

Appendix P. Visual Resources

RUBY PIPELINE PROJECT VISUAL RESOURCE ASSESSMENT



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1.0 INTRODUCTION

1.1 Purpose

The Ruby Pipeline Project (Project), proposed by Ruby Pipeline, LLC (Ruby), is composed of approximately 675 miles of 42-inch-diameter natural gas pipeline, along with associated compression and measurement facilities, located between Opal, Wyoming and Malin, Oregon. The ROW will traverse four states: Wyoming, Utah, Nevada, and Oregon (Figure 1.1).

Ruby has applied to the Bureau of Land Management (BLM) and the US Forest Service (USFS), requesting that a right-of-way be granted for crossing BLM and USFS lands. Because the Project may affect the visual resources of lands that it traverses, this visual assessment has been prepared to evaluate the potential visual effects of the proposed Project and to identify applicable mitigating actions to reduce visual effects.

This assessment identifies the visual impacts from construction and operation of the Project across the planned alignment. Changes to the existing visual character and overall pre- and post-Project visual conditions were evaluated to assess compliance with the BLM Visual Resource Management (VRM) System and consistency with the USFS Visual Management System (VMS) and Scenery Management System (SMS).

1.2 Regional Setting

The Project would begin in southwestern Wyoming, extend across northern Utah and northern Nevada, and terminate in southeastern Oregon just north of the California border (Figure 1.2). The Project would generally be at an elevation range of 4,000 to 7,000 feet above mean sea level (amsl). The Project alignment crosses five ecoregions: Wyoming Basin, Wasatch and Uinta Mountains, Central Basin and Range, Northern Basin and Range, and Eastern Cascade Slopes and Foothills (Figure 1.3) (EPA 2009). Each ecoregion has its own characteristics, in terms of landform, climate, vegetation, and wildlife, and can be used for research and management of ecosystems. For visual resources they represent general areas where one would expect similar dominant landscape character components.

1.2.1 Wyoming Basin

This ecoregion is a broad intermontane basin dominated by arid grasslands and shrublands and interrupted by high hills and low mountains. Nearly surrounded by forest-covered mountains, the region is somewhat drier than the northwestern Great Plains to the northeast and does not have the extensive cover of pinyon-juniper woodland found in the Colorado Plateau to the south. Much of the region is used for livestock grazing, although many areas lack sufficient vegetation to support this activity. The region contains major producing natural gas and petroleum fields.

1.2.2 Wasatch and Uinta Mountains

This ecoregion is composed of a core area of high, precipitous mountains with narrow crests and valleys flanked in some areas by dissected plateaus and open, high mountains. The elevational banding pattern of vegetation is similar to that of the southern Rockies, except aspen, chaparral, juniper-pinyon, and oak are more common at middle elevations. This characteristic, along with a far lesser extent of lodgepole pine and greater use of the region for grazing livestock in the summer

months, distinguishes the Wasatch and Uinta Mountains ecoregion from the more northerly middle Rockies.

1.2.3 Central Basin and Range

The Central Basin and Range ecoregion is internally drained and is characterized by a mosaic of xeric basins, scattered low and high mountains, and salt flats. It has a hotter and drier climate, more shrubland, and more mountain ranges than the Snake River Plain and Northern Basin and Range ecoregions to the north. Basins are covered by Great Basin sagebrush or saltbush-greasewood vegetation that grow in Aridisols; cool-season grasses are less common than in the Mollisols of the Snake River Plain and Northern Basin and Range. The region is not as hot as the Mojave and Sonoran Basin and Range ecoregions, and it has a greater percentage of land that is grazed.

1.2.4 Eastern Cascade Slopes and Foothills

The Eastern Cascade Slopes and Foothills ecoregion is in the rain shadow of the Cascade Mountains. Its climate exhibits greater temperature extremes and less precipitation than ecoregions to the west. Open forests of ponderosa pine and some lodgepole pine distinguish this region from the higher ecoregions to the west, where fir and hemlock forests are common, and the lower drier ecoregions to the east, where shrubs and grasslands are predominant. The vegetation is adapted to the prevailing dry continental climate and is highly susceptible to wildfire. Volcanic cones and buttes are common in much of the region.

1.2.5 Northern Basin and Range

This ecoregion contains arid tablelands, intermontane basins, dissected lava plains, and scattered mountains. Nonmountain areas have sagebrush steppe vegetation; cool-season grasses and Mollisols are more common in nonmountain areas than in the hotter, drier basins of the Central Basin and Range where Aridisols are dominated by sagebrush, shadscale, and greasewood. Ranges are generally covered in mountain sagebrush, mountain brush, and Idaho fescue at lower and mid-elevations; aspen and Douglas fir are common at higher elevations. Overall, the ecoregion is drier and less suitable for agriculture than the Columbia Plateau and is higher and cooler than the Snake River Plain. Rangeland is common, and dryland and irrigated agriculture occur in eastern basins.

1.3 Cultural Context

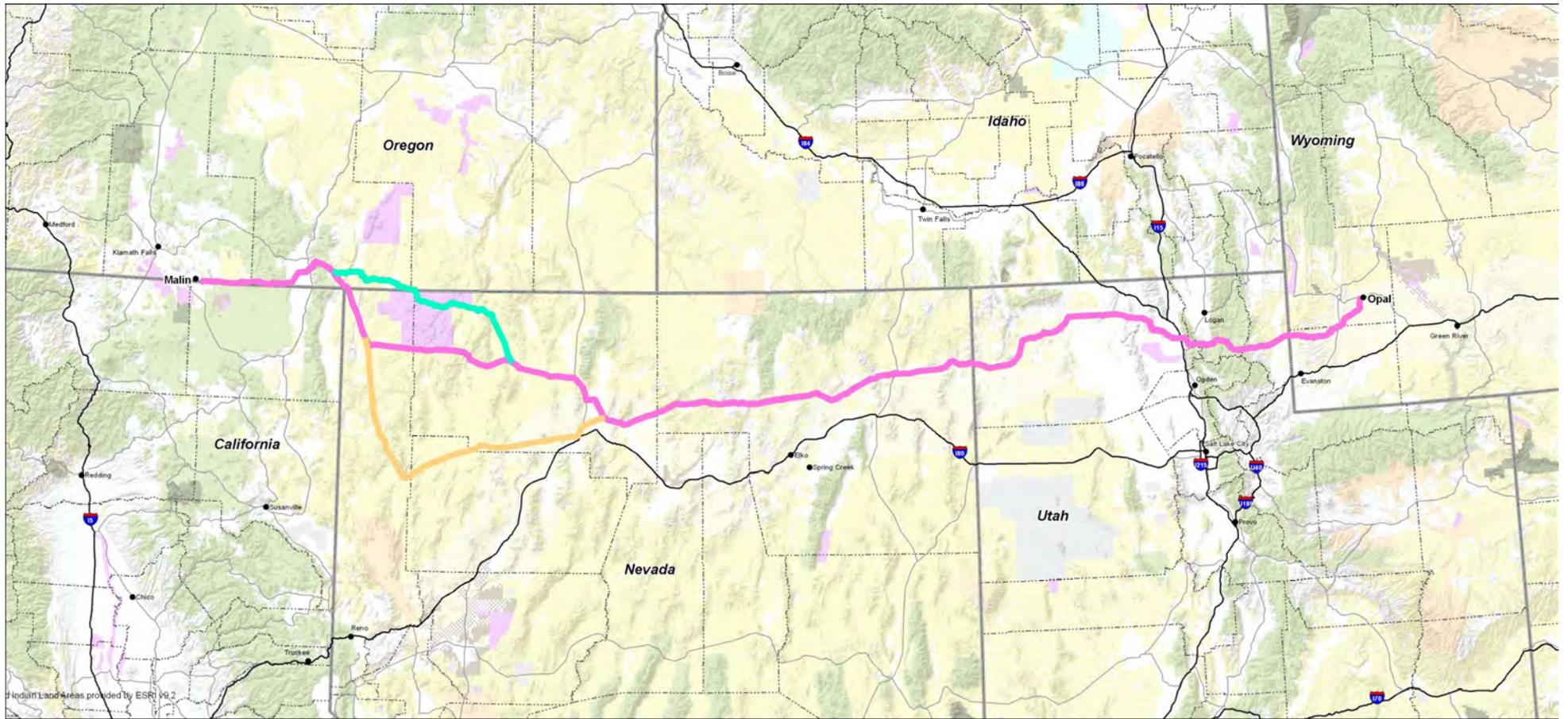
The Project area displays a wide range of land uses dominated by open, undeveloped land. The rugged terrain restricts most uses to the valley areas where occasional agricultural uses (ranching, animal feed, and crop production) are found. Grazing allotments on federal lands augment the agricultural sector throughout the alignment. Mining operations and rock quarries are also scattered across the Basin and Range formations. Landownership consists of public and private holdings with a majority of land owned by federal land management agencies, such as the BLM and the USFS.

Small communities including Opal, Wyoming; Woodruff and Avon, Utah; Elko and Midas, Nevada; and Malin, Oregon, are found in the Project area. Most are agricultural and ranching communities that occupy the valleys along the proposed alignment. Brigham City, Utah and Winnemucca, Nevada are the largest communities along the Project alignment with populations of approximately 18,700 and 7,600, respectively.

Transportation services are limited since many roads are unpaved. Notable exceptions are interstate highways and designated state highways. Historically, this region was traversed by early settlers and rail lines. Remnants of nationally recognized trails and historic features, such as the Oregon Trail, California Trail, and the Transcontinental Railroad, cross the pipeline alignment at several locations.



Figure 1.1. Project Location



Source: U.S. National Atlas Federal and Indian Land Areas provided by ESRI v9.2

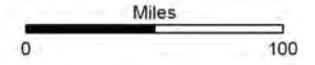
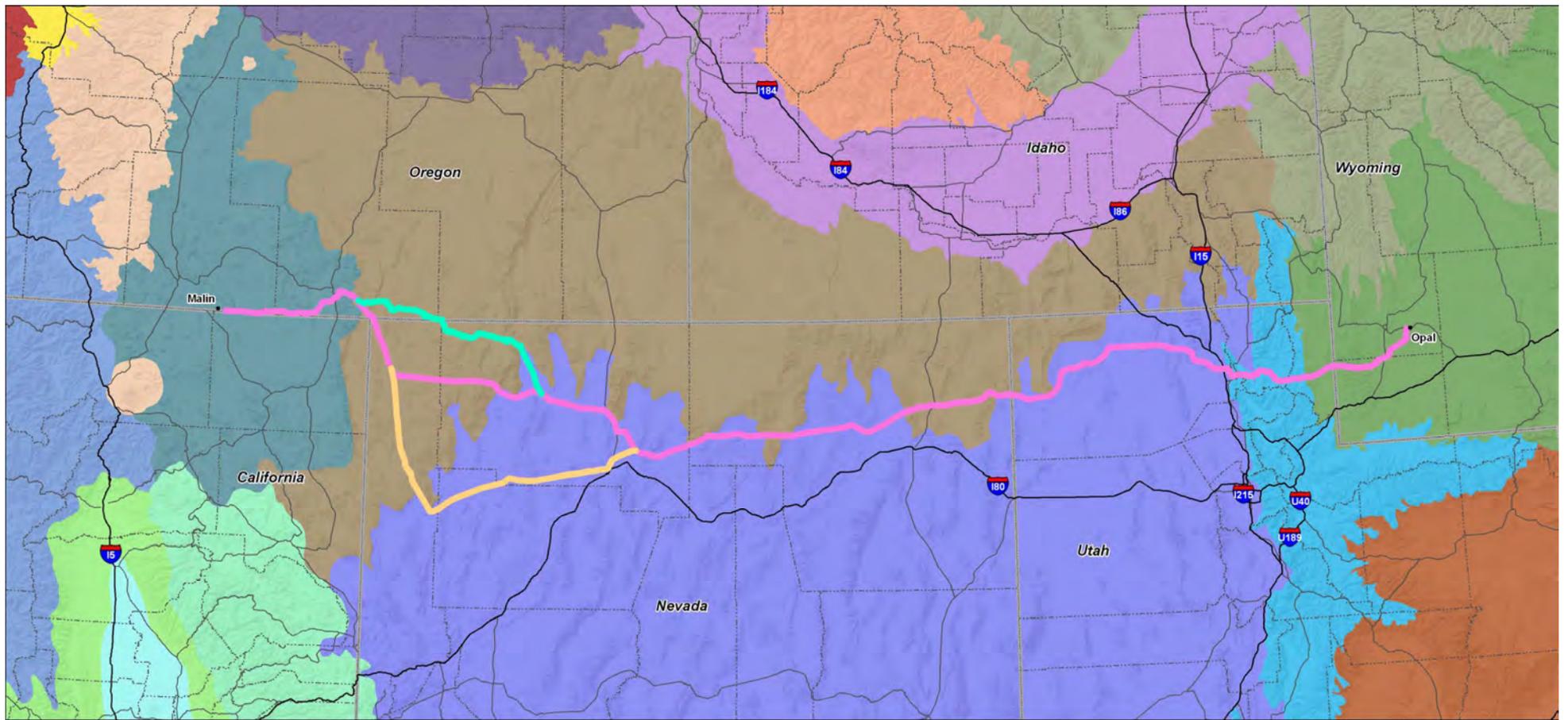


Figure 1.2. Regional Setting



Source: National Health and Environmental Effects Research Laboratory, U.S. Environmental Protection Agency

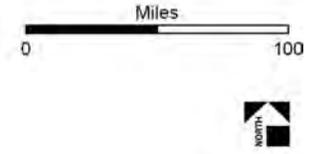
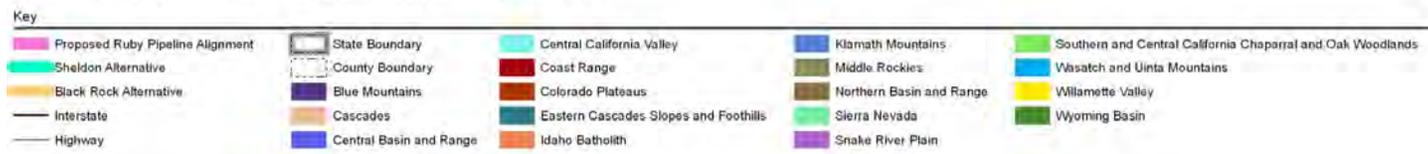


Figure 1.3. Ecoregions

2.0 DESCRIPTION OF THE PROPOSED PROJECT

2.1 Proposed Alignment

Ruby proposes to construct and operate a total of approximately 675.2 miles of 42-inch-diameter pipeline. The proposed alignment would begin near the Opal Hub in Lincoln County, Wyoming, and proceed westerly through Wyoming, Utah, Nevada, and Oregon, terminating near the Oregon-California border in Klamath County, Oregon (Figure 2.1). The Project would include construction of about 2.6 miles of 42-inch-diameter lateral pipeline in Oregon. The lateral would begin near the Oregon-California border and proceed northerly to a meter station.

Four aboveground facilities, compressor stations, would be included in the Project:

- Roberson Creek Compressor Station at Milepost (MP) 5.7, near the beginning of the pipeline in Lincoln County, Wyoming
- Wildcat Hills Compressor Station at MP 172.5, in Box Elder County, Utah
- Wieland Flat Compressor Station at MP 330.2, in Elko County, Nevada
- Desert Valley Compressor Station at MP 476.4, in Humboldt County, Nevada.

In addition to the compressor stations and their associated buildings, piping, and mechanical equipment, the Project would construct other smaller aboveground facilities that would be visible along the pipeline. Meter stations, communications towers (up to 50 feet high), and ancillary facilities are necessary permanent pipeline components.

Construction of the Project would disturb a total of about 16,830 acres of land and would include construction right-of-way, temporary extra workspaces, construction camps, contractor yards, access roads, and aboveground facilities. Operation of the pipeline would require about 4,250 acres, including permanent right-of-way and aboveground facility sites.

The Project would use a 115-foot-wide construction right-of-way for a majority of the pipeline route. Narrower rights-of-way are planned in sensitive areas, such as wetlands and some forested riparian areas, to reduce impacts. Other areas could be wider than the planned 115-foot wide alignment to allow for temporary storage of timber, slash, stumps, surface rock, or snow; wider areas may also be needed in nonwetland, nonforested areas for truck turnarounds where no reasonable alternative access exists and for topsoil segregation stockpiles. Temporary extra workspaces total about 3,135 acres of land disturbance. The Project would retain a 50-foot-wide permanent right-of-way to operate the pipeline. In total, the pipeline construction right-of-way would temporarily disturb about 9,350 acres of land. The permanent right-of-way would require about 4,109 acres of land.

The assessment of impacts on visual resources for the Project includes two alternative alignments—the Sheldon Alternative and the Black Rock Alternative—located in the central to western portion of the proposed alignment in Nevada and Oregon (Figure 2.1). Alignment widths and disturbance areas for both alternative alignments would be similar to those described for the proposed alignment. The detailed locations of the compressor stations and construction staging areas have not been identified but would be similar in size and distribution to those identified for the Proposed Alignment.

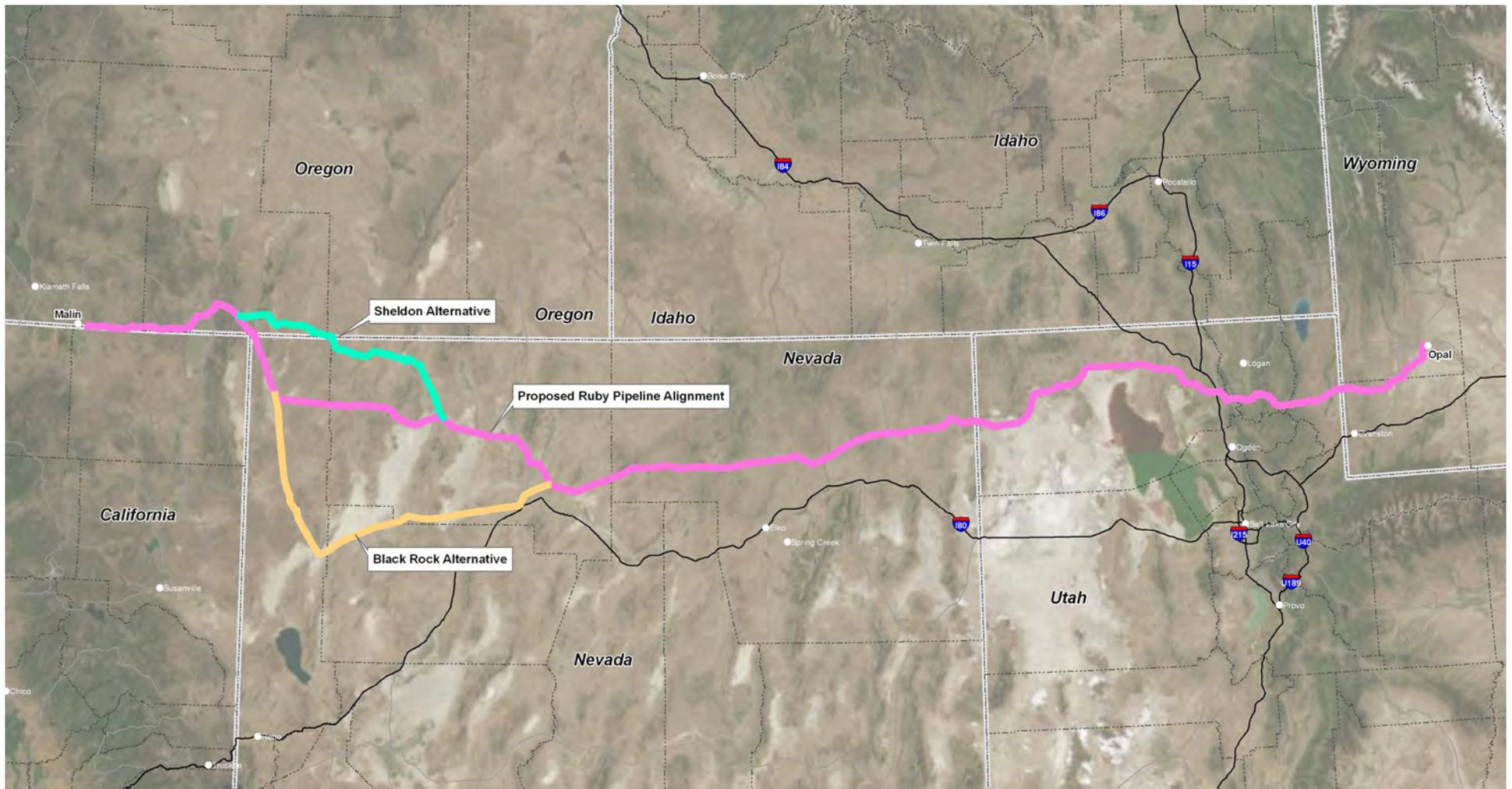
2.2 Sheldon Alternative Alignment

The Sheldon Alternative would follow the Proposed Alignment to approximately MP 483, west of Happy Creek Ranch, in Nevada, and then would generally follow Highway 140, crossing a valley and staying

on the lower slopes of the Jackson and Pine Forest Mountains. At approximately MP 509 the route would proceed west over a pass at the north end of the Pine Forest Mountains and reconnect with Highway 140 near Knott Creek Ranch Road . The route would stay along Highway 140, passing through the Sheldon National Wildlife Refuge, staying within the right of way for Highway 140 for all but approximately 4.5 miles near MP 531 and MP 540. The route departs from the Highway right-of-way near MP 563 and crosses through valley and plateau landforms, reconnecting with the proposed alignment at approximately MP 600 in Oregon.

2.3 Black Rock Alternative Alignment

The Black Rock Alternative would depart from the proposed alignment at approximately MP 424 and would pass just north of Winnemucca, Nevada. The route would continue west through several valleys, including the Black Rock Desert, in Nevada, generally following Highway 49. Near the town of Gerlach, Nevada the route would align with an existing transmission line and head northwest through mountainous terrain until entering Long Valley, in Nevada, and connecting with the proposed alignment near MP 562.



- Key**
- Interstate
 - Highway
 - State Boundary
 - County Boundary
 - Cities



Figure 2.1. Proposed Alignment and Sheldon and Black Rock Alternative Alignments

3.0 EXISTING VISUAL RESOURCES

The existing visual resources of the Project described below are based on views to and from the proposed pipeline alignment and the two alternative alignments. According to the BLM's VRM Manual 8400, visual resources are the visible physical features on a landscape (e.g., land, water, vegetation, animals, structures, and other features). The USFS views landscape components of landform, vegetation types, and cultural modifications as the basis for the definition of visual resources. Existing or introduced visual resources may add or detract from the overall scenic quality or the visual appeal of a landscape. Visual or scenic quality is described by the BLM as the relative worth of a landscape from a visual point of view. The character and quality of visual resources in the Project area vary due to changes in landscape character and their patterns. Visual character describes the visual patterns of form, line, color, texture, dominance, scale, and diversity of elements in the landscape.

3.1 Existing Visual Character

The overall visual character of the alignment varies dramatically along the entire length of the pipeline, reflecting dominant landforms, unique geologic patterns, biotic communities, and land uses. The Proposed Alignment and the Sheldon and Black Rock Alternative Alignments were reviewed in the field where accessible by a four-wheel-drive vehicle. Within the five ecoregions through which the alignments pass, additional characteristics of landform and vegetation were identified based on local conditions. These characteristics were assessed for the entire length of the Project. Landscape character units (LCUs) were identified to help analyze potential impacts on visual resources in areas with similar landscape characteristics throughout the Project area. The nine LCUs, as described in Table 3.1, further define the existing visual character of the Project within the ecoregions. A combination of some or all of the LCUs may be present in any of the major ecoregions. They were also developed based on the assumption that visual impacts within the same landscape character unit will be similar regardless of the ecoregion in which they reside. Regional LCU maps are shown in Appendix A.

3.2 Existing Visual Condition

This assessment describes the visual character of the Project area in terms of traversing the landscape from east to west, from Opal, Wyoming, to Malin, Oregon. The visual setting of the Project is described separately for each of the possible alignments: the Proposed Alignment, the Sheldon Alternative, and the Black Rock Alternative

3.2.1 Proposed Alignment

The Proposed Alignment would be approximately 675 miles long, traversing each of the five ecoregions, with much of the Proposed Alignment occurring within the Central and Northern Basin and Range ecoregions. The Proposed Alignment would begin near the rural town of Opal, Wyoming. The alignment would quickly move into sagebrush and grasslands, with occasional riparian vegetation and dispersed agricultural areas extending to the west. The alignment would cross Auto Tour Route 412 (Oregon and California Trails) and Oyster Ridge, in Wyoming, where grasslands, sagebrush, and distinctive rocky soils dominate the landscape. The alignment would increase in elevation as it crosses the Hogback Mountains and Bear River Divide, near the Wyoming-Utah border, with sagebrush dominating the landscape. Junipers occur in dispersed areas, and groves of aspens occur on north-

facing slopes. In this area the landforms become irregular, rolling, and mountainous with views limited or terminated by the variable topography.

Upon entering Utah, junipers and aspens are no longer present, and sagebrush continues to dominate the landscape, allowing for expansive views of a natural-appearing landscape with intermittent fences and transmission lines. Extending westward to Woodruff, Utah, a small rural community with an assortment of agricultural fields, various small scale structures and overhead transmission lines dominate the landscape character. Near Highway 39, the Ogden River Scenic Byway, the topography becomes mountainous with red sandstone formations and exposed soil highlighting the landscape. Juniper and pinyon woodlands are again present at higher elevations, and large stands of aspens are present on the north-facing slopes. Near Wasatch-Cache National Forest the landscape character is more densely wooded with large stands of aspens and tall coniferous trees. Visibility over long distances in this area is limited because of the irregular terrain and the dense stands of forest vegetation. As the alignment continued west, it would traverse several mountains, valleys, and ridges, with sage and rabbitbrush dominating the landscape in the lower-elevation areas, and intermittent but dense stands of aspen, big-tooth maple, junipers and tall coniferous trees at higher elevations. Visibility in most of this area is limited due to the undulating terrain, though numerous peaks and ridge lines along the Proposed Alignment would allow for distant views. Between approximately MP 65 and MP 105 the alignment would cross mountain ranges with areas of steep topography and vegetation dominated by tall coniferous evergreens and maples. Sagebrush is dominant in the lower elevations.

After passing to the north of Brigham City, Utah, the alignment would begin the long crossing of the mountain and valley landscape of the Northern and Central Basin and Range ecoregions through the western portion of Utah and into northern Nevada. The pipeline would cross broad alkaline valleys dominated by salt playas, sagebrush, and grasslands. Rugged mountain ranges and rolling hills separate the valleys, and most roadways are located at the base of the ranges. Widely scattered ranches with agricultural fields on the valley floor are visible from long distances because of the flat terrain. The tall poplars and cottonwood trees that surround them, add a pastoral character to the landscape. At approximately MP 506, near Leonard Creek Road, in Nevada, the Proposed Alignment would enter a rugged, mostly undisturbed landscape that includes rolling terrain and steep volcanic ridges separating broad plateaus. Vegetation is dominated by sagebrush interspersed with grasslands and occasional riparian areas along intermittent streams. Travel in the area is mostly limited to unmaintained four-wheel-drive roads, and views range from expansive to restricted while traversing the rugged terrain. The area adjacent to the Black Rock Desert–High Canyon Wilderness is a rugged landscape with expansive views from the dominant sagebrush and grass-covered landforms. Numerous sagebrush valleys lie between the volcanic ridges, and views within those areas are restricted by topography.

West of MP 549, the Proposed Alignment would enter Long Valley and travel north of Painted Point, both in Nevada, before turning north where it would run along an existing transmission line. The alignment would cross several basalt-dominated fault valleys and perennial creeks as it rises in elevation through mountain conifer and mixed forests of the Fremont National Forest. The alignment would descend into an agricultural valley south of Lakeview, Oregon, crossing north of Goose Lake and regaining elevation as it reenters the mixed conifers of the Fremont-Winema National Forest. The alignment would closely follow the California-Oregon border through a patchwork of private land and BLM- and USFS-managed lands, eventually reaching its terminus in an agricultural valley near Malin, Oregon.

3.2.2 Sheldon Alternative Alignment

The Sheldon Alternative would depart from the proposed alignment at MP 483, heading northwest and generally following the Highway 140 alignment across an open sagebrush valley and dispersed ranch/agricultural lands. Near Emigrant Pass, in Nevada, the alternative alignment would head west, leaving Highway 140. The pipeline would pass through the northern, low-elevation end of the Pine Forest Range, which is composed mostly of desertscrub and upland grasses. The Sheldon Alternative would continue west, realigning with Highway 140 and traveling through a salt playa, into a sagebrush upland area as it transects the Sheldon National Wildlife Refuge. The landscape transitions into an area dominated by volcanic plateaus through the remainder of this alternative. The route would descend an escarpment landform— Dougherty Slide, in Oregon—and would depart from following the Highway 140 right-of-way at approximately MP 563. The alignment would continue across another rolling, sagebrush-covered plateau, descend Coleman Rim, in Oregon, at approximately MP 579, and cross a playa and agricultural valley. On the west side of the valley the route would ascend Coleman Rim and traverse a rolling plateau with substantial areas of juniper woodlands, before connecting with the Proposed Alignment in Oregon, at approximately MP 600.

3.2.3 Black Rock Alternative Alignment

The Black Rock Alternative would depart from the proposed alignment at approximately MP 424, heading southwest just to the north of Winnemucca, Nevada, and the Humboldt River. The alternative alignment would traverse broad sagebrush-dominated valleys, salt playas, rolling hills, and grasslands within the Central and Northern Basin and Range ecoregions. The Black Rock Alternative would closely follow Route 49 and the Union Pacific/Burlington Northern Santa Fe Railroad as it crosses through the Black Rock Desert/Emigrant Trails National Conservation Area and heads west toward Gerlach, Nevada. The alternative alignment would then turn northwest and follow an existing transmission line through rolling, mountainous terrain dominated by sagebrush desert, mixed with grasslands and dispersed juniper woodlands. Within this rolling terrain, the Black Rock Alternative would cross several remote valleys and pass near the Boulder Mountain Wilderness Area. The alternative alignment would continue northwest into Long Valley where it would reconnect with the Proposed Alignment at approximately MP 562.

3.3 Visual Management Objectives

On federal lands, the management of scenic resources is required by many laws, including the National Environmental Policy Act of 1969, the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, and the Federal Land Policy and Management Act of 1976. These acts ensure that scenic resources are treated equally with other resources. Private lands that would be crossed by the proposed pipeline are not subject to federal or state visual management standards. Each agency has a system for evaluating the existing visual landscape and determining the ability of an activity or Project to meet the goals of that program. Described below are the programs used by the BLM and the USFS, and the specific objectives for the Project.

3.3.1 Bureau of Land Management Visual Resource Management

The BLM's responsibility for managing scenic resources of the public lands under its jurisdiction is emphasized by the agency's mission statement: "It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present

and future generations.” The BLM’s ongoing policy is to provide basic stewardship responsibility to identify and protect visual resources on all BLM lands and is described in *BLM Manual Section 8400—Visual Resources Management*. The BLM’s VRM System addresses the issues that different levels of scenic value require different levels of management and that assessing scenic values and determining visual impacts is a subjective process. The BLM’s VRM System provides a framework for:

- Identifying and evaluating scenic values to determine the appropriate level of management.
- Analyzing potential visual impacts and the application of visual design techniques to ensure that surface disturbances blend effectively into their surroundings.

In the first step of the VRM process, visual resources are identified and assigned to inventory classes, using the BLM’s visual resource inventory process. The inventory includes provisions for rating visual appeal, measuring the public concern for scenic quality, and determining the land’s visibility from existing travel corridors and observation points. As part of its ongoing resource and land use planning, BLM field offices prepare resource management plans (RMPs) to establish policies for resource protection. In the second step of the VRM process, the RMPs assign visual resource management classes to lands within the jurisdiction of the field office. Each management class has an objective statement that determines the approach to assessing the impacts of activities on visual resources. The objectives, as described in the BLM VRM Manual, are listed below. VRM classes for the Project area are shown in Appendix B.

Class I

The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes but does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II

The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III

The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the casual observer’s view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV

The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

BLM offices in Kemmerer, Wyoming; Elko and Winnemucca, Nevada; Surprise, California/Nevada; and Lakeview and Klamath, Oregon, have designated VRM classes for lands under their management, in association with proposed or approved RMPs. The BLM field office in Salt Lake manages lands under its jurisdiction according to several RMPs, some of which have designated areas according to the VRM

classification system. Table 3.2 summarizes individual BLM field office VRM class designations and additional management objectives.

3.3.2 US Forest Service Visual Management System

The Forest Service established the VMS in 1974 to inventory, evaluate, and manage scenic resources. The VMS is described in Agriculture Handbook No. 462, *National Forest Landscape Management* (USFS 1974). Using an established physiographic character type as a frame of reference, the VMS determines the inherent scenic quality based on the different degrees of landscape variety within an area. Inherent scenic quality is a measure of the natural landscape's scenic beauty based on attributes, such as landform, vegetation, water features, and rock formations. The basic assumption of the VMS is that all landscapes have some inherent value, but those with the most variety or diversity have the greatest potential for "high scenic value." Three variety classes, designated "A", "B," and "C", represent inherent scenic quality.

Sensitivity levels are identified in the VMS and are defined as the measure of people's concern for the scenic quality of the landscape. Basically, all viewed landscape is rated for a level of sensitivity. Sensitivity levels are overlaid with distance zones to identify all the viewed and unseen landscape within a given area. The VMS defines distance zones—that is, the distance from which a landscape is viewed—as foreground, middleground, and background. Distance zones are important in evaluating how change is perceived in the landscape because the closer the features in the landscape are to the viewer, the more pronounced they appear and the more detail is observed.

Visual quality objectives (VQOs) are determined in the VMS by combining the sensitivity levels and scenic quality. VQOs are assigned to the landscape to describe the degree of acceptable alteration of the natural landscape. The VQO classifications are Preservation, Retention, Partial Retention, Modification, and Maximum Modification. Preservation allows for ecological changes only, while Maximum Modification allows for landscape changes that may dominate the natural landscape character. VQO classifications for the Project area as shown in Appendix B.

3.3.3 US Forest Service Scenery Management System

The VMS process has been updated as the Scenery Management System (SMS), which is being incorporated into respective Forest Management Plans. SMS is described in *Landscape Aesthetics: A Handbook for Scenery Management* (USFS 1995). Adoption of the SMS is to occur as each National Forest revises its land management plan and RMP. For National Forests not currently undergoing the forest-plan revision process, or for those requiring extensive time for revision, application of the SMS will occur at the subforest or Project level.

In general, the SMS differs from the VMS in that it is integrated with ecosystem management and addresses landscape character, constituent preferences, scenic integrity, and landscape visibility as key aesthetic considerations. Landscape character describes the visual patterns of form, line, color, texture, dominance, scale, and diversity of elements in the landscape and the cultural attributes that make the landscape identifiable and give it a "sense of place." Constituent preferences convey the aesthetic experience of forest visitors, communities, and tourists and the significance of scenic quality to these user groups. Scenic integrity refers to the level of intactness of (or conversely the degree of deviation from) the existing or desired landscape character. Scenic integrity objectives (SIOs) are classified as Very High, High, Moderate, Low, and Very Low and are used in much the same way as VQOs. Table 3.3 lists the VQO and equivalent SIO classifications and describes the level of landscape integrity for each objective (USFS 1996). As forest plans are updated, it is anticipated that areas

currently managed for VQOs would be identified for management according to the equivalent SIOs. Table 3.4 summarizes individual USFS visual management objectives within the Project area.

Table 3.1. Regional Landscape Character Units

Landscape Character Unit	Landform/Topography	Vegetation	Other Features
<p>Mountain Conifer / Mixed Forest (MC/MF)</p> 	<ul style="list-style-type: none"> Elevations range from approximately 4,900 to 9,100 ft above mean sea level. Distinct mountainous landforms dominate the setting and provide landmarks in the landscape. Highly variable landforms with gently sloping foothill areas quickly transitioning to steep slopes within rugged ranges. Deeply incised valleys and wide, relatively flat higher-elevation meadows. Elevation differences provide panoramic views from the top of formations, where openings in vegetation allow, and spatially enclosed views from incised valleys between formations. 	<ul style="list-style-type: none"> Overstory species of pine, oak, and fir dominate. Spruce; aspens; and hardwood species, such as maples, can occur. Height and density of vegetation limit views to foreground area. Tree cover can be dense or in clumps or groves creating open meadows that provide varied patterns in the landscape. Open meadows can also create strong lines at their edges with contrast of color and texture Texture is medium to coarse in the foreground where individual trees are visible. Texture tends to be fine in the middleground with trees densely covering the terrain. Mixture of conifers and hardwoods accentuate color and texture especially in spring and autumn. 	<ul style="list-style-type: none"> Limited amount of human disturbance within landscape. Typical structures that may be present include paved and unpaved roads, utilities (above- and belowground), and trails. Steep, undulating terrain usually prevents long views of any structures and other disturbances that may be present. Small ponds and ephemeral streams present. Distinct natural and built features include the Monte Cristo Mountain Range, Bryant Mountain, and Porcupine Dam.
<p>Mountain/Plateau Desertscrub (M/PDS)</p> 	<ul style="list-style-type: none"> Highly variable topography ranging from rolling foothills and higher-elevation mountains to steep slope faces of plateaus and the gently rolling tops of plateau landforms. Mountains are more rounded in form, less rugged. Elevations range from approximately 4,600 to 9,300 ft above mean sea level. Large rock formations, exposed by erosion, are often visible above foothill slopes. Distinct mountainous and plateau landforms dominate the setting and provide landmarks in the landscape. 	<ul style="list-style-type: none"> Dominated by low, hemispherical shrubs—typically less than 4 feet tall— usually species of sage or salt bush. Low vegetation allows panoramic views unless spatially enclosed by mountainous/hilly landforms. Scattered and sometimes deeply incised washes may have riparian vegetation. Texture is generally fine to medium in the foreground depending on the density of vegetation. Texture tends to be fine in the middleground with the desertscrub vegetation appearing to evenly cover the terrain. Desertscrub vegetation creates a gray-green hue, interrupted by the varying colors of the soil in areas of more open vegetation. 	<ul style="list-style-type: none"> Limited amount of human disturbance within landscape. Typical structures that may be present include paved and unpaved roads, utilities (above- and belowground), and trails. Varied terrain usually prevents long views of any structures and other disturbances that may be present. Small ponds and ephemeral streams and lakes present. Distinct natural and built features include Eagle Mountain, Twenty-one Mile Dam, Willow Creek Dam, the Jackson Mountains, and the Granite Mountain Range.
<p>Foothills Grasslands (FG)</p> 	<ul style="list-style-type: none"> Landforms are usually rolling foothills with occasional rock formations. Elevations range from approximately 6,000 to 7,300 ft above mean sea level. Undulating foothill landforms dominate the setting. Elevation differences provide panoramic views from the top of formations and spatially enclosed views between formations near bottom of formations. 	<ul style="list-style-type: none"> Dominant grasses are very low stature—mostly less than 18 inches with moderate to sparse ground coverage. Many locations will have scattered areas dominated by sage species or other herbaceous species. Low vegetation allows panoramic views unless enclosed by mountainous/hilly landforms. Texture is generally fine, appearing to evenly cover the terrain; creating a “bald” appearance of the landforms. Color is generally monochromatic. Varies by season, changing from bright green in the spring to softer yellow brown in late summer to fall. 	<ul style="list-style-type: none"> Limited amount of human disturbance most areas are subject to grazing. Structures that may be present include paved and unpaved roads, utilities (above- and belowground), trails, and fences. Rolling terrain interrupts long views of any structures and other disturbances that may be present. Small ponds, rivers, creeks, and ephemeral streams present. Distinct natural features include Oyster Ridge and Little Round Mountain.

Continued

Table 3.1. Regional Landscape Character Units

Landscape Character Unit	Landform/Topography	Vegetation	Other Features
<p>Juniper-Pinyon Woodland (JPW)</p> 	<ul style="list-style-type: none"> • Gently rolling terrain with some areas of steep slopes. • Elevations range from approximately 4,300 to 6,600 ft above mean sea level. • Rock outcrops and vertical cliff faces especially at deeply incised drainages can be distinctive features in some locations. 	<ul style="list-style-type: none"> • Vegetation density varies from widely scattered juniper to dense stands of pinyon, juniper, maples, and oaks. • Height and density of vegetation can restrict views to foreground area. • Evergreen trees provide a strong contrast in color to the adjacent grassland or desertscrub vegetation. • Texture is generally coarse in the foreground where individual trees are visible. In the middleground, the texture tends to be medium to coarse depending on the density of the junipers and pinyons. 	<ul style="list-style-type: none"> • Limited amount of human disturbance. Structures that may be present include paved and unpaved roads, utilities (above- and belowground), and trails. • Rolling terrain usually prevents long views of any structures and other disturbances that may be present. • Ephemeral streams present.
<p>Valley Desertscrub (VD)</p> 	<ul style="list-style-type: none"> • Flat to gently rolling terrain over the extensive valleys between mountain ranges. • Elevations range from approximately 4,500 to 7,100 ft above mean sea level. • Occasional washes provide topographic relief, but few are deeply incised. 	<ul style="list-style-type: none"> • Vegetation dominated by sage species with intermixed grasses or other herbaceous species. • Texture is generally medium to coarse in the foreground depending on the density of vegetation. In the middleground, the texture tends to be fine with the desertscrub vegetation appearing to evenly cover the terrain. • Desertscrub vegetation creates a gray-green hue, interrupted by the varying colors of the soil in areas of more open vegetation. 	<ul style="list-style-type: none"> • Limited amount of human disturbance. Structures that may be present include isolated ranches and associated buildings, such as barns, paved and unpaved roads, utilities (above- and belowground), trails, and fencing. • Ephemeral streams present. • Distinct natural features include Lone Butte, Painted Point, Sage Hen Summit, and Squaw Valley.
<p>Valley Grasslands (VG)</p> 	<ul style="list-style-type: none"> • Flat to gently rolling terrain over the extensive valleys between mountain ranges. Transition from valley to mountain ranges can be abrupt. • Elevations range from approximately 4,200 to 8,000 ft above mean sea level. 	<ul style="list-style-type: none"> • Dominant grasses are very low stature—mostly less than 18 inches with moderate to sparse ground coverage. • Low vegetation allows unrestricted views over relatively flat terrain. • Texture is generally fine, appearing to evenly cover the terrain especially in the middleground. • Color is generally monochromatic but varies by season with the annual growth cycle of the grasses. The landscape will change from bright green in spring to softer yellow brown in late summer to fall. 	<ul style="list-style-type: none"> • Low to moderate amounts of human disturbance. Structures that may be present include isolated ranches and associated buildings, such as barns, transmission lines, paved and unpaved roads, utilities (above- and belowground), trails, and fencing. • Ephemeral streams present. • Distinct natural features include Bear River Divide, Mud Flats/Salt Wells Flats, Monument Peak, and the Great Salt Lake Desert.

Continued

Table 3.1. Regional Landscape Character Units

Landscape Character Unit	Landform/Topography	Vegetation	Other Features
<p>Salt Desert / Playa (SD/P)</p> 	<ul style="list-style-type: none"> • Very flat to gently sloped terrain over extensive valley areas. • Playa bottoms may slope only several inches over extended areas, then slope up to surrounding foothills. • Soil/surface color in playa bottoms is very light and extends into surrounding vegetation cover. • Elevations range from approximately 4,300 to 6,100 ft above mean sea level. 	<ul style="list-style-type: none"> • Very sparse, low-stature vegetation usually dominated by one species, typically a saltbush. Some areas completely devoid of vegetation. • Limited vegetation allows unrestricted views over almost flat terrain. • Soil color creates high contrast with any vegetation that is present. 	<ul style="list-style-type: none"> • Little to no human disturbance except for roads. • No notable waterbodies present. Ephemeral lakes occur in many playa bottoms. • Distinct natural and built features include the Black Rock Desert, Desert Valley, and a railroad that crosses a section of the Black Rock desert playa.
<p>Agriculture / Pastoral Valley (A/PV)</p> 	<ul style="list-style-type: none"> • Topography is the same as the Valley Desertscrub and Valley Grassland units. • Agricultural areas consist of flat, geometric fields, sometimes with gently sloping areas surrounding them, extending to nearby mountains. • Elevations range from approximately 4,000 to 5,400 ft above mean sea level. 	<ul style="list-style-type: none"> • Vegetation dominated by the agricultural fields, but often natural-appearing desertscrub or grassland areas surround the fields. • Crops create a high level of contrast when viewed from above, especially during the growing season because of the vivid green color of the fields set against the surrounding undisturbed areas. • Views across the landscape are generally unobstructed 	<ul style="list-style-type: none"> • Moderate to high level of development/human alteration with leveling of areas for fields. Agricultural and ranching uses occur in distinct locations on the flat valley floor. • Residential and farm buildings are low stature, but widely scattered ranches with large trees are highly visible in the landscape.
<p>Rural/Suburban (R/S)</p> 	<ul style="list-style-type: none"> • Terrain is flat to gently sloping up to adjacent foothills or mountains. • Isolated small hill landforms are sometimes located within residential or agricultural areas. • Elevations range from approximately 4,200 to 6,000 ft above mean sea level. 	<ul style="list-style-type: none"> • Vegetation is dominated by introduced species in developed areas. • Agricultural fields can extend over large areas. Undisturbed areas of desertscrub or grassland vegetation are usually located at the fringes of communities. • Views across the landscape can be obstructed by structures. 	<ul style="list-style-type: none"> • Highest level of development/human alteration within Project area. Primarily residential and agricultural uses with some areas of commercial or industrial land uses. • Brigham City, UT, and Winnemucca, NV, have the most notable suburban character with rural residential in outlying areas. • Character unit includes several mine locations not suitable to include in other units. • Distinct natural features include Engineer Mountain and Langell Valley.

Table 3.2. BLM Field Office Visual Resource Management Classes

Regulatory Framework/ Planning Documents	Management Objectives	Additional Comments
Kemmerer		
Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) for the Kemmerer Field Office Planning Area (Kemmerer Field Office, BLM, 2008)	Class I: 0 acres (proposed expansion to 32,807 acres) Class II: 129,771 acres (proposed expansion to 392,719 acres) Class III: 378,979 acres (proposed reduction to 347,214 acres) Class IV: 878,411 acres (proposed reduction to 654,724 acres)	Visual Resource Management (VRM) Class II areas with high visual value include Raymond Mountain, Rock Creek Ridge, and Slate Creek Ridge Other visually sensitive areas include Fossil Butte National Monument and Green River. The proposed RMP would preserve viewsheds within 0.5 mile of VRM Class II areas that exist within federally held lands west of Highway 189 and south of Highway 30 to retain existing character and reduce development impacts on casual observers' views along the referenced roadways.
Salt Lake		
Randolph Management Framework Plan (Salt Lake District Office, BLM, 1980)	Management objectives for Classes I–IV not available	The Framework Plan has goal to establishing the VRM classes that will apply to all public land in the planning unit as well as the federal mineral estate underlying private surface ownership, which is also administered by BLM.
Box Elder RMP and Final EIS (Salt Lake District Office, BLM, 1985)	Class I: 0 acres Class II: 10,930 acres Class III: 73,581 acres Class IV: 927,283 acres	VRM Class II areas include Red Butte Mountain and Devils Playground. VRM Class III areas include Pilot Mountains, Newfoundland Mountains, Burnt Mountain, Goose Creek Mountains, and Raft River Narrows.
Box Elder Record of Decision (ROD) and Rangeland Program Summary (May 1986)	Class I: 0 acres Class II: 10,930 acres Class III: 73,581 acres Class IV: 927,283	VRM Class III areas include areas of critical environmental concern (ACECs) totaling 16,395 acres and acquired lands totaling 7,517 acres ACECs include Central Pacific Railroad Grade, Donner/Bettridge Creek, Salt Wells, and Blue Spring VRM Class IV lands are all acquired lands.
Box Elder RMP Amendment (January 1998)	Class I: 0 acres Class II: 0 acres Class III: 23,912 acres Class IV: 39,797 acres	
Elko		
Elko Resource Area Final Wilderness EIS (Elko Field Office, BLM, 1987)		All wilderness study areas (WSAs) should be classified as VRM Class I areas.
Proposed RMP and Final EIS (Elko Field Office, BLM, 1986)	Management objectives for Classes I–IV not available	Visual resources will continue to be considered and evaluated for compliance with the VRM System. Effects on visual resources will be evaluated as a part of the environmental analysis process for activity and project plans and other proposed actions. Project stipulations will be attached as appropriate to ensure that they meet VRM objectives.

Continued

Table 3.2. BLM Field Office Visual Resource Management Classes

Regulatory Framework/ Planning Documents	Management Objectives	Additional Comments
Winnemucca		
ROD and RMP for Black-Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area and Associated Wilderness and other Contiguous Lands in Nevada (Winnemucca Field Office and Surprise Field Office, BLM, 2004)	Class I: 767,475 acres Class II: 437,565 acres Class III: NA Class IV: NA	VRM Class I areas are located within 10 wilderness areas and the Lahontan Cutthroat Trout WSA.
Surprise		
Proposed RMP and Final EIS (Surprise Field Office, BLM, 2007)	Class I: 183,587 acres Class II: 437,553 acres Class III: 227,134 acres Class IV: 136,969 acres	VRM Class I areas include all WSAs. Twelvemile Creek Wild and Scenic River (proposed) is included in the VRM Class II. The Massacre Rim, Bitner, and Rahilly-Gravelly ACECs would be managed under VRM Class II requirements to preserve the existing character of the landscape.
Lakeview		
Lakeview RMP and ROD (Lakeview District Office, BLM, 2003)	Class I: 495,398 acres Class II: 160,404 acres Class III: 373,643 acres Class IV: 2,127,766 acres	Seven WSAs are designated as VRM Class I. If released from Wilderness Study, the Devil's Garden ACEC and Fish Creek Rim ACEC/Research Natural Area (RNA) would be categorized as VRM Class II. VRM Class II areas include Lake Albert ACEC, Red Knoll ACEC, and Table Rock ACEC. Twelvemile Creek is designated as VRM Class II and is co-managed by the Surprise Field Office. The RMP designates all unclassified areas, all developments, land alterations, and vegetative manipulations within a 6-mile corridor of all major travel routes. Recreation use areas will be designed to minimize visual impacts.
Klamath Falls		
Klamath Falls ROD and RMP (Klamath Falls District Office, BLM, 1995)	Class I: 339 acres Class II: 37,962 acres Class III: 49,549 acres Class IV: 136,969 acres	Public domain lands in the Eastside Forest Management Area inventoried as Class II or III will be managed as VRM Class II or III. All lands that are not designated as VRM Class I, II, or III will be managed as Class IV.

Table 3.3. Comparison of USFS Visual Quality Objective and Scenic Integrity Objective Classifications

Visual Quality Objective	Scenic Integrity Objective	Level of Landscape Integrity
Preservation	Very High	Landscapes where the valued landscape character “is” intact with only minute, if any deviations. The existing landscape character and sense of place is expressed at the highest possible level.
Retention	High	Landscapes where the valued 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.
Partial Retention	Moderate	Landscapes where the valued landscape character “appears slightly altered.” Noticeable deviations in the viewed landscape must remain visually subordinate to the landscape character being viewed.
Modification	Low	Landscapes where the valued landscape character “appears moderately altered.” Deviations begin to dominate the landscape character being viewed, but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed.
Maximum Modification	Very Low	Landscapes where the valued landscape character “appears heavily altered.” Deviations may strongly dominate the landscape character. They may not borrow from valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed

Table 3.4. USFS Visual Management Objectives

District	Regulatory Framework/ Planning Documents	Management Objectives	Additional Comments
Wasatch-Cache	Wasatch-Cache Revised Forest Plan (USFS 2003)	Updated plan incorporates scenic integrity objectives. Lands classified as “moderate,” “high,” and “very high” are located within project middleground distance zone	
Fremont-Winema	Fremont Plan (USFS 1989) Winema Plan (USFS 1990)	Land is managed according to the visual quality objectives. Lands within view of designated scenic travel routes are managed according to “retention” or “partial retention” goals.	Special management areas, including recreation areas and wildlife habitats, are managed according to “partial retention” goals, at a minimum.

3.4 Scenic and Backcountry Byways

Scenic and backcountry byways are designated at federal, state, and local levels. Within the Project area there are four designated scenic and backcountry byways: the Highway 39, the Ogden River Scenic Byway; the Transcontinental Railroad National Back Country Byway in Utah; the Barrel Springs Back Country Byway in Nevada; and the Oregon Outback National Scenic Byway. Figure 3.1 shows the

approximate locations of the byways and other linear features identified for analysis by the BLM. The following is a brief description of the designated byways and the approximate milepost locations where the Project would cross the byways.

3.4.1 Highway 39, Ogden River Scenic Byway

This byway is designated as a National Forest Scenic Byway and a Utah State Scenic Byway. The route begins at the mouth of Ogden River Canyon, in Utah, and follows the river to Pineview Dam, also in Utah. The steep terrain offers occasional openings for distant views, but in many areas, the heavily forested land limits views to the foreground. The proposed pipeline alignment would cross this byway at approximately MP 73.5.

3.4.2 Transcontinental Railroad National Back Country Byway

This route traverses the flat lands of the Great Salt Lake Desert, in Utah, and follows the deserted Central Pacific Railroad grade that stretches between the area just west of Golden Spike National Historic Site and the Utah-Nevada border. The proposed pipeline alignment would parallel a portion of the byway but would not cross it. The flat terrain offers expansive views in all directions.

3.4.3 Barrel Springs Back Country Byway

This byway is managed by the BLM Surprise District Office, and the portion of the byway in the Project area has two distinct segments. The first segment is a pastoral valley with several ranches lining the eastern slope of the adjacent mountains; the pipeline would cross this segment at approximately MP 571.5. From this valley the byway ascends the second segment, which consists of a small mountain range and a plateau that is mostly undeveloped; the pipeline would cross this segment of the pipeline at approximately MP 582.

3.4.4 Oregon Outback National Scenic Byway

This route follows Highway 395, starting at the Oregon-California border and extending 171 miles north through eastern Oregon. The BLM Lakeview RMP's management direction for this backcountry byway provides that all projects be designed to maximize scenic quality and minimize scenic intrusions (BLM Lakeview 2003). The segment of the byway in the Project area passes along the eastern edge of an agricultural valley with Goose Lake, on the Oregon-California border, farms, and fields to the west and low foothills to the east. The proposed pipeline alignment would cross the Oregon Outback National Scenic Byway at approximately MP 614.

3.5 Historic and Recreation Trails

Six historic or recreational trails are located in the Project area, and all except the Crane Mountain National Recreation Trail are under BLM management. The Crane Mountain Trail is managed by the USFS. Figure 3.1 shows the approximate location of the trails and other linear features identified for analysis by the BLM. The following is a brief description of the trail segments, and the approximate milepost locations where the Project would cross the trails.

3.5.1 Oregon National Historic Trail

This travel route played an important role in the settlement of the West and was designated to promote its preservation, interpretation, public use, and appreciation. The trail runs approximately 2,000 miles from near Independence, Missouri, to the vicinity of Portland, Oregon. The Oregon Trail is considered the harbinger of America's westward expansion and the core of one of the largest and longest mass migrations in US history. Remnants of the trail are located throughout this region; the proposed pipeline would cross this segment of the trail at approximately MP 20.

3.5.2 California Trail

The California Trail consists of a combination of routes that extend the Midwest to various points in California and Oregon. More than 1,000 miles of trail ruts and traces can still be seen in the West. A segment of the California Trail east of US 93 in Nevada is located near the proposed pipeline alignment at approximately MP 257, but the alignment would not cross it.

3.5.3 Oregon/California Auto Route

Near MP 20, there is a segment of the Oregon/California Trail specifically designated for highway vehicle touring that the Project would cross.

3.5.4 Applegate-Lassen Trail

The Applegate Lassen Trail was one of the major trails providing access to California and Oregon, also called the California Cut-off after it left the Oregon Trail near Fort Hall, Idaho. The trail crossed the Black Rock Desert and the High Rock Canyon complex, both in Nevada, before entering Surprise Valley, in California. The Black Rock Alternative would cross the trail approximately MP 500. The Vya Construction camp will be located near the trail, but camp access or any camp improvements will not cross the trail.

3.5.5 Emigrant Trail

Highway 30 occupies the segment of the Emigrant Trail system in the Project area. This portion was used by settlers moving West during the middle of the nineteenth century. The Project would parallel the trail in this location.

3.5.6 Crane Mountain National Recreation Trail

This trail is part of the Warner Mountains Trail system in the Fremont-Winema National Forest and connects to the Fremont National Recreation Trail. The trail is heavily forested in many areas and is open to hikers, mountain bikers, and equestrians. From high vantage points, the trail offers many scenic overlooks of Goose Lake Valley to the west and the high desert to the east. The pipeline would cross the trail near the Rogger Meadow trailhead at approximately MP 610.

3.6 Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968 (WSR) allows Congress to protect the scenic, recreational, and other resource values of rivers designated wild, scenic, or recreational and provides that WSR considerations be made during federal agency planning. The Project would cross Twelvemile Creek, near MP 588.5, in Oregon (Figure 3.1). The creek has been determined eligible for classification under

the WSR. The eligible segment is approximately 6.6 miles long and is located along the Nevada-Oregon border. In the Lakeview RMP the 6.6 mile segment was administratively recommended as suitable for designation with a tentative classification of Recreational. This segment has been identified by the BLM as a VRM Class II. The creek at the crossing location has steep volcanic rock banks with evergreen and deciduous vegetation. An existing overhead transmission line crosses the creek in the same location, with a tower on the north and south banks.

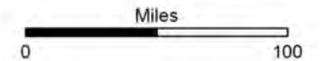
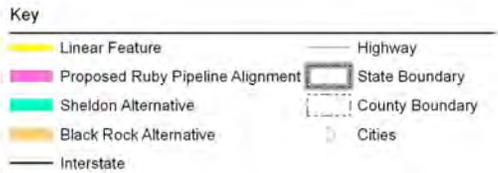


Figure 3.1. Scenic and Backcountry Byways, Historic Trails, and Wild and Scenic Rivers

4.0 VISUAL RESOURCE IMPACTS

Visual or scenic impacts are defined as the change in aesthetic value resulting from the introduction of modifications to the landscape. The regional LCUs have been evaluated in terms of the anticipated magnitude of change in landscape character and visibility of the proposed pipeline and associated surface facilities. The determination of compliance with the BLM and the USFS management objectives is also addressed in this section.

4.1 Definition and Methodology

The Project alignments were evaluated in terms of the anticipated changes in visual character from the Proposed Alignment and the Black Rock and Sheldon Alternatives. Visual character is the overall impression created by individual elements and overall patterns. Visual elements are the attributes of objects such as form, line, color, and texture of the visible landscape. Visual patterns result from the presence/absence and arrangement of the individual elements within a landscape. The character of the visual resources in the Project area varies because of the changes in the landscape components and their patterns.

4.1.1 Magnitude of Change in Landscape Character

The impact of the construction and maintenance of the proposed pipeline on visual character is described in terms of the magnitude of change in the existing visual elements and patterns from the existing visual condition. An analysis of visual dominance, scale, continuity, and contrast is used in determining to what degree the proposed pipeline and associated surface facilities would attract attention and to compare the relative change in character with the existing characteristic landscape. The basic design elements of form, line, color, and texture are used to make this comparison and to describe the visual contrast created by the Project. Consideration of the amount of visual contrast created is directly related to the amount of attention that is drawn to an element in the landscape. For this assessment, the change in visual character was based on comparing the post-Project condition to the visual elements and patterns of the regional LCUs. The assessment of the change in visual character assumed that the landscape within the units is intact with no evidence of any significant discordant features in either the natural or cultural settings. The magnitude of the changes in visual character from existing conditions to post-Project conditions for this assessment are categorized as Very Low, Low, Moderate, High, and Very High changes (Table 4.1).

In determining the magnitude of change, each of the nine regional LCUs was evaluated based on viewer position and distance zone. Viewer position affects the perception of the degree of dominance of elements and patterns in the landscape. Within the foreground distance zone, the viewer position relative to the landscape was identified as parallel or tangential, head-on, or intersecting to the Proposed Alignment or the alignment alternatives. Head-on views can be from either a superior (above) or an inferior (below) viewer position. Intersecting viewer position refers to the perpendicular crossing of the proposed pipeline. The angle of view also influences a person's level of scrutiny of the landscape; details are sharper and clearer from a more direct angle of view (head-on) than from peripheral views.

Distance zones are based on the distance from where the visual element is located in reference to the viewpoint. For this Project, distance zones refer to the distance from the key viewing platforms, or key observation points (KOP), to the proposed pipeline. The distance zones were classified as foreground (0 feet to 0.5 mile) and middleground (0.5 to 5.0 miles). No background distance zone visibility analysis,

except for the general qualitative assessment, was done. The distance zones were applied to the visibility analysis to determine how much of each alternative was visible within each distance zone. Typically, people view landscape changes in the foreground more critically than changes in the middleground because of the ability to perceive greater detail at a closer range to landscape features.

Table 4.1. Magnitude of Change in Landscape Character

Rating	Definition
Very low	Landscape character remains intact with no apparent change to the existing visual elements (line, form, color, and texture) or pattern character (dominance, scale, diversity, and continuity) in the landscape.
Low	Magnitude of change from the existing landscape character is subtle, and the changes in visual pattern elements or pattern character do not attract attention.
Moderate	Magnitude of change from the existing landscape character is noticeable, and the changes in visual pattern elements or pattern character attract attention.
High	Magnitude of change from the existing landscape character is substantial, and the changes in visual pattern elements or pattern character begin to dominate the landscape.
Very high	Magnitude of change from the existing landscape character is severe, and the changes in visual pattern elements or pattern character dominate the landscape.

4.1.2 Visibility Analysis

The visibility of the proposed pipeline was also considered within the foreground and middleground distance zones. The slope of the surrounding terrain is important to the visibility of the proposed pipeline. Slope refers to the steepness of the ground surface. The steeper the slope, the more the landscape is visible to the viewer and the more sensitive the land is to alterations. Slope also affects vegetative-screening effectiveness. No distinctions are made regarding the orientation or aspect of the slopes where the alternatives would be constructed. In the scenic resources impact analysis, potential impacts on north-facing slopes are considered to be identical to those on south-facing slopes. The existing landscape would likely experience different revegetation successes depending on slope orientation. Existing vegetation may also be taller and denser on north-facing slopes. In addition, the orientation of the viewer to the slope faces was not considered. Slope faces obliquely oriented to the viewer would have varying degrees of decreasing visibility, depending on the relative deviation from a straight-on view.

A visibility analysis was performed for the Proposed Alignment and the two alignment alternatives using ArcView Spatial Analyst. The analysis identified all areas that can be seen from each alternative, as well as the areas of each alternative that are visible from each of the linear viewing platforms, such as the Oregon Trail. The analysis identified where the pipeline would be visible *if there were no vegetation or structures* to screen the pipeline. This analysis, based on a “bald” landscape, reflects the worst-case scenario in determining the potential scenic impacts. Existing vegetation would help considerably to minimize the impacts on the scenic resources by screening views to and from the built alternatives. The results of the visibility analysis are shown in Appendix C. Approximately 91 percent of the 115-wide permanent alignment would be visible in the foreground and 67 percent in the middleground of the

Proposed Alignment. For the Sheldon Alternative 94 percent of the alternative would be visible in the foreground and 71 percent in the middleground. 75 percent of the Black Rock Alternative would be visible in the foreground and 73 percent in the middleground.

Impacts from the built alternatives were also evaluated in terms of the impacts over time. For this assessment, short-term impacts are defined as effects that would be less than 3 years in duration, and long-term impacts are considered to be effects that would persist more than 3 years.

4.2 Visual Resource Impacts on Landscape Character Units

The following subsections qualitatively describe the potential direct, indirect, and cumulative impacts on the LCUs from the Proposed Alignment and the alternative alignments, as well as from the associated surface facilities (Table 4.2). Indirect and cumulative impacts are summarized in Sections 4.3 and 4.4, respectively.

4.2.1 Mountain Conifer/Mixed Forest Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Mountain Conifer/Mixed Forest Regional LCU would range from low to moderate (Table 4.2). Ground-disturbing activities would remove stands of evergreen and hardwood trees, which would create a notable change in the characteristic landscape of this unit and attract attention away from the natural setting in the short- and long-term. The relatively high spatial enclosure and shortened views common in mountainous terrain would increase visual dominance of the proposed alignment. Removal of the dense stands of evergreen vegetation and the constant width of the cleared pipeline alignment would also create a moderate level of contrast in the short-term because of the introduction of distinct lines in the landscape in both the foreground and middleground distance zones. From linear viewing platforms, such as roads or trails, parallel views of the pipeline would not attract as much attention away from the natural setting since the proposed pipeline alignment would mimic the linear form of this type of viewing platform. Approximately 83 percent of the proposed pipeline would be visible in the foreground and 42 percent in the middleground within the Mountain Conifer/Mixed Forest Regional LCU.

Direct Impacts of Proposed Associated Facilities

No compressor stations are planned within the Mountain Conifer/Mixed Forest Regional LCU; therefore, there would be no direct impacts from compressor stations. There would be mainline valves (MLVs), pig launchers and receivers, and water appropriation sites within this unit. Depending on the specific site location, these aboveground facilities would remove additional evergreen and hardwood trees and contribute to the contrast in line. Staging areas averaging about 1 acre per site would slightly increase the area of change in landscape character and increase contrast over the short-term and long-term.

4.2.2 Mountain/Plateau Desertscrub Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Mountain/Plateau Desertscrub Regional LCU would range from low to moderate (Table 4.2). Density and cover of vegetation is highly variable, and ground-disturbing activities would create a subtle to notable change in the characteristic landscape in the short- and long-term depending on the cover. Removal of the vegetation, especially in areas of dense cover, combined with the generally lighter color of the disturbed soil, and the constant width of the pipeline would create a moderate level of contrast in the short- and long-term because of the introduction of distinct lines in the landscape. The low stature of the vegetation and the sloping nature of the landforms in many areas would increase the distance from which the disturbance could be seen. Roads are widely spaced in the landscape, and the pipeline would mimic the linear form of a road. The line created by the pipeline would not attract attention from the natural setting when viewed from a parallel viewpoint, such as a road or trail. The scale of the pipeline feature would be noticeable from other viewing positions. Because of the sloping nature of the terrain, head-on and intersecting views would still have a higher level of visibility that would be retained in the middleground. Approximately 81 percent of the proposed pipeline within the Mountain/Plateau Desertscrub Regional LCU would be visible in the foreground area, and 55 percent would be visible in the middleground.

Direct Impacts of Proposed Associated Facilities

The Weiland Flat Compressor Station would be located within the Mountain/Plateau Desertscrub Regional LCU. The clearing of vegetation on the 25.3-acre site would create a relatively large polygonal-shaped area with a moderate level of contrast to the surrounding landscape. The compressor station would introduce vertical lines and forms, as well as rectangular and cylindrical shapes, creating a strong contrast with the existing horizontal to indistinct lines in the landscape. This would result in a notable change to the existing landscape character, especially from a superior viewer position in the foreground or middleground. These impacts would be permanent because the facility would be in operation for the life of the pipeline. There would also be MLVs, pig launchers and receivers, and water appropriation sites that would remove additional areas of vegetation and contribute to the contrast in line. The staging areas in this Regional LCU would slightly increase the area of change in landscape character and increase contrast over the short- and long-term. A test manifold and two pipe storage areas totaling approximately 93 and 123 acres, respectively, would have impacts similar to the Weiland Flat Compressor Station with regard to increased contrast and a notable change in landscape character. The visual impacts would be short- and long-term. The sites will not remain in permanent use, but the extended area over which the impacts occur would increase the visibility of the sites and the magnitude of change within the viewshed of the sites.

4.2.3 Foothills Grasslands Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Foothills Grasslands Regional LCU would range from low to very low (Table 4.2). Removal of low grasses and desertscrub would create low to very low change in the characteristic landscape of this unit. In grass-dominated areas the pipeline would primarily be a short-term disturbance because the grasses will more readily provide cover similar to the existing conditions and

reduce the contrast of the pipeline. Areas with more cover of sagescrub would be noticeable in the natural setting for the short- and long-term. The low stature of the vegetation and the sloping nature of the landforms would increase the distance from which the disturbance could be seen. Removal of the low vegetation, especially in areas of dense cover, combined with the generally lighter color of the disturbed soil, and the constant width of the cleared pipeline would also create a low level of contrast in the short-term because of the introduction of distinct lines in the landscape in the foreground distance zone. In the middleground, the change to the existing landscape character would be very low. Parallel views from roads or trails would be even less noticeable in the natural setting since the proposed pipeline alignment would mimic the linear form of the road or trail. Approximately 81 percent of the proposed pipeline in the foreground area would be visible within the Foothills Grasslands Regional LCU and approximately 51 percent would be visible in the middleground.

Direct Impacts of Proposed Associated Facilities

No compressor stations are planned within the Foothills Grasslands Regional LCU; therefore, there would be no direct impacts from compressor stations. There would be MLVs, pig launchers and receivers, and water appropriation sites within this unit, and the impacts from these facilities would be similar to the Mountain/Plateau Desertscrub because of the similar stature of the dominant vegetation. In certain locations these aboveground facilities would introduce vertical rectangular and cylindrical shapes into the LCU and would contribute to a contrast in both line and form. Staging areas would slightly increase the area of change in landscape character and increase contrast over the short- and long-term.

4.2.4 Juniper–Pinyon Woodland Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Juniper-Pinyon Woodland Regional LCU would range from low to moderate (Table 4.2). Ground-disturbing activities would remove stands of evergreen trees, which would create a notable change in the characteristic landscape. There is a moderate level of spatial enclosure, though mountainous terrain is often combined with flat to gently rolling areas offering distant views. Vegetation is medium in height and increases the spatial enclosure in some areas while allowing distant views in other areas. The variable nature of viewing the landscape would result in somewhat less dominance of the proposed pipeline than in the Mountain Conifer/Mixed Forest Regional LCU, but the pipeline would still attract attention away from the natural setting in the short and long-term. Removal of dense stands of vegetation and the constant width of the alignment would create a moderate level of contrast in the short- and long-term because of the introduction of distinct lines in the landscape in both the foreground and middleground distance zones. Parallel views of the pipeline from linear viewing platforms, such as roads or trails, would not attract as much attention away from the natural setting since the proposed pipeline alignment would mimic the linear form of this type of viewing platform. Because of the variable nature of vegetation pattern in which openings in the vegetation are common, intersecting views of the pipeline would also not attract attention away from the natural setting. From a head-on viewpoint in the foreground and middleground distance zones, the pipeline would be highly visible and attract attention away from the natural landscape setting. Approximately 56 percent of the proposed pipeline would be visible in the foreground area within the Juniper-Pinyon Woodland Regional LCU, and approximately 49 percent would be visible in the middleground.

Direct Impacts of Proposed Associated Facilities

No compressor stations are planned within the Juniper-Pinyon Woodland Regional LCU; therefore, there would be no direct impacts from compressor stations. There would be MLVs, pig launchers and receivers, and water appropriation sites within this unit. In some locations these aboveground facilities would remove additional evergreen and hardwood trees and contribute to an increase in the contrast in line. At some locations the medium height of the juniper and pinyon trees could enhance screening and reduce visibility of the features. Staging areas would slightly increase the area of change in landscape character and level of contrast over the short- and long-term. No pipe storage or contractor construction yards are planned within the Juniper-Pinyon Woodland Regional LCU; therefore, there would be no direct impacts from these yards.

4.2.5 Valley Desertscrub Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Valley Desertscrub Regional LCU would range from low to moderate (Table 4.2). Clearing of the Project work areas for construction activities would remove patches of often dense vegetation and would create a notable change in the existing landscape character. The change would be noticeable in the short- and long-term because the dominant sagescrub vegetation in most areas is slow to reestablish. The low stature of the vegetation and the flat to gently rolling topography would allow the disturbance to be seen from long distances. Removal of the vegetation, combined with the generally lighter color of the disturbed soil, along the constant width of the pipeline would also create a moderate level of contrast in the short- and long-term because of the introduction of distinct lines in the landscape. Parallel and intersecting views from linear viewing platforms, such as roads or trails, would not attract as much attention away from the natural setting since the pipeline would mimic the linear form of the road or trail. Head-on views would have a higher level of visibility that would be retained in the middleground because of the distance of views over the flat terrain. Approximately 98 percent of the proposed pipeline would be visible in the foreground area within the Valley Desertscrub Regional LCU, and approximately 79 percent would be visible in the middleground.

Direct Impacts of Proposed Associated Facilities

No compressor stations are planned with the Valley Desertscrub Regional LCU; therefore, there would be no direct impacts from compressor stations. Depending on the specific site location, clearing additional areas of vegetation for MLVs and pig launchers and receivers would contribute to the contrast in line. The impacts would be permanent since these facilities would stay in place for the life of the pipeline. Clearing the vegetation for staging areas would slightly increase the area of change in landscape character and increase contrast over the short-term and long-term. A contractor construction yard and one pipe storage area totaling approximately 68 acres would have impacts similar to the Weiland Flat Compressor Station with regard to increased contrast and a notable change in landscape character. The impacts would be both short-term and long-term because the sites will not remain in permanent use.

4.2.6 Valley Grassland Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Valley Grassland Regional LCU would range from low to very low (Table 4.2). Ground-disturbing activities would remove bands of grasses and low desert scrub, which would create a low to very low change in the landscape character. Impacts would be noticeable in the natural setting for the short-term. The open panoramic views common in flat valley terrain would decrease visual dominance of the proposed pipeline. Removal of the low vegetation, especially in areas of dense cover, combined with the generally lighter color of the disturbed soil, and the constant width of the cleared alignment would create a low level of contrast in the short-term because of the introduction of distinct lines in the landscape in the foreground distance zone. In the middleground, the change to the existing landscape character would be very low. When viewed from a parallel position, the pipeline would not be noticeable in the natural setting since the proposed pipeline alignment would mimic the linear form of a road or trail. Approximately 80 percent of the proposed pipeline would be visible in the foreground area within the Valley Grassland Regional LCU, and approximately 33 percent would be visible in the middleground.

Direct Impacts of Proposed Associated Facilities

The Roberson Creek and Wildcat Hills Compressor Stations would be located within the Valley Grassland Regional LCU. The clearing of vegetation on the sites would create relatively large rectangular to polygonal-shaped areas with a moderate level of contrast to the surrounding landscape. The stations would also contrast with the existing horizontal to indistinct lines in the landscape by introducing vertical lines and forms, as well as rectangular and cylindrical shapes. This would create a strong contrast with the existing landscape character. The impacts of these facilities would be permanent. There would also be other aboveground facilities within this unit that would introduce vertical rectilinear and cylindrical shapes into the character unit. MLVs and pig launchers and receivers would have permanent impacts and contribute to a contrast in both line and form. A pipe staging area and construction staging areas would slightly increase the area of noticeable change in landscape character and would increase contrast over the short-term and long-term.

4.2.7 Salt Desert /Playa Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Salt Desert /Playa Regional LCU would range from very low to moderate (Table 4.2). Ground-disturbing activities would remove bands of grasses and low desert scrub, which would create a notable change in the characteristic landscape of this unit. The changes would attract attention away from the natural setting in the short- and long-term, however the open, panoramic views offered by the valley terrain would reduce the visual dominance of the alignment. Removal of the low vegetation, especially in areas of dense cover, would introduce distinct lines in the existing landscape. Combined with the generally lighter color of the disturbed soil, and the constant width of the cleared alignment the level of contrast would range from a very low to moderate level in the short-term. Parallel views of the pipeline would not attract as much attention away from the natural setting since the proposed pipeline alignment would mimic the linear form of roads and the introduced line would be horizontal.

Approximately 98 percent of the proposed pipeline would be visible in the foreground area within the Salt Desert /Playa Regional LCU, and approximately 86 percent would be visible in the middleground.

Direct Impacts of Proposed Associated Facilities

The Desert Valley Compressor Station would be located within the Salt Desert /Playa Regional LCU. Clearing the vegetation on the site would create a relatively large polygonal-shaped area with a moderate level of contrast to the surrounding landscape. The compressor station would introduce vertical and geometric lines and forms, creating a strong contrast with the existing horizontal to indistinct lines in the landscape. This would result in a notable change to the existing landscape character, and these impacts would be permanent. The MLVs and pig launchers and receivers within this unit would also introduce vertical rectangular and cylindrical shapes into the character unit, contributing to a contrast in both line and form; these would be permanent. Staging areas would slightly increase the area of change in landscape character and increase contrast over the short- and long-term.

4.2.8 Agriculture/ Pastoral Valley Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Agriculture/ Pastoral Valley Regional LCU would range from low to very low (Table 4.2). Pipeline construction would remove mixed natural and rural vegetation, which would create low to very low change in the characteristic landscape of this unit. Impacts would be noticeable in the existing setting for the short- and long-term, depending on the type of vegetation removed and the location of the pipeline. The line crossing through agricultural fields would not be noticeable after 1–2 years. The panoramic views common in flat valley terrain would decrease visual dominance of the proposed pipeline. Removal of the low vegetation and the constant width of the cleared alignment would create a low level of contrast in the short-term because of the introduction of distinct lines in the landscape in the foreground distance zone. The lines would be similar to the existing lines of fields and roads. In the middleground, the change to the existing landscape character would be very low. From linear viewing platforms, parallel views of the pipeline would be even less noticeable from the existing setting since the proposed pipeline alignment would mimic the linear form of this type of viewing platform. Approximately 94 percent of the proposed pipeline would be visible in the foreground distance zone within the Agriculture/ Pastoral Valley Regional LCU, and approximately 75 percent would be visible in the middleground.

Direct Impacts of Proposed Associated Facilities

No compressor stations are planned within the Agriculture/ Pastoral Valley Regional LCU; therefore, there would be no direct impacts from compressor stations. There would be MLVs, pig launchers and receivers, and water appropriation sites within this unit. Depending on the specific site location, these aboveground facilities would remove additional vegetative cover and contribute to the contrast in line. Staging areas averaging about 1 acre per site would slightly increase the area of change in landscape character and increase contrast over the short-term and long-term.

4.2.9 Rural/Suburban Regional Landscape Character Unit

Direct Impacts of Proposed Pipeline and Alignment Alternatives

The magnitude of change in the landscape character created by the construction of the proposed pipeline within the Rural/Suburban Regional LCU would be very low (Table 4.2). Ground-disturbing activities would primarily remove bands of mixed natural and rural vegetation, which would create very low change in the characteristic landscape of this unit and would be noticeable in the rural/suburban setting in the short-term. The panoramic views common in flat valley terrain would further decrease visual dominance of the proposed pipeline. Removal of the mixed vegetation and the constant width of the cleared alignment would create a very low level of short-term contrast in line within the foreground and middleground distance zones. Parallel views of the pipeline would be even less noticeable from the existing setting because of the pipeline's linear shape when viewed with existing roads associated with development. Approximately 97 percent of the proposed pipeline would be visible in the foreground distance zone within the Rural/Suburban Regional LCU, and approximately 51 percent would be visible in the middleground.

Direct Impacts of Proposed Associated Facilities

No compressor stations are planned within the Rural/Suburban Regional LCU; therefore, there would be no direct impacts from compressor stations. There would be MLVs, pig launchers and receivers, water appropriation sites, and a pipe storage area within this unit. Depending on the specific site location, these aboveground facilities would remove additional vegetative cover and contribute to the contrast in line. Staging areas averaging about 1 acre per site would slightly increase the area of change in landscape character and increase contrast over the short-term and long-term.

4.3 Indirect Impacts

The construction of the proposed pipeline may result in short-term minor indirect impacts. The cleared area for the Project would create opportunities where people could park or access the area using their vehicles within the construction area to gain access to otherwise previously inaccessible areas of the landscape. This could result in trampling of vegetation and additional resource damage, which would lower the area's scenic attractiveness and level of intactness. The access to the Project would also provide scenic viewing opportunities not currently available to many people.

4.4 Cumulative Impacts

Cumulative impacts on visual resources include the extent of the area from which the Project would be visible. Visibility of the Project may extend from five miles to the horizon. Past, present, and reasonably foreseeable projects that could cumulatively affect visual resources include the construction of the existing utilities (gas, overhead transmissions lines, and fiber optic lines), planned renewable energy projects like the China Mountain Wind Project, and the expansions of utilities such as the Energy Gateway and Southwest Intertie projects. The proposed Project, when considered with these major multistate aboveground, projects would notably change the existing landscape characteristics of the area. These regional projects would contrast in terms of color, form, texture, and line and begin to spatially dominate the landscape, creating a substantially more altered landscape that would detract from the existing visual setting. Any project occurring on land owned by the federal government would comply with the respective agency's visual resource management objectives. In complying with these management objectives, the potential visual impacts on the characteristic landscape would be reduced.

Therefore, when considered along with past, present, and reasonably foreseeable future projects, the Proposed Alignment would have a low cumulative impact on visual resources.

4.5 Impacts on Scenic Roads and Byways

4.5.1 Highway 39, Ogden River Scenic Byway

Highway 39, known as the Ogden River Scenic Byway, travels through mostly private land in the Project area and is designated as a National Forest Scenic Byway and a Utah State Scenic Byway. The byway is within the Mountain Conifer Mixed Forest Regional LCU, and the roadway follows the Ogden River among tree-covered mountainsides. The proposed pipeline alignment crosses the byway at approximately MP 73.5. The byway is somewhat parallel and within the foreground distance zone from the crossing to approximately MP 70 to MP 73 and from approximately MP 65 to 66.5. Approximately 64 percent of the pipeline is visible in the foreground of the scenic road and approximately 44 percent of the pipeline is visible in the middleground distance zone. Forest vegetation cover is variable with some open areas but views are often spatially enclosed because of the terrain and height of vegetation. In areas where the roadway is parallel to the pipeline the change in landscape character would be low. In areas where the pipeline crosses the roadway, on the other hand, there would be a moderate level of change in landscape character. Head-on views of the pipeline alignment occur as the roadway winds through the landscape adjacent to the pipeline. The head-on views would have a moderate level of change in landscape character because the clearing of trees would have a moderate level of contrast and would attract attention. The views change quickly along the winding road and the cleared alignment would not dominate the view in the landscape. Clearing of stands of trees would create a notable level of contrast in the short-term because of the introduction of distinct lines in the landscape in both the foreground and middleground distance zones. The impacts would be reduced over the long-term as understory vegetation and trees became reestablished. The 50-foot wide corridor that would be maintained free of trees would have a low contrast in line with the surrounding landscape depending on viewer observation point and have a moderate to low magnitude of change in landscape character over the long-term. The low level of impacts on the visual setting of the byway would not affect the designation of the road as a Scenic Byway with the implementation of the mitigation measures listed in Chapter 6, as well as additional mitigation measures identified in the plan of development.

4.5.2 Barrel Springs Back Country Byway

The Barrel Springs Back Country Byway is managed by the BLM Surprise Forest Office and the proposed alignment crosses the byway at two locations: at approximately MP 571.5 and approximately MP 582. At MP 571.5 the byway is within the Salt Desert/Playa Regional LCU dominated by sagebrush vegetation. Steep juniper woodland hillsides are visible to the north in the middleground. The alignment follows an existing power line within the foreground and most of the middleground distance zones. The existing power line is visible approaching the pipeline crossing and attracts attention in the existing visual setting. Based on the visibility analysis, all of the proposed alignment in the foreground distance zone would be visible, and approximately 70 percent of the proposed alignment within the middleground distance zone would be visible. There would be a low level of change in landscape character in the foreground and middleground and contrast would be weak to moderate in the short-term. The proposed pipeline would not attract attention and impact the existing visual setting of the byway in the long-term.

At MP 582 the byway is within the Juniper-Pinyon Regional LCU, though the proposed pipeline alignment is located in an area dominated by desertscrub vegetation. The proposed alignment is also located along an existing power line at this location and the power line attracts attention in the existing visual setting. The alignment would not require juniper vegetation clearing in the foreground. Juniper vegetation would need to be cleared in the middleground, however the clearing would be located adjacent to the clearing area maintained for the power line. In the desertscrub area there would be a low level of change in landscape character in the foreground and middleground and contrast would be weak in the short-term. The proposed pipeline would not attract attention and impact the existing visual setting of the byway in the long-term.

4.5.3 Oregon Outback National Scenic Byway

The Oregon Outback National Scenic Byway is along Highway 395 starting at the Oregon border, and extends 171 miles north through eastern Oregon. The Lakeview RMP's management direction for backcountry byways provides that all projects will be designed to maximize scenic quality and minimize scenic intrusions (BLM Lakeview 2003). The proposed pipeline alignment would cross the byway at approximately MP 614. The existing visual setting is rural to the west of the byway with straight lines and colors associated with agricultural fields as the dominant landscape elements. There are also residences and farm buildings along the byway, adding interest and variation of color and texture, but remaining consistent with the rural character. To the east of the byway at the pipeline crossing, the alignment ascends rolling terrain with grassland, and sparse juniper vegetation. According to the visibility analysis approximately 80 percent of the pipeline in the foreground would be visible and approximately 60 percent of the pipeline in the middleground would be visible from the byway. When viewed from the intersecting viewpoint, the proposed alignment would have a low to very low magnitude of change in the landscape character. The contrast of the lines and colors created by the pipeline construction would be weak and would blend with the existing rural character west of the byway. On the east side of the byway the rolling terrain would expose the pipeline alignment to views from along the byway. The change in landscape character would be low and would not attract attention because of existing interest in the landscape, and would not impact the existing visual setting of the byway in the short or long-term. The low magnitude of change in the landscape character would not affect the designation of the road as a Scenic Byway.

4.5.4 Transcontinental Railroad National Back Country Byway

This byway is located in the Salt Desert/Playa Regional Landscape character Unit and the terrain is very flat. The visibility analysis indicates that all of the pipeline within the foreground and 83 percent of the pipeline within the middleground would be visible from the byway. Project construction would introduce contrast in form line and color that would attract attention. The magnitude of change in landscape character would be low to moderate because most views from the byway would be parallel to the pipeline alignment. Impacts would be short-term and long-term. As vegetation became reestablished the contrast between disturbed soil color and vegetative cover would still be evident.

4.6 National Historic and Recreational Trails

Impacts on National Historic and Recreation Trails are described in terms of change in the visual character of the landscape setting for the trail. The visibility of the pipeline within the foreground and middleground was identified to determine how much of the pipeline would be visible to users of the trails. For each trail, temporary impacts from construction of the pipeline would include visibility of the

construction area at the trail crossings and possible disruption of trail use. As planned by Ruby, temporary impacts are expected to last less than six weeks at each location and changes in the landscape character in the short-term would be reduced by restoration of construction sites.

4.6.1 Oregon National Historic Trail

This trail is located in the Mountain/Plateau Desert Scrub Regional LCU and the rolling terrain limits views from the trail corridor except when it is parallel to the pipeline alignment. Approximately 90 percent of the pipeline within the foreground would be visible from the trail and approximately 39 percent of the pipeline in the middleground would be visible. The pipeline would present a moderate change to the existing visual character as views from most viewing positions in the foreground and middleground would introduce noticeable contrasts of line form and color until vegetation could begin to reestablish. The trail at the pipeline crossing is not readily distinguishable from the surrounding landscape and the pipeline would become a noticeable feature in the landscape setting of the trail.

4.6.2 California National Historic Trail

The trail and pipeline are located in the Mountain/Plateau Desert Scrub Regional LCU and the rolling terrain limits some opportunities to view the pipeline from the trail. The visibility analysis indicates that approximately 53 percent of the pipeline alignment in the middleground would be visible from trail. No part of the alignment is within the foreground distance zone. The construction of the proposed pipeline would result in a moderate change in the existing landscape character in the middleground because of the introduction of contrasts in form, line and color to the landscape. The primary viewing position would be parallel and impacts would be short-term and long-term. The slight change in elevation between the trail and the pipeline would increase visibility, particularly for head on views, but impacts would be reduced as vegetation is reestablished.

4.6.3 Oregon/California Auto Route

Construction activities would disrupt the recreational use of this auto route for the period of time required for the Project to cross the route. The auto route is in the Foothills Grassland Regional LCU and the magnitude of change in landscape character would be low to very low from all viewing positions for the foreground and the middleground. The visibility analysis indicates that approximately 73 percent of the pipeline route would be visible in the foreground, while approximately 38 percent of the pipeline in the middleground would be visible due to the rolling terrain. The low level of change in landscape character and limited visibility in the middleground would not impact the recreational users experience of the auto route in the short-term, nor in the long-term as vegetation becomes reestablished.

4.6.4 Applegate-Lassen Trail

The Applegate-Lassen Trail segment in the Project area is located in the Salt Desert/Playa Regional LCU. Area vegetation is fine textured and dominated by salt bush and sage and the soil color is very light. The visibility analysis indicates that approximately 36 percent of the pipeline in the foreground would be visible from the trail, and approximately 70 percent of the pipeline in the middleground would be visible from the trail. A parallel view would have a very low magnitude of change in landscape character and opportunities for a head on view are limited. Cleared areas would contrast with the existing vegetation in the short-term but would not attract attention in the long-term because the

vegetation would reestablish and the scale of view of the landscape draws the view to the middleground and beyond.

4.6.5 Emigrant Trail

The proposed pipeline alignment follows the existing road/trail route through the Salt Desert/Playa Regional LCU. The change in the landscape character would be low because the disturbance would be in the same corridor and the views from the trail would be parallel. Construction activities should not prevent use of the trail. The construction would introduce contrasts in form, line and color, but would not attract attention in the short term or long-term, particularly as vegetation becomes reestablished.

4.6.6 Crane Mountain National Recreation Trail

The trail is located in a heavily forested area of the Mountain Conifer/Mixed Forest Regional LCU and the pipeline crossing is located approximately 500 feet from the trailhead parking lot. The magnitude of change in landscape character would be low. At the trail crossing construction activities would disrupt the natural setting for a brief period. The cleared vegetation from the alignment would result in a moderate contrast in line, color and texture from the existing landscape and would create openings in the dense forest cover. The routing of the pipeline on the south side of Rogger Meadow, in Oregon, and on the north side of the trail would prevent distant views along the cleared alignment and help maintain the existing forested character of the trail. The clearing of vegetation in the Project alignment to the south of the trail would open up views of Rogger Meadow which are currently blocked by trees and understory vegetation.

4.7 Wild and Scenic Rivers

According to WSR management under the recreational classification, public use, forest practices and mining would be allowed subject to regulations. These permitted activities could have impacts on the visual setting of Twelvemile Creek, though general use by these activities is low. The segment of the creek where the proposed alignment would cross consists of steep banked, volcanic slopes and a coarse textured vegetation cover of the Juniper-Pinyon Woodlands Regional LCU. There is an existing power line across the creek at this location with towers near the edge of each bank of the creek. The magnitude of change in the landscape character would be moderate to high in the immediate vicinity of the crossing. The pipeline would introduce a strong contrast of line and moderate to strong contrast of color and texture on the steep slopes leading down to the creek. The visibility analysis indicates that approximately 46 percent of the pipeline within the foreground of the creek would be visible and approximately 45 percent of the portion within the middleground would be visible. The steep banks and meandering nature of the creek limit views of the proposed pipeline from outside the vicinity of the crossing. The change in visual character would attract attention in the short- and long-term but would not be a dominant element in the landscape because the existing power line is highly visible from the within a greater area of the viewshed of the creek.

Table 4.2. Magnitude of Change in Visual Character in Regional Landscape Character Units

Distance Zone/ Viewer Position ^a	Regional Landscape Character Units ^b								
	MC/MF	M/P DS	FG	J-P W	VDS	VG	SD/P	A/PV	R/S
Foreground									
Parallel	L	L	VL	L	L	VL	VL	VL	VL
Head-on	M	M	L	M	M	L	M	L	VL
Intersecting	M	M	L	L	L	L	L	L	VL
Middleground									
Head-on	M	M	VL	M	M	VL	M	VL	VL

^a The position of the viewer relative to the landscape may be described as parallel or tangential to the proposed pipeline alignment or alternative alignments, head-on, or intersecting. Head-on views can be from either a superior (above) or an inferior (below) viewer position. Intersecting viewer position refers to the perpendicular crossing of the pipeline.

^b MC/MF = Mountain Conifer/Mixed Forest; M/P DS = Mountain/Plateau Desertscrub; FG = Foothills Grassland; J-P W = Juniper-Pinyon Woodland; VDS = Valley Desert Scrub; VG = Valley Grassland; SD/P = Salt Desert/Playa; A/PV = Agricultural/Pastoral Valley; R/S = Rural/Suburban. VL = very low; L = low; M = moderate; H = high; VH = very high.

5.0 COMPLIANCE WITH MANAGEMENT OBJECTIVES

5.1 BLM Visual Resource Management System Classes

BLM has developed measurable standards for managing the visual resources of BLM lands. As previously noted, management classes with established objectives have been identified for visual resources in the Project area as part of the RMPs process. This analysis determined whether or not the Proposed Alignment, Sheldon and Black Rock Alternative Alignments and the associated aboveground facilities would be in compliance with the established objectives. Based on the respective VRM classes, the stated management objectives were compared to the proposed pipeline and aboveground facilities' magnitude of change in visual character based on the regional landscape character and the visual contrast created between the proposed pipeline and the existing landscape.

The BLM's Visual Resource Contrast System (BLM Handbook 8431-1) was used to evaluate the visual contrast created between the proposed pipeline and the existing landscape. The degree to which a management activity affects the visual quality of a landscape largely depends on the visual contrast created between the proposed Project and the existing landscape. The contrast can be measured by comparing the Project features or components with the major features in the landscape. The basic visual elements of form, line, color, and texture are used to make this comparison and to describe the magnitude of the visual contrast created by the proposed Project.

The contrast rating evaluations were conducted from KOPs within the Project area. The majority of the KOPs were selected by the BLM field offices. Some points were also determined based on other known sensitive viewpoints. A total of 32 KOPs were identified and represent locations within the Project area that are considered to be visually sensitive. Table 5.1 provides the location of each KOP, and the associated contrast rating evaluations are included in Appendix E.

Tables 5.2–5.4 provide the number of acres of the various management classes by BLM districts and regional landscape unit in the foreground and middleground of the proposed pipeline alignment with the determination of whether the proposed action would be in compliance. The overlay of BLM VRM classes and USFS SIO/VQOs with LCU is provided in Appendix F. The determination of compliance was based on the results of the contrast-rating evaluations at the KOPs. If there were no KOPs identified, the magnitude of change in the landscape character was based on the magnitude of change to the regional landscape character (see Table 4.2). Based on this evaluation, the proposed pipeline and associated facilities would create notable changes to the landscape. The changes would attract the attention of the casual observer because of the moderate level of contrast in line and color. Therefore, the Proposed Alignment and the Sheldon and Black Rock Alternative Alignments would not comply with VRM Classes I and II without the implementation of additional mitigation measures except in the Agriculture/Pastoral Landscape CU. If the site specific mitigation measures that will be determined in the Project Plan of Development are implemented, along with the measures outlined in Chapter 6, the changes associated with the pipeline would be subordinate, i.e., repeat the basic elements found in the natural and cultural landscape characteristics, and would comply with the existing Class I and Class II visual management objectives.

5.2 USFS Scenery Management System and Visual Management System Objectives

Approximately 1.5 miles within the foreground of the Proposed Project would be constructed in the Uinta-Wasatch-Cache National Forest. A segment of Highway 39, the Ogden River Scenic Byway, is

within the Uinta-Wasatch-Cache National Forest; potential impacts on the scenic road are discussed in Section 4.5.1.

According to the *Wasatch-Cache National Forest Plan (2003)*, this portion of the national forest should maintain a “Natural Appearing” landscape character theme in which the natural elements found in the landscape should dominate the majority of the views to the forest. Between approximately MP 71.6 and MP 73.5, the forest adjacent to the alignment has a High Scenic Integrity Level, meaning that the landscape should appear in tact and any deviation from the natural should not be evident. Between MP 73.5 and MP 76.2, the desired level of scenic integrity is moderate, and any management activities should remain visually subordinate and should not dominate the setting. The proposed alignment is on Forest Service land from approximately MP 74.9 to MP 76.2. The Project would be consistent with the Scenic Integrity Level (SIL) of Moderate Scenic Integrity in the foreground and middleground because it would not dominate the setting. The proposed pipeline is not required to be consistent with the SIL of High Scenic Integrity because it is not on Forest Service land at that location. However, the landscape adjacent to the Forest would not appear intact and the level of contrast in line, form, and color from the removal of stands of dense evergreen trees could diminish the visual setting of the Forest Service lands.

Approximately 85 percent of the Fremont National Forest was inventoried to be natural appearing or slightly altered in 1985. While alterations have occurred in the forest over the past two decades, the Fremont National Forest *Land Management Plan and RMP (1989)* designated the VQO of the majority of National Forest lands within the foreground and middleground of the Proposed Project as Partial Retention. The deviation from the natural landscape would be considered visually subordinate to the existing landscape character, and therefore the Proposed Project would be consistent with the management objectives. At Rogger Meadow additional site specific mitigation would be required to be consistent with the foreground VQO of Partial Retention. The pipeline alignment at the meadow prevents long views along the alignment and the creation of irregular openings and additional plantings in the forested perimeter of the meadow would retain a natural appearing landscape. Small portions of the middleground of the proposed alignment in the Fremont National Forest have a VQO of Retention, but the alignment would most likely not be visible because of the evergreen trees and other vegetation that would obscure the Proposed Project. There are also some areas designated as a VQO of Modification near MP 608 within the middleground portion of the proposed pipeline. In this area, the proposed activities would be consistent with the management objectives because the Proposed Project would not begin to dominate the landscape. The Project would still create a moderate level of contrast in form, line, and color within the mountainous forested landscape.

5.3 Scenic Roads

The magnitude of change in the existing landscape character for the scenic roads would be low to moderate and primarily limited to the locations where the pipeline crosses the scenic road. Short- and long-term impacts would occur since vegetation in the desertscrub character units will take longer to reestablish. None of the roads would have impacts that would jeopardize the existing designations.

5.4 National Historic and Recreation Trails

The magnitude of change for the historic trails and recreation trail would be very low to moderate. The existing landscape character of the trail would be retained, and the impacts would be at locations where the pipeline crosses the trails. None of the trails would be impacted sufficiently to diminish the interpretive qualities or user experience of the trails.

5.5 Wild and Scenic Rivers

The Project would have a moderate change from the existing landscape character at Twelvemile Creek. The existing power line attracts attention at the point where the pipeline would cross and currently has a strong level of contrast with the surrounding line, form, and color in the existing landscape. The landscape is natural appearing and use of additional site-specific mitigation measures would retain the general appearance. The implementation of site specific mitigation measures would meet the VRM Class II objective and not affect the creek's suitability for designation as a Recreational river in the national Wild and Scenic River system.

5.6 Comparison of Pipeline Alternative Alignments

The Sheldon Alternative would continue in terrain similar to the Proposed Alignment until it begins to parallel Highway 140. While this alternative parallels Highway 140, it would be located within the existing highway right-of-way and would avoid developing a new corridor. The form and line would be similar to the existing road and the color contrast from the vegetation removal and soil disturbance would diminish over time. The initial disturbance next to the road would be noticeable in the foreground, but the motorist's attention would most likely be drawn to the panoramic views as the road winds through the rolling, high desert landscape. The Sheldon Alternative would also follow beside Highway 140 through the Sheldon National Wildlife Refuge. The additional disturbance near the road would not disrupt the natural appearing landscape setting outside the existing highway corridor for those viewing wildlife.

Past the Sheldon National Wildlife Refuge, the Sheldon Alternative would diverge from the existing highway corridor and would disturb areas that are visually intact. During and right after construction, it would create a moderate change in visual character because the contrast in line and color would attract attention and be a noticeable feature until restoration efforts would reduce the visibility of the proposed pipeline. The resulting short-term visual impact would have higher level of sensitivity because of the number of people who would view the disturbance from along the road. Between MP 506 and MP 549 the Sheldon Alternative would cross undisturbed area that includes multiple rock slopes and cliff faces, as well as small riparian canyons. Much of this portion of the pipeline is accessible only by four-wheel drive vehicle and the number of people who would see the disturbance is low.

The Black Rock Alternative would also cross terrain similar to the Proposed Alignment until it reaches Gerlach, Nevada. The route would traverse across valleys and playas as well as mountain slopes, with mostly desert scrub vegetation. The level of disturbance would be similar to the Proposed Pipeline Alignment except that the Black Rock Alternative would be located adjacent to more areas of Wilderness and other sensitive areas in the Black Rock/High Rock Desert. The magnitude of change in the landscape character would be low but the alignment could be used to more easily access sensitive areas. As the alternative goes west of Gerlach, it would cross very rugged terrain, similar to the undisturbed portion of the Proposed Alignment between MP 506 and MP 549. However the Black Rock Alternative would follow an existing overhead transmission line that is an existing visual intrusion in the landscape. The proposed pipeline would have a greater level of ground disturbance, but the long-term visual impacts would be less than the impact of the existing overhead transmission lines and support towers. This segment would also mostly be accessible by four-wheel drive. There is a small reservoir and camp along the Black Rock Alternative so the sensitivity to visual change could be slightly higher.

The Proposed Alignment would cross the most area of undisturbed landscape as compared to the Sheldon or Black Rock Alternatives, but would also traverse some of the most inaccessible areas.

Visual disturbance in those areas would be seen by few people and in the scale of the landscape, the disturbance would not dominate the visual setting.

Table 5.1. Location of Key Observation Points

KOP No.	Linear Feature/ KOP Name	Approx. MP	VRM Class	KOP No.	Linear Feature/ KOP Name	Approx. MP	VRM Class
Linear Features							
1	Ogden River Scenic Byway	73	4	7	California Trail	267	4
2	Transcontinental Railroad National Back Country Byway	210	3	8	Oregon/California Auto Route	20	4
3	Barrel Springs Back Country Byway (North)	582	2 & 3	9	Applegate-Lassen Trail	Black Rock 500	2
4	Barrel Springs Back Country Byway (South)	564	4	10	Emigrant Trail	172	4
5	Oregon Outback Scenic Byway	614	N/A*	11	Twelvemile Creek Crossing	588.5	2
6	Oregon Trail	20	4				
Point Locations							
1	Road Crossing on Route 30	0.5	2	17	Black Rock Desert #2 from Leonard Creek Road	500.5	4
2	Roberson Creek Compressor Station	6	4	18	Lahontan Wilderness Study Area	517	2
3	Oregon Trail/ California Trail	21	4	19	Badger Mountain	538	2
4	Salt Wells	150.5	4	20	Massacre	549	2
5	Wildcat Hills Compressor Station	173	4	21	Painted Point from Roadway 8	555	2
6	Kelton	173	4	22	Rock Creek Campground	651.7	3
7	Emigrant Trail	200.6	4	23	Wash near Rock Creek Campground	651.8	3
8	Winecup Ranch	267	2	24	Historic Corral	657	3
9	US 93 Crossing/Staging	271	4	25	Emigrant Pass	Sheldon 510	2
10	Wieland Flat/ Compressor Station	330.5	3	26	Dougherty Slide	Sheldon 566	4
11	Highway 226 Crossing	339	3	27	Coleman Rim—East	Sheldon 592	3***
12	China Creek Crossing	364	4	28	Coleman Rim—West	Sheldon 579	4
13	Willow Creek Reservoir	369.5	4	29	Spoon Mountain	Black Rock 436	3
14	Owyhee Bluffs	393	3	30	Sulphur	Black Rock 494	4
15	Desert Valley Compressor Station	476.5	4	31	Trago Hot Springs	Black Rock 518	3
16	Black Rock Desert #1 from Leonard Creek Road	497	4	32	Boulder Mountain	Black Rock 578	1**

* Not on BLM-managed land.

** Viewpoint is within VRM Class 1, but viewing VRM Class I and IV area.

*** Viewpoint is within VRM Class IV, but viewing VRM Class III area.

Table 5.2. Proposed Pipeline Alignment Compliance with VRM Class

Regional Landscape Character Unit ^a	Foreground				Middleground			
	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required
Winnemucca District								
M/PDS	I	94	No	Yes	I	12,484	No	Yes
	II	1,227	No	Yes	II	10,238	No	Yes
	III	131	Yes	No	III	41,917	Yes	No
	IV	18,905	Yes	No	IV	196,402	Yes	No
VDS	I	0			I	0		
	II	0			II	78	No	Yes
	III	8,824	Yes	No	III	23,901	Yes	No
	IV	16,678	Yes	No	IV	122,114	Yes	No
SD/P	I	627	No	Yes	I	30,087	No	Yes
	II	0			II	0		
	III	0			III	1407	Yes	No
	IV	32,687	Yes	No*	IV	223,970	Yes	No
A/PV	I	0			I	352	No	Yes
	II	0			II	23	No	Yes
	III	2,240	Yes	No	III	30,269	Yes	No
	IV	4,594	Yes	No	IV	34,587	Yes	No
Surprise District								
M/PDS	I	0			I	18,750	No	Yes
	II	10,657	No	Yes	II	66,388	No	Yes
	III	0			III	0		
	IV	140	Yes	No	IV	19,644	Yes	No
JW	I	0			I	0		
	II	6,448	No	Yes	II	69,960	No	Yes
	III	3,581	Yes	Yes	III	25,556	Yes	No
	IV	1	Yes	No	IV	4,051	Yes	No
VDS	I	1,164	No	Yes	I	46,933	No	Yes
	II	5,125	No	Yes	II	10,322	No	Yes
	III	0			III	0		
	IV	612	Yes	No	IV	10,927		
SD/P	I	975	No	Yes	I	7,774	No	Yes
	II	790	No	Yes	II	10,164	No	Yes
	III	56	Yes	No	III	9,286	Yes	No
	IV	8,148	Yes	No	IV	48,552	Yes	No

Continued

Table 5.2. Proposed Pipeline Alignment Compliance with VRM Class

Regional Landscape Character Unit ^a	Foreground				Middleground			
	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required
A/PV	I	0			I	0		
	II	0			II	0		
	III	0			III	36	Yes	No
	IV	0			IV	3,452	Yes	No
Elko District								
M/PDS	I	0			I	22	No	Yes
	II	303	No	Yes	II	33,588	No	Yes
	III	12,834	Yes	No	III	124,126	Yes	No
	IV	31,786	Yes	No	IV	314,553	Yes	No
JW	I	0			I	0		
	II	0			II	0		
	III	180	Yes	No	III	36,700	Yes	No
	IV	10,687	Yes	No	IV	99,548	Yes	No
VDS	I	0			I	0		
	II	0			II	274	No	Yes
	III	5,879	Yes	No	III	7,930	Yes	No
	IV	27,733	Yes	No	IV	217,675	Yes	No
SD/P	I	0			I	0		
	II	1,058	No	Yes	II	7,012	No	Yes
	III	0			III	2,862	Yes	No
	IV	12,399	Yes	No	IV	83,491	Yes	No
A/PV	I	0			I	0		
	II	0			II	0		
	III	829	Yes	No	III	343	Yes	No
	IV	4,080	Yes	No	IV	16,202	Yes	No
Lakeview District								
MC/MF	I	0			I	0		
	II	0			II	0		
	III	2,717	Yes	No*	III	4,552	Yes	No
	IV	717	Yes	No	IV	19,743	Yes	No
M/PDS	I	0			I	0		
	II	0			II	316	No	Yes
	III	0			III	2,654	Yes	No
	IV	0			IV	5,546	Yes	No

Continued

Table 5.2. Proposed Pipeline Alignment Compliance with VRM Class

Regional Landscape Character Unit ^a	Foreground				Middleground			
	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required
JW	I	0			I	0		
	II	537	No	Yes	II	5,088	No	Yes
	III	4,157	Yes	No	III	29,562	Yes	No
	IV	9,795	Yes	No	IV	40,730	Yes	No
VDS	I	0			I	0		
	II	0			II	167	No	Yes
	III	0			III	3,901	Yes	No
	IV	0			IV	0		
R/S	I	0			I	0		
	II	0			II	0		
	III	0			III	125	Yes	No
	IV	0			IV	8	Yes	No
Kemmerer District								
M/PDS	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	14,437	Yes	No	IV	130,200	Yes	No
MG	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	4,469	Yes	No	IV	35,265	Yes	No
VDS	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	3,032	Yes	No	IV	21,948	Yes	No
VG	I	0			I	0		
	II	0			II	7	No	Yes
	III	0			III	7,910		
	IV	7,404	Yes	No	IV	79,174	Yes	No
A/PV	I	0			I	0		
	II	1,225	Yes	No*	II	13,033	Yes	No
	III	0			III	0		
	IV	48	Yes	No	IV	655	Yes	No

Continued

Table 5.2. Proposed Pipeline Alignment Compliance with VRM Class

Regional Landscape Character Unit ^a	Foreground				Middleground			
	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required
Salt Lake District								
M/PDS	I	0			I	0		
	II	0			II	15,267	No	Yes
	III	0			III	0		
	IV	888	Yes	No	IV	23,387	Yes	No
SD/P	I	0			I	0		
	II	0			II	4,308	No	Yes
	III	296	Yes	No	III	2,863	Yes	No
	IV	27,754	Yes	No	IV	217,057	Yes	No
MC/MF	I	0			I	0		
	II	0			II	5,089	No	Yes
	III	0			III	0		
	IV	0			IV	80	Yes	No
JW	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	8			IV	5,443	Yes	No
VDS	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	1,903	Yes	No	IV	22,191	Yes	No
A/PV	I	0			I	0		
	II	0			II	0	0	0
	III	0			III	0		
	IV	0			IV	499	Yes	No
R/S	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	0			IV	4,436	Yes	No

^a MC/MF = Mountain Conifer/Mixed Forest; M/P DS = Mountain/Plateau Desertscrub; FG = Foothills Grassland; J-P W = Juniper-Pinyon Woodland; VDS = Valley Desertscrub; VG = Valley Grasslands; SD/P = Salt Desert/Playa; A/PV = Agriculture/Pastoral Valley; R/S = Rural/Suburban.

* Additional mitigation not necessary to comply with VRM class objectives. KOPs have been identified that require site-specific mitigation.

Table 5.3. Sheldon Alternative Alignment Compliance with VRM Class

Regional Landscape Character Unit ^a	Foreground				Middleground			
	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required
Winnemucca District								
M/PDS	I	0			I	0		
	II	1,942	No	Yes	II	5,514	No	Yes
	III	0	Yes	No	III	0	Yes	No
	IV	925	Yes	No	IV	78,262	Yes	No
VDS	I	0			I	0		
	II	1,205			II	2,283	No	Yes
	III	0	Yes	No	III	0	Yes	No
	IV	7,871	Yes	No	IV	57,682	Yes	No
SD/P	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	9,709	Yes	No	IV	97,656	Yes	No
A/PV	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	2,795	Yes	No	IV	17,773	Yes	No
Surprise District								
M/PDS	I	0			I	2,507		
	II	0			II	2,228		
	III	0			III	0		
	IV	0			IV	722	Yes	No
JW	I	0			I	0		
	II	0			II	324		
	III	0			III	0		
	IV	0			IV	175	Yes	No
VDS	I	0			I	2,116	No	Yes
	II	0			II	991	No	Yes
	III	0			III	0		
	IV	0			IV	0		
SD/P	I	0			I	0		
	II	0			II	1,179	No	Yes
	III	0			III	0		
	IV	7,052	Yes	No	IV	44,037	Yes	No

Continued

Table 5.3. Sheldon Alternative Alignment Compliance with VRM Class

Regional Landscape Character Unit ^a	Foreground				Middleground			
	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required
Lakeview District								
MC/MF	I	0			I	0		
	II	0			II	0		
	III	0			III	0		
	IV	0			IV	37	Yes	No
M/PDS	I	418	No	Yes	I	9,551	No	Yes
	II	0	No	Yes	II	1,048	No	Yes
	III	2,568	Yes	No	III	35,069	Yes	No
	IV	9,664	Yes	No	IV	36,977	Yes	No
JW	I	0			I	957	No	Yes
	II	0			II	4,060	No	Yes
	III	837	Yes	No	III	9,591	Yes	No
	IV	2,602	Yes	No	IV	12,278	Yes	No
VDS	I	0			I	8,998	No	Yes
	II	0			II	285	No	Yes
	III	0	Yes	No	III	12,496	Yes	No
	IV	549	Yes	No	IV	13,545	Yes	No
SD/P	I	0			I	0	No	Yes
	II	0			II	153	No	Yes
	III	1,256	Yes	No	III	11,944	Yes	No
	IV	3,469	Yes	No	IV	10,076	Yes	No
A/PV	I	0			I	0		
	II	0			II	0		
	III	0			III	328	Yes	No
	IV	0			IV	0	Yes	No

^a MC/MF = Mountain Conifer/Mixed Forest; M/P DS = Mountain/Plateau Desertscrub; FG = Foothills Grassland; J-P W = Juniper-Pinyon Woodland; VDS = Valley Desertscrub; VG = Valley Grasslands; SD/P = Salt Desert/Playa; A/PV = Agriculture/Pastoral Valley; R/S = Rural/Suburban.

Table 5.4. Black Rock Alternative Alignment Compliance with VRM Class

Regional Landscape Character Unit ^a	Foreground				Middleground			
	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required
Surprise District								
M/PDS	I	1,314	No	Yes	I	41,574	No	Yes
	II	1,557	No	Yes	II	12,330	No	Yes
	III	5,252	Yes	No	III	27,508	Yes	No
	IV	14,306	Yes	No	IV	121,132	Yes	No
VDS	I	243	No	Yes	I	36,846	No	Yes
	II	0.08	No	Yes	II	4,437	No	Yes
	III	0			III	0		
	IV	1,837	Yes	No	IV	10,989	Yes	No
SD/P	I	40	No	Yes	I	4,143	No	Yes
	II	643	No	Yes	II	2,683	No	Yes
	III	0	Yes	No	III	7,487	Yes	No
	IV	7,435	Yes	No	IV	69,069	Yes	No
A/PV	I	0			I	0		
	II	0			II	0		
	III	0			III	562	Yes	No
	IV	0			IV	3,016	Yes	No
Winnemucca District								
M/PDS	I	5	No	Yes	I	45,631	No	Yes
	II	417	No	Yes	II	46,393	No	Yes
	III	374	Yes	No	III	12,150	Yes	No
	IV	4,866	Yes	No	IV	146,674	Yes	No
VDS	I	65	No	Yes	I	4,410	No	Yes
	II	5,551	No	Yes	II	31,205	No	Yes
	III	14,554	Yes	No	III	33,320	Yes	No
	IV	34,959	Yes	No	IV	200,718	Yes	No
SD/P	I	6	No	Yes	I	10,581	No	Yes
	II	8,059	No	Yes	II	96,520	No	Yes
	III	2,120	Yes	No	III	18,253	Yes	No
	IV	10,462	Yes	No	IV	53,639	Yes	No
A/PV	I	0			I	0		
	II	0			II	513	No	Yes
	III	0			III	8,260	Yes	No
	IV	351	Yes	No	IV	23,103	Yes	No

Continued

Table 5.4. Black Rock Alternative Alignment Compliance with VRM Class

Regional Landscape Character Unit ^a	Foreground				Middleground			
	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required	VRM Class	Acres	Compliance with VRM Class	Additional Mitigation Measures Required
R/S	I	0			I	0		
M/PDS	II	991	Yes	No	II	2,262	Yes	No
	III	1,082	Yes	No	III	38,632	Yes	No
	IV	790	Yes	No	IV	7,849	Yes	No

^a MC/MF = Mountain Conifer/Mixed Forest; M/P DS = Mountain/Plateau Desertscrub; FG = Foothills Grassland; J-P W = Juniper-Pinyon Woodland; VDS = Valley Desertscrub; VG = Valley Grasslands; SD/P = Salt Desert/Playa; A/PV = Agriculture/Pastoral Valley; R/S = Rural/Suburban.

6.0 MITIGATION MEASURES

In addition to overall mitigation measures that have been identified for the Project, mitigation measures specifically to reduce the potential impacts on visual resources from the proposed pipeline construction and maintenance have been identified from the *West Wide Energy Corridor Programmatic EIS* and other resource areas examined in the EIS including soils, vegetation and wetlands. Table 6.1 identifies both general mitigation measures and those specific to the regional landscape character units as appropriate to meet the Class III and Class IV objectives. Both the Agricultural/Pastoral Valley LCU and the Rural/Suburban LCU have been omitted from the table since mitigation for these areas would be covered by the general measures.

Additional site specific mitigation, especially at facility locations, would be required to further reduce visual resource impacts from pipeline construction and associated activities and to meet land management objectives in Class I and Class II areas. Additional mitigation measures are recommended for specific Key Observation Points within Class III and IV areas to reduce visual impacts for sensitive locations. Site specific mitigation measures are identified in Appendix G. The site specific mitigation measures were developed based on the design and construction details provided in the Plan of Development.

Mitigation implementation will be monitored by qualified BLM design or visual resource staff or their representative. Visual Resources mitigation monitor will work with the Environmental Inspector or third party inspector to implement mitigation within the framework of contract general conditions and, depending on field conditions, work with the construction contractor and craft inspector to apply the appropriate measures that will satisfy the visual requirements in the RMP.

Table 6.1. Visual Resource Mitigation Measures

Regional Landscape Character Unit	Mitigation Measures
General Mitigation Measures Common to all LCUs	<ul style="list-style-type: none"> <li data-bbox="602 1236 1474 1318">• Work with the BLM to ensure that construction, operation, and maintenance of the pipeline and associated aboveground facilities would be consistent with the objectives and guidelines of VRM Class I, II, III, and IV areas. <li data-bbox="602 1331 1474 1472">• Create feathered/irregular edge along disturbance corridor. Cleared areas to create irregular edges shall be as authorized in the Right-of-way grant and shall be determined for specific site conditions by the third party compliance monitor environmental inspector and agency personnel as appropriate. See Details A and B, Appendix G. <li data-bbox="602 1484 1474 1541">• In relatively level terrain, limit grading, topsoil segregation, and ditch line excavation to a minimum width for the pipeline trench. <li data-bbox="602 1554 1474 1644">• Use seed mixes that include species similar to those currently residing in the natural plant communities of each state and would facilitate the recovery of the pre-construction plant community. <li data-bbox="602 1656 1474 1738">• Limit the width of the construction right-of-way to 75 feet through wetlands and waterbodies, and locate extra workspaces at least 50 feet away from wetland and water bodies or as otherwise permitted by appropriate agencies. <li data-bbox="602 1751 1474 1833">• Use rock staining on exposed surfaces of disturbed rock formations to blend with the undisturbed areas of the rock formation. Staining is not required on scattered surface rock replaced during reclamation. <li data-bbox="602 1845 1474 1875">• Shape rock cut slopes to mimic adjacent rock formations.

Continued

Table 6.1. Visual Resource Mitigation Measures

Regional Landscape Character Unit	Mitigation Measures
	<ul style="list-style-type: none"> • Salvage surface boulders and relocate in the disturbance area similar to preconstruction conditions to reduce motorized travel in alignment. • Minimize the potential for erosion, and revegetate disturbed areas and spoil storage area for the entire length of the Project. • Where right-of-way is parallel to existing named roads maintain undisturbed area adjacent to road surface in coordination with appropriate agencies. • Vegetative species (including trees and shrubs) indigenous to the Project area must be used to rehabilitate right-of-way surface disturbance. • Disturbed areas must be returned to a natural contour. • Continue to coordinate with the BLM to align the pipeline to minimize direct and visual impacts on trails. • Utilize BLM standard color palette for all above ground structures, except as required for safety.
Mountain Conifer/ Mixed Forest	<ul style="list-style-type: none"> • Remove infested trees in overstocked, infested stands prior to beetle emergence in early June to reduce potential for re-infestation. • Feather the edge of the right-of-way during clearing to minimize the linear impact created by right-of-way.. • Redistribute timber and slash across the right-of-way following final clean-up and seeded in areas. • Root wads will be piled and burned, with any unburned root debris buried. Non-merchantable pine and juniper should be yarded to permit public firewood cutting along Willow Valley road, and any intersecting roads. • Reforest cleared areas to maintain irregular edges along corridor. • Use additional clearing of vegetation and trees in forested and juniper-pinyon areas to create uneven, natural appearing openings in vegetation cover adjacent to the pipeline area. • Reseeding mixtures to include forest understory species based on specific forested vegetation communities. • Leave existing root systems intact where possible to encourage regrowth and revegetation along the equipment passage and soil storage areas.
Mountain/Plateau Desertscrub	<ul style="list-style-type: none"> • Minimize the potential for erosion, revegetate disturbed areas. • Leave existing root systems intact where possible to encourage regrowth and revegetation along the equipment passage and soil storage areas. • Feather the edge of the right-of-way to minimize the linear impact created by right-of-way clearing. • Control nighttime lighting at compressor sites by shielding and down-casting lights as practicable. • Landscape the areas with native shrubs and grasses to visually blend with adjacent areas. • Aboveground facilities to match the existing landscape colors as closely as possible. • Revegetate the right-of way to minimize visual fragmentation impacts while sagebrush is allowed to recover and repopulate the right-of-way.

Continued

Table 6.1. Visual Resource Mitigation Measures

Regional Landscape Character Unit	Mitigation Measures
	<ul style="list-style-type: none"> • Redistribute timber and slash across the right-of-way following final clean-up and seeded in areas. • Incorporate “pitting” and “vertical mulching” to discourage vehicle travel in disturbed pathways. Pitting will include decompacting soil by digging pits roughly 1 to 2 feet apart and 6 to 12 inches deep to encourage collection of windblown seeds and to help collect water. Vertical mulching is accomplished by ‘planting’ dead vegetation and rocks in the route to obscure it from view.
Foothills Grasslands	<ul style="list-style-type: none"> • Immediately revegetate disturbed areas to minimize the potential for erosion. • Control nighttime lighting by shielding and down-casting lights as practicable.
Juniper-Pinyon Woodlands	<ul style="list-style-type: none"> • Feather the edge of the right-of-way to minimize the linear impact created by right-of-way clearing. • Root wads will be piled and burned, with any unburned root debris buried. Non-merchantable pine and juniper should be yarded to permit public firewood cutting along Willow Valley road, and any intersecting roads. • Create natural openings to reduce the contrast between the right-of-way and surrounding tree growth. • Leave existing root systems intact where possible to encourage re-growth and revegetation along the equipment passage and soil storage areas. • Redistribute timber and slash across the right-of-way following final clean-up and seeded in areas. • Additional clearing of vegetation and trees in forested and juniper-pinyon areas would be used to create uneven, natural appearing openings in vegetation cover adjacent to the pipeline area.
Valley Desertscrub	<ul style="list-style-type: none"> • In relatively level terrain, limit grading, topsoil segregation, and ditch line excavation to an approximate to minimum required for pipeline trench. Trample/cut and retain existing vegetation where possible. • Revegetate the right-of way to minimize visual fragmentation impacts while sagebrush is allowed to recover and repopulate the right-of-way. • Leave existing root systems intact where possible to encourage regrowth and revegetation along the equipment passage and soil storage areas. • Feather the edge of the right-of-way to minimize the linear impact created by right-of-way clearing. • Incorporate “pitting” and “vertical mulching” to discourage vehicle travel in disturbed pathways. Pitting will include decompacting soil by digging pits roughly 1 to 2 feet apart and 6 to 12 inches deep to encourage collection of windblown seeds and to help collect water. Vertical mulching is accomplished by ‘planting’ dead vegetation and rocks in the route to obscure it from view.
Salt Desert / Playa	<ul style="list-style-type: none"> • Control nighttime lighting by shielding and down-casting lights. • Landscape facility areas with shrubs to provide visual blending with adjacent areas. • Aboveground facilities to match the existing landscape colors as closely as possible.

Continued

Table 6.1. Visual Resource Mitigation Measures

Regional Landscape Character Unit	Mitigation Measures
	<ul style="list-style-type: none"> In relatively level terrain, limit grading, topsoil segregation, and ditch line excavation to minimum required for pipeline trench. Trample/cut and retain existing vegetation where possible.
	<ul style="list-style-type: none"> Revegetate the right-of way to minimize visual fragmentation impacts while sagebrush is allowed to recover and repopulate the right-of-way.
	<ul style="list-style-type: none"> Leave existing root systems intact where possible to encourage regrowth and revegetation along the equipment passage and soil storage areas.
	<ul style="list-style-type: none"> Incorporate “pitting” and “vertical mulching” to discourage vehicle travel in disturbed pathways. Pitting will include decompacting soil by digging pits roughly 1 to 2 feet apart and 6 to 12 inches deep to encourage collection of windblown seeds and to help collect water. Vertical mulching is accomplished by ‘planting’ dead vegetation and rocks in the route to obscure it from view.

7.0 REFERENCES

7.1 References

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- U.S. Department of the Interior, Bureau of Land Management. Manual 8400 - Visual Resource Management. Bureau of Land Management. Web. 01 Sept. 2003. <http://www.blm.gov/nstc/VRM/8400.html>.
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- U.S. Environmental Protection Agency. Western Ecology Division-Level III Ecoregions. Web. 12 Oct. 2009. http://www.epa.gov/wed/pages/ecoregions/level_iii.htm.

7.2 Data Sources

Access road locations, El Paso Natural Gas Company

Aerials, I3_Imagery_Prime_World_2D from ESRI Arc GIS Server, <http://server.arcgisonline.com/arcgis/services>

All boundaries for interstates, cities, highways, and state boundaries, provided by the Forest Management ESRI v.9.2, <http://server.arcgisonline.com/arcgis/services>.

Alternatives, El Paso Natural Gas Company.

Arc/MS, Bureau of Land Management Office Districts, www.geocommunicator.gov.

Level III Ecoregions of the Continental United States (Revised March 2007), National Health and Environmental Effects Research Laboratory, U.S. Environmental Protection Agency.

Mileposts, El Paso Natural Gas Company.

Pipe storage locations, El Paso Natural Gas Company/Pipeline Group

Scenic Integrity Objectives, Unita Wasatch Cache National Forest.

Staging area locations, El Paso Natural Gas Company.

Right of Ways, El Paso Natural Gas Company.

Temporary workspace locations, El Paso Natural Gas Company.

Test manifold locations, El Paso Natural Gas Company

Visual Quality Objectives, Forest Management, Fremont Forest Service.

Visual Resource Management Data, EL Paso Natural Gas Company and BLM; Elko, Kemmerer, Surprise, Salt Lake, Winnemucca.

Water source locations, El Paso Natural Gas Company.