor, minimizing the length of the lines, avoiding large population centers, and locating within favorable topography, were considerations for this area. Specific constraints within these three segments that affected the route locations included big game crucial winter range, National Historic Trails (NHTs), raptor nest sites, avoidance of sensitive visual resources, sage-grouse leks and sage-grouse core areas, oil and gas wells, large private landholders who placed high values on the natural scenery, and threatened or endangered plants and animals.

Visual classifications in the Forest Plan would be affected by this Project. An area with a Moderate SIO would be crossed by the Proposed Routes of Segments 1E and 1W and Alternative 1E-C. The presence of additional transmission lines in this landscape would not meet the designated SIO. As a result, Forest Service action would be necessary to modify the visual classification or approve a one-time exemption in order for 1E or 1E-C and 1W(c) to be consistent with the Forest Plan. Figure 5.1-1 shows the location of the AOI described in Section 5.1.1 below.

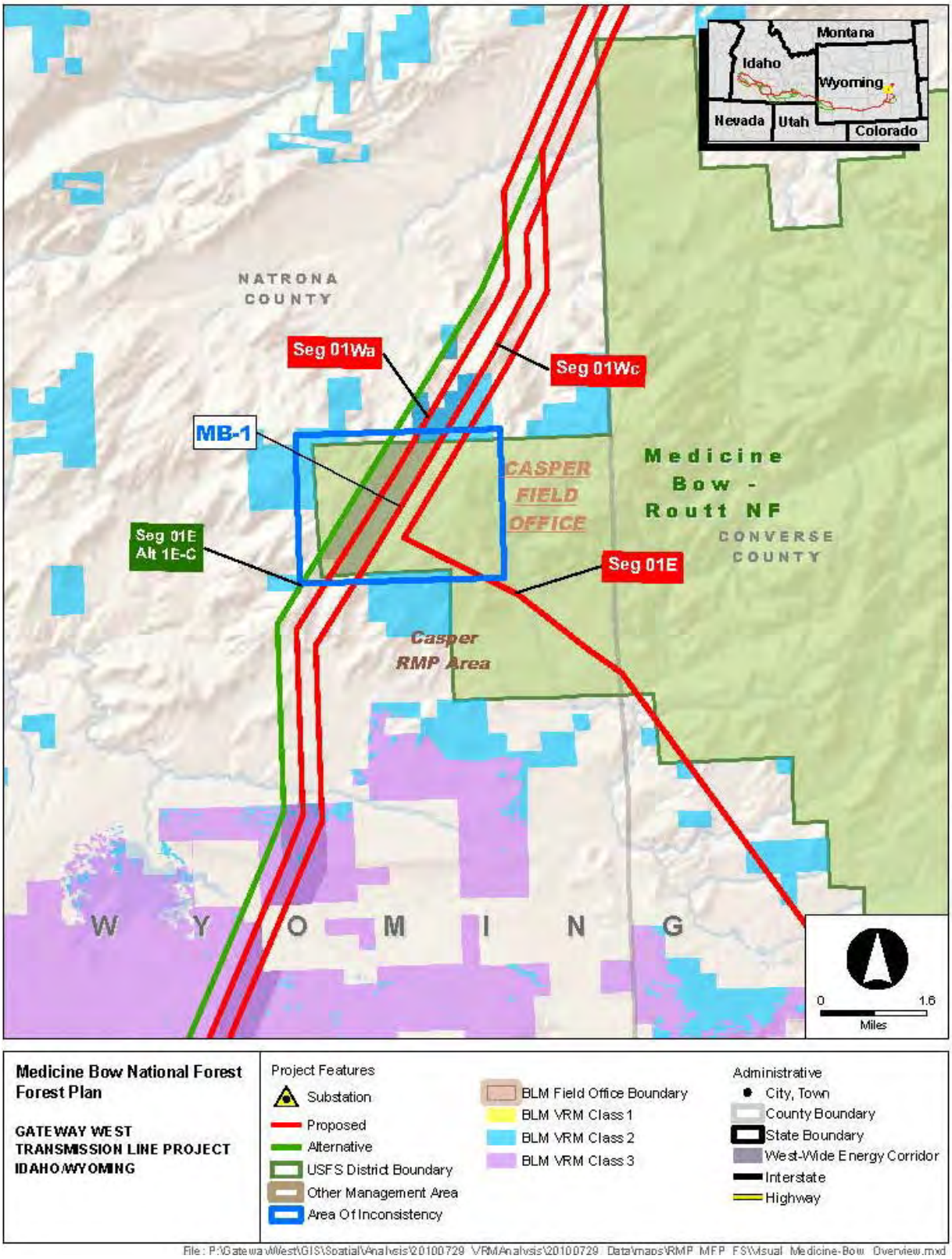


Figure 5.1-1. AOI Location for the Medicine Bow-Routt National Forests

5.1.1 AOI MB-1 Medicine Bow (Segments 1W[a],1W[c], 1E, and Alternative 1E-C)

AOI MB-1 is located approximately 30 to 35 miles south-southwest of the Windstar Substation near the Dave Johnston Power Plant at Glenrock, Wyoming. The three Project segments and one alternative cross approximately 2.3 miles of the NF, which is designated for management as SIO Moderate. Segment 1E is the easternmost segment. It travels southwest for about 1.8 miles, then turns to the southeast for 1 mile before leaving the NF. Segment 1W(c) is located west of Segment 1E within an existing transmission line corridor, separated from the other lines by approximately 1,500 feet, a distance selected to ensure reliability, as guided by the Western Electricity Coordinating Council. Segment 1W(c) does not turn and crosses the NF from northeast to southwest. Segment 1W(a), a rebuild of an existing transmission line in this location, parallels 1W(c) about 1,500 feet to the west, and Segment 1E-C parallels 1W(a) about 1,500 feet to the west. Segments 1W(a) and 1W(c) are located within the WWE corridor. Segment 1E and Alternative 1E-C parallel the WWE corridor to the east and west, respectively.

Segments 1W(a) and 1W(c) would cross NFS land on the Medicine Bow-Routt NFs designated as MA 8.3, Utility Corridors and Electronic Sites. Crossing lengths are 2.3 miles for each route. The utility corridor has an SIO of “compatible with adjacent management areas.” The adjacent area has an SIO of Moderate; therefore, a new transmission line within the WWE corridor would not be consistent with Forest Plan direction on scenery management.

Segment 1E and Alternative 1E-C would cross NFS land designated as MA 3.31, Backcountry Recreation, Year-Round Motorized, which has an SIO of Moderate; therefore, neither of these routes would be consistent with Forest Plan direction. Crossing lengths are 2.8 and 1.3 miles, respectively. The objectives of MA 3.31 require the preparation of a vegetation management plan for the utility corridor to minimize scenic impacts and plan for rehabilitation of existing impacts.

The area is not visible from any developed recreation area or travelway. Existing roads are closed to the public. Any new roads would also be closed. The borders of the cleared right-of-way would be feathered to create a more natural-appearing line, as required by the Forest Plan. The towers would also be made of material that, over time, becomes non-reflective. New towers would be similar to the existing towers to reduce contrast. However, the portions of the Proposed Routes and one Route Alternative that are within the NF would still be inconsistent with the SIO of Moderate.

Figure 5.1-3 shows the viewshed of the Medicine Bow AOI. The crossing of this AOI includes one parcel designated SIO Moderate comprising 5,814 acres.

5.1.1.1 Alternatives Considered

Several routes between Windstar and Aeolus were considered, including three proposed routes and four feasible alternatives. In the area of the AOI MB-1, the routes are in, or parallel to, the WWE corridor. Proposed Route 1E deviates from the WWE corridor for part of the route. Alternative 1E-C was developed to avoid a new

Greenfield[2] route. Current Forest policy suggests that WWE corridor routes are often preferred utility routes, although other constraints may take precedence over the WWE corridor. Siting routes within corridors of existing routes can also be preferred locations although the environmental consequences from the reliability separation sometimes results in more effects than if a new route were selected. During the siting process, the Proponents attempted to follow the WWE corridor unless fewer environmental and other impacts would occur along an alternative route.

Several routes, including routes to the east of the Laramie Mountains and near the Thunder Basin National Grassland, were considered and eliminated by the Proponents because of scenic concerns and public opposition to development of a new Greenfield route. The remaining alternatives, for the most part, avoid mountainous areas but have remaining issues including avoidance of raptor nests and roosting areas near the North Platte and Medicine Bow Rivers, sage-grouse leks and sage-grouse core areas, historic Rock Creek to Fort Fetterman Road, active mining claims, and the Medicine Bow-Routt NFs.

5.1.1.2 Existing Landscape Conditions

There is little development in the 15-mile area surrounding AOI MB-1 and much of the area is mountainous, containing the Laramie Mountains, Casper Mountain, and the Deer Creek Range. The topography flattens out southwest of the AOI, near Bates Creek Reservoir. There are many creeks throughout the 15-mile radius. Forests are found mostly in the more mountainous areas especially in the Medicine Bow-Routt NFs. State Route (SR) 487 is the most significant road in the area and the Old Casper Medicine Bow Highway crosses the area from northwest to southeast. An existing 230-kV line crosses the area from northeast to southwest and a large strip mining area lies in the south-central portion of the area. Potential sensitive viewers include local residents, motorists, hikers, and visitors to local recreation areas and historic sites.

5.1.1.3 Analysis

Figure 5.1-3 shows the viewshed, AOI, and other features within the 15-mile radius study area used in evaluating the consistency of the proposed transmission facilities with the existing landscape and visual classification. Figure MB-1b in Attachment A is a simulation showing the transmission lines on the existing landscape.

Scenic views west of the Deer Creek Range and Reno Hill are important to sensitive viewers in this remote area of the Medicine Bow-Routt NFs. There were no Key Observation Points (KOPs) identified due to the remote nature of the area; however, views in the surrounding area range from the undulating valley to more dramatic rocky terrain with numerous mountain silhouettes. KOP 105 (Figures MB-1a and MB-1b in Attachment A) is located approximately 2.5 miles south of the Medicine Bow-Routt NFs boundary but represents views of the surrounding areas adjacent to the forest. KOP 105 and other adjacent viewpoints exhibit diversity in form, line, color, and texture with

[2] "Greenfield" is defined herein to mean a geographic area where no transmission electric lines or other linear infrastructure such as major roads or pipelines, etc. oriented in the same direction of the proposed transmission line exist.

few man-made features. The most visible man-made feature in the surrounding area is an existing 230-kV transmission line. This existing high-voltage transmission line is where the proposed Alternative 1W-C would be located. Proposed Route Segments 1W(a), 1W(c), and 1E and Alternative 1E-C would be moderately visible and screening and other mitigation efforts would not be successful at lowering impacts to scenic resources in the surrounding area. With little man-made development in the area, the structures would have a moderate to high contrast due to backdropping effects offered by the high relief terrain. Many of the views in the surrounding area exhibit a high level of variety in form line, color, and texture, which would be contrasted by the addition of new man-made structures and access roads to the existing structures. Due to the new alignments paralleling an existing transmission line, it may be appropriate to widen the existing utility corridor and manage all three alignments as MA 8.3, Utility Corridor. An amendment would be needed to allow the Project to be built in an area with a Moderate SIO, as well as to change the management prescription to 8.3. Figure 5.1-3 shows the AOI and proposed amendment management action. The Project, if approved, would be constructed with mitigation measures and BMPs used to lower potential direct impacts to visual resources (see Table 2.7-1 in the Draft EIS).

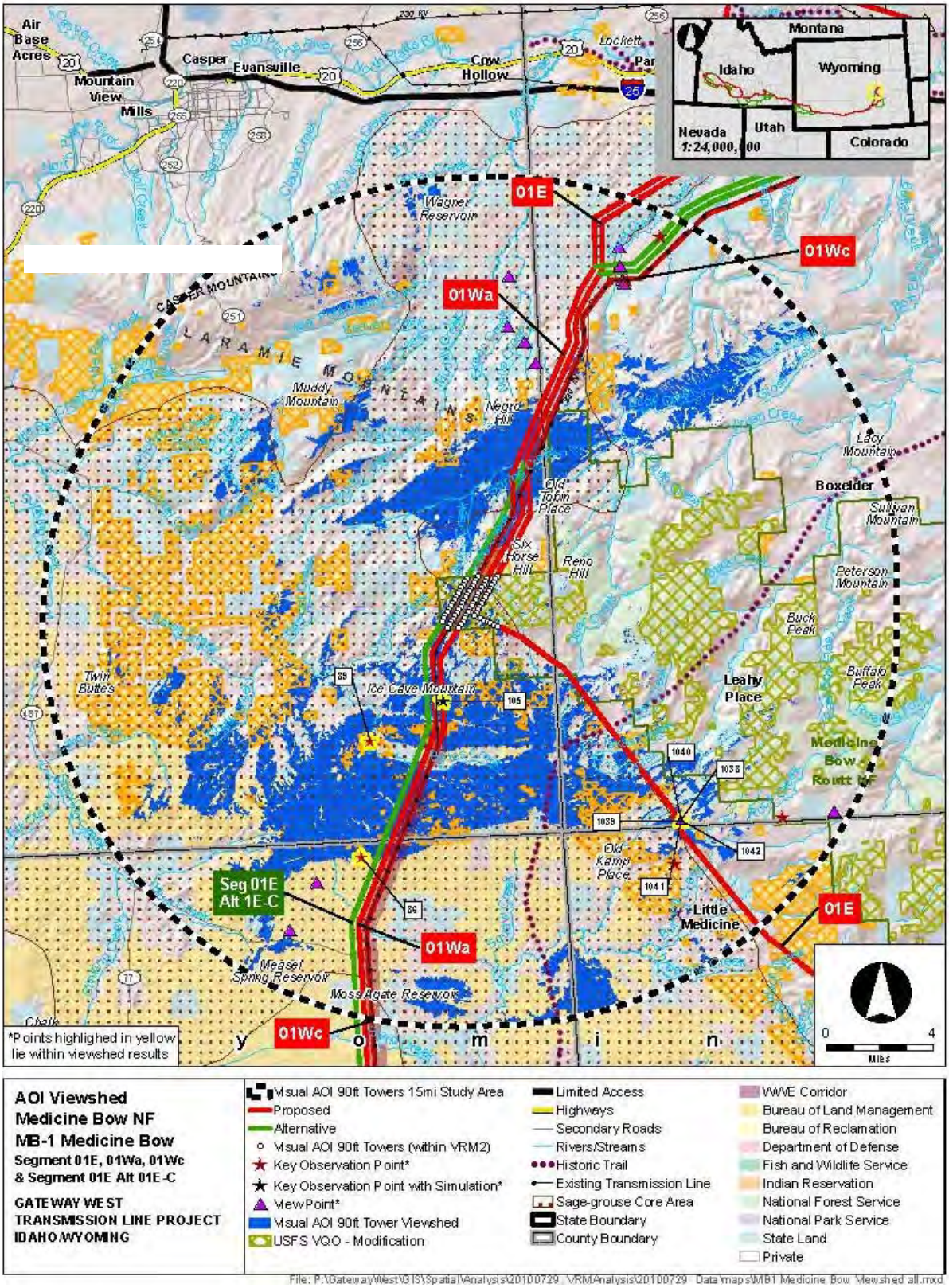


Figure 5.1-2. AOI MB-1 Aerial View

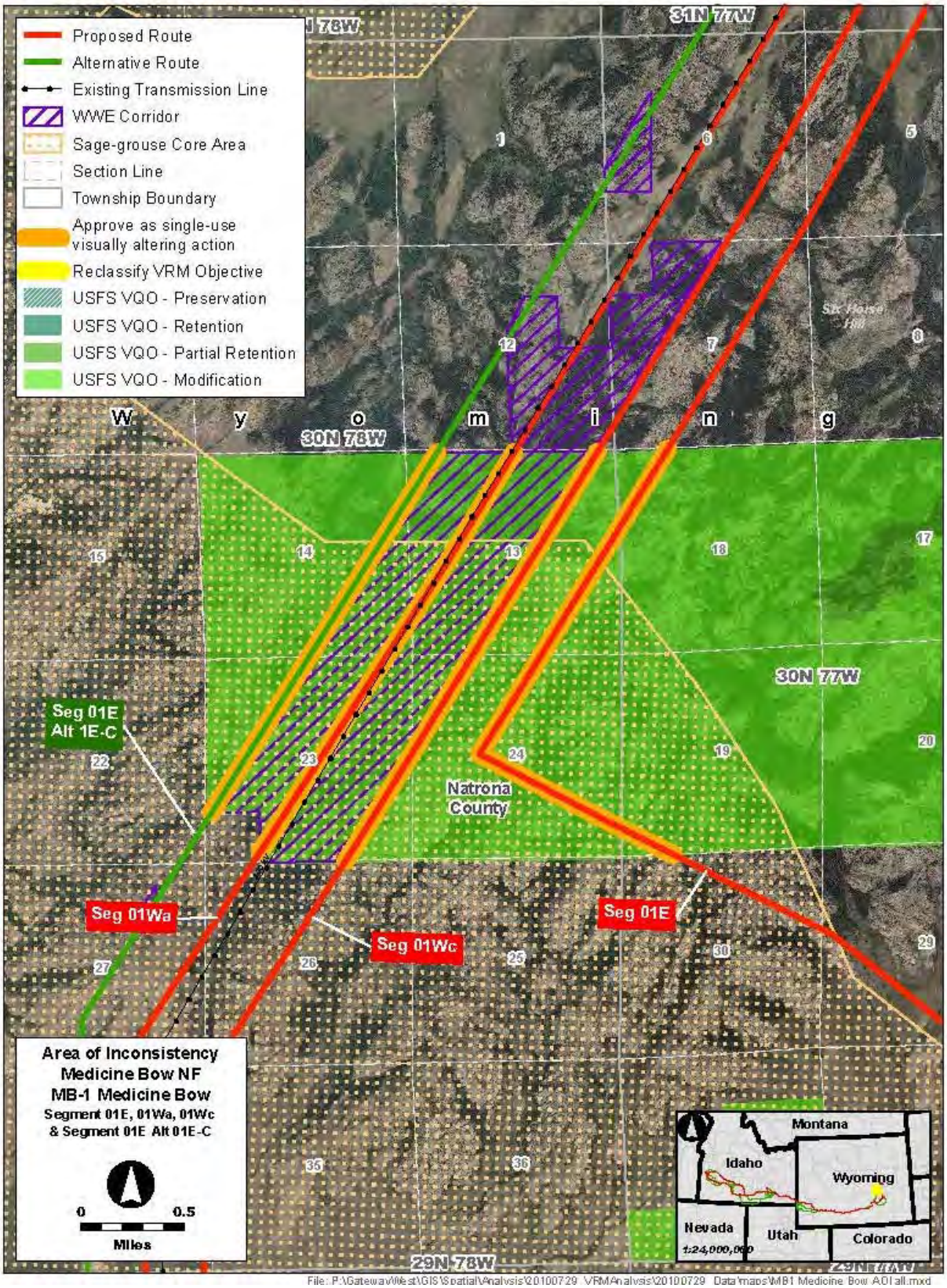


Figure 5.1-3. AOI MB-1 Medicine Bow AOI Visual Analysis

5.2 Caribou National Forest Plan

The Caribou-Targhee NF maintains separate management plans for each proclaimed NF. The Revised Forest Plan for the Caribou NF (2003; Caribou Forest Plan) provides direction for managing public lands under the jurisdiction of the Caribou NF in southeast Idaho. The Caribou NF encompasses nearly 1,000,000 acres (see Figure 1.1-1). The Forest Plan contains the following visual objective: "Objectives for scenery (either VQOs or SIOs) shall be met along Scenic or Historic Byways, Wild and Scenic Rivers, and other sensitive travel routes and special emphasis areas."

Segment 4 is a 203-mile route for a double-circuit 500-kV line that originates at the Anticline 500-kV substation northeast of Rock Springs, Wyoming, and terminates at the Populus Substation in Bannock County, Idaho. This segment generally follows an existing transmission line corridor. A feasible alternative that is being considered would be two adjacent single-circuit 500-kV lines instead of the double circuit line.

Where practical, the proposed double-circuit 500-kV line was routed to follow existing 345-kV transmission lines (with a 1,500-foot centerline offset from the nearest existing line). Where the existing transmission corridor could not be followed due to resource concerns such as sage-grouse leks, oil and gas wells, raptor nests, and historic trails, deviations or refinements were incorporated into the alignments. Segment 4 contains six feasible Route Alternatives in southwest Wyoming and none in Idaho. The route location is restricted by the location of Populus Substation, and the Bear River and Bear Lake National Wildlife Refuge (NWR). The primary siting opportunity in this area is the existing 345-kV transmission line corridor and the existing NF utility corridor. Constraints in this area include the community of Montpelier, the Bear Lake County airport, Bear Lake NWR, wetlands and waterbodies, agricultural lands, the Bear River, designated big game winter habitat, and local development, including residences.

As the east-west route crosses the Bear River Range, VQO Partial Retention and VQO Retention lands are crossed. The presence of a transmission line in these landscapes would not meet the designated VQOs. Because of the impact the Project would have on visual attributes of the Caribou NF, action would be necessary to modify the visual classification or approve a one-time exemption to be consistent with the Forest Plan. Figure 5.2-1 shows the location of the AOI and a description and management recommendation follow.

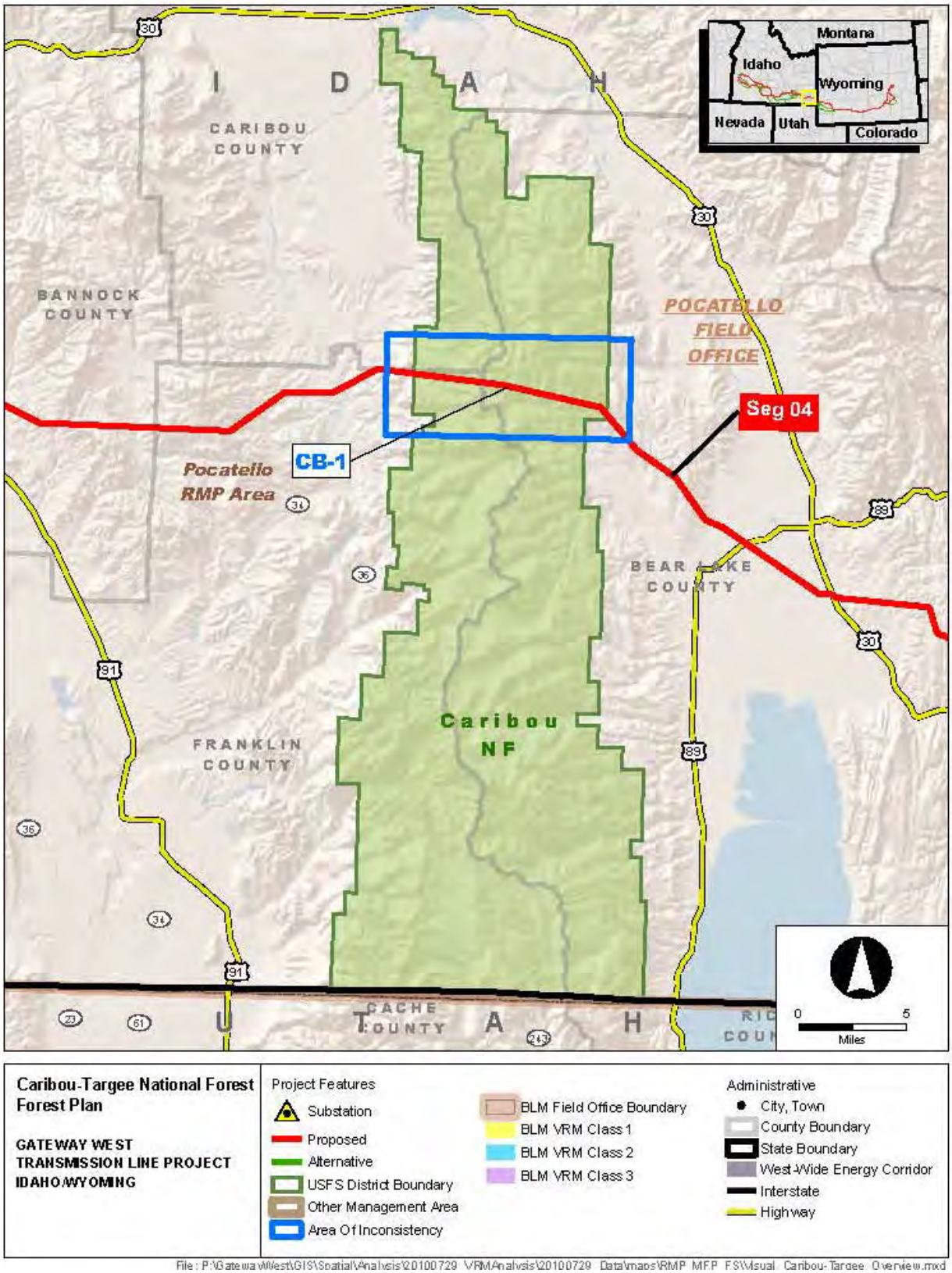


Figure 5.2-1. Caribou-Targhee National Forest AOI Location

Below are photographs of existing transmission lines that cross the Caribou-Targhee NF. These lines are approximately 40 years old and lie roughly 1 mile south of the Proposed Route. These photographs demonstrate potential visual impacts from Gateway West as seen from foreground and middleground perspectives (Figures 5.2-2, 5.2-3, and 5.2-4).

Figure 5.2-2. Existing Transmission Lines in the Caribou NF, Viewed from Within the Right-of-Way (a distance of zero)

Figure 5.2-3. Existing Transmission Lines in the Caribou-Targhee NF, Visible in the Foreground to Middleground (approximately 0.5 mile away)

Figure 5.2-4. Existing Transmission Lines in the Caribou-Targhee NF, Visible in the Middleground (less than 5 miles away)

5.2.1 AOI CB-1 Caribou (Segment 4)

The Caribou AOI is located in the north-south trending Bear River Mountain Range, approximately 17 miles south of Soda Springs, Idaho. Segment 4 crosses the Bear River Valley from southeast to northwest, following the existing 345-kV transmission line. The route turns to the west to cross the Bear River Range. The lower slopes on the east and west side of the range are designated as VQO Partial Retention, and the route crosses a total of 8.0 miles in this visual classification. The central top of the range is designated as visual class VQO Retention, which the route crosses for 1.3 miles. Figure 5.2-5 shows the location of the Caribou AOI.

5.2.1.1 Alternatives Considered

Segment 4 has six Route Alternatives, almost entirely within the Kemmerer area in proximity to sensitive landscape elements such as the Cokeville Meadows NWR and Fossil Butte National Monument in Lincoln County, Wyoming. However, there are no route alternatives through the Caribou-Targhee NF. No small route adjustments were identified that would avoid the sensitive visual areas. Partial Retention and Retention land are found in the Bear River Range for several miles to the north and south of the Proposed Route. The Proponents selected a route that roughly follows the two existing 345-kV lines near the designated utility corridor, which also cross the sensitive visual classes. The existing corridor is 315 feet wide, which is too narrow to also contain the proposed Gateway West transmission line. Other constraints include wetlands, NWRs, and residential development located in the Bear River Valley, east of the AOI.

5.2.1.2 Existing Landscape Conditions

The 15-mile study area for AOI CB-1 includes three groups of mountains running north to south separated by several valleys. The mountains include the Aspen and Pruess Ranges in the east, the Wassatch and Bear River Ranges in the central part of the area, and the Portneuf Range in the west. The Gem, Gentile, Bear Lake, Bear River, and Mound Valleys are found along the course of the Bear River. There is considerable agricultural land and farms in these valleys; the major roads U.S. Highway 30, U.S. Highway 89, and SR 34; and small communities including Grace in the northwest, Montpelier and Ovid in the southeast, Bern in the east, Thatcher in the southwest, and Georgetown in the northeast. Much of the mountainous areas are part of the Caribou and Cache NFs. There are also three east-west transmission line corridors and two north-south transmission lines that cross the analysis area. Sensitive viewing areas include the local communities, highways and roads, camping areas, hiking trails, the Oregon NHT, the Bear Lake NWR, and Bear Lake State Park.

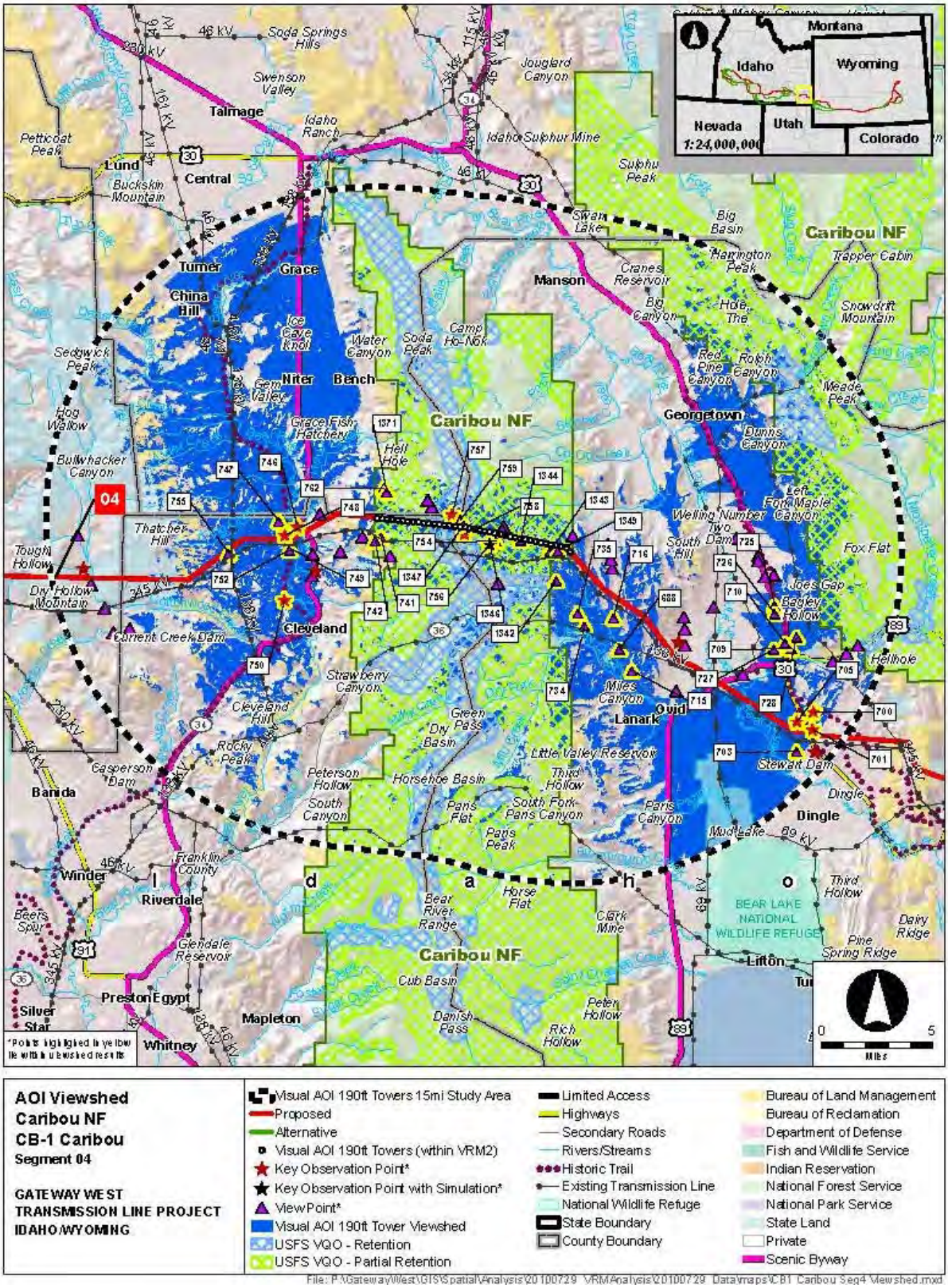
5.2.1.3 Analysis

Figure 5.2-5 shows the viewshed, AOI, and other features within the 15-mile radius study area used in evaluating the consistency of the proposed 500-kV transmission facilities with the existing landscape and Class II VQOs. Figure CB-1b in Attachment A is a simulation showing the transmission lines on the existing landscape.

Scenic views of the Bear River and Wasatch Ranges are important to sensitive viewers hiking the Highline Trail in this primitive and remote area of the Caribou-Targhee NF.

These sensitive views are represented by KOP 1346 (Figure CB-1a in Attachment A), which displays views ranging from undulating valleys to more dramatic rocky terrain and mountain silhouettes with dominant rugged, vertical vegetation. Views in the surrounding area exhibit diversity in form, line, color, and texture with man-made features adjacent to the view. Segment 4 of the proposed Project would be moderately to highly visible. Micrositing to take advantage of topographic and vegetative screening and other mitigation efforts would only slightly lower impacts to scenic resources in the surrounding area.

With little man-made development in close proximity to the Proposed Route, the structures would contrast highly with the surrounding dense vegetation. Figure CB-1b (Attachment A) shows a visual simulation of the proposed transmission facilities as viewed from KOP 1346. Many of the views in the surrounding area exhibit a high level of variety in form, line, color, and texture that would be contrasted by the addition of new man-made structures and access roads. These would draw the attention of the casual observer and thus not conform to the VQO of Retention or Partial Retention. The VQO for Retention and Partial Retention was identified to protect the scenic quality of the Highline Trail; however, three transmission lines currently cross through the Retention and Partial Retention areas. A Project-level plan amendment changing the land classification for the Project right-of-way to MA 8.1, Utility Corridor, is recommended. The Project would be permitted as a visually altering action without changing the VQO designation (see Figure 5.2-6). The Project, if approved, would be constructed with mitigation measures and BMPs used to lower potential direct impacts to visual resources (see Table 2.7-1 in the Draft EIS).



AOI Viewshed
Caribou NF
CB-1 Caribou
Segment 04

GATEWAY WEST
TRANSMISSION LINE PROJECT
IDAHO/WYOMING

- Visual AOI 190ft Towers 15mi Study Area
- Proposed
- Alternative
- Visual AOI 190ft Towers (within VRM2)
- Key Observation Point*
- Key Observation Point with Simulation*
- ViewPoint*
- Visual AOI 190ft Tower Viewshed
- USFS VQO - Retention
- USFS VQO - Partial Retention
- Limited Access
- Highways
- Secondary Roads
- Rivers/Streams
- Historic Trail
- Existing Transmission Line
- National Wildlife Refuge
- State Boundary
- County Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
- Indian Reservation
- National Forest Service
- National Park Service
- State Land
- Private
- Scenic Byway

File: P:\Gateway\West\GIS\Spatial\Analysis\20100729_VRMAnalysis\20100729_Data\maps\CB1_Caribou_Seg4_Viewshed.mxd

Figure 5.2-5. AOI CB-1 Caribou Visual Analysis

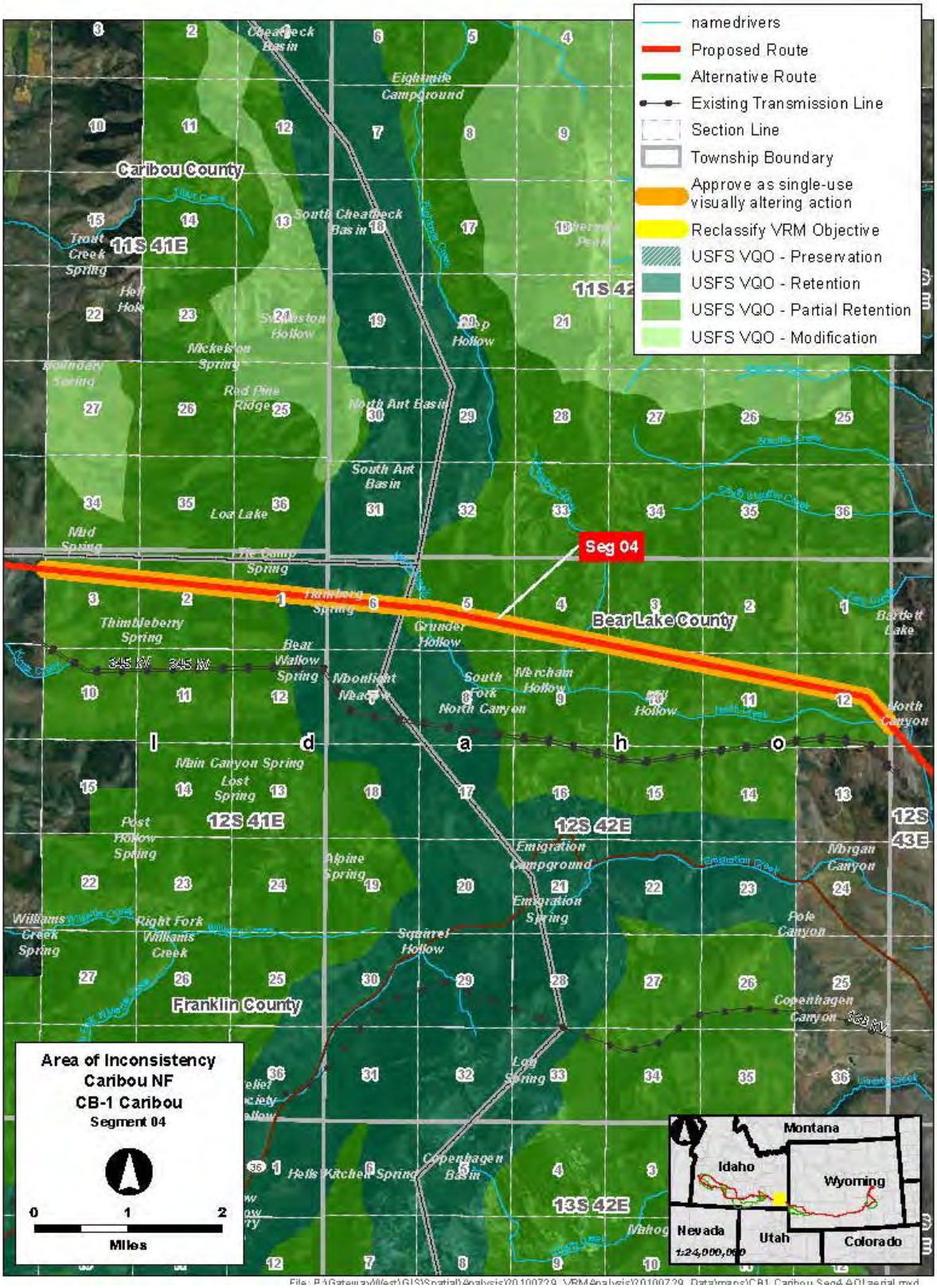


Figure 5.2-6. AOI CB-1 Caribou AOI Aerial Map

5.3 Sawtooth National Forest

The Sawtooth National Forest Revised Land and Resource Management Plan (2003) (Sawtooth Forest Plan) provides direction for managing approximately 2.1 million acres of public lands under the jurisdiction of the Sawtooth NF (see Figure 1.1-1). The Sawtooth Forest Plan lists two decisions related to the management of the scenic environment. Decision SCST01 states: "All projects shall be designed to meet the adopted Visual Quality Objectives (VQOs) as displayed on the Forest VQO map." Decision SCST02 states: "When reducing VQOs, attempt to meet the next-highest objective at the closest viewer distance or most relevant distance given the probable sensitive viewer."

The Segment 7 Proposed Route consists of 118.1 miles of single-circuit 500-kV transmission line. It leaves Populus Substation and proceeds northwest for about 15 miles, following existing transmission lines and Segment 5 before turning due west and proceeding through about 103 miles of mainly private irrigated agriculture to the Cedar Hill Substation. There is significant local opposition to the Proposed Route due to its proximity to residences. There are also potential economic effects on local agricultural including loss of prime farmland and Conservation Reserve Program land, disruption to existing crops and surface irrigation patterns, interference with center pivot irrigation, and potential electrical effects on confined animal feeding operations. As a result, a multi-county task force consisting of residents, county officials, and state legislators has recommended alternatives well south of the Proposed Route, mainly on BLM-managed or NFS land. Constraints in the southern alternatives include high quality forested land, historic trails, wetlands, steep slopes, designated big game range, sage-grouse, and raptor nests.

The Segment 7 Proposed Route does not cross NFS land. However, two feasible alternatives, Alternative 7H and Alternative 7I/7J, would cross areas with a VQO of Modification and Partial Retention on NFS land.

Alternative 7H crosses two divisions of the Sawtooth NF, the Sublett and Albion Mountain Divisions, for a total distance of 11.4 miles. The Project also proposes to use existing roads that cross the northwestern edge of the Black Pine Division. This alternative crosses 7.2 miles of NFS lands allocated to MA 6.1, Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes; 2.7 miles of land allocated to MA 4.2, Roaded Recreation Emphasis; and 1.5 miles allocated to MA 5.1, Restoration and Maintenance Emphasis within Forested Landscapes. Alternative 7H would cross between the Mount Harrison and Cache Peak Inventoried Roadless Areas (IRAs). Siting opportunities in this area are limited due to Alternative 7H being located within a canyon access area bordered on the north and south by IRAs. The Recreational Opportunity Spectrum (ROS) for this area is listed as Roaded Natural (RN), which is described as a natural-appearing setting that may have modifications ranging from being easily noticed to strongly dominant to observers within the area.

Alternative 7I/7J crosses two divisions of the Sawtooth NF, the Sublett Division and the western edge of the Cassia Division, for a total distance of 29.6 miles. As with Alternative 7H, the Project also proposes to use existing roads that cross the northwestern edge of the Black Pine Division. Alternatives 7H, 7I, and 7J share the

same alignment where they cross the Sublett Division and pass within 0.5 mile of the Black Pine Division. Alternative 7I crosses 25 miles of NFS lands allocated to the MA 6.1, Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes, and 2.7 miles allocated to MA 4.2, Roaded Recreation Emphasis.

Should either Alternative 7H, 7I, or 7J be approved, the transmission line would affect AOIs that are managed as VQO Modification and VQO Partial Retention. As a result, Forest Service action would be necessary to modify the visual classification or approve a one-time allowance to be consistent with the Forest Plan. The AOIs are shown in Figure 5.3-1 and described in Sections 5.3.1 through 5.3.3, below.

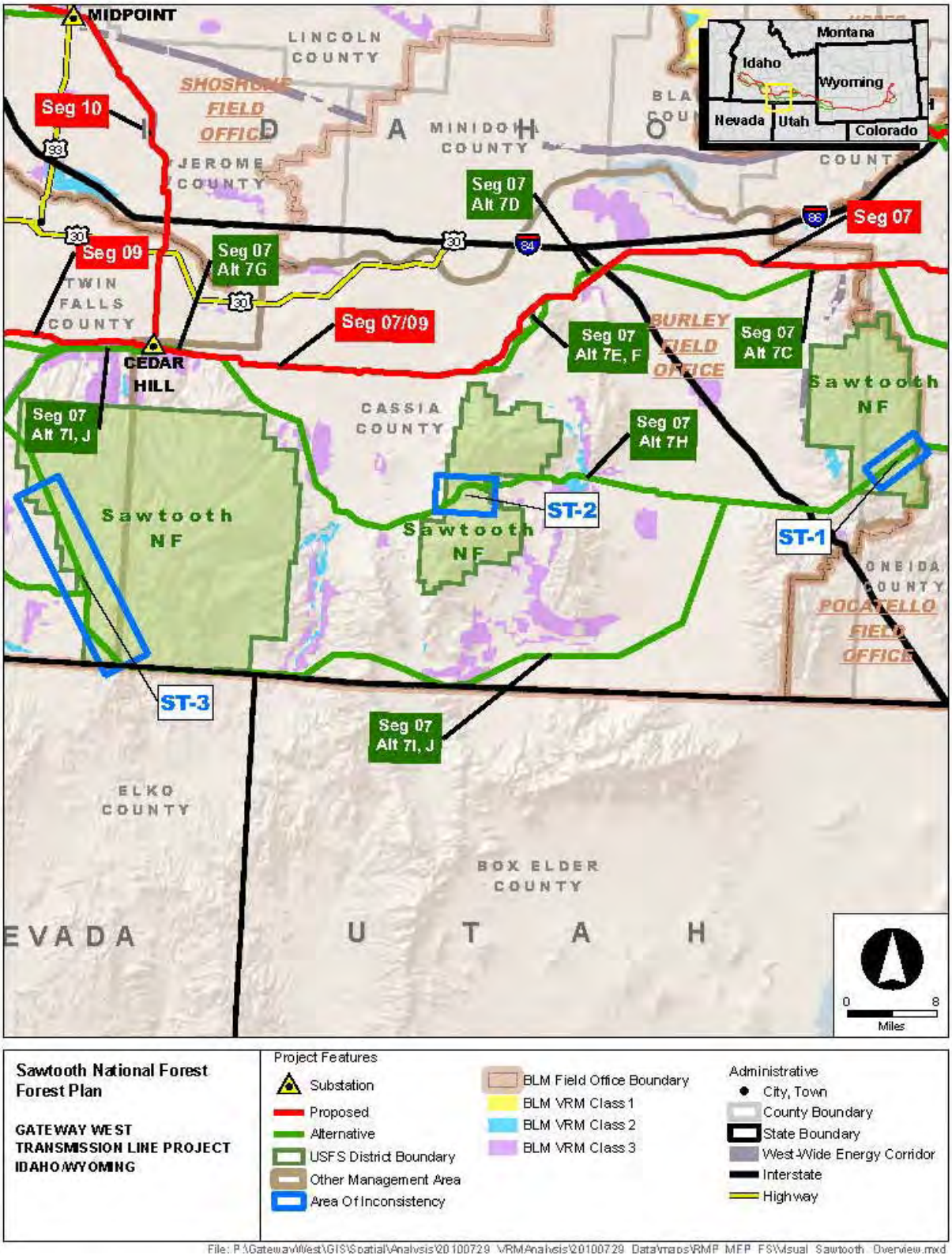


Figure 5.3-1. Overview Map of AOI Locations on Sawtooth National Forest Land

5.3.1 AOI ST-1 Sublett (Alternative 7H, Alternative 7I, and Alternative 7J)

AOI ST-1 is located in the southwest corner of Power County, Idaho. Alternatives 7H, 7I, and 7J are coincident for the first 57 miles of their alignment. At milepost 37.9, the routes enter the Sublett portion of the Sawtooth NF, turning to the southwest. This results in the alternatives crossing approximately 4.0 miles of NFS land managed as VQO Modification. The presence of the proposed transmission line in these landscapes would not meet the designated VQOs. As a result, Forest Service action would be necessary to modify the visual classification or approve a one-time allowance to be consistent with the Forest Plan.

5.3.1.1 Existing Landscape Conditions

A large percentage of the area around AOI ST-1 is undeveloped. In the northeast lie the Deep Creek Mountains, in the central part of the area is the Sublett Range, and the Black Pine Mountains are in the southwest. Farms and farmland are found in the Raft River Valley to the west, Juniper Valley to the south, and Rockland Valley to the east. Forests are found in the more mountainous areas, especially in the Sawtooth NF. Interstate 84, the primary road in the 15-mile area around AOI ST-1, extends northwest to southeast in the southwest portion of the study area. Another highway in the area is SR 37, which is a north-south road in the east passing through Rockland Valley. There are no sizable communities in the area, although Rockland and Holbrook are situated just beyond 15 miles. In addition to the local roads, highways, and residences, there are sensitive viewing areas such as campgrounds and trails in the National Park, the Curlew National Grasslands, and Minidoka Forest State Bird Sanctuary. As viewed from KOP 1273 (Attachment A, Figure ST-1a), the landscape in the vicinity of AOI ST-1 is mountainous with a mixture of open areas and deciduous and evergreen forests with little in the way of man-made modifications.

5.3.1.2 Analysis

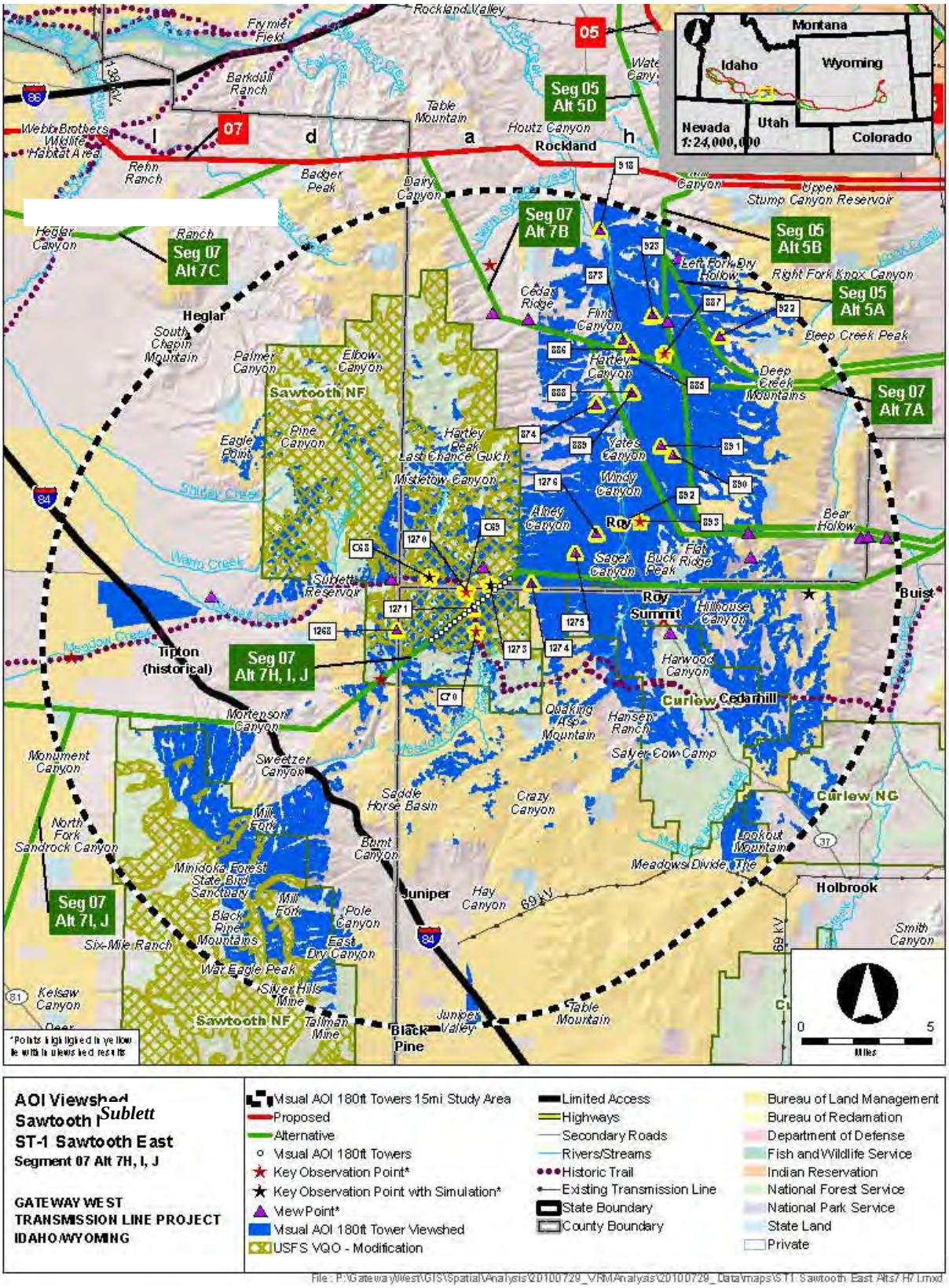
Figure 5.3-2 shows the viewshed, AOI, and other features within the 15-mile radius study area used to evaluate the consistency of the proposed 500-kV facilities with the existing landscape and VQOs. Figure ST-1b (in Attachment A) is a simulation showing the lattice tower transmission lines on the existing landscape. Figure ST-1c in Attachment A is a simulation showing the H-frame structure on the existing landscape.

Scenic views of the Sublett Range south of Hartley Peak are important to sensitive viewers hiking the historic Hudspeth Cutoff Trail in this primitive and remote area of the Sawtooth NF. These sensitive viewers are represented by KOP 1273 with views ranging from undulating valleys to more dramatic rocky terrain with mountain silhouettes, such as Quaking Asp Mountain in the background, and dominant rugged, vertical, and contrasting vegetation. Views in the surrounding area exhibit diversity in form, line, color, and texture with few man-made features adjacent to the view. Alternatives 7H, 7I, or 7J of the proposed Project would be at least partially screened and backdropped by existing vegetation and topography, resulting in moderate visibility. Micrositing and other mitigation efforts may further lower impacts to scenic resources in the surrounding area. With little man-made development in the vicinity of the proposed

alignment, the structures would contrast sharply with the surrounding landscape. Figure ST-1b (Attachment A) shows a visual simulation of what the transmission structures would look like from KOP 1273.

Views from KOP 1273 represent the views of recreational users looking south on Heaydlauff Canyon Road in the Sawtooth NF. Open, panoramic views of the rolling to rugged terrain have high scenic quality due to the numerous aesthetic landscape elements in the middleground and background views. The view is considered a natural characteristic landscape with a landscape variety class of A, or distinctive. Viewers traveling on this roadway would have a level 2 (average) sensitivity to changes in the characteristic landscape. Level 2-sensitivity recreational viewers would have a high level of Project visibility 0.3 mile from Alternative 7I. The viewer would have an open and elevated view toward the alignment, which would not parallel any existing alignments or linear features and may span the rugged terrain in the middleground and background. The resulting contrast levels are anticipated to be high. The area is managed for Maximum Modification by the Sawtooth NF, which allows for vegetative and landform alterations that may dominate the characteristic landscape. When viewed as foreground, the Project may not appear to completely borrow from naturally established form, color, line, or texture. Alterations may also be out of scale or contain detail that is incongruent with natural occurrences as seen in the foreground. The ROS for this area is listed as both RN and Semi-Primitive Motorized (SPM). Potential visual impacts on recreational users from this KOP and in the general vicinity are expected to be high because the alternative would create a new linear feature in a landscape with little existing visible disturbance, high contrast, and landscape variety class of A. Alternative 7I would conform to the Forest Service Maximum Modification classification as well as the ROS of RN, but not SPM where structures are supposed to be rare and isolated.

The new transmission structures, ROW clearing, and access roads would draw the attention of the casual observer and thus not conform to the VQO of Modification, which allows management activities to dominate the characteristic landscape while using naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed as middleground. This would not occur from KOP 1273 because the vegetation removal and large vertical structures would not appear natural. If this route were selected, a plan amendment would need to be approved by the Forest Service. It is recommended that this amendment be a project-level plan amendment to permit a one-time allowance for the Project in areas with Modification VQO. Figure 5.3-3 shows the location of the Sublett AOI with the existing VQO, Alternative route, and amendment recommendation. Alternative 7H, 7I, or 7J, if approved, would be constructed with appropriate mitigation measures and BMPs to lower potential impacts to visual resources (see Table 2.7-1 in in the Draft EIS).



AOI Viewshed
Sawtooth N
ST-1 Sawtooth East
Segment 07 Alt 7H, I, J

GATEWAY WEST
TRANSMISSION LINE PROJECT
IDAHO/WYOMING

- Visual AOI 180ft Towers 15mi Study Area
- Proposed
- Alternative
- Visual AOI 180ft Towers
- Key Observation Point*
- Key Observation Point with Simulation*
- View Point*
- Visual AOI 180ft Tower Viewshed
- USFS VQO - Modification
- Limited Access
- Highways
- Secondary Roads
- Rivers/Streams
- Historic Trail
- Existing Transmission Line
- State Boundary
- County Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
- Indian Reservation
- National Forest Service
- National Park Service
- State Land
- Private

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Figure 5.3-2. AOI ST-1 Visual Analysis

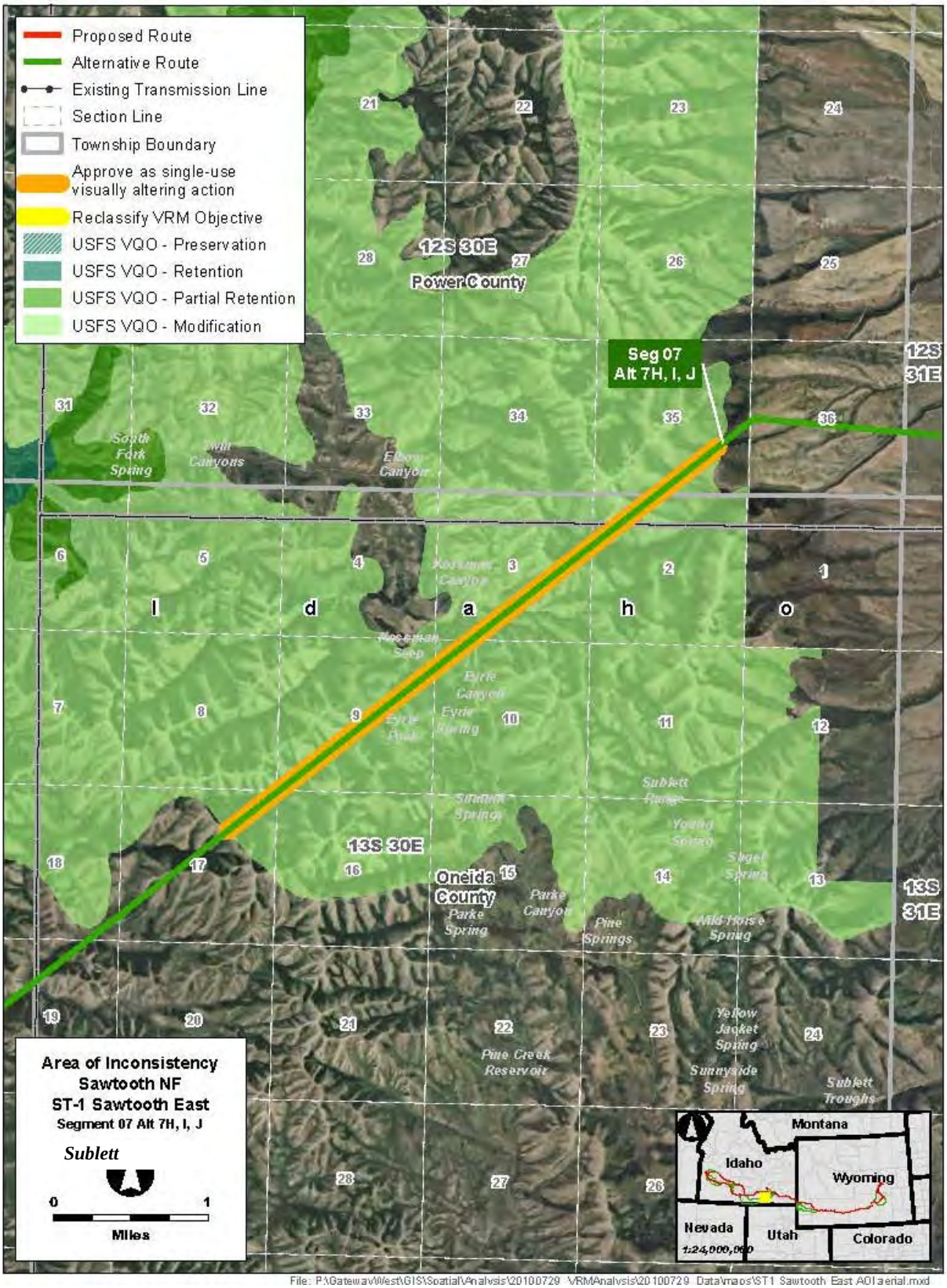

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Figure 5.3-3. AOI ST-1 Aerial Map

5.3.2 AOI ST-2 Albion Mountain (Alternative 7H)

AOI ST-2 is located along Alternative 7H in Cassia County, approximately 8 miles east of Oakley, Idaho, and passing just north of the Jim Sage Mountains and Elba, Idaho, near Cassia Creek. The route continues west, entering the narrowest portion of the Albion Division of the Sawtooth NF. At this point, the route is within Cold Spring Creek Valley between Cache Peak to the south and Mt. Harrison to the north, the two highest peaks within the Albion Mountain Range. As a result, the alternative crosses 2.9 miles of land managed as VQO Partial Retention and 1.5 miles in land with a VQO of Modification. The presence of the transmission line in these landscapes would not meet the designated VQOs. As a result, Forest Service action would be necessary to modify the visual classification or approve a one-time allowance to be consistent with the Forest Plan. Figure 5.3-4 shows the viewshed of the Sawtooth Central AOI.

5.3.2.1 Existing Landscape Conditions

A large majority of the land around AOI ST-2 is undeveloped. Much of the land and forests are located in the Albion, Jim Sage, and Cotterel Mountains and are within the Sawtooth NF. There are many creeks and other drainages in the mountainous areas, and Lower Goose Creek Reservoir lies in the southeast. A large area of irrigated farmland and farms is located in the northwest east and west of SR 27. Smaller farm areas occur in the vicinity of Albion, east of Connor and in the Upper Raft River Valley. There are a number of small communities including Oakley, Albion, and Almo. SRs 77 and 27 are the main highways in the northeast and northwest portions of the study area, and the only existing transmission lines are in the west. In addition to the local roads, highways, and communities, there are sensitive viewing areas such as campgrounds, picnic areas, trails, and the Pomerelle Ski Area, all in the Sawtooth NF.

As shown in Attachment A, Figure ST-2a, the landscape as viewed from KOP 1234 ranges from flat with grasses and sagebrush in the foreground to mountains with large areas of forest in the background. Also in the foreground are various man-made modifications such as local roads and utility poles. Additionally, Figure ST-2d (Attachment A) shows the landscape as viewed from KOP 1435, a viewpoint on Mount Harrison. This KOP shows extensive views of mountainous terrain towards the south, with few man-made features and none dominating the view.

5.3.2.2 Analysis

Figure 5.3-3 shows the viewshed, AOI, and other features within the 15-mile radius study area used in evaluating the consistency of the proposed transmission facilities with the existing landscape and VQOs. Figure ST-2b (Attachment A) is a simulation showing the proposed transmission line on the existing landscape as viewed from KOP 1234. Figure ST-2c (Attachment A) is a simulation showing the proposed transmission line using H-frame tower structures from this KOP.

Scenic views of the Albion Mountains between Cache Peak and Mt. Harrison are important to sensitive viewers driving Forest Road 548, which is adjacent to Cold Spring Creek in this primitive area of the Sawtooth NF. These sensitive viewers are represented by KOP 1234 (Figure ST-2a in Attachment A). The existing view is of

undulating valleys and more dramatic rocky terrain with mountain silhouettes and rugged, clustered, and contrasting vegetation. Views of the surrounding area exhibit diversity in form, line, color, and texture with few man-made features. Alternative 7H would be highly visible due to few screening opportunities, little man-made development, and a high contrast with the existing landscape. Views of the surrounding area exhibit a high level of variety in form, line, color, and texture.

Views from KOP 1234 represent the views from a recreational hiker at the marked New Canyon Trail in the Sawtooth NF looking east towards Clyde Flat. The view is considered a natural characteristic landscape with a landscape variety class of A, or distinctive, when compared to views in the surrounding region. Viewers traveling on this roadway would have a level 1 (highest) sensitivity to changes in the characteristic landscape. Open, panoramic views of the rolling to rugged terrain with mountainous silhouettes and snow-capped peaks are considered to have high scenic quality due to the numerous aesthetic landscape elements in the middleground and background views and few visible human-made alterations. High-sensitivity (level 1) recreational viewers at KOP 1234 would have a high level of Project visibility 73 feet from Alternative 7H, an immediate foreground view. The viewer would have an expansive, panoramic, and superior (high-elevation) view toward the alignment, which would not parallel any existing alignments or linear features and may skyline the mountainous terrain, resulting in contrast levels that are anticipated to be high. Potential visual impacts on recreational viewers from this KOP and in the general vicinity are expected to be high because the alternative would create a new linear feature in an undisturbed landscape with high scenic quality and high contrast.

High-sensitivity recreational viewers at KOP 1435, on Mt. Harrison, would have a low level of Project visibility 3.8 miles from Alternative 7H. The viewer would have an expansive, panoramic, and superior (high-elevation) view toward the alignment, which would not parallel any existing alignments or linear features but will be backdropped by the mountainous terrain, resulting in contrast levels that are anticipated to be moderate (see Figure ST-2e,[3] Attachment A). The area is managed for Partial Retention by Sawtooth NF, which requires management activities remain visually subordinate to the characteristic landscape. Activities may repeat form, line, color, or texture common to the characteristic landscape but not changes in their qualities of size, amount, intensity, direction, and pattern. Alternative 7H may conform to the Forest Service Partial Retention classification from this viewpoint due to it being visually subordinate and the distance from the viewpoint to the transmission line. Additional impacts that may need to be considered are the cumulative effects of siting the line along the road. The road may be more noticeable from distant views, resulting in a contrast to the otherwise remote characteristics in the view.

[3] This simulation was produced using an existing photograph from the Mt. Harrison viewpoint and GIS rendering of the viewed landscape to determine tower locations within the image. Tower heights were extruded from the elevation data at their geographic locations, creating "sticks" at the correct position and height for each tower. An overlay was then created in ArcGIS ArcScene and imported into Adobe Photoshop to guide placement and sizing of individual tower images onto the existing photograph background. Individual lattice tower renderings were created in Adobe Illustrator using assumed tower angle and positioning at each location, adding color and highlights to approximate light conditions present in the photograph.

The area at the east and west ends of where the line crosses the Albion Division is managed for Modification by Sawtooth NF, which allows for activities that may visually dominate the original characteristic landscape. Activities that alter vegetation and landforms must borrow from naturally established form, line, color, or texture and structures must remain visually subordinate to the proposed composition. The central part of the crossing is managed as Partial Retention. The ROS for the majority of this area is listed as RN. The western 0.2 mile of the alignment would cross SPM. .

The addition of transmission structures, vegetation clearing in the ROW, and access roads would contrast with the existing landscape, draw the attention of the casual observer, and thus not conform to the VQOs of Modification or Partial Retention. Modification allows management activities to dominate the characteristic landscape while using naturally established form, line, color, and texture. Partial Retention requires activities to be subordinate in the characteristic landscape. From KOP 1234, the proposed 500-kV line would not appear as natural or subordinate.

It is recommended that a project-level plan amendment be approved by the Forest Service to permit a one-time allowance for the Project in areas with Modification and Partial Retention VQOs (see Figure 5.3-5). Alternative 7H, if approved, would be constructed with appropriate mitigation measures and BMPs to lower potential impacts to visual resources (see Table 2.7-1 in the Draft EIS). Micrositing, such as positioning the line in valley areas or behind ridgelines, could lower the visual impact of the transmission line from important viewpoints; however, additional resources such as riparian habitat must also be considered in the final tower and road siting selections. Figures 5.3-6 and 5.3-7 show the topography of the area crossed by the Project and the proposed alignment of Alternative 7H through this area.

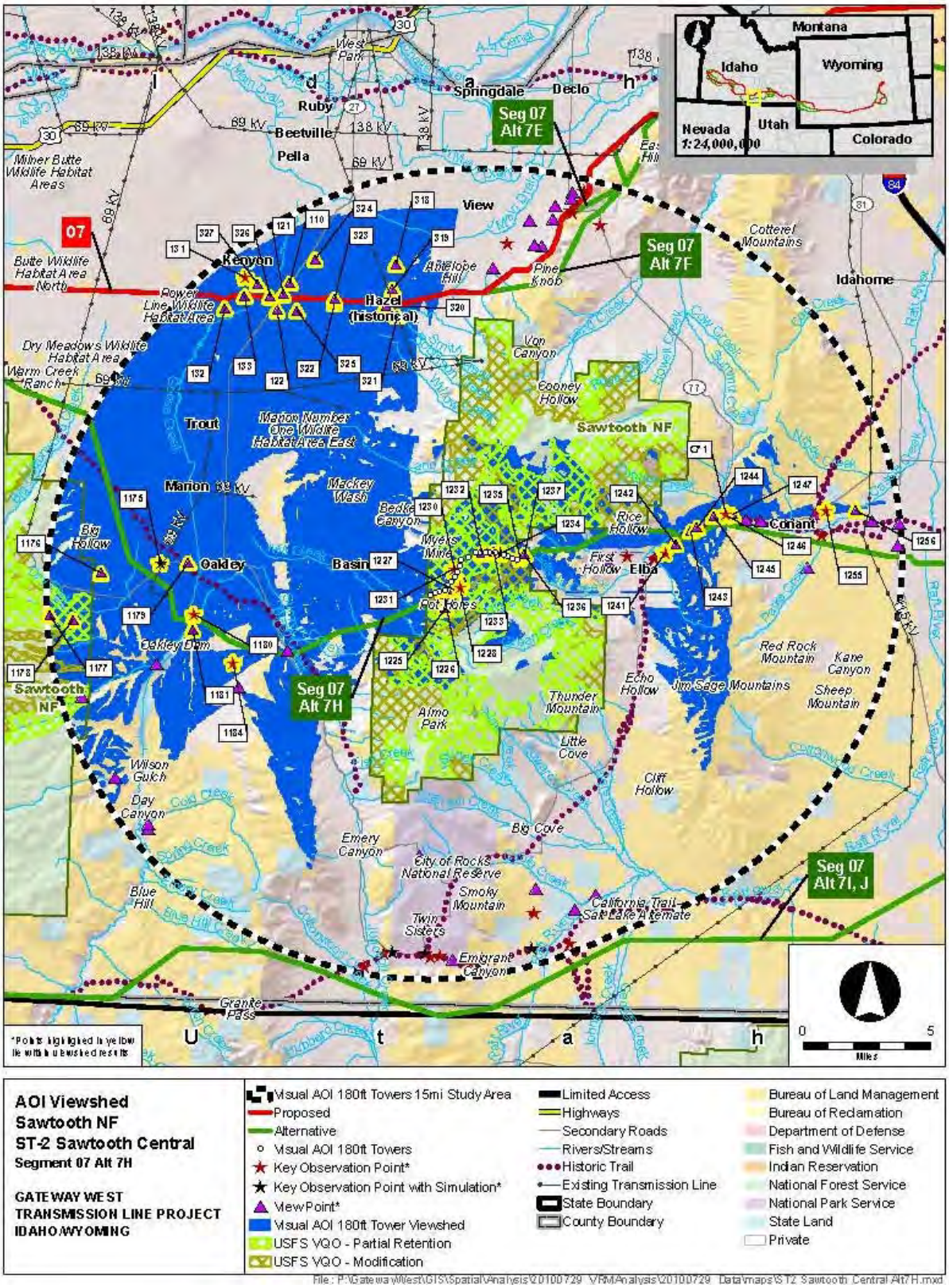

Figure 5.3-4. AOI ST-2 Sawtooth Central Visual Analysis

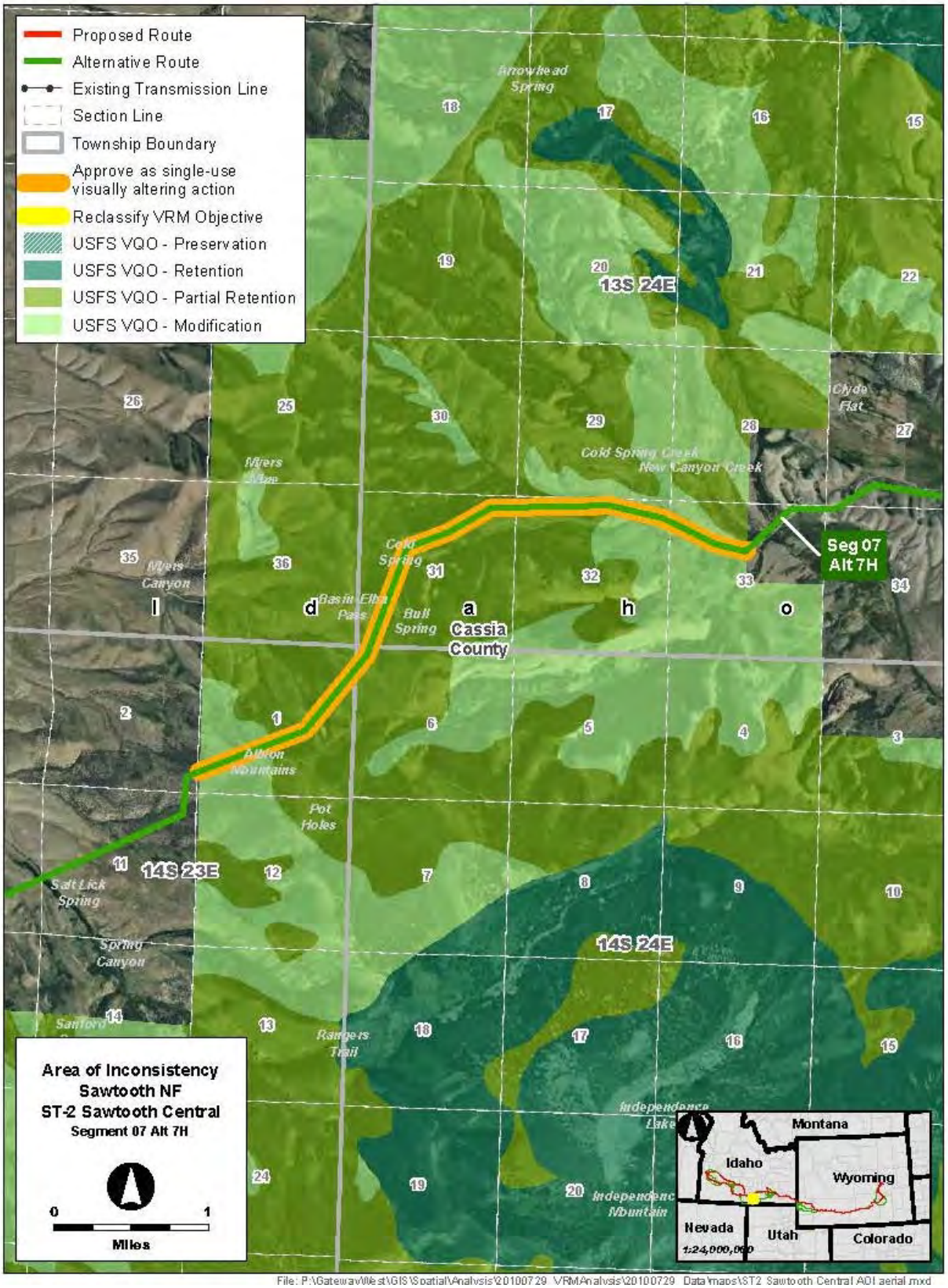

Figure 5.3-5. AOI ST-2 Sawtooth Central Aerial Map

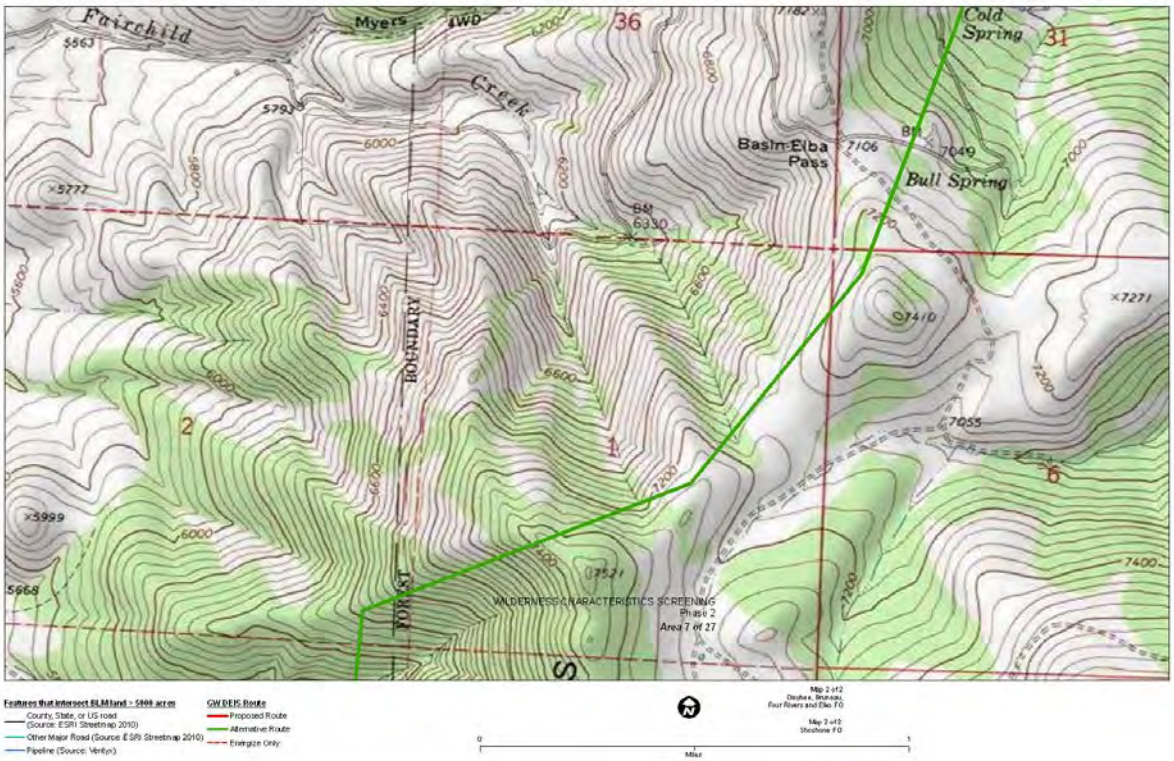

Figure 5.3-6. Western Portion of Alternative 7H through the Albion Division (ST-2)

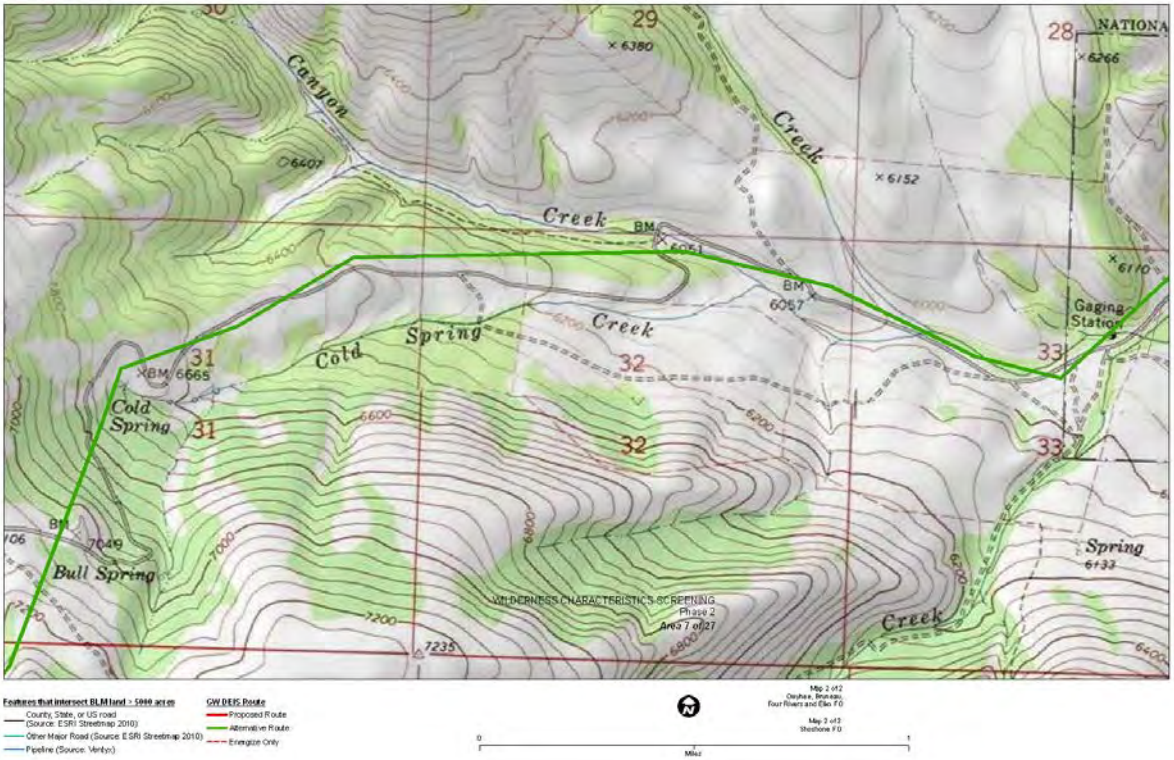

Figure 5.3-7. Eastern Portion of Alternative 7H through the Albion Division (ST-2)

5.3.3 AOI ST-3 Cassia (Alternative 7I and Alternative 7J)

AOI ST-3 is located in Twin Falls County on the Idaho-Nevada border, approximately 40 miles south of Twin Falls, Idaho. Alternatives 7I and 7J share the same alignment until milepost 137.3, at which point 7J continues in a northwest direction, while 7I proceeds north, through the Sawtooth NF. The joint route is partially located in Elko County, Nevada, staying just south of the Cassia Division of the Sawtooth NF. It then turns north-northwest at milepost 129.5, passing in and out of the western edge of the NF for a total distance of approximately 18 miles. As a result, Alternative 7I crosses 0.8 mile of land managed as VQO Partial Retention and 5.2 miles in VQO Modification. Alternative 7J crosses 0.1 mile of land managed as VQO Partial Retention and 2.2 miles of land managed as VQO Modification. The presence of the transmission line in these landscapes would not meet the designated visual resource management objectives. As a result, Forest Service action would be necessary to modify the visual classification or approve a one-time allowance to be consistent with the Forest Plan. Figure 5.3-8 shows viewshed of the Sawtooth West AOI.

5.3.3.1 Existing Landscape Conditions

The 15-mile area around AOI ST-3, which is located in Idaho, Nevada, and Utah, has very little development. The development in the area is found in the northwest, where the terrain is flat to rolling and there are a number of agricultural areas. The primary road in the area is U.S. Highway 93. The Union Pacific Railroad runs through the area, and there are some small communities such as Rogerson and Hollister. The remainder of the area has ridges, mountains, and steep slopes with many drainages. Much of the mountainous area is situated in the Sawtooth NF. Sensitive viewing areas include U.S. Highway 93, local roads, residences, communities, and many campgrounds and trails in the NF.

As shown in Figure ST-3a (Attachment A), the existing landscape as viewed from KOP 1079 is rolling topography with steep slopes, grasses, and sagebrush. There are no apparent man-made modifications seen from this KOP.

5.3.3.2 Analysis

Figure 5.3-8 shows the viewshed, AOI, and other features within the 15-mile radius study area, taking into account the degree of consistency with the existing visual class. Figure ST-3b (Attachment A) is a simulation showing what the proposed transmission line would look like on the existing landscape.

Scenic views along Hopper Gulch south of North Cottonwood Ridge and west of Black Mountain and Mountain View Peak are important to sensitive viewers such as campers and hikers in this primitive and remote area of the Sawtooth NF. These sensitive viewers are represented by KOP 1079 (Attachment A, Figure ST-3a) with views ranging from undulating valleys to more dramatic mountainous landscapes in the background, and uniform and rugged vegetation. Alternative 7I of the proposed Project would be highly visible due to skylining, the close proximity of the Project, and lack of screening opportunities. With little man-made development adjacent to the proposed alignment, the structures would contrast highly with the surrounding scrub vegetation. Figure ST-3b

(Attachment A) shows a visual simulation of how the transmission structures would appear as viewed from KOP 1079. Many of the views of the surrounding area exhibit a moderate level of variety in form, line, color, and texture which would contrast with the addition of new man-made structures, ROW clearing, and access roads. This transmission line would draw the attention of the casual observer and thus not conform to either the VQO of Modification, which allows management activities to dominate the characteristic landscape while using naturally established form, line, color, and texture, or Partial Retention, which requires activities to be subordinate in the characteristic landscape.

Views from KOP 1079 represent the views of recreational users of the Sawtooth NF driving along Hoppers Gulch Road looking west toward the rolling terrain of Flatiron Butte adjacent to the Sawtooth NF. The view is considered a natural characteristic landscape with a landscape variety class of B, or common, when compared to views in the surrounding region. Viewers traveling on this roadway would have a level 2 (average) sensitivity to changes in the characteristic landscape due to the distance from campgrounds and viewpoints. Open panoramic views of the rolling terrain are considered to have moderate scenic quality due to the lack of unique aesthetic landscape elements in the middleground and background views as well as few human-made alterations. The visibility of Alternative 7I would be high for recreational viewers at KOP 1079, approximately 900 feet from this alignment. The viewers would have an open view toward the alignment, which would not parallel any existing linear features and may skyline when crossing the rolling terrain in the middleground and background, resulting in high contrast levels. The area is managed for Modification by the Sawtooth NF, which allows activities that may dominate the characteristic landscape but will, at the same time, use naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed as middleground, which the Project would not conform to from this viewpoint. Potential visual impacts on recreational users from this KOP and in the general vicinity are expected to be high because the alternative would create a new linear feature in a landscape with little visible disturbance, high contrast, and a close view. Alternative 7I would not conform to the Forest Service Modification objectives.

If Alternative 7I or Alternative 7J is approved, it is recommended that a Project-level plan amendment be approved by the Forest Service that would permit a one-time allowance for the Project in areas with Modification and Partial Retention VQOs (see Figure 5.3-9). Alternative 7I or 7J, if approved, would be constructed with appropriate mitigation measures and BMPs to lower potential impacts to visual resources (see Table 2.7-1 in the Draft EIS).

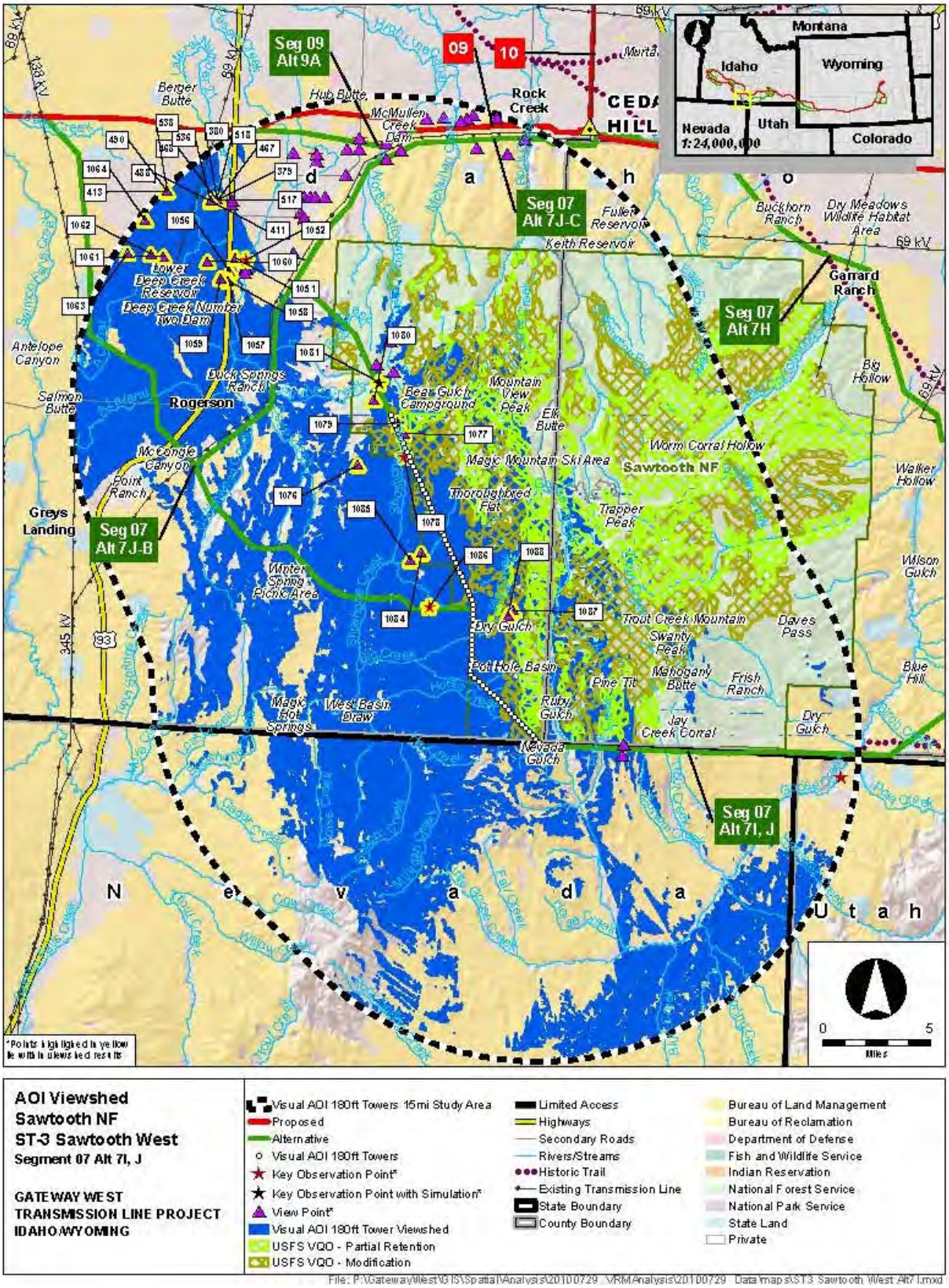

Figure 5.3-8. AOI ST-3 Sawtooth West Visual Analysis

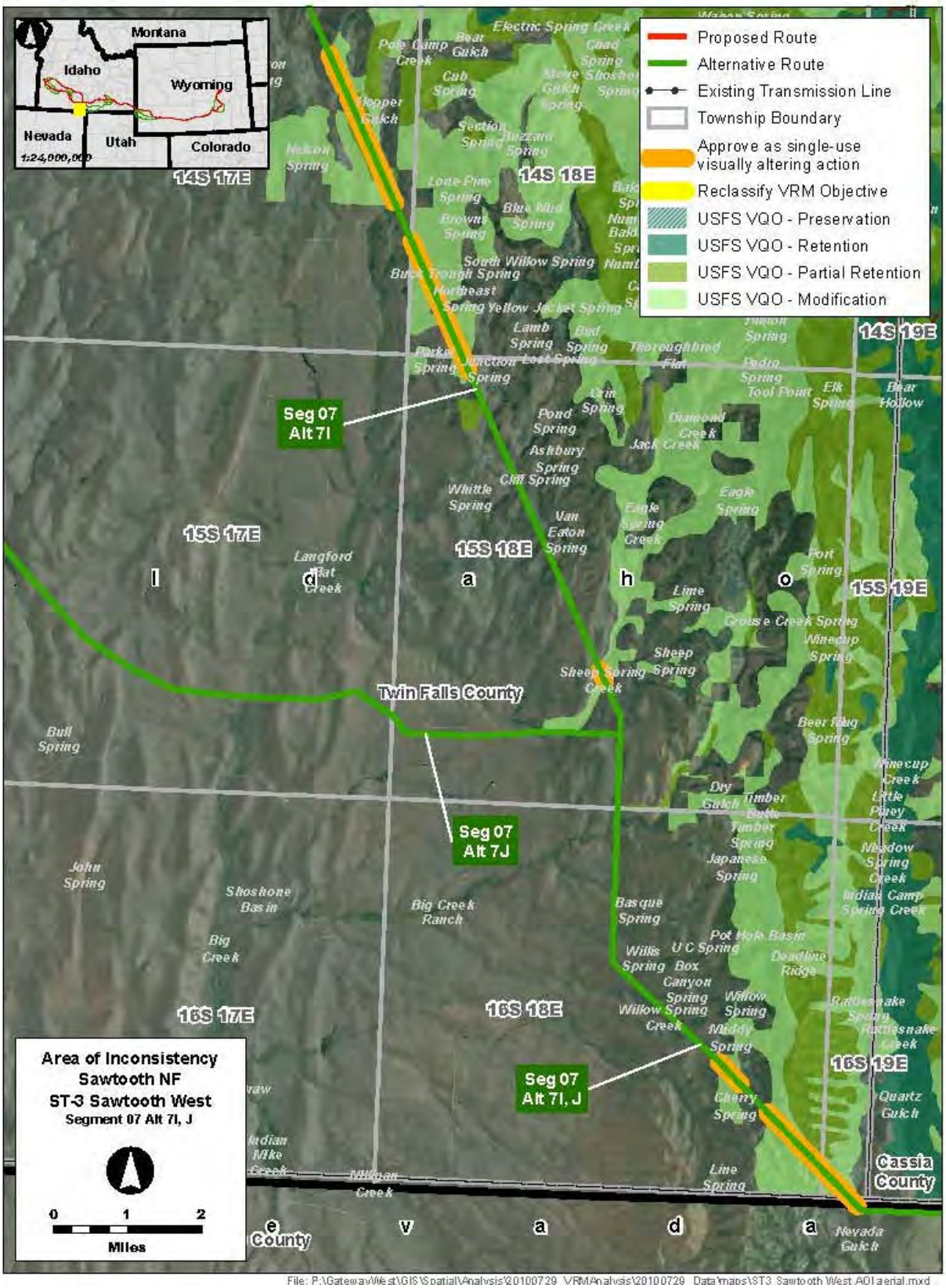

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Figure 5.3-9. AOI ST-3 Sawtooth West Aerial Map

6 MITIGATION MEASURES

To minimize or avoid impacts on visual resources, the Proponents have committed to environmental protection measures that would be implemented Project-wide as outlined in this section and in Appendix C of the Draft EIS.

The following measures were identified by the Sawtooth NF and are required on NFS lands.

VIS-2 To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads or cross-country routes will follow the landform contours in designated areas where practicable, providing that such alignment does not impact resource values additionally.

VIS-8 Site-specific “micrositing” will be required near certain sensitive areas, as identified by the agencies, where proposed transmission facilities would be present and could impact visual quality; these situations include:

- Crossings over major highways
- Crossings of high quality historic trails
- Crossings over the North Platte Snake Rivers
- Crossing the Albion Mountains in the Sawtooth NF
- Sensitive travelways, use areas, residential areas, recreational facilities as identified by the agencies (including national recreation and scenic trails, campgrounds, recreation areas, and trailheads), and other areas identified by management plans
- Along Forest Service roads in forested areas

VIS-13 To reduce visual contrast in areas where overstory vegetation is removed for access, tower pads or conductor clearance, specific sections of the clearing edges on federal land will be feathered to give a natural appearance, where not in conflict with regulatory requirements (e.g., NERC, WECC, and Occupational Safety and Health Administration requirements).

VIS-14 Crossing federal land along a transmission corridor shall require the preparation of a vegetation management plan for the utility corridor to minimize scenic impacts and plan for rehabilitation of impacts. This plan will be approved by the land management agency prior to vegetation clearing.

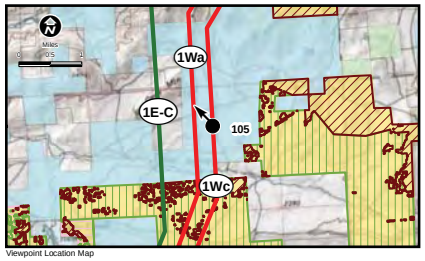
VIS-19 If any of Alternatives 7H, 7I, or 7I were to be constructed, H-frame single-circuit structures would be required in the Sawtooth NF.

Attachment A
Existing Conditions and Photographic Simulations

<u>List of Simulations by G-2 Sections</u>

MB-1a…….KOP 105……..Existing Conditions
MB-1b…….KOP 105……..Photographic Simulation
CB-1a…….KOP 1346…….Existing Conditions
CB-1b…….KOP 1346…….Photographic Simulation
ST-1a…….KOP 1273……..Existing Conditions
ST-1b…….KOP 1273……..Photographic Simulation - lattice
ST-1c…….KOP 1273……..Photographic Simulation - H-frame
ST-2a…….KOP 1234……..Existing Conditions
ST-2b…….KOP 1234……..Photographic Simulation - lattice
ST-2c…….KOP 1234……..Photographic Simulation – H-frame
ST-2d…….KOP 1435……..Existing Conditions
ST-2e…….KOP 1435……..Photographic Simulation
ST-3a…….KOP 1079……..Existing Conditions
ST-3b…….KOP 1079……..Photographic Simulation

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Resource Management

Class I

Class II

Class III

Class IV

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

State Boundary

County Boundary

Photograph Information

Time of photograph:	11:59 AM
Date of photograph:	7-17-08
Weather condition:	Partly cloudy
Viewing direction:	Northwest
Latitude:	42°30'38.40"N
Longitude:	106° 9'55.69"W
Distance:	0.2 Mile

Medicine Bow AOI
Existing Conditions from
Key Observation Point 105

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure MB-1a

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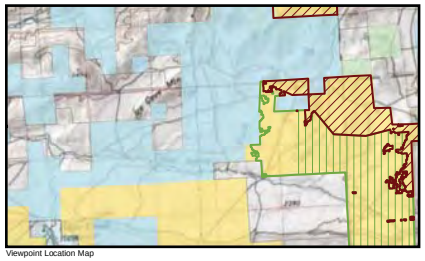

Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Resource Management

Class I

Class II

Class III

Class IV

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

State Boundary

County Boundary

Photograph Information

Time of photograph:	11:59 AM
Date of photograph:	7-17-08
Weather condition:	Partly cloudy
Viewing direction:	Northwest
Latitude:	42°30'38.40"N
Longitude:	106° 9'55.69"W
Distance:	0.2 Mile

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

Medicine Bow AOI Photographic Simulation from Key Observation Point 105

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure MB-1b

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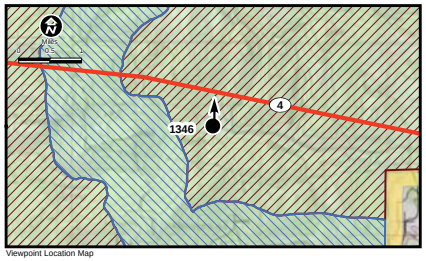


Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

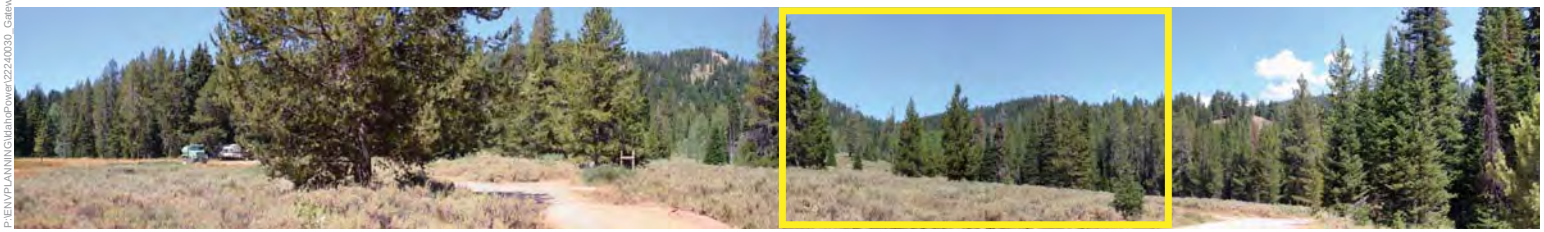
State Boundary

County Boundary

Photograph Information

Time of photograph:	1:31 PM
Date of photograph:	8-20-10
Weather condition:	Clear
Viewing direction:	North
Latitude:	42°23'46.13"N
Longitude:	111°33'34.39"W
Distance:	0.5 Mile

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



Caribou AOI
Existing Conditions from Key Observation Point 1346

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure CB-1a

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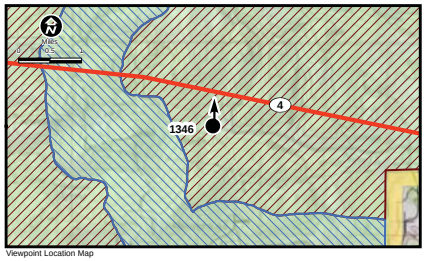


Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

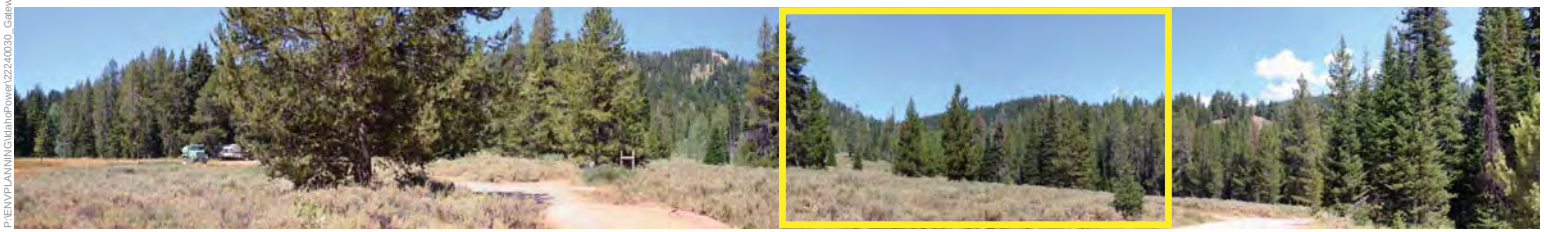
State Boundary

County Boundary

Photograph Information

Time of photograph:	1:31 PM
Date of photograph:	8-20-10
Weather condition:	Clear
Viewing direction:	North
Latitude:	42°23'46.13"N
Longitude:	111°33'34.39"W
Distance:	0.5 Mile

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

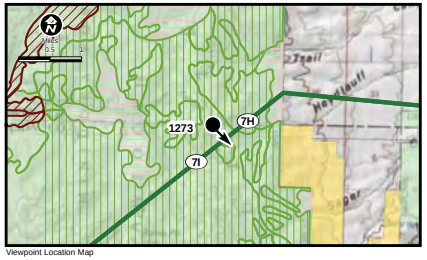


Caribou AOI
Photographic Simulation from Key Observation Point 1346

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure CB-1b

P:\EN\VPLANNING\IdahoPower\02240030_Gateway_West\sim\layouts\kop-1346.indd Export Date 06/18/11



Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

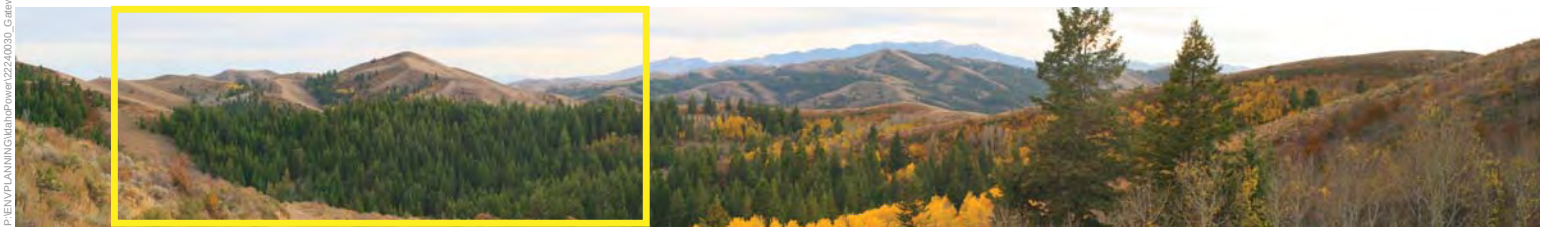
State Boundary

County Boundary

Photograph Information

Time of photograph:	6:40 PM
Date of photograph:	10-18-09
Weather condition:	Partly Cloudy
Viewing direction:	Southeast
Latitude:	42°19'38.01"N
Longitude:	112°55'38.78"W
Distance:	0.2 Mile

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

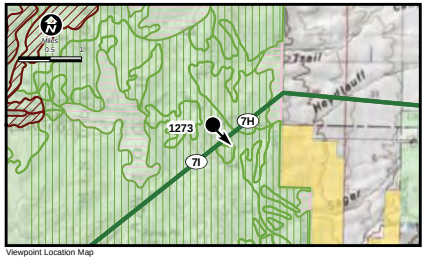


Sawtooth East AOI
Existing Conditions from Key Observation Point 1273

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure ST-1a

P:\ENVPLANNING\IdahoPower\22240030_Gateway_West\sims\layouts\kop-1273.indd



Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

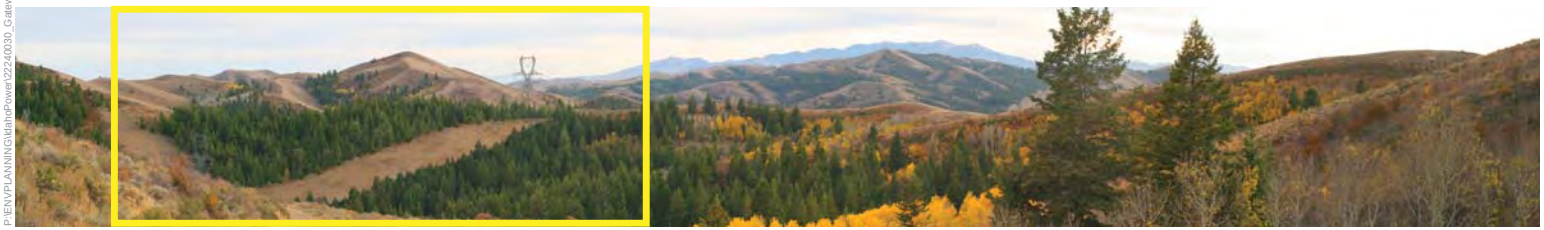
State Boundary

County Boundary

Photograph Information

Time of photograph:	6:40 PM
Date of photograph:	10-18-09
Weather condition:	Partly Cloudy
Viewing direction:	Southeast
Latitude:	42°19'38.01"N
Longitude:	112°55'38.78"W
Distance:	0.2 Mile

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

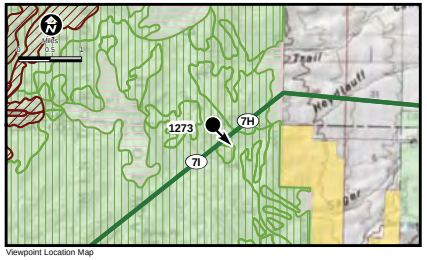


Sawtooth East AOI Photographic Simulation of a Steel Lattice Structure from Key Observation Point 1273

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure ST-1b

P:\ENVPLANNING\IdahoPower\22240030_Gateway_West\sims\layouts\kop-1273.indd



Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

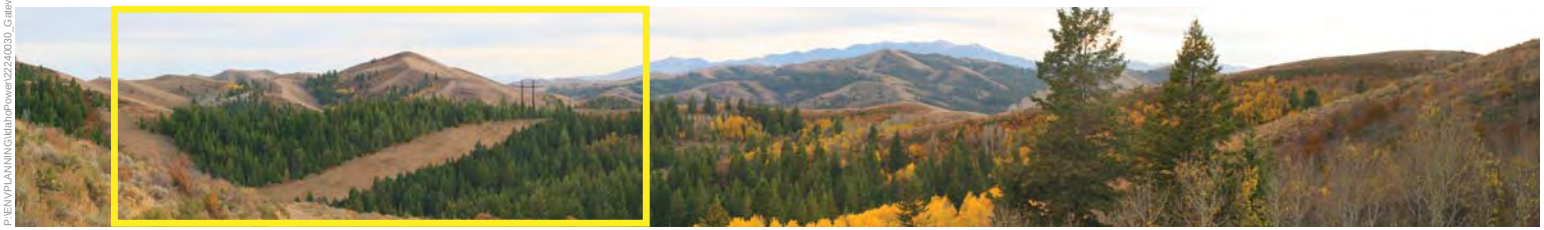
State Boundary

County Boundary

Photograph Information

Time of photograph:	6:40 PM
Date of photograph:	10-18-09
Weather condition:	Partly Cloudy
Viewing direction:	Southeast
Latitude:	42°19'38.01"N
Longitude:	112°55'38.78"W
Distance:	0.2 Mile

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

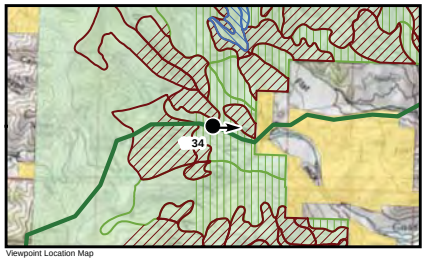


Sawtooth East AOI Photographic Simulation of an H-frame Structure from Key Observation Point 1273

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure ST-1c

P:\ENVPLANNING\IdahoPower\22240030_Gateway_West\sims\layouts\kop-1273.indd



Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

State Boundary

County Boundary

Photograph Information

Time of photograph:	6:06 PM
Date of photograph:	10-17-09
Weather condition:	Clear
Viewing direction:	East
Latitude:	42°15'15.65"N
Longitude:	113°40'16.21"W
Distance:	<0.1 Mile

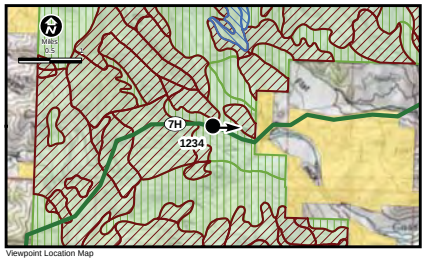
Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

Sawtooth Central AOI Existing Conditions from Key Observation Point 1234

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure ST-2a

P:\ENVPLANNING\IdahoPower\02240030_Gateway_Westsims\layouts\kop-1234.indd



Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

State Boundary

County Boundary

Photograph Information

Time of photograph:	6:06 PM
Date of photograph:	10-17-09
Weather condition:	Clear
Viewing direction:	East
Latitude:	42°15'15.65"N
Longitude:	113°40'16.21"W
Distance:	<0.1 Mile

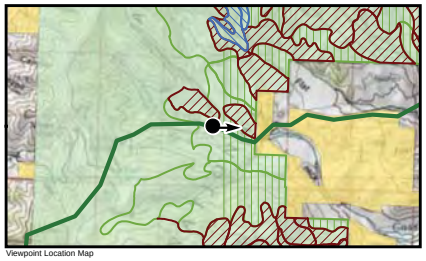
Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

Sawtooth Central AOI Photographic Simulation of a Steel Lattice Structure from Key Observation Point 1234

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure ST-2b

P:\ENVPLAN\INGI\IdahoPower\02240030_Gateway_West\sims\layouts\kop-1234.indd


Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

State Boundary

County Boundary

Photograph Information

Time of photograph:	6:06 PM
Date of photograph:	10-17-09
Weather condition:	Clear
Viewing direction:	East
Latitude:	42°15'15.65"N
Longitude:	113°40'16.21"W
Distance:	<0.1 Mile

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

Sawtooth Central AOI Photographic Simulation of an H-frame Structure from Key Observation Point 1234

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure ST-2c

P:\ENVPLANNING\IdahoPower\02240830_Gateway_West\sims\layouts\kop-1234.indd

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

R - Retention

PR - Partial Retention

M - Modification

MM - Maximum Modification

Surface Ownership

Bureau of Land Management

Bureau of Reclamation

National Park Service

Private

State

U.S. Forest Service

Sawtooth Central A01 Existing Conditions from Key Observation Point 1435

Figure ST-2d

Photograph Information
Time of Photograph: Unknown
Date of Photograph: Unknown
Weather condition: Clear
Viewing direction: South
Latitude: 42°18’32.39’’
Longitude:113°39’31.48’’

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

R - Retention

PR - Partial Retention

M - Modification

MM - Maximum Modification

Surface Ownership

Bureau of Land Management

Bureau of Reclamation

National Park Service

Private

State

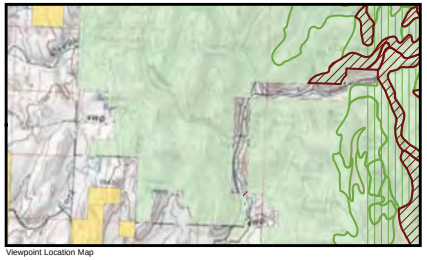
U.S. Forest Service

Sawtooth Central AOI Photographic Simulation from Key Observation Point 1435

Figure ST-2e

Photograph Information
Time of Photograph: Unknown
Date of Photograph: Unknown
Weather condition: Clear
Viewing direction: South
Latitude: 42°18’32.39’’
Longitude:113°39’31.48’’

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

State Boundary

County Boundary

Photograph Information

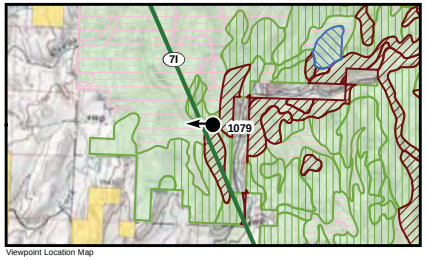
Time of photograph:	10:17 AM
Date of photograph:	9-15-09
Weather condition:	Clear
Viewing direction:	West
Latitude:	42°12'32.53"N
Longitude:	114°24'52.54"W
Distance:	0.1 Mile

Sawtooth West AOI Existing Conditions from Key Observation Point 1079

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure ST-3a

P:\ENVPLANNING\IdahoPower\22240030_Gateway_West\sim\layouts\kop-1079.indd Export Date 06/18/11



Viewpoint Location Map

Legend

Key Observation Point

Transmission Line Routes

Proposed

Alternative

Visual Quality Objective

Retention

Partial Retention

Modification

Maximum Modification

Surface Ownership

Bureau of Land Management

U.S. Forest Service

National Park Service

Bureau of Reclamation

Department of Defense

State

Private

State Boundary

County Boundary

Photograph Information

Time of photograph:	10:17 AM
Date of photograph:	9-15-09
Weather condition:	Clear
Viewing direction:	West
Latitude:	42°12'32.53"N
Longitude:	114°24'52.54"W
Distance:	0.1 Mile

Photograph is intended to be viewed 12 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.

Sawtooth West AOI Photographic Simulation from Key Observation Point 1079

Gateway West
500kV Transmission Project
Idaho, Wyoming, Nevada

Figure ST-3b

P:\ENVPLANNING\IdahoPower\22240030_Gateway_Westsim\layouts\kop-1079.indd Export Date 06/18/11