3.14 Land Use

This section describes the existing and planned land use in the Project analysis area and provides baseline and impact information for land use, including land use plans and policies, minerals and mining, agriculture and livestock grazing, and analyzes the impacts from the construction, operation, maintenance, and decommissioning of the transmission line.

3.14.1 Regulatory Background

The Project crosses or is located near many land use types, including federal land managed by the USFS, BLM, NPS, DOE, DOD, and Bureau of Reclamation; state land; county and city land; tribal land; and private land. Depending on the specific project location, a variety of land use plans may be applicable to a given portion of the Project. The regulations that guide land development and use on public and private lands are discussed in the following section. Regulations pertaining to specific land uses are discussed in Section 3.14.4, Baseline Description.

3.14.2 Data Sources

Information regarding land use resources within the analysis area was obtained from a review of existing published sources, RMPs, LRMPs and applicable county land use plans. Current land use information was obtained from available GIS data, topographic maps, and internet-based tools including GoogleEarth™. A list of the land use plans that were used in the development of this section are presented in the references section. Vegetation species nomenclature is consistent with the NRCS Plants Database (NRCS 2013), unless otherwise specified.

Data sources include published maps and reports and internet websites of the USGS and UGS. Other data sources included academic and professional journals and publications. Livestock grazing allotment information was provided by the BLM FOs and USFS national forests crossed by the proposed route.

3.14.3 Analysis Area

The analysis area for land use is defined as the refined transmission line corridor. Unless otherwise specified, land uses within the 250-foot-wide transmission line ROW and refined transmission line corridor are described. The analysis area for communities is defined as the refined transmission line corridor and/or the area that would be used for construction access roads or construction support areas, which could extend up to 1 mile either side of the transmission alignment.

3.14.4 Baseline Description

The land use baseline includes an overview of existing and planned land uses, land use authorizations, agriculture, livestock grazing, and USFS management areas. The baseline description and associated impacts to active areas of mineral extraction crossed by the analysis area are identified in Section 3.2, Geological, Paleontological, and Mineral Resources. The baseline description and associated impacts to prime and unique farmland areas are described and analyzed in Section 3.3, Soil Resources.

3.14.4.1 Land Use Plans and Policies

Based on the current locations of Project alignments, the analysis area crosses 4 states, 5 national forests, 14 BLM FOs, 23 counties, and 38 communities. The BLM FOs, national forests, and counties crossed are identified in **Table 3.14-1**.

Table 3.14-1 BLM Field Offices, National Forests, and Counties Crossed by State

Land Manager	Name
Wyoming	
BLM FOs	Rawlins
Counties	Carbon, Sweetwater
Colorado	
BLM FOs	Grand Junction, Little Snake, White River
Counties	Garfield, Mesa, Moffat, Rio Blanco, Routt
Communities [1]	Craig, Carbonera
Utah	
BLM FOs	Cedar City, Fillmore, Moab, Price, Richfield, Salt Lake, St. George, Vernal
National Forests	Ashley, Dixie, Fishlake, Manti-La Sal, Uinta-Wasatch-Cache
Counties	Beaver, Carbon, Duchesne, Emery, Grand, Iron, Juab, Millard, Sanpete, Sevier, Uintah, Utah, Wasatch, Washington
Communities [1]	Ioka, Upalco, Pines, Rio, Thistle, Gypsum Mill, Champlin, Thompson Springs, Deseret, Elba, Floy, Sagers, Vista, Cedar, Woodside, Emery, Moore, Harding, McCornick, Red Wash, Squaw Crossing, Martin, Helper, Heiner, Wildcat, Coal City, Clear Creek, Milburn, Colton, Gilluly, Kyune, Mt. Pleasant, Mill Fork, Nephi, Sky View, Soldier Summit, Tucker, Bridgeland, Modena, Beryl, Heist, Yale Crossing, Zane
Nevada	
BLM FOs	Caliente, Las Vegas
Counties	Clark, Lincoln
Communities [1]	Jackman, Yoacham, Horseshoe Bend, Acoma, Beaverdam, Brown, Moapa, Henderson, North Las Vegas, Boulder City, Glendale

[1] Some communities do not have census population data, are rural in nature, and may no longer be inhabited.

Each of the BLM FOs, national forests, and counties listed in **Table 3.14-1** has a guiding plan or document that sets forth allowable land uses within each designated area under the jurisdiction of the governing agency. BLM RMPs applicable to the Project are listed in **Table 1-3**. National forest LRMPs applicable to the Project are listed in **Table 1-4**. For the counties and cities, the guiding land use documents include the county Master Plan, Comprehensive Plan, Land Use Plan, and/or Zoning Plan. Applicable county planning documents are listed in **Table 3.14-2**. No tribal land use plans have been identified during the ongoing government-to-government consultation between BLM, Western, and associated tribes. Planning documents for the affected cities will be added once the Project alignments have been finalized. Allowable land uses within the area covered by each RMP, LRMP, county, or city plan are typically identified within each of those plans. For proposed projects that are not compatible with current allowable uses laid out in the BLM RMPs or national forest LRMPs, it may be necessary to request a plan amendment to allow the proposed projects to proceed. For proposed projects that are not compatible with county or city zoning or land use plans, a variance may be required.

Table 3.14-2 County Planning Documents

State	County	Plan Name
Wyoming	Carbon	Carbon County Comprehensive Land Use Plan (Carbon County Wyoming 2012) Carbon County Zoning Resolution of 2003 (Carbon County Wyoming 2011) Little Snake Conservation District Land, Water, and Natural Resources Management Plan (Little Snake Conservation District Undated)

Table 3.14-2 County Planning Documents

State	County	Plan Name
Wyoming (cont.)	Sweetwater	Sweetwater County Comprehensive Plan (Sweetwater County 2002) Sweetwater County Zoning Resolution (Sweetwater County 2011a) Sweetwater County Conservation District Land and Resource Plan and Policy (Sweetwater County 2011b) Little Snake River Conservation District Land, Water and Natural Resource Management Plan (Little Snake Undated)
Colorado	Garfield	Garfield County Comprehensive Plan and Land Use Map (Garfield County 2010)
	Mesa	Mesa Countywide Land Use Plan (Mesa County 2011)
	Moffat	Moffat County/City of Craig Master Plan (Moffat County 2003) Moffat County Land Use Plan (Moffat County 2001)
	Rio Blanco	Rio Blanco County Master Plan (Rio Blanco County 2011)
	Routt	Routt County Master Plan (Routt County 2003) Routt County Open Lands Plan (Routt County 1995)
Utah	Beaver	Beaver County General Plan (Beaver County 1998) Beaver County Zoning Ordinance (Beaver County 1993)
	Carbon	Carbon County Master Plan (Carbon County Utah 1997) Carbon County Natural Resource Use and Management Plan (Carbon County Utah 2010) Carbon County Zoning Ordinance
	Duchesne	Duchesne County General Plan (Duchesne County 2005) Duchesne County Zoning Ordinance (Duchesne County 2012)
	Emery	Emery County General Plan (Emery County 1999) Emery County Zoning Ordinance (Emery County 2009)
	Grand	Grand County General Plan (Grand County 2012) Grand County Land Use Code (Grand County 2008)
	Iron	Iron County Zoning Ordinance (Iron County 2009)
	Juab	Juab County General Plan (Juab County1996) Juab County Land Use Code (Juab County 2007)
	Millard	Millard County General Plan (Millard County 1998) Millard County Zoning Ordinance (Millard County 2011) Millard County Major Utility Corridor Map (Millard County 2009)
	Sanpete	Sanpete County General Plan (Sanpete County 2010a) Sanpete County Land Use Ordinance (Sanpete County 2010b) Sanpete County Resource Management Plan (Sanpete County 2012a) Sanpete County Zoning Map (Sanpete County 2012b)
	Sevier	Sevier County General Plan (Sevier County 1998) Sevier County Zoning Ordinance (Sevier County 2010a) Sevier County Zoning Map (Sevier County 2010b)
	Uintah	Uintah County General Plan (Uintah County 2010) Uintah County Zoning (Uintah 2005)
	Utah	Utah County General Plan (Utah County 2007) Utah County Land Use Ordinance (Utah County 2011)
	Wasatch	Wasatch County General Plan (Wasatch County 2012a) Wasatch County Land Use and Development Code (Wasatch County 2012b)
	Washington	Washington County General Plan (Washington County 2012a) Washington County Zoning Code (Washington County 2012b)

Table 3.14-2 County Planning Documents

State	County	Plan Name
Nevada	Clark	Clark County Comprehensive Plan (Clark County 2010) Clark County Multiple Species Habitat Conservation Plan (Clark County 2000) Clark County Wetlands Master Plan (Clark County 1995a) Boulder City Conservation Easement Agreement (Clark County1995b) Boulder City Master Plan (Boulder City 2009)
	Lincoln	Lincoln County Master Plan (Lincoln County 2007) Lincoln County Public Lands Policy Plan (Lincoln County 2010a) Lincoln County Open Space and Community Lands Plan (Lincoln County 2011) Southeast Lincoln County Habitat Conservation Plan (Lincoln County 2010b) City of Caliente Land Use Plan

The analysis area includes USFS lands under the jurisdiction of five different national forests. NFS lands within the analysis area are held to special management prescriptions developed to protect resources or specific opportunities. Each forest plan (LRMP) provides direction, goals, standards, and guidelines for management of these areas. See **Appendix H** for figures depicting the affected areas of the National Forest. The Forest System Management Units or Prescription types within the Analysis Area are as follows:

Manti-La Sal National Forest Management Units

- General Big Game Winter Ranges (GWR)
- Key Big Game Winter Range (KWR)
- Developed Recreation Sites (DRS)
- Minerals Management Area (MMA)
- Range Forage Production (RNG)
- Utility Corridor (UCW)
- Wood Fiber Production and Utilization (TBR)

Fishlake National Forest Management Units

- 2B Rural and Roaded-Natural Recreation Opportunities
- 3A Non-Motorized Recreation
- 4A Fish Habitat Improvement
- 4B Habitat for Management Indicator Species (MIS)
- 5A Big Game Winter Range in Nonforested Areas
- 6B Livestock Grazing
- 9F Improved Watershed Condition

Uinta National Forest Planning Area Management Prescription Types[1]

- 3.1 Aquatic, Terrestrial, and Hydrologic Resources
- 3.3 Aquatic and Terrestrial Habitat
- 4.4 Dispersed Recreation
- 4.5 Developed Recreation
- 5.1 Forested Ecosystems – Limited Development
- 5.2 Forested Areas – Vegetation Management
- 6.1 Non-forested Ecosystems
- 8.2 Utility Corridor/Communication Sites

Ashley National Forest Management Units

- D: Livestock Grazing
- E: Wildlife Habitat Emphasis
- F: Dispersed Recreation Roaded
- N: Existing Low Management Emphasis

Dixie National Forest Management Units

- 1 General Forest Direction
- 2b Roaded Natural Recreation
- 4c Wildlife Habitat – Brushy Range
- 5a Big Game Winter Range
- 6a Livestock Grazing
- 9a Riparian Management
- 10b Municipal Water Supply Watersheds

In addition to general forest management, each of these management units or management prescription types has specific standards and guidelines that would have to be met in order to be consistent with the LRMP. Compliance with many of the standards and guidelines for each area is already addressed through TransWest Design Features (see **Appendix C**, Section C.2). In general, all alternatives are in compliance and consistent with the Forest Plans with the exceptions noted in Sections 3.14.7.4 and 3.14.7.5, below. Portions of the project not consistent with the Forest Plans that require project-specific amendments are address in Chapter 4.0. More detail can be found in the Forest Plan consistency spreadsheets in the Project Record.

[1] In March 2008, the Uinta National Forest and the Wasatch-Cache National Forest were combined into one administrative unit (Uinta-Wasatch-Cache National Forest). Each of these forests continues to operate under individual forest plans approved in 2003. The term “Uinta National Forest Planning Area” is used to refer to the portion of the Uinta-Wasatch-Cache National Forest managed under the 2003 LRMP for the Uinta National Forest.

3.14.4.2 Existing and Planned Land Uses

Federal lands in the land use analysis area are managed by multiple agencies, including BLM, USFS, NPS, DOE, DOD, and Bureau of Reclamation. Major uses of Federal land include oil and gas production, military operations, forestry, agriculture, grazing, research, and recreation. Utility corridors also have been designated on Federal land throughout the analysis area. Tribal lands in the analysis area include portions of the Uinta and Ouray Indian Reservation and the Moapa Indian Reservation. **Table 3.14-3** provides the general breakdown of land ownership within the land use analysis area; the Regional Summary found in Section 3.14.5 contains additional information.

Table 3.14-3 General Land Ownership Within the Analysis Area

Federal	Tribal	State	Private
66%	<1%	6%	27%

3.14.4.3 Land Use Authorizations (Energy and ROWs)

For projects crossing state or federal land, the applicant would need to obtain a ROW grant, SUP, easement, or other authorization. RMPs and LRMPs will commonly designate linear corridors within the boundary of the planning area for the location of existing or future transportation or utility ROWs. The Programmatic EIS for the Designation of Energy Corridors on Federal Land in the 11 Western States (DOE and BLM 2008) identified potential energy corridors (known as West-wide Energy Corridors or WWEC Corridors) on federal land for oil, gas, and hydrogen pipelines, and electricity transmission and distribution facilities. Many of the Project alignments are located within, or parallel to, these federal energy corridors (see **Figures 2-4** through **2-7**). In areas of co-location, individual counties and BLM FOs would be consulted to ensure that the alignment would be sited as efficiently as possible to avoid the preclusion of other facilities. In addition to the WWEC corridors, additional corridors have been identified in individual BLM FO RMPs and national forest LRMPs. These locally designated corridors are considered in Section 3.14.6, Impacts to Land Use. Planning documents also identify constrained areas where future utility ROWs are discouraged (designated avoidance areas) or denied (designated exclusion areas). Applications for linear ROWs outside of designated corridors may require a plan amendment to expand the designated corridor to accommodate the requested ROWs. Applications for linear ROWs within BLM or USFS designated avoidance areas would be processed if it can be demonstrated that the proposed Project and associated mitigation measures would meet the BLM RMP goals and objectives or USFS LRMP standards and guidelines for the various resources within the designated areas. Applications for linear ROWs within BLM designated avoidance areas or USFS prohibited or restricted areas would typically not be processed due to the statutory prohibitions applicable to the area in question.

In addition to the general planning documents identified above for each BLM FO or national forest, certain areas referred to as “special designation areas” (discussed in Section 3.15, Special Designation Areas) also may have specific plans that pertain to the designated area. State land management agencies also may identify special designation areas. Due to the presence of sensitive resources typically present within a special designation area, the allowable land uses within these areas may be more restrictive than allowable uses in non-designated areas.

For projects that cross county or city land, the applicant would need to comply with local planning and zoning requirements and may need to apply for and obtain a CUP, SUP, or other permit that may be required by the local jurisdiction. For projects that cross private land, terms of the easement would need to be negotiated with each of the private land owners.

3.14.4.4 Agriculture

The Farmland Protection Policy Act (FPPA) of 1981 is intended to minimize the impact of federal programs on the conversion of farmland to nonagricultural uses. It ensures that—to the extent possible—federal programs are administered to be compatible with state and local units of government, and private programs and policies to protect farmland (NRCS 2006). Pursuant to the FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. Soils that are classified as Prime Farmland are discussed in Section 3.3, Soil Resources.

Due to the semi-arid and arid climates present in the analysis area, agricultural production is generally limited to irrigated land along the larger river valleys or in areas where sufficient supplies of groundwater are available for irrigation.

Due to the arid climate and limited water availability of the desert southwest, there is limited agricultural production within Nevada; however, the Mohawk Valley Wash north of Caliente, Nevada, contains an area of irrigated pasture along the east side of US-93. There also are some small irrigated agricultural fields near Moapa, Nevada, along the Muddy River and Meadow Valley Wash.

3.14.4.5 Livestock Grazing

The Taylor Grazing Act of 1934 (43 USC 315) authorized the establishment of grazing districts and grazing privileges based on grazing capacities and priorities of use (BLM 2010). The Division of Grazing was created to administer the 142 million acres of public lands that were delineated as grazing districts. In 1946, the Division of Grazing was merged with the General Land Office to form the BLM. Section 3 of the Taylor Grazing Act gave leasing preference for grazing permits on public lands within the grazing districts to landowners and homesteaders in or adjacent to grazing district lands. Section 15 of the Taylor Grazing Act authorized leasing of public lands outside the original grazing district boundaries. In 1968, the Section 15 public lands were placed under multiple use management (43 CFR 4125.1-1). The FLPMA established policy for managing BLM-administered public lands including authorizing 10-year grazing permits, a 2-year notice of cancellation, and the development of allotment management plans.

In 1995, new livestock grazing regulations became effective that required each state BLM Director to develop standards for public land health and guidelines for livestock management (BLM 2011, 2010). While each BLM State Office developed their own standards and guidelines appropriate for the lands under their jurisdiction, the standards and guidelines focus on the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180.1):

- Watersheds are functioning properly;
- Cycling of water, nutrients, and energy in the ecosystem is occurring properly;
- Water quality meets State standards; and
- Special status species habitat is protected (BLM 2011).

There are six standards, primarily in terms of the physical and biological features of the landscape, which represent the minimum acceptable conditions for the rangelands. The standards are used to enhance sustainable livestock grazing and wildlife habitats while protecting watersheds and riparian ecosystems. They are observed on a landscape scale and can be measured using appropriate indicators. There are 10 guidelines that are observed on the grazing allotment and watershed level. The guidelines guide the development of management actions to protect and promote healthy rangelands. Healthy rangeland standards and guidelines apply to all multiple uses on BLM lands, including ROW reclamation.

Forest reserves were created in 1891 but with little regulation to guide their use. In 1894, in reaction to overgrazing and the deterioration of grazing lands, grazing was banned on forest reserve lands. Illegal grazing continued to occur, until 1898, when regulated grazing was permitted to occur on the forest

reserves (USDA 2008). The Organic Administration Act of 1897 established that the purpose of the forest reserves was for watershed protection and timber production, and authorized grazing if it was "compatible with the safe utilization of resources" (Prevedel and Johnson 2005).

The development of a grazing permit system first occurred under the Department of the Interior in 1900 (USDA 2008). The management of the forest reserves was transferred to the Department of Agriculture and the newly created Forest Service in 1905. The permit system continued under the USFS management, but fees were imposed in 1906, and new allotments were established with set start and stop dates for grazing in the forest reserves. The authority of the USFS to issue grazing permits and charge fees was reauthorized under the Granger-Thye Act of 1950 (USDA 2008; USFS 2011). In addition, the Granger-Thye Act authorized the use of grazing receipts for range improvements and provided direction on the establishment of local grazing advisory boards (USFS 2011).

The Public Rangelands Improvement Act of 1978 provided further direction on the management of public rangeland by such measures as requiring a continuing inventory of rangeland conditions and trends, requiring that public rangeland be managed in accordance with the rangeland management objectives established through the land use planning process prescribed in FLPMA, and requiring the management of rangeland in accordance with the Taylor Grazing Act, FLPMA, and other applicable law consistent with the Act (H.R.10587). The Rescission Act of 1995 (P.L. 104-19) requires that NEPA analyses and decisions on all grazing allotments be completed on an established schedule and within a 15-year-period (USFS 2011). Additional regulations concerning grazing on USFS grazing allotments are found in the main regulations and laws that direct the management of the USFS lands including the Multiple Use and Sustained Yield Act of 1960; the Forest Rangeland Resources Planning Act of 1974; and the National Forest Management Act of 1976. Regulations pertaining to grazing are outlined in 36 CFR 222 and include the terms and fees for a grazing permit. The USFS Rangeland Management Directives covers USFS policies and guidelines on rangeland management (FSM 2200 – Range Management).

There are 361 BLM grazing allotments, and 59 USFS grazing allotments within the analysis area. Lands with grazing allotments crossed by the Project are shown in **Figures 3.14-1** through **3.14-4**. The majority of the allotments are for cattle, however sheep and horses are found on a small portion of the grazing allotments. **Table 3.14-4** shows the total acreage of grazing allotments in the analysis area broken down by state and BLM/USFS district office.

The grazing allotments are categorized into one of three management categories: Improve (I), Maintain (M), or Custodial (C). These categories are based on present conditions, potential for improvement, other resource conflicts, and opportunities for positive economic return on public investments. An allotment can be reassigned to a different management category if resource conditions in the allotment change, or new and/or better data becomes available. The highest priority for management are allotments assigned to the "I" category.

Current management, through the implementation of the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management, strives to prevent overgrazing, promote riparian areas, and prevent a downward trend on all grazing allotments. Actions to improve soils, vegetation, or water conditions on the allotment may include changing livestock numbers, distribution, or season of use; vegetation treatments; noxious weed control; range improvements; and implementation of livestock grazing systems such as pasture rotation or rest.

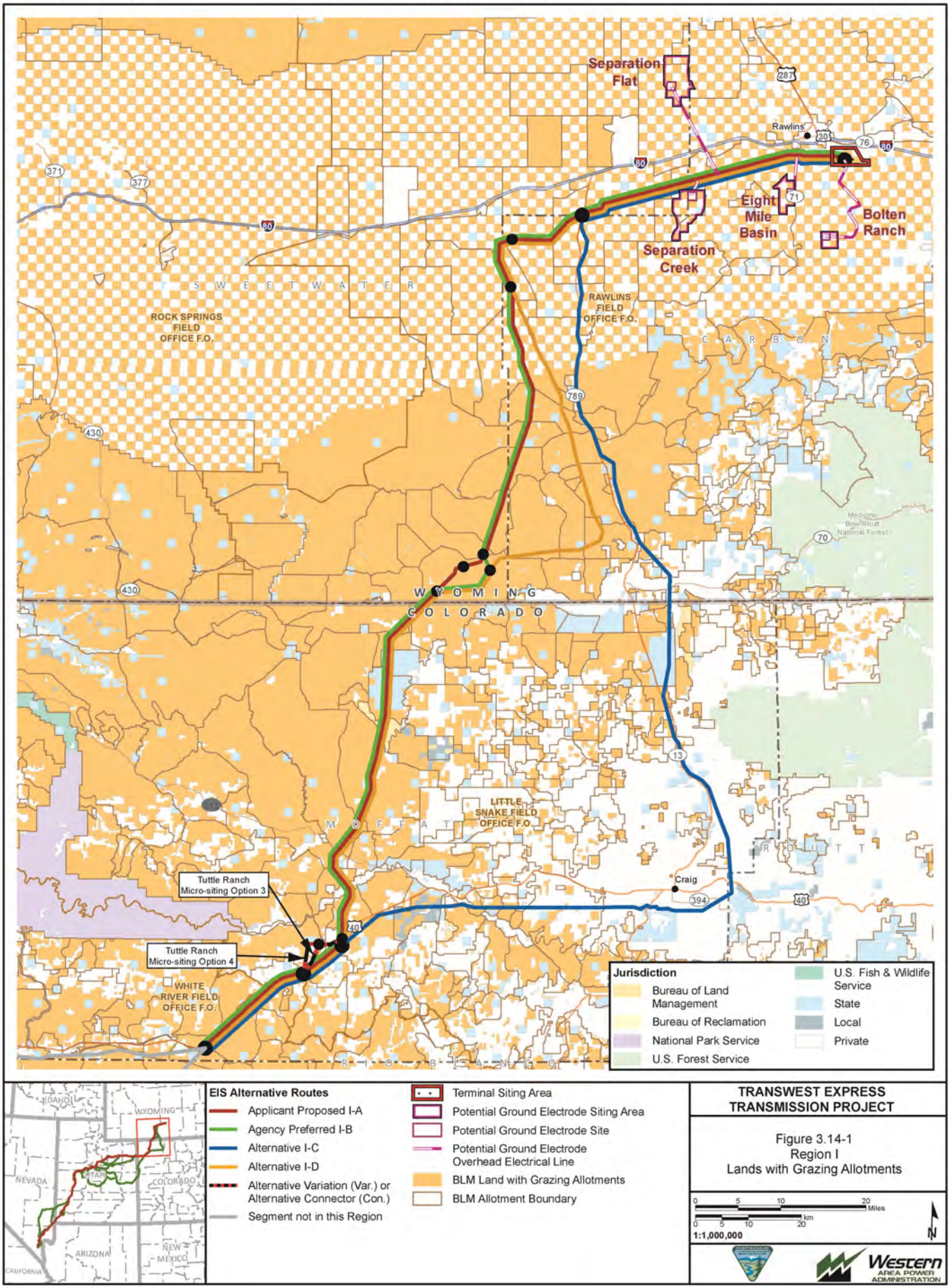
Separation Flat
Rawlins
Eight Mile Basin
Bolten Ranch
Separation Creek
SWEETWATER
ROCK SPRINGS FIELD OFFICE F.O.
RAWLINS FIELD OFFICE F.O.
CARBON
WYOMING
COLORADO
LITTLE SNAKE FIELD OFFICE F.O.
MOFFAT
ROUTT
Craig
Tuttle Ranch Micro-siting Option 3
Tuttle Ranch Micro-siting Option 4
WHITE RIVER FIELD OFFICE F.O.
RIO BLANCO
Jurisdiction
Bureau of Land Management
Bureau of Reclamation
National Park Service
U.S. Forest Service
U.S. Fish & Wildlife Service
State
Local
Private
IDAHO
WYOMING
NEVADA
UTAH
COLORADO
ARIZONA
NEW MEXICO
CALIFORNIA
EIS Alternative Routes
Applicant Proposed I-A
Agency Preferred I-B
Alternative I-C
Alternative I-D
Alternative Variation (Var.) or Alternative Connector (Con.)
Segment not in this Region
Terminal Siting Area
Potential Ground Electrode Siting Area
Potential Ground Electrode Site
Potential Ground Electrode Overhead Electrical Line
BLM Land with Grazing Allotments
BLM Allotment Boundary
TRANSWEST EXPRESS TRANSMISSION PROJECT
Figure 3.14-1
Region I
Lands with Grazing Allotments
Miles
km
1:1,000,000
N
Western AREA POWER ADMINISTRATION
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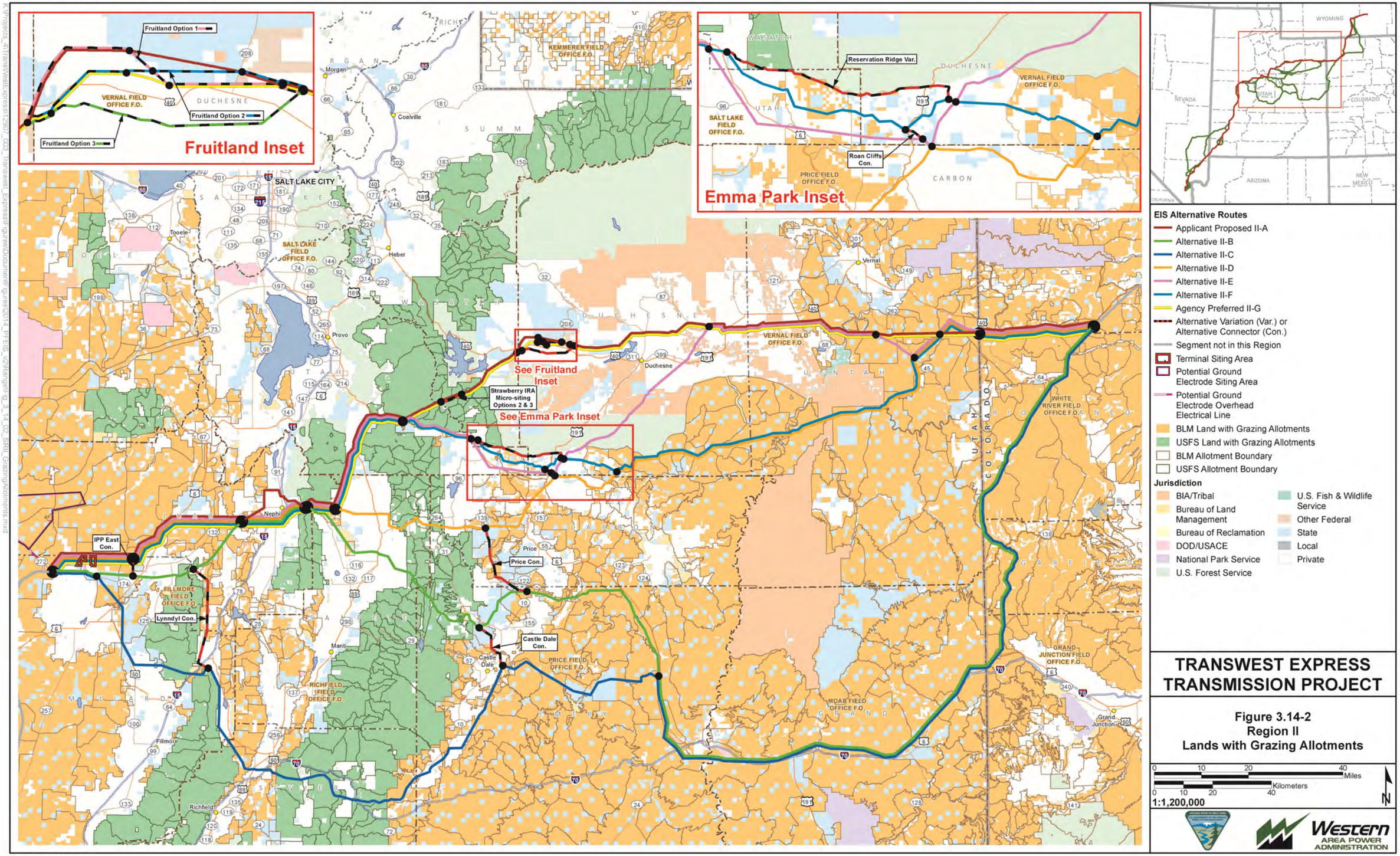
Table 3.14-4 Acreage of Affected Grazing Allotments

State	BLM/USFS District Office	Grazing Allotment Acreage in Refined Transmission Line Corridor (BLM/USFS)
Wyoming	Rawlins	26,041
Colorado	Grand Junction	8,674
	Little Snake	26,730
	White River	49,100
Utah	Cedar City	18,131
	Fillmore	74,355
	Moab	9,454
	Price	12,227
	Richfield	2,396
	Salt Lake	1,488
	St. George	5,735
	Vernal	91,031
	Uinta-Wasatch-Cache National Forest	19,998
	Dixie National Forest	7,059
	Fishlake National Forest	8,533
	Manti-La Sal National Forest	11,245
Nevada	Ely	46,314
	Las Vegas	27,581

Water sources in the analysis area for livestock include intermittent, perennial, and ephemeral streams, lakes, guzzlers, and stock ponds. Range improvement location and type data are not available for much of the analysis area. Range improvements in the analysis area can include water developments, vegetative manipulation projects and livestock management facilities. Water development improvements can include springs, livestock ponds, water troughs, guzzlers, pipelines/pipeline troughs, reservoirs, wells, raintraps, and water storage. Vegetative manipulation improvements can include seeding projects, herbicide spraying, prescribed fire, and mechanical treatments such as harrowing, chaining, contour furrowing, plowing, bull hog, and dull seeding. Management facilities can include cattle guards, fences, and corrals.

3.14.4.6 Other Uses

Special designation areas are units of land managed by federal or state agencies for the protection and enhancement of specific resource values. The Project analysis area includes designated wilderness, WSAs, ACECs, and other special management areas (e.g., CWMUs, NWRs, and NCAs). These areas, as well as IRAs and undeveloped/unroaded areas, are discussed in Section 3.15, Special Designation Areas. Section 201 of the FLPMA also requires the BLM to maintain, on a continuing basis, an inventory of all public lands and their resources and other values, which includes wilderness characteristics. Lands with wilderness characteristics are discussed in Section 3.20, Lands with Wilderness Characteristics.



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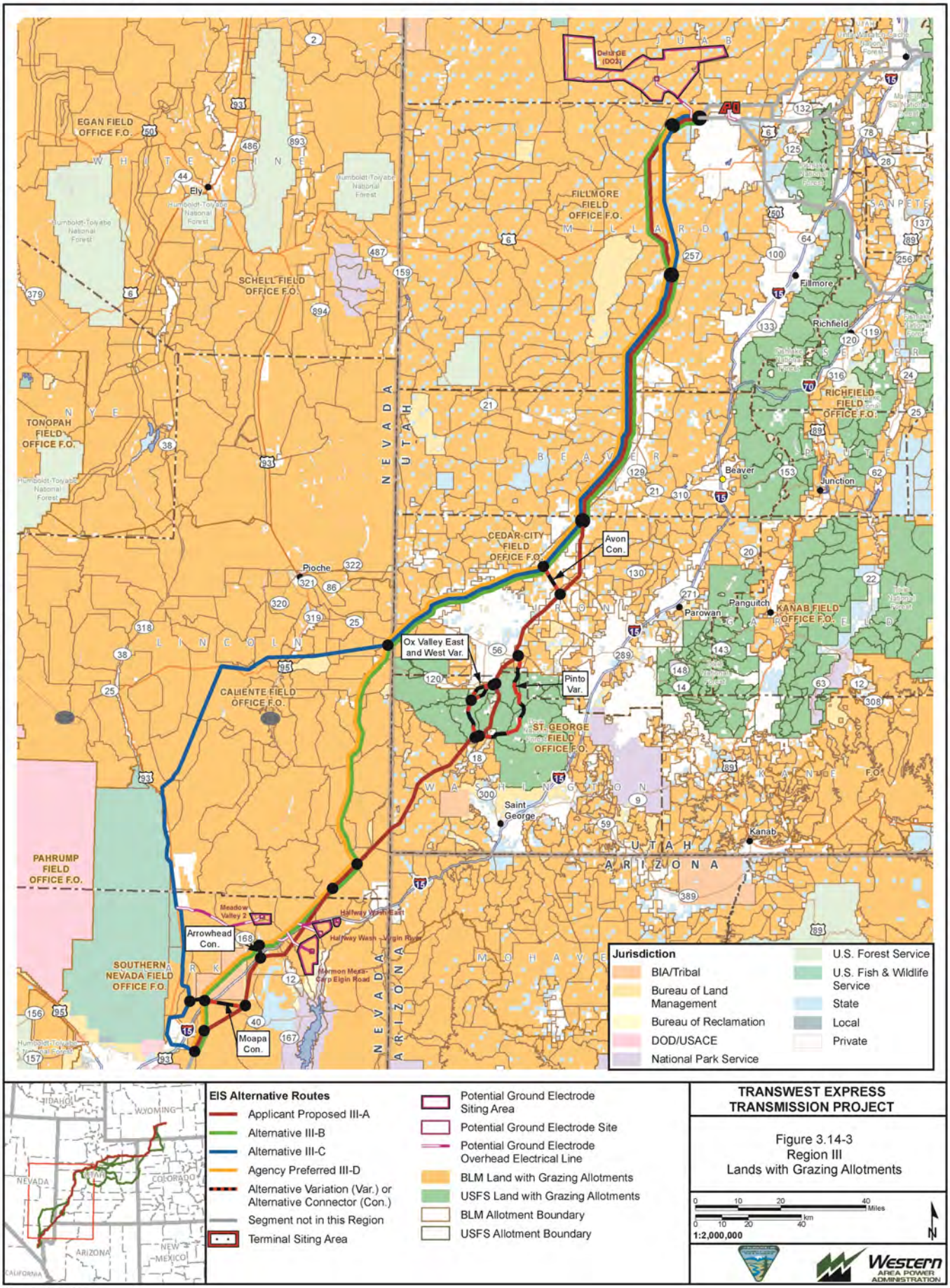

EIS Alternative Routes

- Applicant Proposed III-A
- Alternative III-B
- Alternative III-C
- Agency Preferred III-D
- Alternative Variation (Var.) or Alternative Connector (Con.)
- Segment not in this Region
- Terminal Siting Area
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line
- BLM Land with Grazing Allotments
- USFS Land with Grazing Allotments
- BLM Allotment Boundary
- USFS Allotment Boundary

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-3
Region III
Lands with Grazing Allotments

0 10 20 40 Miles
0 10 20 40 km
1:2,000,000
N

Western AREA POWER ADMINISTRATION

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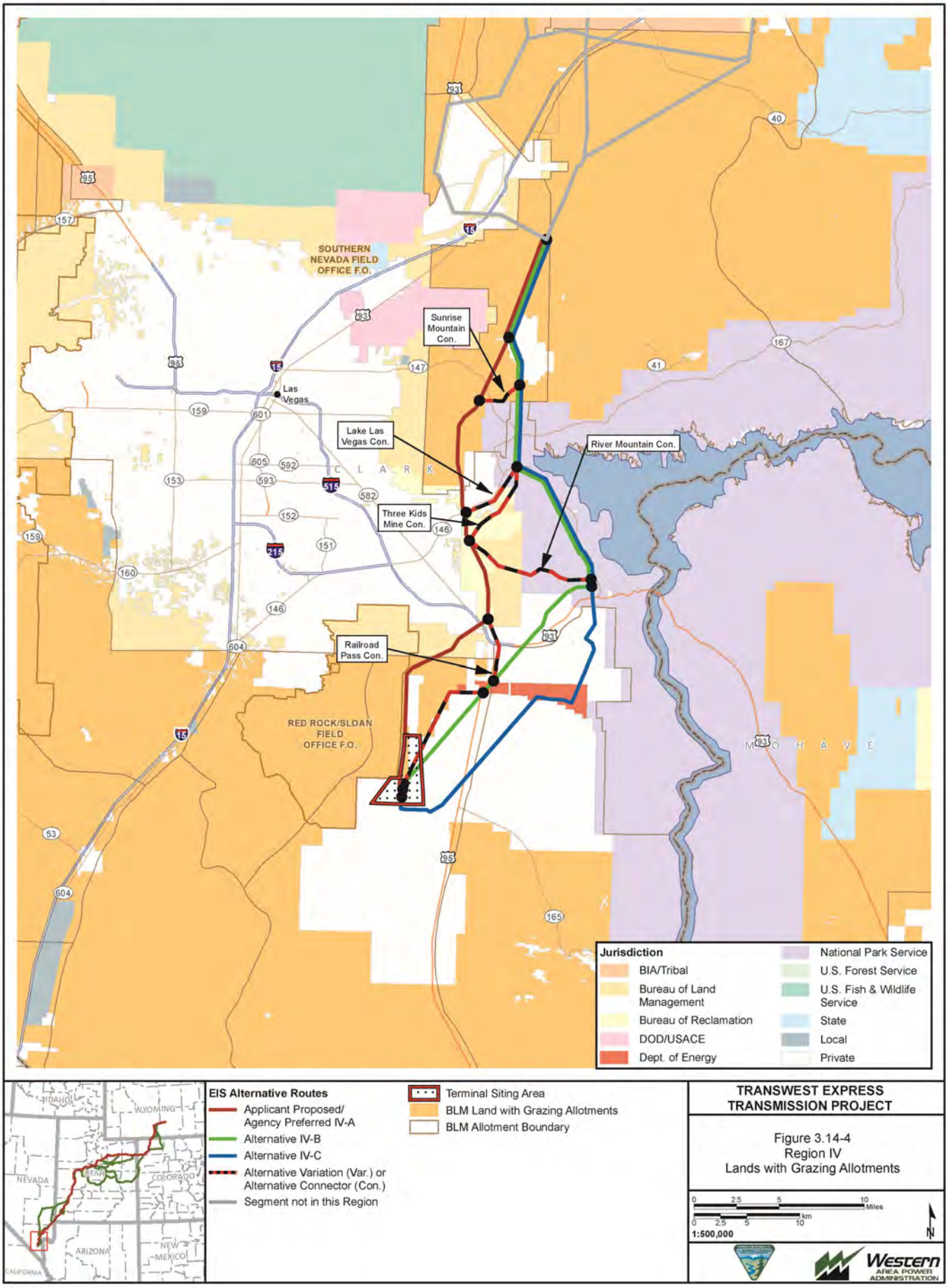

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CWMUs are hunting areas consisting of mostly private lands that have been authorized for the specific purpose of managing big game animals. There are 15 CWMUs within the Utah portions of the analysis area. Impacts to hunting within all CWMUs are discussed in further detail in Section 3.13, Recreation Resources.

Conservation easements are legally enforceable land preservation agreements between a landowner and a government agency (municipality, county, state, federal) or a qualified land protection organization (often called a “land trust”), for the purposes of conservation. It restricts real estate development, commercial and industrial uses, and certain other activities on a property to a mutually agreed upon level. There is one identified conservation easement in Region I (Tuttle Ranch), one conservation easement in Region II (Sand Wash/Sink Draw), three WMAs in Region II, and one conservation easement in Region IV (Boulder City Conservation Easement) with restrictions that could preclude development of transmission lines and/or roads. Within Region I, there also is one conservation easement that is in the planning stages (Cross Ranch; also see Chapter 5.0, Cumulative Impacts). Discussions regarding recreational and transportation uses of land are discussed in Sections 3.13 and 3.16, respectively.

3.14.5 Regional Summary

A brief description of the land use by Project region is below. Land jurisdiction is summarized by Project region in **Table 3.14-5** and shown in Chapter 2.0 in **Figures 2-12** through **2-15**.

Table 3.14-5 Distribution of Jurisdiction and Land Use by Project Region within the Analysis Area (Percent)

Region	BLM	USFS	Other Federal[1]	Tribal	State	Private
I	62	0	0	0	9	29
II	50	6	<1	<1	12	32
III	78	2	0	2	4	14
IV	35	0	32	0	0	33

[1] Other Federal includes NPS, Bureau of Reclamation, DOD, and DOE.

3.14.5.1 Region I

The majority of the land within the analysis area in Region I is BLM-administered land (see **Figure 3.14-5**). Major uses of BLM-administered land in this region include oil and gas production and livestock grazing. Portions of the City of Craig, Colorado, are within the analysis area. Agricultural production within Region I generally is irrigated pasture and hayland and is limited to land along the valley floors north of Baggs, Wyoming. Livestock grazing allotments account for nearly 60,000 acres of private, public, and state lands, most of which are located within the Rawlins and Little Snake BLM FOs (see **Table 3.14-6**).

Region I contains the Cherokee and Overland trails in Wyoming, which are managed as avoidance areas and the Tuttle Ranch Conservation Easement in Colorado which prohibits overhead transmission lines unless approved by the state.

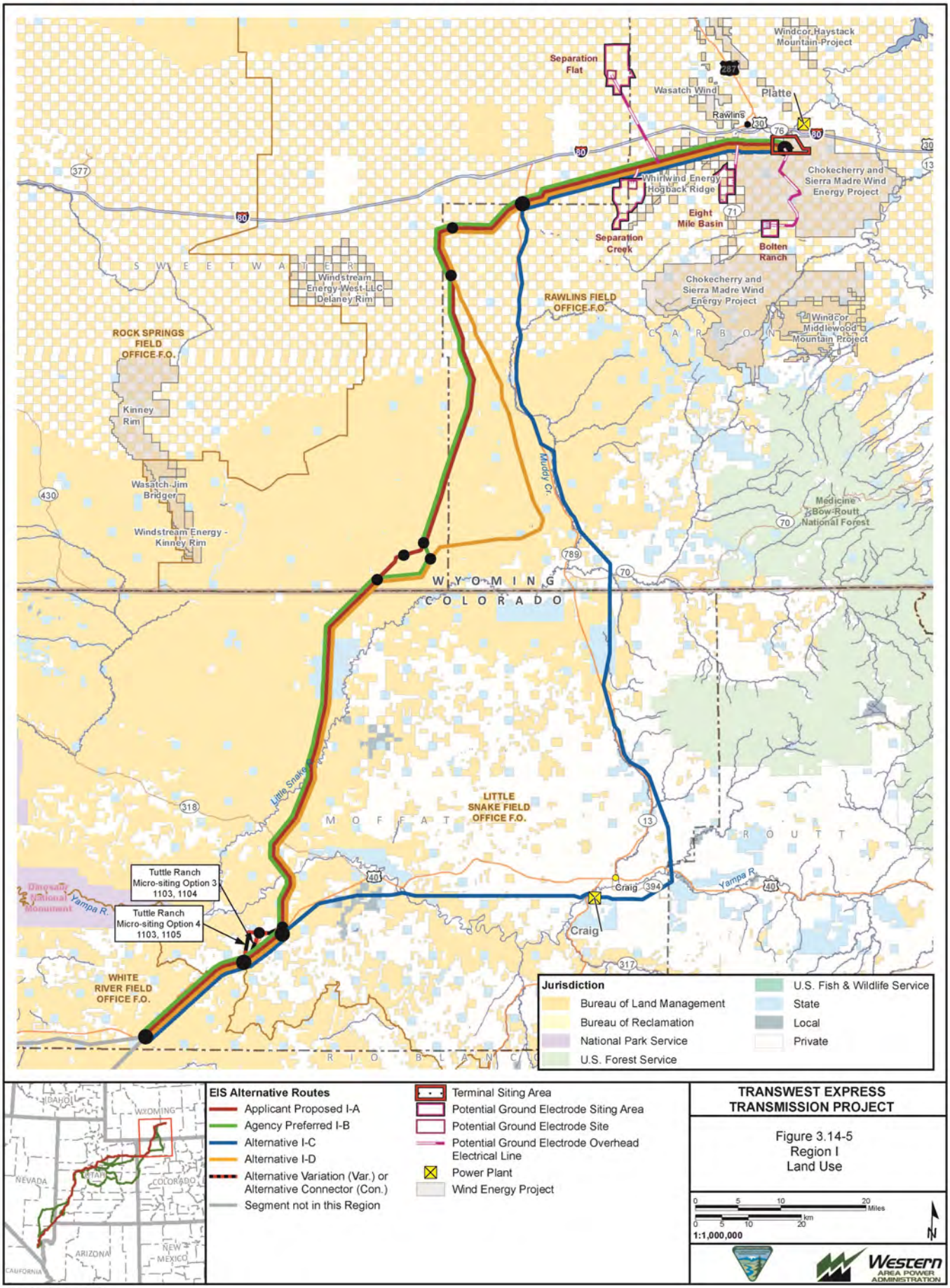

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Table 3.14-6 Grazing Allotment Acreage by Region in Refined Transmission Line Corridor[1]

State	BLM/USFS District Office	Region			
		I	II	III	IV
Wyoming	Rawlins	26,041	-	-	-
Colorado	Grand Junction	-	8,674	-	-
	Little Snake	26,730	-	-	-
	White River	6,837	42,263	-	-
Utah	Cedar City	-	-	18,131	-
	Fillmore	-	41,921	32,434	-
	Moab	-	9,454	-	-
	Price	-	12,227	-	-
	Richfield	-	2.396	-	-
	Salt Lake	-	1,488	-	-
	St. George	-	-	5,575	-
	Vernal	-	91,031	-	-
	Uinta-Wasatch-Cache National Forest[2]	-	19,998	-	-
	Dixie National Forest[2]	-	-	7,059	-
	Fishlake National Forest[2]	-	8,533	-	-
	Manti-La Sal National Forest[2]	-	11,245	-	-
Nevada	Ely	-	-	46,314	-
	Las Vegas	-	-	22,199	-
Total Acres by Region		59,608	249,230	131,712	-

[1] Includes active and inactive grazing allotments.

[2] USFS national forest grazing allotments overlap BLM FO boundaries.

3.14.5.2 Region II

Approximately half of the land within the analysis area in Region II is BLM land and one-tenth is USFS land (see **Figure 3.14-6**). This region includes the Uinta Basin, which is a major area of oil and gas development. Other major land uses include agriculture, livestock grazing, forestry, and recreation.

Southeast of the IPP, Magnum Development, LLC has been granted federal, state, and local level permits for the construction of the Magnum Gas Storage Project; an underground gas storage development, 36-inch pipeline, and associated aboveground facilities. East of IPP is a 1,754-acre area of land that has been leased to Energy Capital Group for the purpose of developing a 300-MW photovoltaic solar electric generation facility that is intended to interconnect with IPP.

Irrigated agriculture occurs in this region in and along the major river valleys. The DMAD Reservoir (also known as the Delta Reservoir), a 1,926-acre impoundment of the lower reaches of the Sevier River, also is located in this area. The DMAD Reservoir provides irrigation water, reservoir storage, and cooling water for the IPP.

Region II provides nearly 250,000 acres for livestock grazing with the White River, Fillmore, and Vernal FOs contributing 70 percent of the acreage (see **Table 3.14-6**).

Region II contains a number of BLM-managed special designation areas (see Section 3.15, Special Designation Areas) and state-managed wildlife management areas (see Section 3.13, Recreation Resources). Some of these management areas are located on lands managed by the Utah Reclamation and Conservation Commission, which was established in 1995 to design, fund, and implement mitigation

projects to offset impacts to natural resources related to the Central Utah Project and other federal development projects. Utility corridors are present on public lands throughout the region. Region II also includes inventoried roadless areas in the Ashley, Uinta, Fishlake, and Manti-La Sal National Forests (see Section 3.15, Special Designation Areas).

The Uinta and Ouray Indian Reservation is located within the Region II analysis area. The Paiute Reservation also is located with Region II and near proposed transmission line routes; however, none of the preliminary engineered alignments cross lands within this reservation boundary.

Portions of the towns of Rangely, Colorado, and the Utah towns and cities of Ballard, Roosevelt City, Nephi City, Fruitland, and Lynndyl are included in the analysis area, including a future annexation growth area for Nephi City.

3.14.5.3 Region III

More than three-quarters of the land within the analysis area in Region III is BLM land and a small portion is USFS land (see **Figure 3.14-7**). Major uses of BLM land within this region include MOAs. The area also contains special designation areas and desert tortoise conservation areas. The Fillmore FO is currently under a planning moratorium and must gain concurrence from the DOD that any actions requiring a plan amendment would not affect military readiness prior to authorizing actions within the FO.

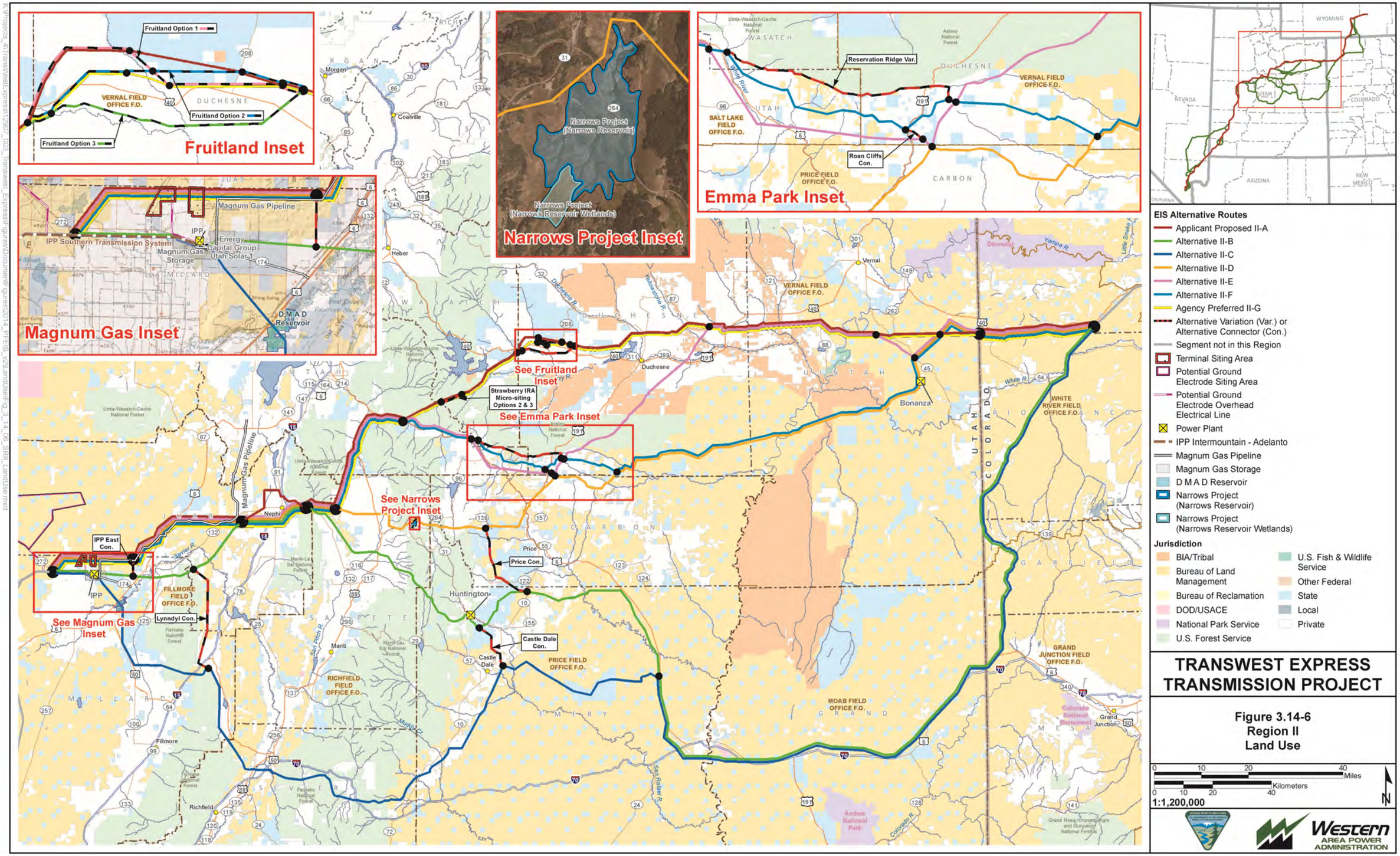
Near the IPP, the University of Utah operates and maintains the Telescope Array Cosmic Ray Project in Millard County. The Telescope Array Project is located in the high desert and is spread out over a few hundred square miles. Many of the components are not accessible by land and helicopters are used when maintenance and decommissioning activities are required. Mitigation measure **LU-1** has been proposed to ensure that any valid existing rights remain accessible.

LU-1: *The Applicant would develop an approved POD and coordinate with land owners, land managers, and agencies with jurisdictional authority on final structure placement, including all aboveground components, access roads, and permanent disturbance areas, to ensure optimal compatible land use with valid existing land uses and rights. If this coordination results in alternative routing or impacts outside of the scope of this EIS analysis, additional analysis and/or NEPA disclosure may be required.*

The University's Telescope Array Project requires dark, clear night skies. The University has expressed concerns with the DOD-required lighting of towers (see Section 3.16, Transportation) and the dust (clear sky issue) generated during the construction and reclamation phases of the Project.

As noted in Section 3.1 (Climate and Air Quality), fugitive dust would be generated during construction and facility maintenance. Localized air quality emissions at a given location are expected to occur during construction activities. Site grading is the primary general construction activity that would produce fugitive emissions. Section 3.1 identifies BMPs from the WWEC Programmatic EIS as well as applicant-committed measures that would be applied to minimize impacts. This includes development of a Dust Control and Air Quality Plan as part of the POD.

The DOD has requested that infrastructure be lighted if it will exceed the height of the existing structures by more than 10 feet. Lighting requirements and related details will be formally defined after selection and pre-construction engineering of the final alignment. TransWest has indicated that the towers would generally be within the height range of the existing structures; thus lighting is not expected to be required. If tower lighting is needed, there are FAA-approved options that would minimize impact to dark skies such as the use of L-810 steady-burning red obstruction lights or type of red lighting, a dual lighting system that includes white lights during the day and twilight and red lights at night, or the use of an obstacle collision avoidance system.



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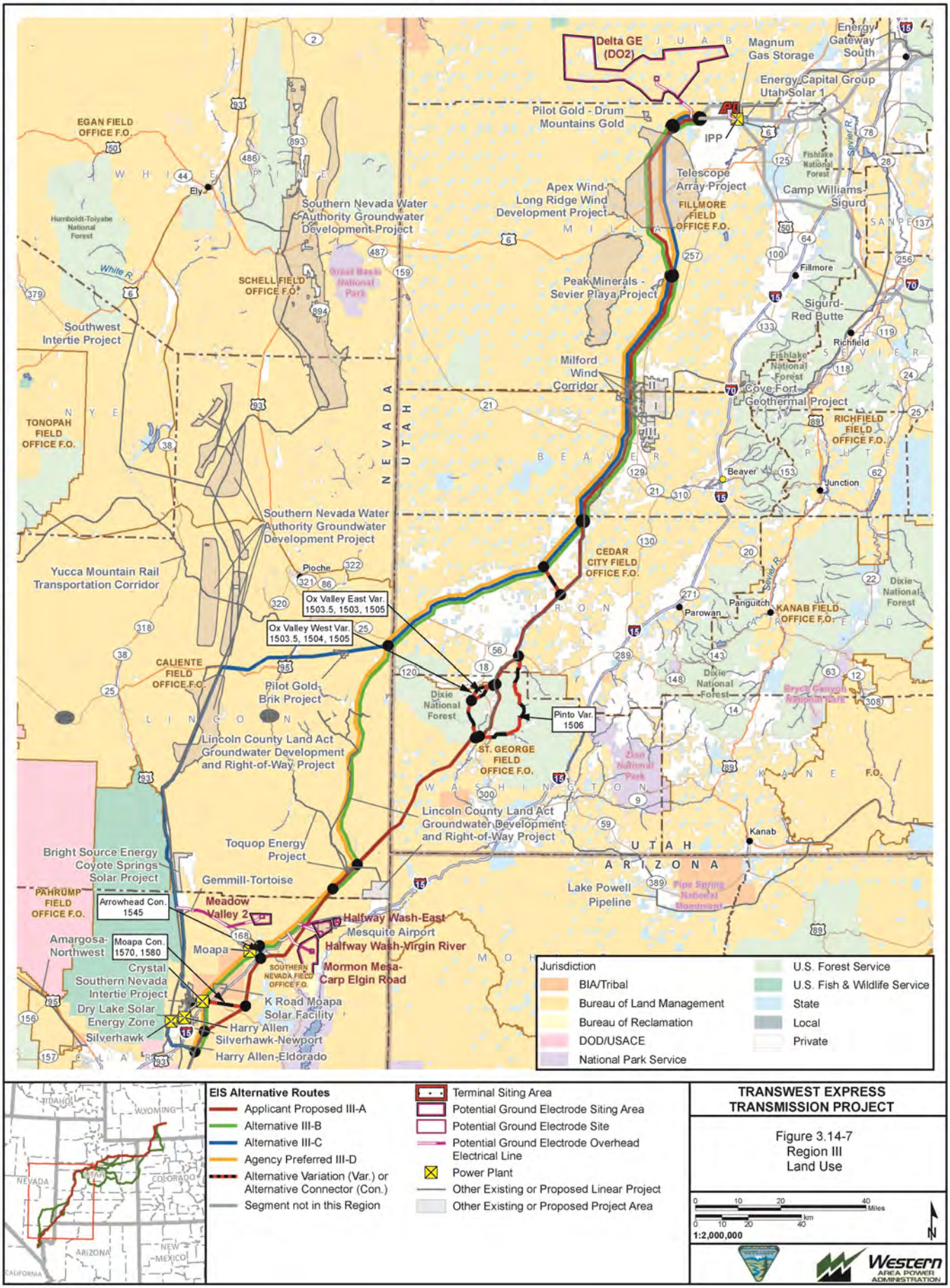

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Mitigation measure **LU-5** has been proposed to ensure that impacts to dark skies are minimized.

LU-5: *In the event that Project towers are more than 10 feet higher than existing structures in the Sevier B Military Operating Area, the Applicant would coordinate with University of Utah and DOD to develop tower lighting systems to reduce the impact to dark skies and, subsequently, operation of University of Utah's Telescope Array Project to the extent practicable while still meeting DOD safety requirements.*

First Wind's Milford Wind Corridor (MWC) Project Phase I (Beaver County) and Phase II (Millard County) are constructed and operating. MWC Phase III (Millard and Beaver counties) is a wind development planned on state and private land. The ROW application for MWC Phase IV, a 400-MW project planned on BLM, state, and private land has been withdrawn.

In 1986, Congress passed P.L. 99-548, as amended, which set aside lands for the proposed Mesquite airport, which has yet to be built. The site is located on Mormon Mesa approximately 12 miles northeast of Moapa Valley.

Utility corridors are present throughout the region and portions of the Dixie National Forest include inventoried roadless areas. According to the USFS, the corridor passing through the Dixie National Forest is nearly full to capacity with power lines, especially with the recent addition of the Sigurd to Red Butte line. This region also includes the BLM Beaver Dam Wash National Conservation Area, the USFWS Desert National Wildlife Range/Refuge, and the Moapa Indian Reservation. There are a number of power plants and transmission lines within this region.

The City of North Las Vegas falls within the analysis area. An industrial area near the Apex power plant is located within the municipal boundaries of the City of North Las Vegas and this area is zoned for heavy industrial development.

There is some limited agricultural production on private land within the region including hog farming in areas that have available water. Within the Region III analysis area, there is limited agricultural production due to the arid climate. The analysis area in Nevada only contains a few agricultural operations in Meadow Valley Wash and along the Muddy River.

Region III supports almost 132,000 acres of livestock grazing allotments with a little more than half of the area being within Lincoln County, Nevada (see **Table 3.14-6**).

Region III contains the Beaver Dam Slope, Coyote Springs, and the Mormon Mesa ACEC's, which are managed by the BLM as avoidance areas and the Mormon Mesa-Ely ACEC, which is managed as an exclusion area.

The Moapa Indian Reservation is located within the Region III analysis area. Alignments crossing through the reservation would be located within an existing utility corridor administered by the BLM and would require no additional approval by the BIA.

3.14.5.4 Region IV

The analysis area in this region includes portions of the eastern Las Vegas metropolitan area. Nearly one-third of the land within the analysis area in Region IV is BLM-administered land and one-third is federal land managed by the National Park Service (Lake Mead National RA) and the Department of Energy (see **Figure 3.14-8**). Major land uses include urban development in the Las Vegas metropolitan area, and RAs and trails associated with the conservation areas on the eastern edge of the urban area. Nellis AFB is located in the northeastern corner of the Las Vegas metropolitan area. The Bureau of Reclamation also manages land within this region.

The region also includes major electrical transmission corridors. The southern portion of Region IV, which is the Project terminus, includes several large electrical substations and large solar power plants

located in the Eldorado Valley. Within Region IV, portions of the cities of Henderson and Boulder City, and the community of Glendale are within the analysis area. A comment received during the EIS public scoping period indicated that a master planned residential and commercial community development has been proposed in the community of Glendale.

The Nevada Department of Transportation and the Federal Highway Administration (FHWA) received a ROD in 2005 allowing the development of the Boulder City Bypass. The approximately 10-mile-long road system would route traffic on US-93 to the south to improve traffic conditions in the vicinity of Boulder City. The 10-MW El Dorado Solar Power Plant (now called the Desert Star Energy Center) is a photovoltaic facility located in Boulder City, Nevada, completed in 2008. The power plant features more than 167,000 solar modules on 80 acres and sits adjacent to the company's existing 480-MW, natural-gas-powered El Dorado Energy power plant. The power from El Dorado Solar Power Plant is sold to Pacific Gas & Electric. The plant also has proposed to expand to up to 60-MW in the future.

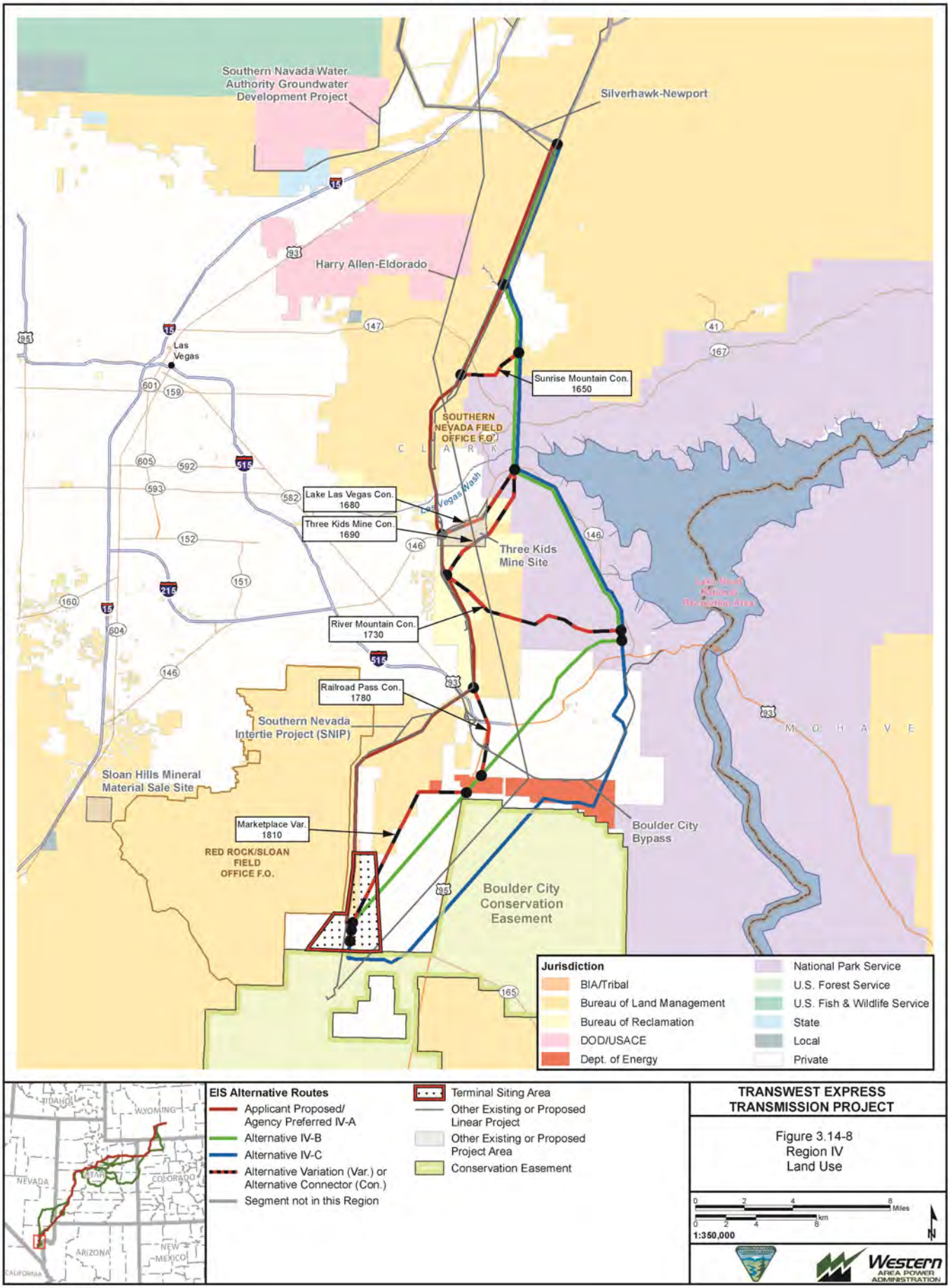
There are no known areas of agricultural production or permitted livestock grazing allotments within Region IV (see **Table 3.14-6**).

Special designation areas within Region IV include designated wilderness, ACECs (Rainbow Gardens and River Mounatins), and the Lake Mead National Recreation Area, which is managed by the National Park Service (see Section 3.13, Recreation Resources, and Section 3.15, Special Designation Areas).

3.14.6 Impacts to Land Use

The land use impact analysis identifies the impacts to the uses of land resources (existing and planned land uses) and management of land resources from the construction, operation, and decommissioning of the Proposed Project. The analysis includes three to seven alternative transmission line routes in each region and associated alternative variations and connectors, two AC/DC converter stations, and other ancillary facilities described in detail in **Appendix D**.

The analysis considers impacts to land resources along the preliminary engineered alignment and associated 250-foot-wide transmission line ROW (125 feet on either side of the alignment) as well as within the refined transmission line corridor, as shown in **Figures 2-4** through **2-7**. Quantification of impacts within the ROW generally includes either the acres of construction and operational disturbance of land from transmission facilities, or miles of a management area or land use type crossed by the preliminary engineered alignments. The analysis area also may extend up to 1 mile beyond the refined transmission line corridor to accommodate access roads, staging areas, and helicopter fly yards associated with the Project. Structures, land uses, and management areas that would potentially be affected by Project construction and operation generally are identified; however, specific locations of access roads and construction disturbances have not been identified until a construction plan is developed for the Project. In addition, it is anticipated that some land uses or management areas in the analysis area would be avoided as facilities are sited. Refer to Chapter 2.0, Project Description and Alternatives, for a detailed description of the anticipated disturbances included in the analysis and the methodology for analyzing facilities that have not been sited for the Project.
Land ownership, designated utility and transportation corridors, designated avoidance and exclusion areas, livestock grazing allotments, and agricultural areas were identified from GIS data gathered from the USFS, the BLM, and the states of Wyoming, Colorado, Utah, and Nevada. Land use and land cover data were obtained from aerial photographs, and GIS mapping of data was obtained from federal and state agencies. Aerial photography was used to identify and verify land uses along the ROW for the preliminary engineered alignments and the analysis area.



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Land use and land management data in applicable BLM, USFS, and other federal agency planning documents were used to identify potential conflicts with management objectives or conversion of existing land uses on federal lands to energy transmission facilities. Applicable BLM, USFS, and other federal agency management guidelines and objectives were reviewed to identify management and land resource conflicts from both construction and operation of the proposed Project. Proposed Project impacts to specific physical, biological, and social (visual, socioeconomic) resources, are addressed in the appropriate resource impact sections. The availability of data and up-to-date accuracy of some land use and management data, such as land use authorizations and realty actions, was not consistent for all affected federal and state land management agencies; however, the best available data were used for this analysis.

Counties and municipalities in the analysis area have developed land use policies that are included in adopted land use plans and zoning ordinances. These local land use plans often provide data on existing and planned land uses, as well as goals, objectives, and management actions meant to guide land uses on both private and county/municipal lands. Planned land uses and zoning districts in some county plans include a 'public' or similar zoning designation or land use; however, the counties do not regulate uses on public lands. Zoning provides the regulatory controls through zoning districts and overlays to implement land use plan objectives. Affected zoning districts were reviewed for private lands in the analysis area to identify conflicts with allowable uses. The relevant land use and zoning data were not consistently available, and therefore not quantifiable, for all counties and municipalities in the analysis area.

Issues considered in assessing land use impacts are based on the interests and land management objectives of local and federal landowners and management agencies and public concerns identified through public scoping. These issues provided the basis of the land use impact analysis, and are summarized in **Table 3.14-7**. Grazing analysis considerations are provided in greater detail than other land resource considerations because livestock grazing is the primary use of public and private lands in the ROW and corridor analysis areas.

Table 3.14-7 Relevant Analysis Considerations for Land Use

Existing Land Use	Analysis Considerations and Relevant Assumptions
Residential and Built Environment	Consistency with local plans, ordinances, existing ROWs, and permitting requirements of counties and municipalities. Compatibility with land uses that include existing and planned residential areas, master planned communities, industrial uses.
Agriculture	Impacts to agricultural activities, ability to irrigate, and existing pivot irrigation.
Livestock grazing	Impacts to livestock grazing pasture lands, and rangeland improvements.
Reduction in AUMs and forage	Permanent surface disturbance and areas where successful reclamation is difficult would reduce the AUMs in grazing allotments.
Loss of, or injury to, livestock	Increases in the number of roads, vehicular traffic, and traffic speeds. An increase in the number of roads and vehicular traffic would contribute to difficulties in livestock management, and increase the potential for livestock-vehicle collisions.
Impacts to lambing	An increase in vehicular traffic, noise, and disturbance can impact lambing areas.
Energy and ROWs	Changes to land use authorizations and effects to realty actions on federal lands.
USFS Management Areas	Consistency with management area goals and objectives and Standards and Guidelines.

The methodology to determine grazing allotment acres and AUMs on rangelands that would be disturbed by the Project where exact locations of new surface disturbance-related activities are unknown is described in the introduction to Chapter 3.0. The number of AUMs lost based on the surface disturbance acres was calculated based on an average ratio of 20 AUM per acre. Due to the lack of consistent data on range improvements (fences, cattle guards, stock tanks, etc.), the discussions on impacts to range improvements are qualitative and general for each project component or region.

The impact analysis describes: 1) the impacts to land uses from construction and operation of the facilities at the Northern and Southern terminals; and 2) impacts to land uses from alternative routes in Regions I through IV.

3.14.6.1 Impacts from Terminal Construction, Operation, and Decommissioning

This section discloses impacts to land uses that would occur from construction and operation of the Northern and Southern terminals, which are common to all action alternatives.

Northern Terminal

The Northern Terminal site is proposed on private lands in Carbon County, Wyoming, approximately 3 miles southwest of the Town of Sinclair, Wyoming. The proposed Northern Terminal facilities would occupy 234 acres of private lands within the Northern Terminal, as shown in Chapter 2.0 in **Figure 2-16**. The initial construction and permanent operations disturbance for the facilities is summarized in **Table 2-1**.

Private lands within the Northern Terminal are currently used for grazing. Other agricultural uses, such as crop production, do not occur in the Northern Terminal.

Land use on private lands in the Northern Terminal is guided by the goals, objectives, and strategies of the Carbon County Comprehensive Land Use Plan, and controlled through zoning districts. The Carbon County Comprehensive Land Use Plan has been recently updated and was adopted April 3, 2012. The Land Use Plan includes guidelines and a map that identifies future land uses in the county, including private lands located within the Northern Terminal. The future land use represents the pattern of land use and development that will best achieve the goals of the Land Use Plan. According to the Land Use Plan, the designated future land use of private land within the siting area is Agricultural Rural Living. This category is intended to accommodate a moderate density, rural land use pattern. According to the Plan, industrial uses should be carefully sited to avoid conflicts with other land uses. The Northern Terminal is within the Ranching, Agriculture, Mining Zone zoning district. Public facilities and utilities are limited to aboveground structures, including substations, distribution and regulator stations. Overhead electrical transmission lines over 69-kV are allowed under a CUP, subject to Carbon County Planning Commission approval (Carbon County Wyoming 2011). No conflicts were identified and, therefore, no significant land use impact is expected.

Construction of the Northern Terminal could result in surface disturbance impacts to 504 acres (approximately 17 AUMs) on privately owned lands located within the Pine Grove/Bolten BLM livestock grazing allotment. Livestock grazing (horse and cattle) does occur on private lands in the Pine Grove/Bolten grazing allotment. However, as the terminal would be sited completely on private lands within the Northern Terminal; all impacts associated with the construction and operation of the Northern Terminal would occur to grazing on private lands and there would be no impact to grazing on public lands. Operation of the Northern Terminal would result in the loss of 234 acres on private grazing lands to livestock grazing from the footprints of permanent facilities, access roads, and the construction of a perimeter fence around the Northern Terminal.

Indirect impacts to livestock grazing in the vicinity of the Northern Terminal would include the potential spread of noxious and invasive species, and potential impacts to livestock management, and the potential loss of access to range improvements that may be located in the Northern Terminal (e.g., fences, gates, and water sources). Following surface-disturbing activities, noxious weeds and invasive plant species may readily spread and colonize areas that typically lack or have minimal vegetation cover or areas that have been recently disturbed. The potential conversion of native vegetative communities due to impacts from increased erosion and invasion and spread of noxious and invasive weed species would be a long-term impact.

The applicant has committed to the following design features (e.g., environmental protection measures) to minimize impacts:

- TWE-16: Site restoration and cleanup including repair or replacement of watering facilities damaged by construction.
- TWE-40: Align the ROW to reduce impacts to agriculture production as much as practical.
- TWE-43: Implement a Flagging, Fencing, and Signage Plan, which would include: replacing or repairing fences and gates damaged by construction activities, and installing cattle guards where permanent access roads cut through fences.
- GEN-22: Requirements for fences that are to be cut including bracing, and rebuilding of the fence to meet BLM standards.

Additional environmental protection measures that would apply to the Project include the WWEC performance standards (i.e., BMPs), which are listed in **Appendix C**. Also listed in **Appendix C** are NSU and CSU restrictions for the agencies managing lands crossed by the Project. In addition, surface disturbance impacts to rangelands would be in compliance with land management agency RMP and LRMP requirements and designations for grazing including those identifying available AUMs.

As described in Section 3.5, Vegetation, reclamation would occur once construction is complete in temporary work areas, which would result in reestablishment of vegetation in accordance with the POD, BMPs, design features, and management agency or private landowner requirements.

The long-term loss of forage would not be significant relative to the overall availability of forage on affected rangeland. The temporary and permanent disturbance of allotments as a result of construction and operation activities, and the placement of tower structures, facilities, and access roads could result in impacts to the management and use of the grazing allotments.

Therefore, the following additional mitigation measures are recommended to mitigate impacts to range resources:

RANGE-1*: Prior to construction of each segment, access road, or ancillary facility crossing a BLM or USFS grazing allotments, TransWest shall coordinate with the associated BLM FO and USFS national forest concerning planned development and operations activities that will occur and identify potential livestock management issues. Coordination will include identification of:*

- Site-specific routing options, and surface disturbance locations.
- Site-specific mitigation for individual grazing allotments, such as micro-siting around areas of concern, and additional reclamation activities.
- Proposed application of vegetation management activities on individual grazing allotments.
- Identification of areas of low reclamation potential that may require additional restoration activities.
- Identification of areas where trespassing and increased access could require additional mitigation.

Coordination may include local government entities (e.g., County Commissioners, Water Boards, and Grazing Boards) at the discretion of the local BLM office and affected grazing permittees. TransWest will provide a schedule and locations of construction activities on affected grazing allotments to the BLM FO and USFS to be provided to the affected grazing permittees. The construction activities schedule and construction activity locations shall be provided on a date early enough to allow grazing permittees sufficient time to make decisions and allocate their resources during the construction time period.

***RANGE-2**: Prior to construction of transmission line segments, access road, or ancillary facilities, active range improvement locations shall be inventoried. Based on the results of these inventories, no roads, or ancillary facilities would be placed within 200 meters of range improvements, including livestock and wildlife water sources/systems. If avoidance is not feasible, features would be relocated to an alternate location in coordination with the permittee and applicable land management agency.*

***RANGE-3**: Damage to livestock and livestock facilities shall be reported as quickly as possible to BLM, USFS, and affected livestock operators. If damage is caused by the construction, operation, or maintenance of this project, TransWest will be financially responsible for the replacement of the livestock and/or livestock facilities.*

***RANGE-4**: The Flagging, Fencing, and Signage Plan would include:*

- Prevention measures to avoid damaging fences, gates, and cattleguards during construction and operation activities.
- Mitigation to prevent livestock from passing through breaks in fences as a result of construction and operation activities. Measures would include the installation of temporary gates, or cattleguards, and coordination with landowners and grazing permittees.
- Limit the placement of guy wires where livestock water or where they would fall in stock driveways. Shield guards would be used as appropriate.
- Upgrading cattleguard gate widths and load-bearing requirements as appropriate for construction and operation vehicles on access roads.
- Require heavy equipment to use by-pass gates to avoid damage to cattleguards.
- If a by-pass gate is not already in place, install a by-pass gate adjacent to existing cattleguards to prevent damage by heavy equipment.
- Existing cattle guards would be cleaned as determined necessary by the appropriate land management agency post-construction activities.
- Following construction activities any Range Improvement Projects that are damaged from construction and maintenance activities would be repaired at a minimum to pre-construction conditions.
- Mitigation for loss of livestock due to damaged fences and gates that were result of construction and operation activities.
- Mitigation for loss of livestock as a result of construction and operation vehicle collisions.

***RANGE-5**: If construction or operation activities disrupt the transport of water to water locations for livestock or wildlife, an alternative water source will be provided until the transport of water is resumed. Alternative water sources could include the hauling of water to watering locations, an alternate pipeline, or the establishment of a temporary watering facility for the livestock and wildlife.*

***RANGE-6**: Prior to construction and placement of permanent facilities and access roads, TransWest shall coordinate with the associated BLM FO and USFS national forest to identify areas where the placement of tower structures, facilities, and access roads would prevent access to either a portion or all of a livestock grazing allotment resulting in the livestock grazing allotment becoming unusable or decreasing the AUMs available to a point that requires the grazing permit to be modified. In these areas, corrective actions would then be identified including rearranging of grazing allotment fences, additional access roads to the grazing allotment, re-arrangement of project facilities and access roads as feasible, etc.*

In addition to project design features, post construction reclamation, and BMPs, mitigation measures would further reduce impacts to rangelands, grazing operations, range improvements, livestock, and

livestock facilities. Implementation of **RANGE-1** would provide livestock operators with the ability to plan their livestock activities around construction activities to minimize impacts. In addition, **RANGE-1** would identify site-specific routing, and site-specific mitigation for individual grazing allotments. Mitigation measure **RANGE-2** would provide information on the location of range improvements in areas proposed for surface disturbance and allow for micro-siting around range improvements. **RANGE-3** requires financial responsibility and communication with the surface management agency and the livestock operators if damage to livestock and range improvements occurs. **RANGE-4** provides detailed specifics on what needs to be included in the Flagging, Fencing, and Signage Plan including preventive measures to avoid damaging fences, gates, and cattle guards, and mitigation to minimize impacts to livestock management. **RANGE-5** would mitigate impacts to watering locations that could be disrupted by construction or operation activities. **RANGE-6** would mitigate impacts resulting from any potential fragmentation of grazing allotments and the prevention of access due to the placement of project facilities.

The Northern Terminal contains a portion of WWEC segment 78-138 (see **Figure 2-4**). The WWEC corridors authorize the use of land for a variety of energy related purposes, including electricity transmission facilities. There would be no conflict with the purpose of designated WWEC corridors from proposed terminal facilities; the proposed terminal would be a compatible land use. No other land use authorizations would be affected by the construction, operation, and decommissioning of the Proposed Project in the Northern Terminal.

There are no residences, communities, or other sensitive receptor areas within 1 mile of the proposed terminal site. There are no structures located within 500 feet of the terminal site.

There would be no adverse impacts to existing and future land uses and management of land use authorizations in the Northern Terminal, because the proposed facilities in the Northern Terminal are compatible with the zoning designations applied to private lands.

Southern Terminal

The Southern Terminal facilities are proposed in the Eldorado Valley approximately 15 miles southwest of Boulder City, in Clark County, Nevada. The proposed Southern Terminal site would initially occupy 415 acres on private lands within the Southern Terminal, as shown in Chapter 2.0 in **Figure 2-17**. The Southern Terminal is located entirely within the Eldorado Valley on lands that have been annexed by Boulder City.

Land use in the Southern Terminal is guided by the goals, objectives, and strategies of the Boulder City Master Plan (Boulder City 2009), and controlled through zoning districts. Existing and future/planned uses within the Southern Terminal include: Open Lands, the majority of which are incorporated into Boulder City Conservation Easement (BCCE), three existing substations (Eldorado Substation, McCullough Switching Station, and Marketplace Substation), an Energy Zone Solar Project (that includes the Copper Mountain Solar II project), an Energy Zone Expansion Area (that includes the Dry Lake Bed West and Copper Mountain North solar facilities), and existing utility corridors.

Details of the establishment of the BCCE and allowable uses are contained in the Management Action Plan for the BCCE (Clark County 2009). Per the 1995 Department of Interior Contract of Sale and Land Patent, the land within the BCCE is to be used for only three purposes: as a desert tortoise reserve; for public recreation (including hiking, bird watching, bicycling, horseback riding, photography, sightseeing, picnicking and bird hunting); and as a possible site for a solar power peaking station.

Two alternative sites are being analyzed for the southern terminal in the Eldorado Valley; either would contain the same facilities. **Figures 3.14-9** and **3.14-10** show the Southern Terminal, the proposed terminal locations, existing and proposed energy production facilities, utility corridors, and Boulder City zoning districts in the Valley. The Southern Terminal would be located partially within the Energy Resources area, in an unmanaged area on which human activities predominate, but which may

incidentally support populations of some covered species. The terminal facilities would be compatible with land uses within the designated Energy Resources area. The proposed terminal facilities would not be compatible with the conservation or recreation objectives for the rest of the BCCE. As shown in **Figures 3.14-9** and **3.14-10**, neither of the proposed terminal locations are located fully within the Energy Resources Area. The potential impacts to recreation uses and sensitive species in the BCCE are described in Section 3.13, Recreation Resources, and Section 3.7, Wildlife. The impacts to the values for which the BCCE was designated could be reduced through mitigation, limiting the proposed facilities to land within the designated Energy Resources area. The refined transmission line corridors that would connect to the Southern Terminal have been reduced. ROW widths in this area range from approximately 500 to 1,500 feet. Consultation between TransWest and the Boulder City Planning Department would be ongoing throughout the leasing process to ensure the best possible siting of the Southern Terminal. Mitigation measure **LU-1** is recommended to mitigate impacts to adjacent land uses.

Successful implementation of this mitigation measure to site the terminal facilities within the designated Energy Zone Expansion Area would reduce impacts on adjacent land uses as the location of the Southern Terminal would be compatible with existing energy uses and with Boulder City Master Plan policies. The July 20, 2011, Boulder City Overview Map identifies that Sections 19 and 30 in T24S R63E are available for lease.

There are no producing croplands within the Southern Terminal. Grazing is prohibited on the BCCE and the adjacent Sloan Canyon NCA. Given the proposed expansion of the BCCE and the existing and planned solar developments on the Energy Zone Expansion Area it is unlikely that any grazing occurs within the Southern Terminal. Therefore, no impacts to livestock grazing are anticipated for the Southern Terminal.

The multi-modal WWEC Corridor 39-231 is located immediately adjacent to the proposed Southern Terminal (see **Figure 2-7**). In addition to this federally designated corridor, there are approximately 58 ROWs or easements on the BCCE, including two existing utility corridors that are partially within the Southern Terminal. Data describing the specific uses authorized by these ROW grants are not available; however, many of these ROWs appear to be for electric transmission lines. The affected ROW grants would need to be analyzed individually once the specific location of the terminal is known to determine if there are any impacts to the intended use of the grant and what the level of those impacts would be. Impacts to non-utility/energy production ROWs would be reduced by locating proposed facilities on available land within the Energy Zone Expansion Area, because the proposed Project is a compatible land use within that zone. No other known land use authorizations would be affected by the construction, operation, and decommissioning of the proposed Project in the Southern Terminal.

Portions of the Southern Terminal are adjacent to the Nelson/Eldorado SRMA and the Sloan Canyon NCA. The Sloan Canyon NCA and most of the Nelson/Eldorado SRMA are on public lands, and would not be directly affected by the proposed terminal facilities; however, some recreational uses could be affected, primarily during construction (see Section 3.13, Recreation Resources, and Section 3.15, Special Designation Areas). Siting the proposed Southern Terminal facilities in the Energy Zone Expansion Area would avoid impacts to the BCCE and the Nelson/Eldorado SRMA special designation areas. Following construction, disturbed areas would be reclaimed in accordance with the BMPs in **Appendix C**.

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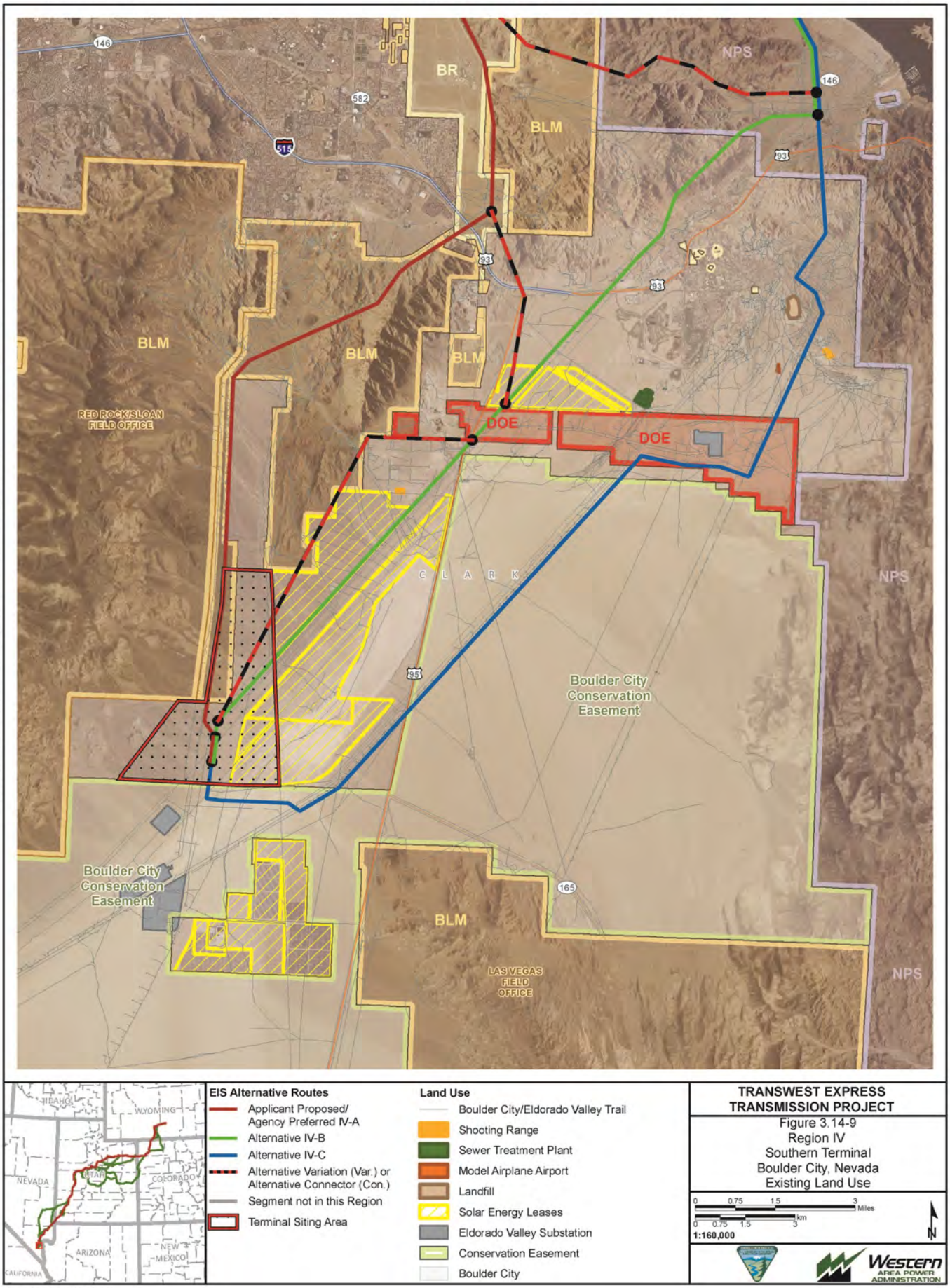

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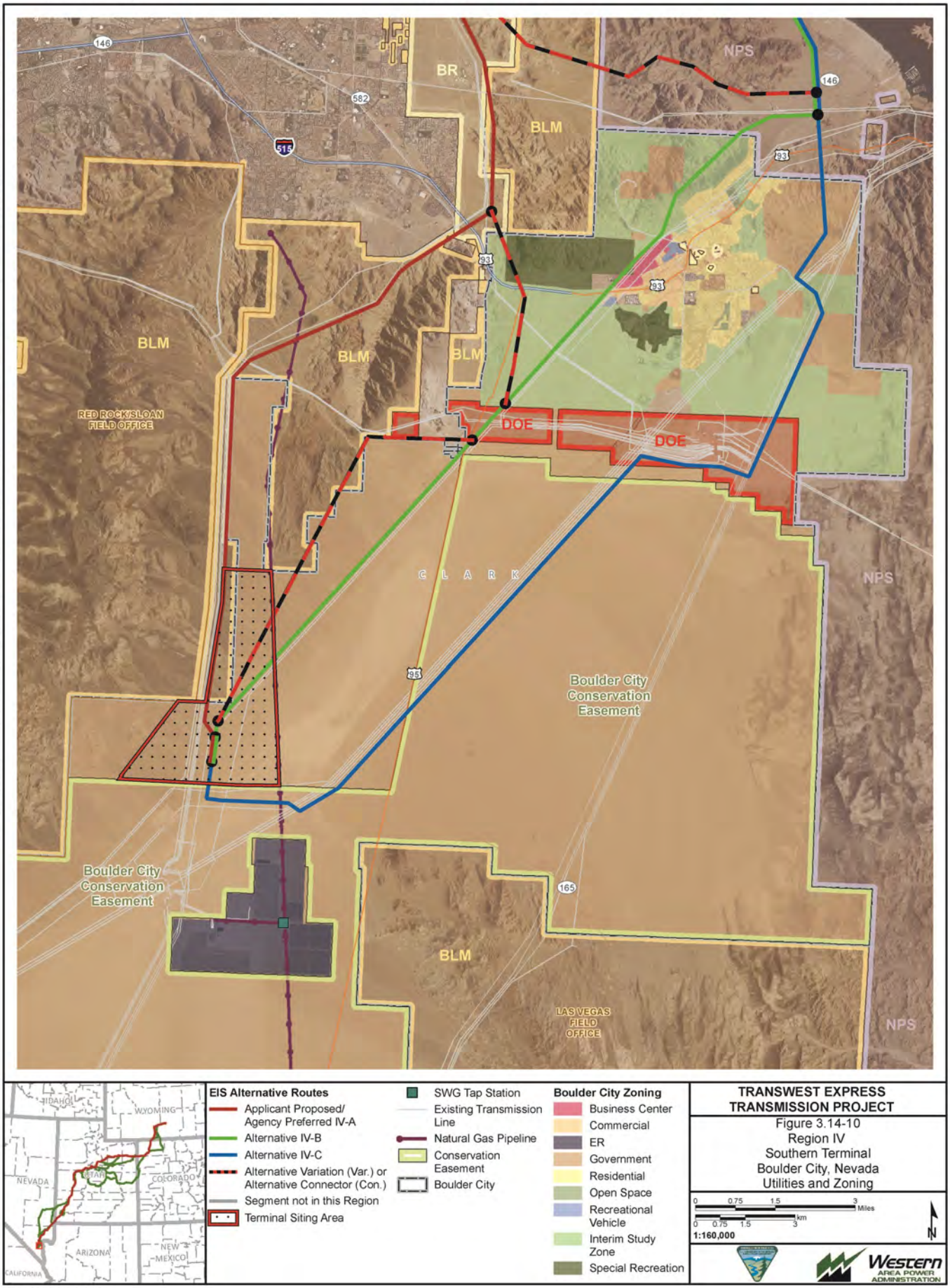

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There are no residences, communities, structures, or other sensitive receptor areas within 1 mile of the proposed terminal site.

Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

The design option involves modifications of proposed transmission facilities. Differences between this design option and the Proposed Project include the locations of the southern converter station and ground electrode system, as well as the addition of a series compensation station midway between the IPP and Marketplace. The southern converter station would be located near the IPP in Utah instead of at the Marketplace in Nevada and the ground electrode system would be within 50 miles of the IPP.

The relocated Southern Terminal would comprise 93 acres of permanent disturbance and would be located on BLM lands directly adjacent to the IPP in Millard County, Utah. Development of a ground electrode siting area would comprise 40 acres and would be located on BLM and state lands in Juab County. **Figure 3.14-11** depicts the location of the Southern Terminal and ground electrode areas. Construction and operation of these areas would not be expected to impact land use resources. There would be no communities or communication sites located within 1 mile of the proposed location. There are no structures within 500 feet of the alignment. There would be 1 RA (Little Sahara RA) and 1 wildlife study area (Fish Springs) within 1 mile of the proposed ground electrode bed siting area.

Design Option 2 would have no additional impacts to land resources than those previously described.

Design Option 3 – Phased Build Out

The design option involves modifications of proposed transmission facilities. Development of a substation would comprise 75 acres of permanent disturbance and would be located completely on BLM lands directly adjacent to the IPP within Millard County, Utah. The land that would be used for the substation is the same as that would be used for the Southern Terminal under Design Option 2 and is depicted in **Figure 3.14-11**.

3.14.6.2 Impacts Common to All Alternative Routes and Associated Facilities

Direct and indirect impacts to land resources in the four Project regions would occur from the construction, operation, maintenance, and decommissioning of the transmission line and associated temporary and permanent facilities associated with the alternative routes, alternative variations, and alternative connectors. At the end of the Project's 50-year ROW grant, or when it is determined that the Project is no longer economical, the Project would be decommissioned and the area reclaimed. Additional NEPA may be required for this action. Impacts from decommissioning of the proposed Project would be very similar to the effects from short-term construction activities as discussed in the following sections. Upon decommissioning, land use impacts from construction and operation of the Project may be reversible with successful reclamation, and thus, no permanent land use impacts would be anticipated from the Project under any alternative. Any changes in land use surrounding the developed transmission line as a result of the line's long-term operation may not be reversible upon decommissioning.

Land Ownership/Residential and Built Environment

No changes to current jurisdiction from the construction and operation of the Project alternative routes are anticipated. Minimal changes to private land ownership are anticipated, and would occur through the negotiation and acquisition of property in fee by TransWest for certain facilities that could include communication sites or ground electrode systems. As discussed in Section 1.6, if landowners were unwilling to negotiate an easement or fee ownership with TransWest, then Western would consider the acquisition of property rights under eminent domain laws if they decide to participate in the Project. However, Western is committed to fostering positive relationships with all affected communities through a strong public engagement program in lieu of eminent domain.

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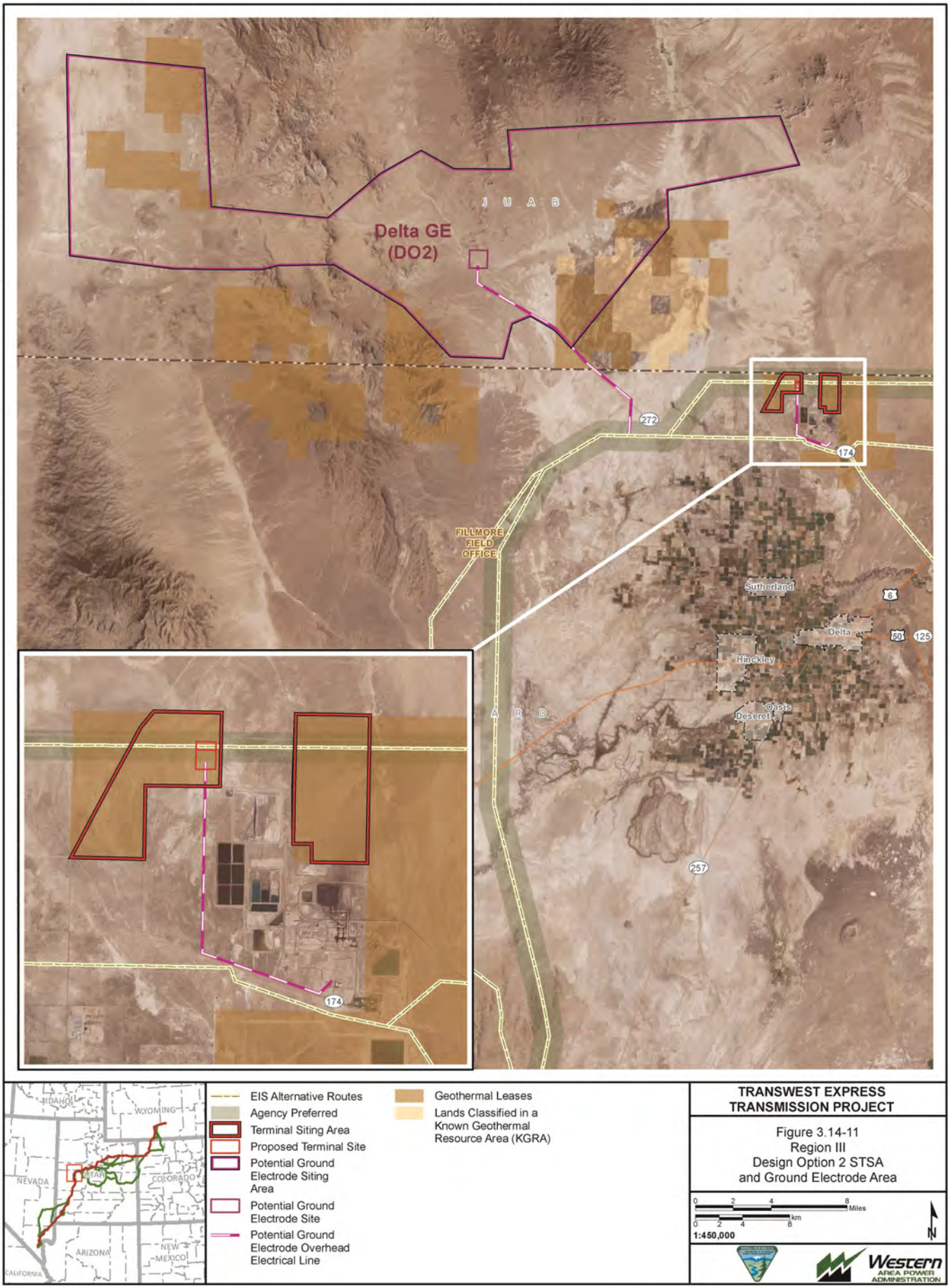

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Impacts to residential uses, as well as to occupants of built environment areas, would include short-term, construction- and decommission-related disturbances. With the exception of oil and gas facilities, most residential, commercial, and industrial uses in the 250-foot-wide transmission line ROW and refined transmission line corridor occur in close proximity to municipalities or on private lands generally zoned for agricultural or low-density residential uses. Although it is not anticipated that occupied residences would be removed within the 250-foot-wide transmission line ROW under any alternative, the project could use buildable areas of the property that preclude additional development or use. Existing structures would be avoided; however, the Project may make use of unoccupied buildable areas that would preclude future development. Areas where residential structures are planned but do not exist cannot be effectively analyzed; however, the potential impact to planned development can be considered on conjuncture with the total miles of private land impacted by each alternative.

Occupants of structures within 500 feet of transmission alignments would experience sights and sounds of construction activity, including the presence of materials, construction workers, and equipment during transmission line construction. These disturbances would decrease with increasing distance from the transmission alignment (see Section 3.18, Public Health and Safety, for additional information regarding noise attenuation).

To the extent practical existing access roads would be used; however, there would likely be some locations where new roads would need to be created through private lands. This has the potential to generate dust emissions from vehicle use and also could lead to accidental or intentional trespass. Additional mitigation (**LU-2**) would be implemented to reduce conflicts due to the creation of new roads. In addition, access to residential, commercial, and industrial use areas may be temporarily disrupted at some locations. It is assumed that the residences are occupied; however, at this time no field verification has been conducted. TransWest design features addressing dust control and public health and safety (see **Appendix C**) would reduce the disturbances and hazards associated with construction activities. Additional discussion of these impacts, and the design features and agency BMPs that reduce these impacts, are addressed in Section 3.18, Public Health and Safety. Operations-related maintenance traffic and activities would not have access to existing structures.

LU-2: *On private lands, access shall be limited to existing roads whenever practicable or as desired by the landowner. If new and improved access cannot be avoided on private lands, access roads shall be closed or rehabilitated at the direction of the landowner and through methods and monitoring developed in consultation with the landowner. Methods for closure could include gates, obstructions such as berms or boulders, or partial or full restoration to natural contour and/or vegetation.*

Existing and Planned Land Uses

Applicable BLM, USFS, and other federal agency management guidelines, objectives, and management plans were reviewed to identify potential management and land resource conflicts as a result of construction and operation of the Proposed Project. In general, operation of the Proposed Project would be in compliance with agency stipulations to meet agency resource objectives with the implementation of design feature TWE-1 (see **Appendix C**). Locations where the Project would not be consistent with existing federal agency management plans and the related impacts are discussed in Chapter 4.0, Federal Agency Land Use Plan Amendments. As discussed in Section 3.15, Special Designations, roadless construction methods would be used within IRAs to ensure compliance with the Roadless Rule.

County zoning and the county permitting processes for all affected counties are the primary tools for implementing county land use restrictions, including regulating development on private lands, and ensuring that proposed projects are developed in a manner that minimizes impacts to the county and county residents. The majority of the transmission line alternatives cross rural areas containing public and private lands. Zoning of private lands within the alternative corridors generally reflects the dominant agricultural (primarily grazing) land use. Most of the affected counties provide for the development of large transmission lines and associated facilities through zoning regulations;

however, the development of transmission lines is not addressed in all zoning ordinances for every affected district. Many rural/agricultural zoning districts designate transmission lines and associated facilities as ‘allowed uses’ that are allowed by right within the respective zoning district. A ‘conditional use’ or ‘special use’ designation indicates that a specific use is allowed within the respective zoning district only after review and approval of a Conditional Use Permit or a Special Use Permit. Consultation with each county planning agency would ultimately be required to determine the procedure for permitting the Proposed Project within each county. The Proposed Project is anticipated to be generally consistent with applicable state or local land use plans, policies, goals, or regulations. All known instances of potential incompatibility are identified in the regional analyses contained in Sections 3.14.6.3 through 3.14.6.6.

Land Use Authorizations

Land use authorizations on public lands include various types of leases, easements, licenses, permits, and both linear and non-linear ROWs. Other land use authorizations and realty actions may include proposed land tenure adjustments of parcels that have been identified for either disposal or potential acquisition. Land tenure adjustments include land ownership transfers of parcels identified by the BLM through purchase, exchange, donation and sale, and are a component of the BLM's land management strategy to improve management of resources. There is currently no consistent dataset for the entire analysis area that provides the locations and types of land tenure adjustments, non-linear ROWs, or easements. However, these types of land use authorizations are common on public lands and are likely to occur throughout the analysis area.

Construction and operation of the transmission line could potentially result in an impact to various types of land use authorizations. Potential conflicts of the transmission line alternatives to other land use authorizations, easements, ROWs, and land tenure adjustment parcels would need to be addressed on a case-by-case basis with each federal land management agency. Land use authorizations may be temporarily impacted during construction and decommissioning. Operation of the proposed transmission line is anticipated to be generally compatible with most types of land use authorizations, since authorized activities could likely resume within the 250-foot-wide transmission line ROW once construction has been completed; however, land uses such as energy development would likely be permanently precluded from the 250-foot-wide transmission line ROW. In places where a conflict is unavoidable, minor shifts in the transmission line route or adjustments to the land use authorization may be required.

Agriculture

Direct and indirect temporary impacts to cropland within the 250-foot-wide transmission line ROW would occur from construction and decommissioning activities. The clearing and crossing with construction vehicles (drive and crush), and the surface disturbance from the construction phase would temporarily remove productive cropland within the ROW. Design feature TWE-40 (see **Appendix C**) provides for site-specific alignment of the 250-foot-wide transmission line ROW to reduce impacts to farm operations and agricultural production on producing croplands. Soils compacted by construction activities would be disked to reduce compaction and minimize impacts on agricultural operations (design feature TWE-41).

Producing croplands constitute a small proportion of all land cover types within the analysis area and it is anticipated there would be limited, if any, impacts to producing croplands from construction and decommissioning activities in the Project corridors under any alternative. Because access roads and temporary work areas would easily be sited outside of producing croplands as provided for by design feature TWE-40, cropland removal was not quantified. Coordination with farm operators, avoidance of structure placement, and minimizing structure footprints in croplands would minimize the impacts to agricultural uses to small areas of long-term loss of agricultural lands.

All known instances of pivot irrigation systems within the refined transmission line corridor are identified in the regional analyses contained in Sections 3.14.6.3 through 3.14.6.6. Center pivot irrigation systems within the refined transmission line corridor would be avoided by locating construction activities and

access roads outside of pivot areas as provided for by design feature TWE-40; impacts to other types of conventional irrigation systems would be minimized though coordination with farm operators. Areas where pivot irrigation systems are planned but do not exist cannot be effectively analyzed; however, the potential impact to planned systems can be considered on conjuncture with the total miles of agriculture land impacted by each alternative. Potential conflicts with irrigation systems that are in progress or planned would be avoided through mitigation measure **AGRI-1**.

Access roads may be required through producing croplands in some locations. Access roads to proposed facilities would displace croplands. Construction vehicles on access roads would temporarily interfere with agricultural activities and would result in soil compaction and direct damage to crops if construction were to occur during the growing season. Coordination with farm operators, avoidance of access road placement in croplands, and restoration of croplands would minimize the impacts to agricultural uses to short-term loss of agricultural lands for temporary roads.

Land required for operation facilities within the 250-foot-wide transmission line ROW would be removed from production for the lifetime of the Project. The loss of productive cropland would be minor under any alternative, because the land removed from crop production is very small relative to the cropland within ROWs that would continue to be available for crop production. The permanent removal of cropland from the operation of the action alternatives would be minor with the implementation of Design Feature TWE-40, which provides for the siting of facilities to avoid conflicts with agricultural activities. Additional mitigation (**AGRI-1**, **AGRI-2**, and **AGRI-3**) would eliminate conflicts by careful placement of structures and access roads, and through consideration of the use of self-supporting tower structures. Transmission structures that are not self-supporting and are located along roadways or property lines adjacent to croplands would require guy wires, which may intrude into croplands. Additional mitigation **AGRI-4** would reduce potential hazards to agriculture operations from the low visibility of guy wires.

AGRI-1*: Coordinate with farm and ranch operators to identify problems with structure placement and determine structure locations to ensure implementation of design feature TWE-40. Locate structures along fence lines, field lines, or adjacent to roads. Use longer spans between structures to clear fields. Consider use of non-guyed free-standing transmission structures in agricultural areas.*

AGRI-2*: Schedule construction activities to avoid planting and harvesting activities.*

AGRI-3*: Minimize locating access roads within the analysis area in areas with croplands. For croplands that cannot be avoided by access roads, establish procedures for determining temporary and permanent access road locations with landowners and operators, and establish protection methods for roads over croplands that cannot be avoided by construction activities. Restore locations of temporary access roads to pre-construction conditions and leave permanent access roads intact through mutual agreement with the landowner and operator.*

AGRI-4*: Minimize the use of guy wires in crops and hay lands to the extent possible. If guy wires have to be used in crop and hay lands, highly visible shield guards will cover the wires.*

Livestock Grazing

Direct impacts to grazing allotments from construction, operation, and decommissioning activities could include the loss of forage, fragmentation of grazing allotments, potential disruptions to lambing and/or calving areas and periods, and increased mortality and injuries to livestock resulting from increased vehicle traffic. In addition, livestock could be temporarily displaced from preferred grazing areas, range improvements (including water sources), and range study plots by construction activities. Loss of forage could result from surface disturbance related to construction of the transmission line, access roads, and ancillary facilities, and the placement of permanent structures, access roads, and facilities. In addition, loss of forage could result from the potential conversion of native vegetation communities due to indirect effects such as erosion and the invasion and spread of noxious and invasive weed species. In areas where successful reclamation is difficult, or lengthy, any loss of forage would be considered a long-term

impact. Any placement of roads and facilities that prevent access to all or large sections of individual grazing allotments could result in fragmentation of grazing allotments.

In addition, noise and human presence from construction activities near calving and/or lambing areas could result in increased mortality. Separation of cattle and/or ewes from water or food sources requiring them to move potentially could result in the separation of calves and/or lambs from their mothers, which could lead to an increase in mortality. Construction activities would result in increased vehicle traffic and potentially increased vehicular speed on roads that are improved. Increased vehicle traffic and speeds would increase the potential for livestock/vehicle collisions. The construction of access roads in grazing areas could cause livestock to use roads as travel routes but also could provide alternate access to grazing allotments, water resources, grazing facilities, and livestock if retained for public use. The construction of new roads could result also in increased access to grazing allotments, and increased trespassing and vandalism.

Indirect impacts would include the spread of noxious and invasive species and fragmentation of allotments. See Section 3.5, Vegetation, for further discussion of noxious and invasive species impacts on vegetation resources. Impacts to vegetation could lead to the loss of available native forage and increased livestock mortality.

Range improvements, which include fences, gates, cattle guards, and stock tanks, could be directly removed or disturbed as a result of surface disturbance activities associated with construction activities. Additional impacts could occur through potential damage to fences, gates, and cattle guards, resulting in the accidental release of livestock. Long-term range monitoring sites could be directly removed or disturbed as a result of surface disturbance activities associated with construction activities.

Implementation of mitigation measures **RANGE-1** through **RANGE-6** would avoid or minimize impacts to range improvements.

Impacts to USFS and BLM rangelands would be minimized by adherence to the BLM Rangeland Health Standards (H-4180-1). The BLM has developed the BLM Rangeland Health Standards for each state (43 CFR 4180.1), and the USFS has an MOU with BLM regarding the use of these standards. The Fundamentals of Rangeland Health outline the key fundamentals for rangeland health. These include:

- Properly functioning watersheds;
- Water, nutrients, and energy are cycling properly;
- Water quality complies with State water quality standards; and
- Threatened and endangered species habitat is being protected.

The standards address the minimum acceptable conditions for public rangelands based on the health, productivity, and sustainability of the rangelands.

In addition to the design features, BMPs, and proposed mitigation measures described above (Section 3.14.6.1, Impacts from Terminal Construction, Operation, and Decommissioning), the following mitigation measures are recommended for range resources:

RANGE-7*: Speed limits would be followed and signs would be erected in lambing/calving areas, shipping pastures, or adjacent to working corrals to warn vehicle operators of the agricultural operations.*

Effectiveness: The implementation of **RANGE-1** to **RANGE-6** are described in Section 3.14.6.1. Mitigation measure **RANGE-7** would promote awareness of areas of concern for livestock. By avoiding lambing areas and informing vehicle operators of operations, impacts to livestock would be minimized.

Operation impacts could include the permanent loss of forage capacity, and changes in livestock management activities due to facility, tower, access road footprints, and maintenance activities in the ROW. The loss of forage due to the tower footprints, ancillary footprints, and permanent access roads would be permanent for the life of the Project; however, these decreases in forage would be minor. Any potential losses of forage and associated AUMs would not be enough to warrant adjusting the grazing permit associated with individual grazing allotments.

The remaining areas not affected by permanent facilities would be reclaimed immediately following completion of construction as described in Section 3.5, Vegetation. The implementation of the proposed mitigation measures would minimize impacts to range improvements. Based on the implementation of the proposed mitigation measures, an irreversible loss of available rangeland that would make livestock production uneconomical would not be anticipated.

Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

This design option involves modifications of proposed transmission facilities that would apply to all alternatives. Under Design Option 2, the transmission line would be AC from Southern Terminal near the IPP to the Marketplace Hub in Nevada. Unlike DC power lines, AC transmission lines can cause induced current in nearby objects, such as buildings, fences, or other equipment in very close proximity to the transmission line. In order to minimize the potential for electric shock, buildings, fences, and other structures with metal surfaces located within 300 feet of the centerline would be grounded. All metal irrigation systems and fences that parallel the AC transmission line for distances of 500 feet or more, within 300 feet of the centerline would be grounded. Additionally, all fences that cross under the AC transmission line also would be grounded (**Appendix D**). Section 3.18, Public Health and Safety, provides more information regarding impacts from AC lines.

Approximately 55 percent of this design option from IPP to Marketplace Hub would be constructed using AC power lines that are co-located with existing utility corridors that may contain pipelines, resulting in potential electrical interference from electric and magnetic induction. Additionally, high voltage AC transmission line located adjacent to a railroad may result in safety hazards, damage to signal and communication equipment, or false signaling of equipment. Design features identified in **Appendix D** and Section 3.18, Public Health and Safety, would minimize the potential for interference to pipelines, railway operating personnel, and the public.

Design Option 3 – Phased Build Out

This design option involves modifications of proposed transmission facilities that would apply to all alternatives. Design Option 3 would have no additional impacts to land resources than those previously described; however, the timing would vary due to construction schedule differences for the various alternatives. A two-phase approach would be initiated with the construction of a 442-mile AC transmission line between the proposed North Terminal in Sinclair, Wyoming and the IPP substation near Delta, Utah. The second phase would entail the construction of a DC transmission line from the IPP substation to the proposed Southern Terminal, south of Boulder City, Nevada. The timing of construction for the second phase would be determined by future market demands.

3.14.6.3 Region I

The dominant land ownership crossed by each alternative in Region I are federal lands managed by the BLM and private lands. The ROWs and corridors also include state-owned lands in Wyoming and Colorado (see **Figure 2-12**). Agriculture and grazing are the major land use in Region I. Impact parameters for land use in Region I are tabulated in **Table 3.14-8** by alternative route.

Table 3.14-8 Region I Alternative Route Land Use Impact Parameters

Impact Parameters		Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Jurisdiction	BLM (miles/percent of alternative within region)	103/66%	105/67%	78/44%	117/70%
	Rawlins	57	59	42	71
	Little Snake	34	34	24	34
	White River	12	12	12	12
	BOR (miles/percent of alternative within region)	0	0	<1/<1%	0
	Local (miles/percent of alternative within region)	0	0	4/2%	0
	Private (miles/percent of alternative within region)	39/25%	38/24%	88/47%	38/22%
	State (miles/percent of alternative within region)	14/9%	14/9%	16/9%	13/8%
	Total (miles)	**156**	**158**	**186**	**168**
Wyoming	Carbon	56	56	69	76
	Sweetwater	34	36	12	28
Colorado	Moffat	65	65	102	65
	Routt	0	0	3	0
Designated Utility Corridors[1]	Length within RMP designated corridors (miles/percent of alternative within region)[2]	24/15%	24/15%	53/28%	24/14%
	Length within WWEC designated corridors (miles/percent of alternative)[3]	25/16%	25/16%	60/32%	25/15%
	Total (miles/percent of alternative)	**26/17%**	**26/17%**	**62/33%**	**26/15%**
Co-location	Non co-located/co-located (miles)	106/49	108/49	94/92	119/49
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	21	21	522	21
	Construction disturbance (acres)	16	16	324	16
	Operation disturbance (acres)	4	4	72	4
	Number of center pivots crossed by alignment (count)	0	0	1	0
	Number of center pivots within Project corridor (count)	2	2	2	2
Livestock Grazing	Construction disturbance (acres)	983	965	776	1,279
	Estimated decreased AUMs[4]	49	48	39	64
	Operation disturbance (acres)	249	251	197	301
	Long-term decreased AUMs[4]	12	13	10	15
Communities	Count of communities within refined transmission line corridor	2	2	4	2
Structures within 500 feet of alignment	Residential (count)	0	0	5	0
	Commercial/Industrial/Oil and Gas facilities (count)	10	10	16	3
	Agricultural (count)	0	0	0	0
	Outbuilding (count)	0	0	0	0
	Total (count)	**10**	**10**	**21**	**3**
Structures within 200 feet of alignment	Residential (count)	0	0	0	0
	Commercial/Industrial (count)	1	1	1	2
	Agricultural (count)	0	0	0	0
	Outbuilding (count)	0	0	0	0
	Total (count)	**1**	**1**	**1**	**2**

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

[2] Corridors identified by the BLM and the USFS in their respective land management plans.

[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

[4] The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding.

As shown in **Figure 2-4**, there are a number of WWEC designated utility corridors within Region I that could be used by the Project alternatives. **Table 3.14-9** provides details of these WWEC designated utility corridors. With the exception of Corridor 73-133 which is designated "underground-only," all of the WWEC corridors that would be used by project alternatives are either multi-modal or electric only. The use of an underground-only corridor for an overhead electric transmission line would be a conflict with the designated use of the corridor.

Table 3.14-9 WWEC Designated Utility Corridors Potentially Used by the Project Alternatives and Variations in Region I

State	WWEC Corridor Number	Designation[1]	Used by Project Alternatives and Variations	Notes
Wyoming	78-138	Multi-modal	All Alternatives	Alignment is located immediately south of designated corridor.
Wyoming	138-143	Multi-modal	Alternative I-C	No conflict expected.
Wyoming and Colorado	73-133	Underground-Only	Alternative I-B	Conflict with corridor designation as underground-only.
Colorado	138-143	Electric-Only	Alternative I-C	No conflict expected.
Colorado	133-142	Multi-modal	Alternative I-C	No conflict expected.
Colorado	126-133	Multi-modal	All Alternatives	No conflict expected.

Alternatives I-A, I-B, I-C, and I-D cross through the counties listed in **Table 3.14-10**. Existing and future land use spatial data, in a digital or paper map format, were not available for all counties in the region. This is because the majority of lands in unincorporated areas outside of municipalities are composed of federal or state lands; or because the zoning designations describe the planned/future land use and separate planning maps were not available.

Table 3.14-10 Consistency with Applicable County Land Use Plans and Policies in Region I

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Carbon County, Wyoming	Carbon County Comprehensive Land Use Plan, April 2012 Carbon County Zoning Resolution of 2003; Amended April 5, 2011 Little Snake Conservation District Land, Water, and Natural Resources Management Plan	Land Use – Agriculture Future Land Use – Rural Agriculture, Agricultural Rural Living Zoning – Ranching, Agriculture, Mining District; electric transmission lines over 69-kV are a Conditionally Permitted Use.
Sweetwater County, Wyoming	Sweetwater County Comprehensive Plan, 2002 Sweetwater County Zoning Resolution, 2011 Sweetwater County Conservation District Land and Resource Use Plan and Policy Sweetwater County Growth Management Plan Little Snake Conservation District Land, Water, and Natural Resources Management Plan	Land Use – Agriculture Future Land Use – no available spatial data Zoning – Agriculture; Transmission Lines, Stations, and Towers are a Permitted Use by right. Rural Residential district – not specified Encourages identification and application of ROWs in order to support multiple uses on public lands, so long as there is adequate and just compensation of private property when the ROW crosses private land. Comprehensive Plan goals are to: "Recognize and protect the County's unique cultural, recreational, environmental and historic resources." To meet the intent of this goal, Sweetwater County encourages actions that avoid or minimize impacts to: Adobe Town, Haystacks, Willow Creek Rim, Powder Mountain and the Overland and Cherokee Trails (Sweetwater County 2013).
Moffat County, Colorado	Moffat County Master Plan	Land Use – Agriculture Future Land Use – Rural Character Area Zoning – Agriculture district: Public utilities, including transmission lines, subject to a Conditional Use Permit.

Table 3.14-10 Consistency with Applicable County Land Use Plans and Policies in Region I

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Routt County, Colorado	Routt County Master Plan	Land Use – Agriculture Future Land Use – not within designated Growth Centers Zoning – the County will not approve development applications or special use permits that would lead to the degradation of the environment without mitigation and will discourage development on ridges that results in skylining.
Uintah County, Utah	Uintah County Zoning Ordinance (2005) Uintah County Land Use Plan (2010)	Land Use – Recreation, Forestry, and Mining; Mining and Grazing; Agricultural; Low Density Agricultural; Industrial; Industrial-Commercial Future Land Use – Recreation, Forestry, and Mining; Mining and Grazing; Agricultural; Low Density Agricultural; Industrial; Industrial-Commercial Zoning – Recreation, Forestry, and Mining district, Agriculture district, Light Industrial district. Transmission line or public utilities, with exception of substations, not specified as an allowable, special, or conditional use under any zoning district.

According to the RMPs, some areas are designated as avoidance areas to protect sensitive resource values. The designated avoidance areas within Region I are outlined in **Table 3.14-11**. The Cherokee Trail and the Overland Trail, which are both crossed by each alternative route, are designated as avoidance areas for new linear crossings. The Rawlins RMP requires that linear crossings of these historic trails occur in previously disturbed areas. Impacts to Historic Trails are discussed in Section 3.11, Cultural Resources, and Section 3.15, Special Designation Areas. **Figure 3.14-12** identifies designated avoidance areas as well as conservation easement areas with overhead line prohibitions.

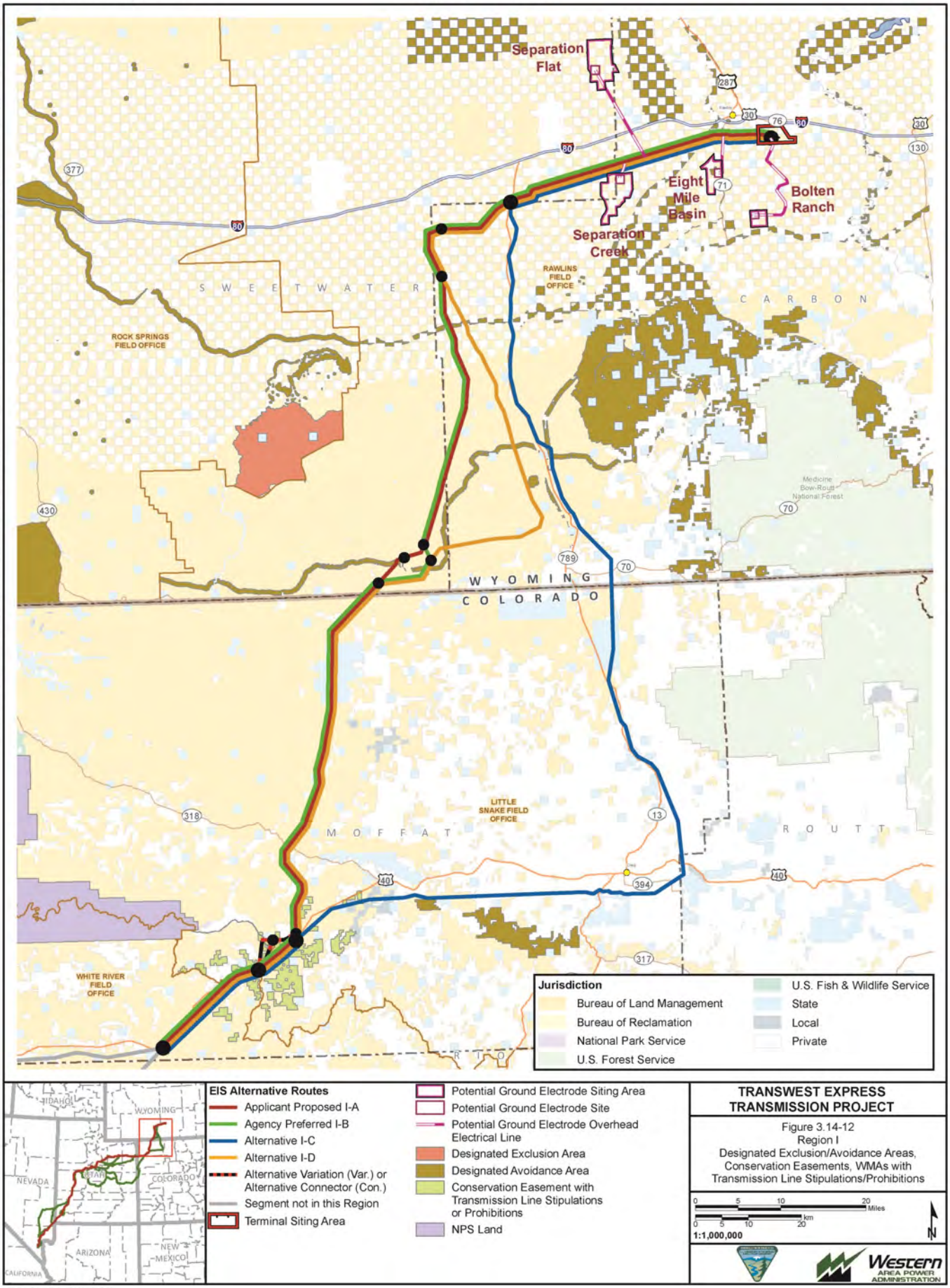
Table 3.14-11 Designated Avoidance Areas Within Region I

Designated BLM Avoidance/Exclusion	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Avoidance Areas	Cherokee Trail Rawlins FO Avoidance Area (not described in available data)	Cherokee Trail Rawlins FO Avoidance Area (not described in available data)	Cherokee and Overland Trails Rawlins FO Avoidance Area (not described in available data) Juniper Mountain	Cherokee and Overland Trails Rawlins FO Avoidance Area (not described in available data)
Preliminary Engineered Alignment Crossing Avoidance (miles)	1	1	<1	2
Overlap with Refined Transmission Corridor or Analysis Area (acres)[1]	None	None	Analysis Area - 1,412 acres in the Juniper Mountain SRMA	None
Exclusion Areas	none	none	none	none
Preliminary Engineered Alignment Crossing Exclusion (miles)	0	0	0	0
Overlap with Refined Transmission Corridor or Analysis Area (acres)[1]	None	None	None	None
Conservation easement or WMA transmission line restrictions[2]	Overlaps with the Tuttle Ranch Conservation Easement[3]	Overlaps with the Tuttle Ranch Conservation Easement[3]	Overlaps with the Tuttle Ranch Conservation Easement[2] and the Bitter Brush WSA	Overlaps with the Tuttle Ranch Conservation Easement[2]

[1] Overlap with Avoidance or Exclusion areas only indicates potential for impact as siting within the corridors has not yet been determined.

[2] The proposed location of the Cross Ranch Conservation Easement is not known; however, all alternatives would cross portions of the ranch.

[3] Overhead transmission lines prohibited.



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Alternative I-A (Applicant Proposed)

Approximately 66 percent of the 156-mile Alternative I-A route would be located on BLM-managed lands; an additional 9 percent would be located on state lands. Twenty-four miles of Alternative I-A would be in BLM-designated utility corridors and 25 miles would be in WWEC utility corridors. A total of 49 miles would be co-located with other ROWs. Designated avoidance areas are crossed by the alignment for 1 mile near the Cherokee Trail area. This equates to approximately 17 acres out of a total of 596,855 in the entire FO. Construction in these areas would require adherence to controlled surface use stipulation and agency BMPs.

An estimated 983 acres (49 AUMs) would be removed from BLM-managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 249 acres (12 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

Under Alternative I-A, approximately 39 miles (25 percent) would cross private land. Alternative I-A also would result in 21 acres of additional ROW clearing, 16 acres of construction disturbance, and 4 acres of permanent removal of croplands. No center pivots are within the 250-foot-wide transmission line ROW; two center pivots are located within the analysis area.

There would be 10 commercial/industrial structures within 500 feet of the preliminary engineered alignment; the majority of the commercial/industrial structures are oil and gas pads. At a distance of 200 feet from the preliminary engineered alignment, the number of commercial/industrial structures would be reduced to one. Land use conflicts would be eliminated by use of requisite buffers between well pads and transmission lines. Gathering systems or pad access roads within the area are not included in the above “structure” count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within the area used for oil and gas development.

There would be two communities within the analysis area (Rawlins, Wyoming, and Elk Springs, Colorado).

Under Alternative I-A, approximately 3 miles of the 250-foot-wide transmission line ROW would be located within the Tuttle Ranch Conservation Easement, which prohibits overhead transmission lines unless approved by the State. Alternative I-D contains an analysis of micro-siting options to place the 250-foot-wide transmission line ROW outside of the conservation easement.

Alternative I-B (Agency Preferred)

Alternative I-B follows the Alternative I-A route with the exception of a 2-mile deviation in Sweetwater County. This would change the portion of the route located on BLM-managed lands from 103 miles to 105 miles and the portion within Sweetwater County from 34 to 36 miles. The BLM also may consider micro-siting variations to Alternative I-B to avoid crossing portions of the Cross Mountain Ranch conservation easement. Such minor variations would be within the 2-mile corridor analyzed in the EIS. All other impacts would be the same, or very similar to Alternative I-A.

Alternative I-C

Approximately 44 percent of the 186-mile Alternative I-C route would be located on BLM-managed lands; an additional 9 percent would be located on state lands. Fifty-three miles of Alternative I-C would be in

BLM-designated utility corridors and 60 miles would be in WWEC utility corridors. A total of 97 miles would be co-located with other ROWs. Designated avoidance areas are crossed by the alignment for less than 1 mile around the Overland Trail and Cherokee Trail areas. This equates to approximately 12 acres out of a total of 596,855 in the entire FO. The analysis area where access roads could be located overlaps with approximately 1,412 acres within the Juniper Mountain SRMA.

An estimated 776 acres (39 AUMs) would be removed from BLM-managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 197 acres (10 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

Under Alternative I-C, approximately 88 miles (47 percent) would be located on private land. Alternative I-C would result in 522 acres of additional ROW clearing, 324 acres of construction disturbance, and 72 acres of permanent removal of croplands. One of the two center pivots located within the refined transmission line corridor would be within the 250-foot-wide transmission line ROW.

There would be 5 residences and 16 commercial structures within 500 feet of the preliminary engineered alignment. The majority of the commercial/industrial structures are oil and gas pads. At a distance of 200 feet from the alignment the number of residential and commercial/industrial structures would be reduced to 0 and 1, respectively. Land use conflicts would be eliminated by use of requisite buffers between well pads and transmission line. Gathering systems or pad access roads within the area are not included in the above “structure” count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within areas used for oil and gas development.

Portions of Elk Springs and the City of Craig in Colorado, as well as Rawlins and the Town of Dixon in Wyoming would be within the in the analysis area. **Figure 3.14-13** provides a close-in view of residential uses and other land uses within Craig. There are no identified incompatible land uses within this community. A privately owned mineral springs located south of Maybell, Colorado, Juniper Hot Springs, would be within 1 mile of the refined transmission line corridor. The resort is within the area in which roads or construction support areas might be located; the resort would be located on the side of the Yampa River opposite of the transmission line. This area would be unlikely to be used for road and support area siting. The resort would therefore be unlikely to be affected by construction or operation of the line.

Under Alternative I-C, approximately 3 miles of the 250-foot-wide transmission line ROW would be located within the Tuttle Ranch Conservation Easement, which prohibits overhead transmission lines unless granted approval by the State; however, the 250-foot-wide transmission line ROW could be relocated onto the portion of the analysis area located outside of the conservation easement area. Alternative I-D contains an analysis of micro-siting options to place the 250-foot-wide transmission line ROW outside of the conservation easement. Approximately 4 miles of the Bitter Brush SWA (a designated state WMA) would be crossed by 250-foot-wide transmission line ROW.

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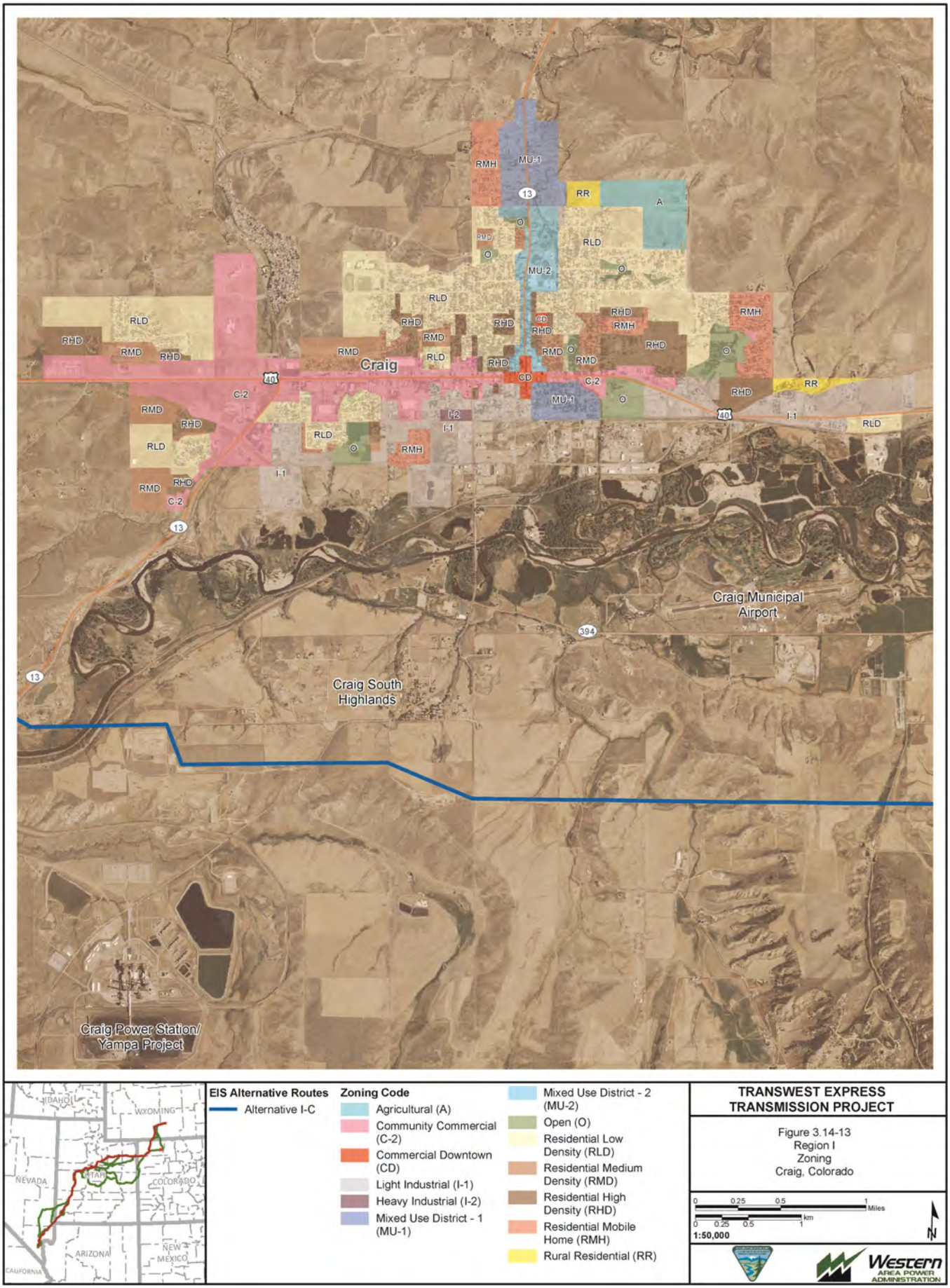

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Alternative I-D

Approximately 70 percent of the 168-mile Alternative I-D route would be located on BLM-managed lands; an additional 8 percent would be located on state lands. Twenty-four miles of Alternative I-D would be in BLM-designated utility corridors and 25 miles would be in WWEC utility corridors. A total of 53 miles would be co-located with other ROWs. Designated avoidance areas are crossed by the preliminary engineered alignment for 2 miles around the Overland Trail and Cherokee Trail areas. This equates to approximately 55 acres out of a total of 596,855 in the entire FO.

An estimated 1,279 acres (64 AUMs) would be removed from BLM-managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 301 acres (15 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

Under Alternative I-D, approximately 38 miles (22 percent) would be located on private land. Alternative I-D also would result in 21 acres of additional ROW clearing, 16 acres of construction disturbance, and 4 acres of permanent removal of croplands. No center pivots would be affected by the preliminary engineered alignment; there would be two center pivots within the refined transmission line corridor.

There would be 3 commercial/industrial structures within 500 feet of the preliminary engineered alignment (mostly oil and gas pads). At a distance of 200 feet this number would be reduced to 2 commercial/industrial structures. Land use conflicts would be eliminated by use of requisite buffers between well pads and transmission line. Gathering systems or pad access roads within the area are not included in the above “structure” count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within the area used for oil and gas development. There would be two communities within the vicinity of the refined transmission line corridor or the analysis area where roads or construction support areas could be located: Rawlins, Wyoming, and Elk Springs, Colorado.

Tuttle Ranch Micro-siting Options

The Tuttle Ranch Conservation Easement prohibits building or installation of any new above ground public or private utilities (including but not limited to electrical transmission lines, wind turbine towers, antennas, radio, telephone, and television telecommunication towers), unless the State provides prior written approval (State of Colorado 2012).

The Tuttle Ranch Micro-siting Option 3 would decrease the mileage crossing BLM lands by 2.3 miles and increase the mileage crossing private lands by 1.6 miles. Disturbance to agricultural lands would be reduced by 2 acres for construction and 1 acre for permanent disturbance. Additionally, there would be 0.1 mile of NPS lands that would be crossed. No portion of this option would cross the Tuttle Conservation easement.

The Tuttle Ranch Micro-siting Option 4 would decrease the mileage crossing private lands by 0.4 mile and increase the mileage crossing BLM-managed lands by 0.6 mile and state lands by 1 mile; which would result in an overall increase of 1.2 miles. Approximately 1 acre of the Dinosaur National Monument would overlap with the 250-foot-wide transmission line ROW. Disturbance to agricultural lands would be reduced by 2 acres for construction and 1 acre for permanent disturbance.

Neither of the Tuttle Ranch Micro-siting Options are co-located, and disturbance to agricultural lands and livestock grazing would be the same for either option.

Alternative Variation in Region I

There are no alternative variations within Region I.

Alternative Connectors in Region I

There are no alternative connectors within Region I.

Alternative Ground Electrode Systems in Region I

A ground electrode system of approximately 52 acres in size would be necessary in Region I within 50 to 100 miles of the Northern Terminal, as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided by the Project Applicant. The ground electrode system alternative locations in Region I are depicted in Chapter 2.0 in **Figure 2-12**. The conceptual locations would be located on BLM lands that are not within croplands or on private lands without residences and other built-environment uses. Initial and permanent disturbances to grazing from the construction and operation of ground electrode systems in conceptual areas in Region I would be no greater than 151 acres and 8 AUMs (<1 percent).

Region I Conclusion

Alternatives I-A, I-B, I-C, and I-D have similar impacts to most of the parameters discussed. Alternative I-C would use the greatest amount of designated utility corridors (62 miles equaling 33 percent of the alternative) and would have the greatest amount of co-location with other utility ROWs. Alternative I-C would have the greatest impact to agricultural lands. Alternative I-D would cross more miles of designated avoidance areas than any other alternative, and Alternative I-C would cross the fewest. Livestock grazing impacts would be fairly similar for each alternative in Region I with the greatest impacts occurring on Alternative I-D, and the fewest on Alternative I-C. Less than 1 percent of grazing allotments would be impacted by each alternative in Region I.

There are no alternative variations or alternative connectors within Region I.

3.14.6.4 Region II

The majority of lands crossed by the alternatives in Region II are BLM-managed and privately owned. The preliminary engineered alignments under all action alternatives also cross USFS lands in Utah, and state-owned lands in Colorado and Utah (**Figure 2-13**). Within Utah, state lands acreage includes intermingled state lands and county lands. USFS lands include portions of the Uinta National Forest Planning Area, the Ashley National Forest, the Manti-La Sal National Forest, and the Fishlake National Forest (**Table 3.14-12**). Croplands in Region II occur in Colorado along the Yampa River, and in central and eastern Utah. A portion of the Utah Launch Complex, a sub-installation of the White Sands Missile Range (Department of Defense land) is crossed south of Green River, Utah. The complex served as an off-range missile test facility for Air Force and Army missile programs and has been inactive since 1974 (Building Technology, Inc. 1984). Impact parameters for land use in Region II are tabulated in **Table 3.14-13** by alternative route.

Alternatives II-A, II-B, II-C, II-D, II-E, II-F, and II-G cross through counties and municipalities listed in **Table 3.14-14** and would be subject to the zoning designations described.

Table 3.14-12 Region II National Forest Management Area Impacts Within the Refined Transmission Line Corridor and Analysis Area by Alternative

Description	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F	Alternative II-G
Uinta National Forest Planning Area [1,2]	Rx: 3.1, 3.3, 4.4, 5.1, 5.2, 6.1, 8.2 (1.4, 2.5, 4.5) MAs: WC, USFC, SR, T, DF, (N, M)	Rx: (3.3) MAs: (N)	--	Rx: (2.5, 3.3) MAs: (N)	Rx: 3.1, .3.3, 4.4, 5.1, 8.2 (2.5, 3.1) MAs: USFC, T (WR, N)	Rx: 3.3, 4.4, 5.1, 8.2 (1.4, 2.5, 3.1) MAs: T, USFC, (WR, M, N)	Rx: 3.1, 3.3, 4.4, 5.1, 5.2, 6.1, 8.2 (1.4, 2.5, 4.5) MAs: WC, USFC, SR, T, DF, (N, M)
Manti-La Sal National Forest [3]	GWR (KWR, RNG)	GWR,DRS [4], MMA,RNG,UC,TBR, (WPE)	--	RNG, UC, TBR (DRS[1], GWR, SLD [5], RP, UDM)	GWR, RNG (KWR)	GWR (KWR, RNG)	GWR (KWR, RNG)
Fishlake National Forest [6]	--	6B	2B, 4B, 5A, 6B, 9F (3A, 4A)	--	--	--	--
Ashley National Forest [7]	--	--	--	D, E	D, F, N	D, E	--

[1] **Uinta National Forest Management Prescription Types (Rx):** 3.1-Aquatic, Terrestrial, and Hydrologic Resources, 3.3-Aquatic and Terrestrial Habitat, 4.4-Dispersed Recreation, 4.5-Developed Recreation, 5.2-Forested Areas – Vegetation Management, 6.1-Non-forested Ecosystems, 8.2-Utility Corridor/Communication Sites

[2] **Uinta National Forest Planning Area Management Areas (MAs):** USFC-Upper Spanish Fork Canyon, DF-Diamond Fork, SR-Strawberry Reservoir, WC-Willow Creek, WR-White River, T-Thistle, N-Nephi, M-Mona.

[3] **Manti-La Sal National Forest Management Units:** GWR-General Big Game Winter Ranges, KWR-Key Big Game Winter Range, DRS- Developed Recreation Sites[4], MM-Minerals Management Area, RNG-Range Forage Production, UC-Utility Corridor, TBR-Wood Fiber Production and Utilization , RP-Research, Protection, and Interpretation of Lands and Resources , UDM-Undeveloped Motorized Recreation Sites, WPE-Watershed Protection/Improvement , SLD-Special Land Designation[5] .

[4] Indian Creek Campground under Alternative II-B; Flat Canyon Campground and Gooseberry Campground under Alternative II-D.

[5] Mammoth Guard Station.

[6] **Fishlake National Forest Management Units:** 2B-Rural and Roaded-Natural Recreation Opportunities, 3A-Semi-primitive Non-motorized Recreation, 4A-Fish Habitat Improvement, 4B-Management Indicator Species, 5A-Big Game Winter Range, 6B-Livestock Grazing, 9F-Improved Watershed Condition.

[7] **Ashley National Forest Management Unit**s: D-Livestock Grazing, E-Wildlife Habitat Emphasis, F-Dispersed Recreation Roaded, N-Existing Low Management Emphasis.

Table 3.14-13 Region II Alternative Route Land Use Impact Parameters

Jurisdiction/ Impact Parameter	Description	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F	Alternative II-G
	BLM (miles/percent of alternative)	97 / 38%	207 / 60%	211 / 58%	139 / 54%	98 / 37%	139 / 52%	97 / 38%
	White River	16	44	44	16	16	16	16
	Grand Junction	0	20	20	0	0	0	0
	Vernal	37	6	6	74	39	77	37
	Price	0	55	54	6	<1	0	0
	Moab	0	60	60	0	0	0	0
	Richfield	<1	6	13	<1	<1	<1	<1
	Salt Lake	0	0	0	0	0	3	0
	Fillmore	43	16	14	43	43	43	43
	Private (miles/percent of alternative)	112 / 43%	78 / 23%	78 / 21%	78 / 30%	115 / 43%	78 / 29%	112 / 45%
	State (miles/percent of alternative)	28 / 11%	44 / 12%	42 / 12%	31 / 12%	28 / 10%	36 / 14%	22 / 9%
	BIA/Tribal (miles/percent of alternative)	0	0	0	3 / 1%	8 / 3%	3 / 1%	0
	USFS (miles/percent of alternative)	19 / 7%	17 / 5%	34 / 9%	8 / 3%	19 / 7%	9 / 3%	19 / 7%
	Bureau of Reclamation	1 / <1%	0	0	0	0	0	1 / <1%
	URMCC	1 / <1%	0	0	0	0	0	<1 / <1%
	Total (miles)	**258**	**346**	**365**	**259**	**268**	**265**	**252**
Colorado	Garfield	0	24	24	0	0	0	0
	Mesa	0	12	12	0	0	0	0
	Moffat	24	2	2	24	24	24	24
	Rio Blanco	0	42	42	0	0	0	0
Utah	Carbon	0	0	0	45	<1	0	0
	Duchesne	53	0	0	33	62	53	53
	Emery	0	98	96	3	0	0	0
	Grand	0	68	68	0	0	0	0
	Juab	52	33	0	44	47	47	47
	Millard	20	29	64	20	20	20	20
	Sanpete	8	30	0	27	8	8	8

Table 3.14-13 Region II Alternative Route Land Use Impact Parameters

Jurisdiction/ Impact Parameter	Description	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F	Alternative II-G
Utah (Continued)	Sevier	0	0	50	0	0	0	0
	Uintah	50	6	6	62	55	62	50
	Utah	30	0	0	0	50	47	30
	Wasatch	20	0	0	0	2	3	20
Designated Utility Corridors[1]	Length within RMP designated corridors (miles/percent of alternative)[2]	34 / 13%	136 / 39%	146 / 40%	71 / 27%	40 / 15%	72 / 27%	32 / 13%
	Length within WWEC designated corridors (miles/percent of alternative)[3]	63 / 24%	33 / 10%	17 / 5%	46 / 18%	66 / 25%	31 / 12%	63 / 25%
	Total (miles/percent of alternative)	**71 / 28%**	**137 / 40%**	**147 / 40%**	**96 / 37%**	**73 / 27%**	**99 / 37%**	**70 / 28%**
Co-location	Non co-located /Co-located mileage	86 / 173	221 / 127	247 / 121	189 / 70	97 / 171	170 / 95	91 / 160
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	540	136	282	97	352	153	474
	Construction disturbance (acres)	361	119	181	84	258	120	314
	Operation disturbance (acres)	75	40	45	29	61	30	70
	Number of center pivots crossed by alignment (count)	4	0	0	0	1	0	6
	Number of center pivots within Project corridor (count)	16	6	11	3	10	3	20
Livestock Grazing	Construction disturbance (acres) (BLM/USFS)	1,171 / 257	3,197 / 367	3,351 / 518	1,848 / 163	1,218 / 125	1,847 / 125	1,191 / 296
	Estimated construction-related reduction to AUMs (BLM/USFS)[4]	59 / 13	160 / 18	168 / 26	92 / 8	61 / 6	92 / 6	60 / 15
	Operation disturbance (acres) (BLM/USFS)	287 / 110	755 / 106	811 / 117	457 / 52	276 / 49	465 / 48	260 / 111
	Long-term reduction in AUMs (BLM/USFS)[4]	14 / 6	38 / 5	41 / 6	23 / 3	14 / 2	23 / 2	13 / 6
Communities	Count of communities within refined transmission line corridor	7	8	11	4	5	2	5
Structures within 500 feet of alignment	Residential (count)	16	5	2	3	27	4	18
	Commercial/Industrial (count)	4	12	11	0	4	0	4
	Agricultural (count)	0	0	2	0	0	0	0
	Outbuilding (count)	6	2	3	0	5	0	6
	Total (count)	**26**	**19**	**18**	**3**	**36**	**4**	**28**

Table 3.14-13 Region II Alternative Route Land Use Impact Parameters

Jurisdiction/ Impact Parameter	Description	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F	Alternative II-G
Structures within 200 feet of alignment	Residential (count)	1	2	0	0	2	0	2
	Commercial/Industrial (count)	0	4	4	0	1	0	1
	Agricultural (count)	0	0	0	0	0	0	0
	Outbuilding (count)	1	0	1	0	1	0	1
	Total (count)	**2**	**6**	**5**	**0**	**4**	**0**	**4**
Other	DMAD Reservoir (acres) (clearing/construction/operations)	0	0	36/1,454	0	0	0	0

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

[2] Corridors identified by the BLM and the USFS in their respective land management plans.

[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

[4] The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding.

Table 3.14-14 Consistency in Region II with Applicable County or Municipal Land Use Plans and Policies

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Garfield County, Colorado	Garfield County Comprehensive Plan and Land Use Map, Unified Land Use Resolution	Land Use – no available spatial data Future Land Use – Agricultural Production/Natural Zoning – Rural district: Use Permitted Subject to Limited Impact Review.
Mesa County, Colorado	Mesa County Master Plan, Land Development Code	Land Use – no available spatial data Future Land Use –Rural Zoning – Agricultural, Forestry, Transitional district: aboveground transmission lines are subject to a Conditional Use permit.
Rio Blanco County, Colorado	Rio Blanco County Master Plan	Land Use – Agricultural, Residential, Low Density Future Land Use – Agricultural/Residential/Low Density Zoning – Agricultural district, Leisure Recreation (along White River) districts: Transmission lines in public ROWs shall not be subject to zoning requirements.
Carbon County, Utah	Carbon County Master Plan Carbon County Natural Resource Use and Management Plan Carbon County Zoning Ordinance	Land Use – oil and gas development, grazing Future Land Use – no available spatial data Zoning – Mining and Grazing (M&G), Watershed (WS), and Mountain Range (MR) zone; conditional use permit required for overhead electrical transmission lines over 69,000 volts; avoidance buffer of 100 feet from any drainage. County would require developers to maintain for public use all traditional access routes to public lands, streams, lakes, and waterways.
Duchesne County, Utah	Duchesne County General Plan Duchesne County Zoning Ordinance	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Agricultural districts: utility facilities are a permitted use.
Emery County, Utah	Emery County General Plan Emery County Zoning Ordinance	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Mining and Grazing; Agricultural; Mountain districts: Major utility transmission lines authorized by a Level 3 Conditional Use permit.
Grand County, Utah	Grand County General Plan Grand County Land Use Code	Land Use – no available spatial data Future Land Use – Transportation Resource; Range, Resource and Recreation Zoning - Range & Grazing district: transmission facilities authorized by a Conditional Use permit.
Juab County, Utah	Juab County General Plan Juab County Land Use Code Juab County Zoning Map	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Grazing, Mining, Recreation, & Forestry; Agriculture districts: transmission lines are a permitted use.
Millard County, Utah	Millard County General Plan Millard County Zoning Ordinance and Map (2009b) Millard County Major Utility Corridor Map (2009a)	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Agricultural districts: transmission lines 140 kV or larger authorized by a Conditional Use permit. Unless directly associated with a "Electric Generating Facility" or "Wind Energy System (Major)" located in the County, all new "Electric Transmission Right-of-Way (Major)," "Gas Pipeline Right-of-Way (Major)," and "Petroleum Pipeline Right-of-Way (Major)" with an interstate or intrastate purpose shall be located within the "Westwide Energy Corridor," as identified by Millard County's Official Map, in compliance with all County Land Use Ordinances.
Sanpete County, Utah	Sanpete County General Plan Sanpete County Land Use Ordinance Sanpete County RMP Sanpete County Zoning Map	Land Use – Forest, Grassland, Woodland, Shrubland, Agriculture Future Land Use – no available spatial data Zoning – Agricultural, Sensitive Lands districts: Electric utility facilities authorized by a Conditional Use permit.
Sevier County, Utah	Sevier County General Plan Sevier County Zoning Ordinance Sevier County Zoning Map	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Grazing/Recreation/Forestry/Seasonal; Grazing/Recreation/Forestry/Residential, Agricultural districts: major utility distribution facilities are a permitted use.

Table 3.14-14 Consistency in Region II with Applicable County or Municipal Land Use Plans and Policies

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Uintah County, Utah	Uintah County Zoning Ordinance (2005) Uintah County Land Use Plan (2010)	Land Use – Recreation, Forestry, and Mining; Mining and Grazing; Agricultural; Low Density Agricultural; Industrial; Industrial-Commercial Future Land Use – Recreation, Forestry, and Mining; Mining and Grazing; Agricultural; Low Density Agricultural; Industrial; Industrial-Commercial Zoning – Recreation, Forestry, and Mining district, Agriculture district, Light Industrial district. Transmission line or public utilities, with exception of substations, not specified as an allowable, special, or conditional use under any zoning district.
Utah County, Utah	Utah County General Plan Utah County Land Use Ordinance	Land Use – Agricultural/Watershed Future Land Use – no available spatial data Zoning – Mining and Grazing, Agricultural, Residential Agriculture districts: lines of 345 kV and over within a new transmission corridor require conditional use approval in any zoning district.
Wasatch County, Utah	Wasatch County General Plan Wasatch County Land Use and Development Code	Land Use – Grazing Future Land Use – Grazing Zoning – Preservation district: Electric utilities are a conditional use.
City of Nephi, Utah	Nephi City Code	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Residential (R-1), Industrial/commercial (IC) and Highway/commercial (HC) zones: Transmission line or public utilities not specified as an allowable, special, or conditional use under any zoning district; public utility stations are a permitted use.
City of Helper, Utah	Helper City Code	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Industrial (I) and residential (R-1) districts: Transmission line or public utilities are a permitted use within the industrial zoning district, but are not specified as an allowable, special, or conditional use within the residential zoning district.
City of Mt. Pleasant	Mt. Pleasant City Code	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Residential-Agriculture (RA) and General Commercial (C-G) districts: Within RA districts, utilities (lines and ROWs only) are permitted uses. Within the C-G district, utilities lines are not specified as an allowable, special, or conditional use.
Roosevelt City	Roosevelt Municipal Code and Zoning Map	Land Use – no available spatial data Future Land Use – no available spatial data Zoning – Residential (R-1) and Rural Residential (RR-1): transmission lines are conditional uses.

Figure 3.14-14 shows croplands and other land uses in the Huntington – Lawrence – Castle Dale portion of Emery County that would be within the refined transmission line corridor for Alternatives II-B and II-C, or the Castle Dale Alternative Connector. **Figure 3.14-15** shows land uses within the portion of the City of Nephi that would be within the refined transmission line corridor for Alternatives II-A and Alternatives II-B, II-D and II-E (which have the same route through this area). **Figure 3.14-16** shows land uses within the portion of Helper City that would be within the refined transmission line corridor for Alternative II-D. **Figure 3.14-17** shows land uses within the portion of Mt. Pleasant that would be within the refined transmission line corridor for Alternatives II-B. **Figure 3.14-18** shows land uses within the portion of Roosevelt City that would be within the refined transmission line corridor for Alternatives II-A and II-E.

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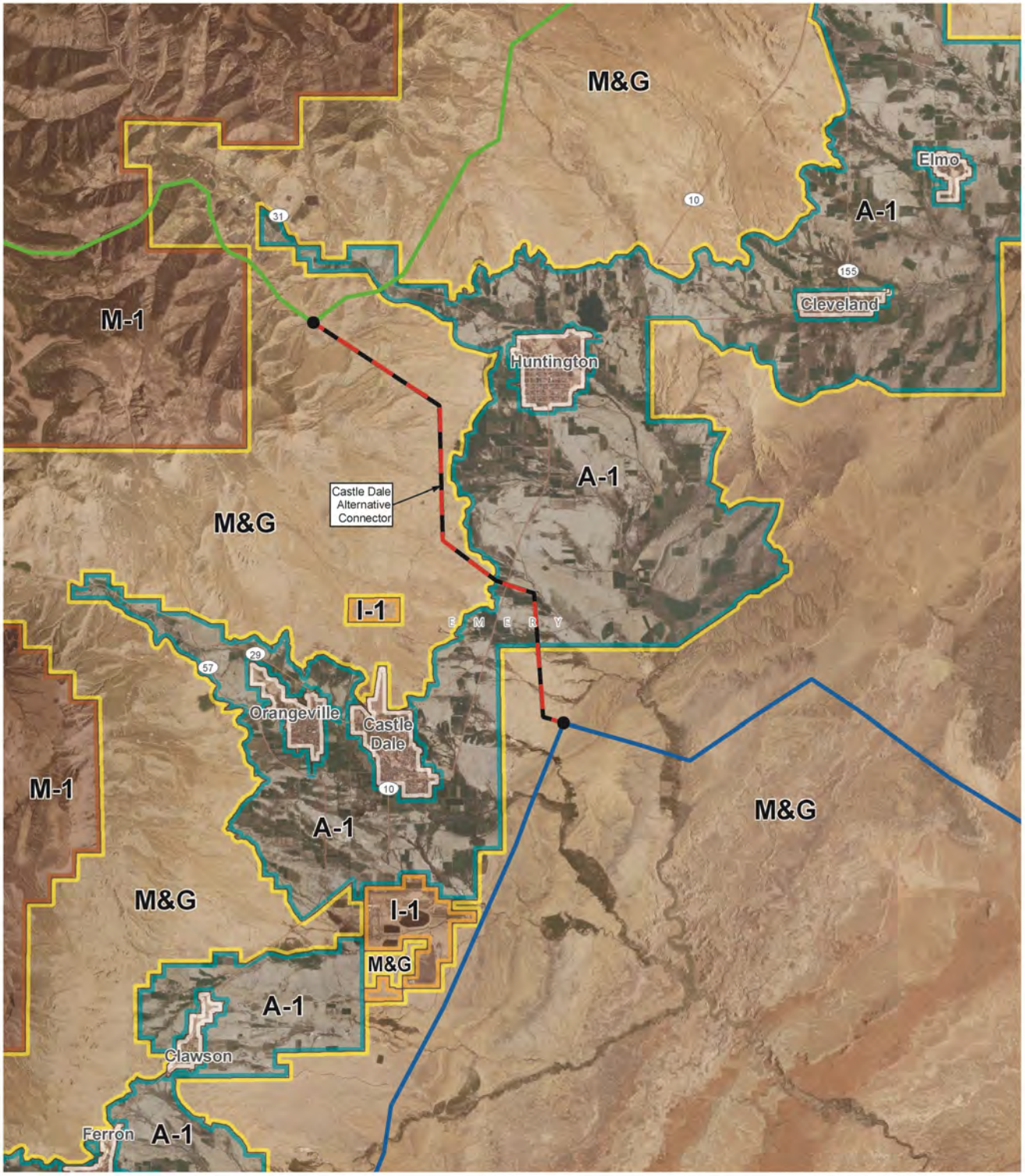

EIS Alternative Routes
- Alternative II-B
- Alternative II-C
- Alternative Variation (Var.) or Alternative Connector (Con.)

Zoning Code
- Agriculture (A-1)
- Industrial (I-1)
- Mining & Grazing (M&G)
- Mountain (M-1)
- City Boundary

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-14
Region II
Zoning
Huntington to Castle Dale

0 0.75 1.5 3 Miles
0 0.75 1.5 3 km
1:190,000
N

Western AREA POWER ADMINISTRATION

Exported On: 1/15/2015

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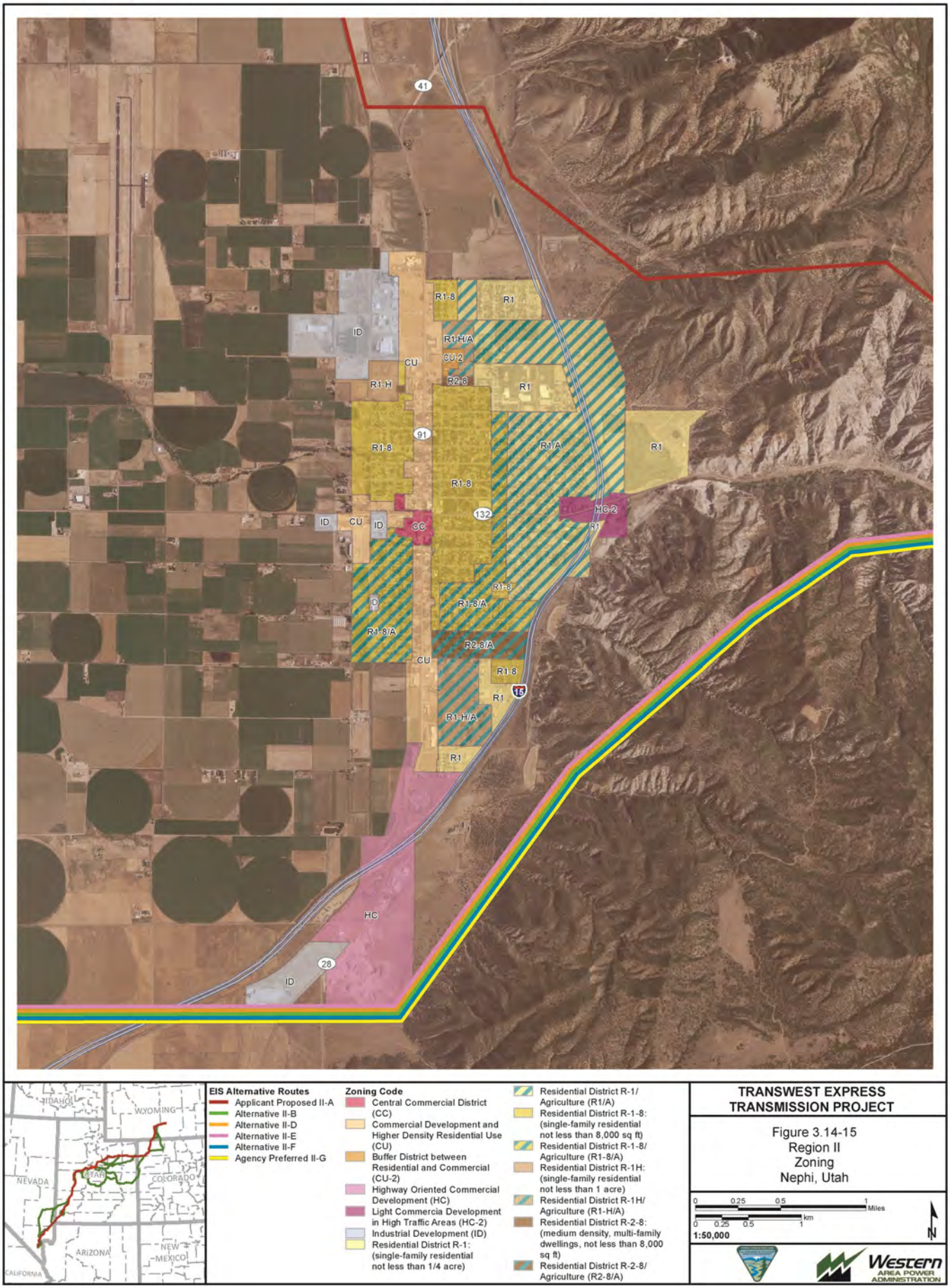

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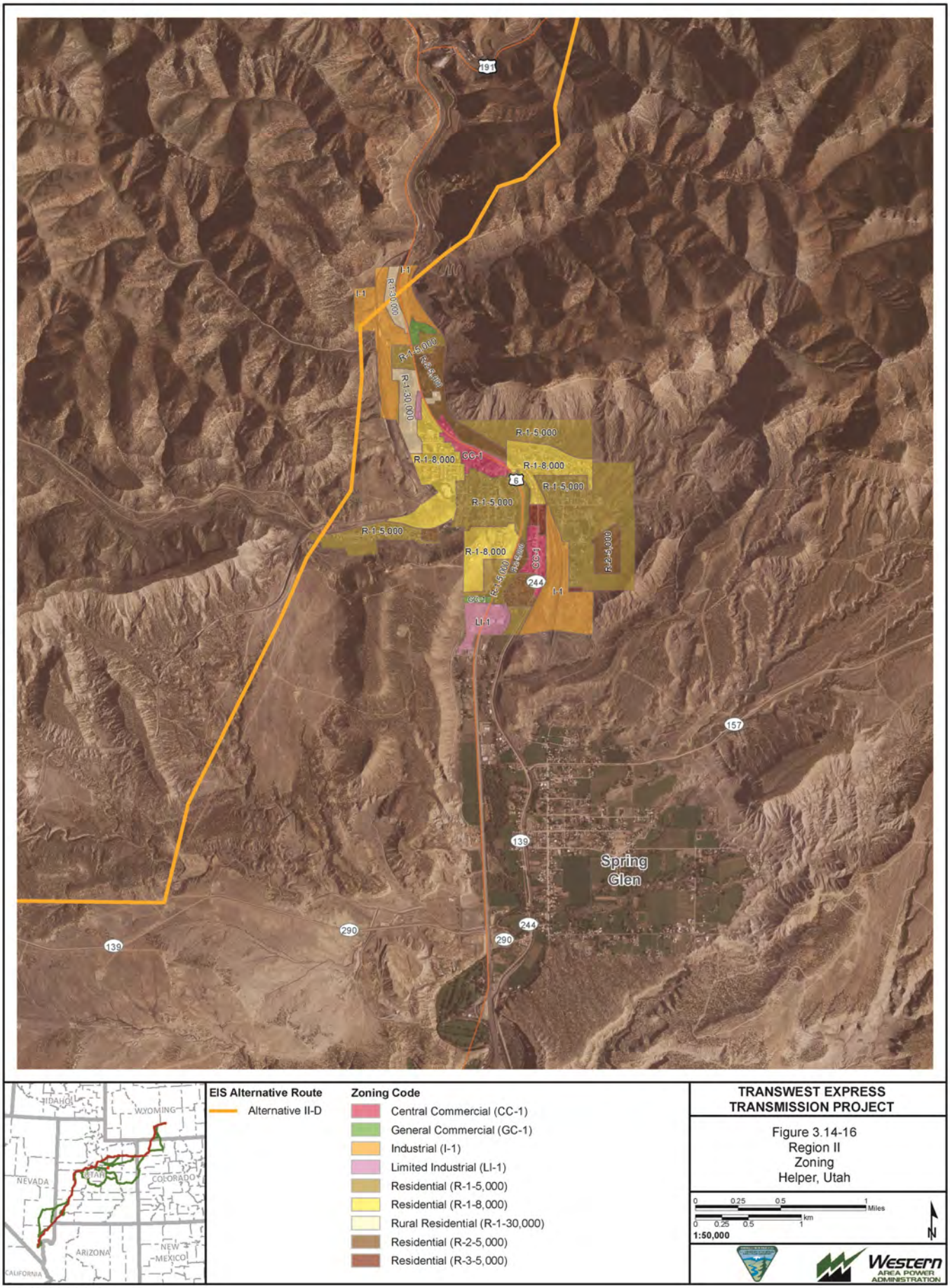

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-16
Region II
Zoning
Helper, Utah

Exported On: 1/15/2015

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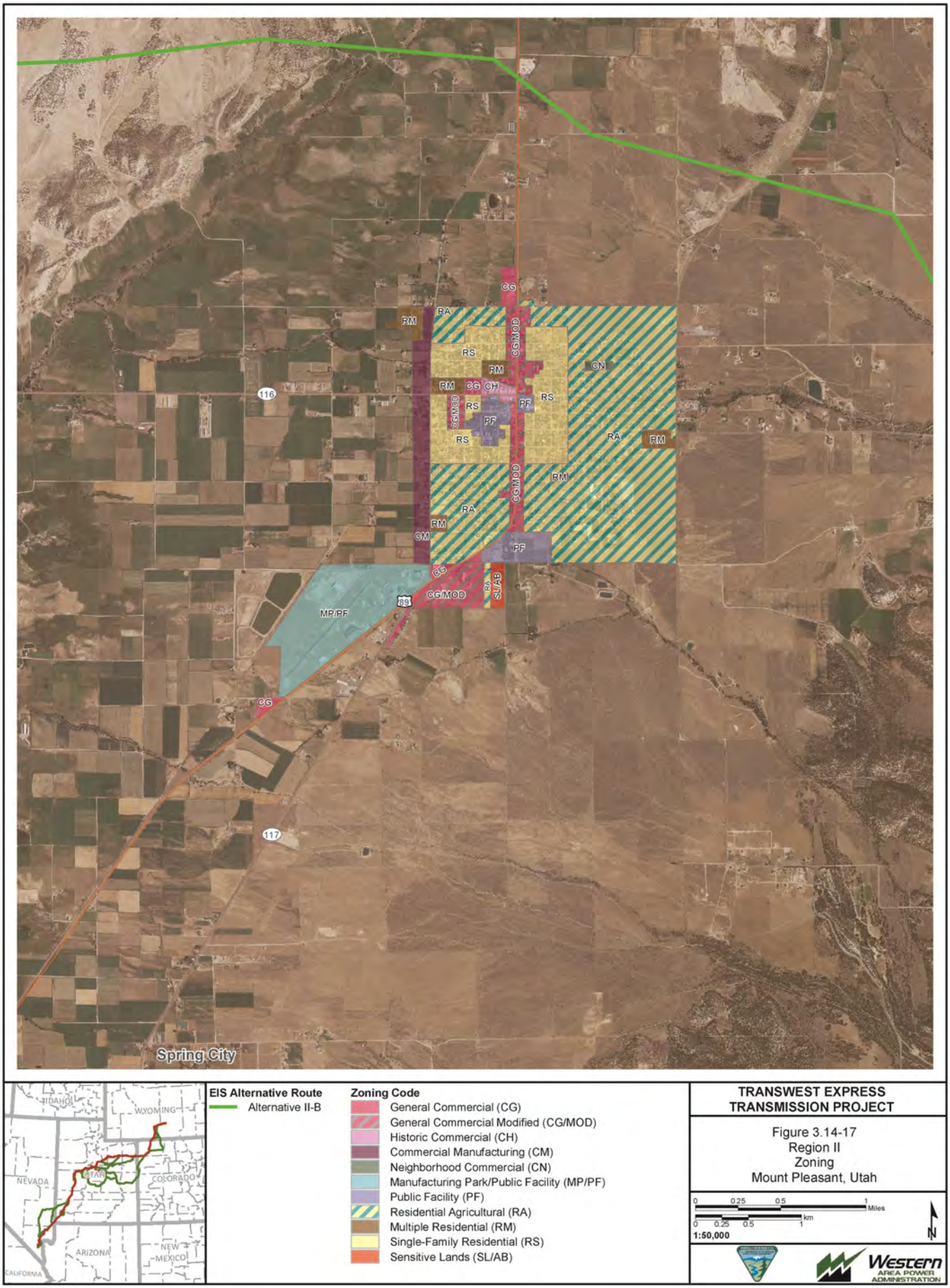

EIS Alternative Route

Alternative II-B

Zoning Code

- General Commercial (CG)
- General Commercial Modified (CG/MOD)
- Historic Commercial (CH)
- Commercial Manufacturing (CM)
- Neighborhood Commercial (CN)
- Manufacturing Park/Public Facility (MP/PF)
- Public Facility (PF)
- Residential Agricultural (RA)
- Multiple Residential (RM)
- Single-Family Residential (RS)
- Sensitive Lands (SL/AB)

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-17
Region II
Zoning
Mount Pleasant, Utah

0 0.25 0.5 1 Miles
0 0.25 0.5 1 km
1:50,000
N

Western AREA POWER ADMINISTRATION

Exported On: 1/21/2015

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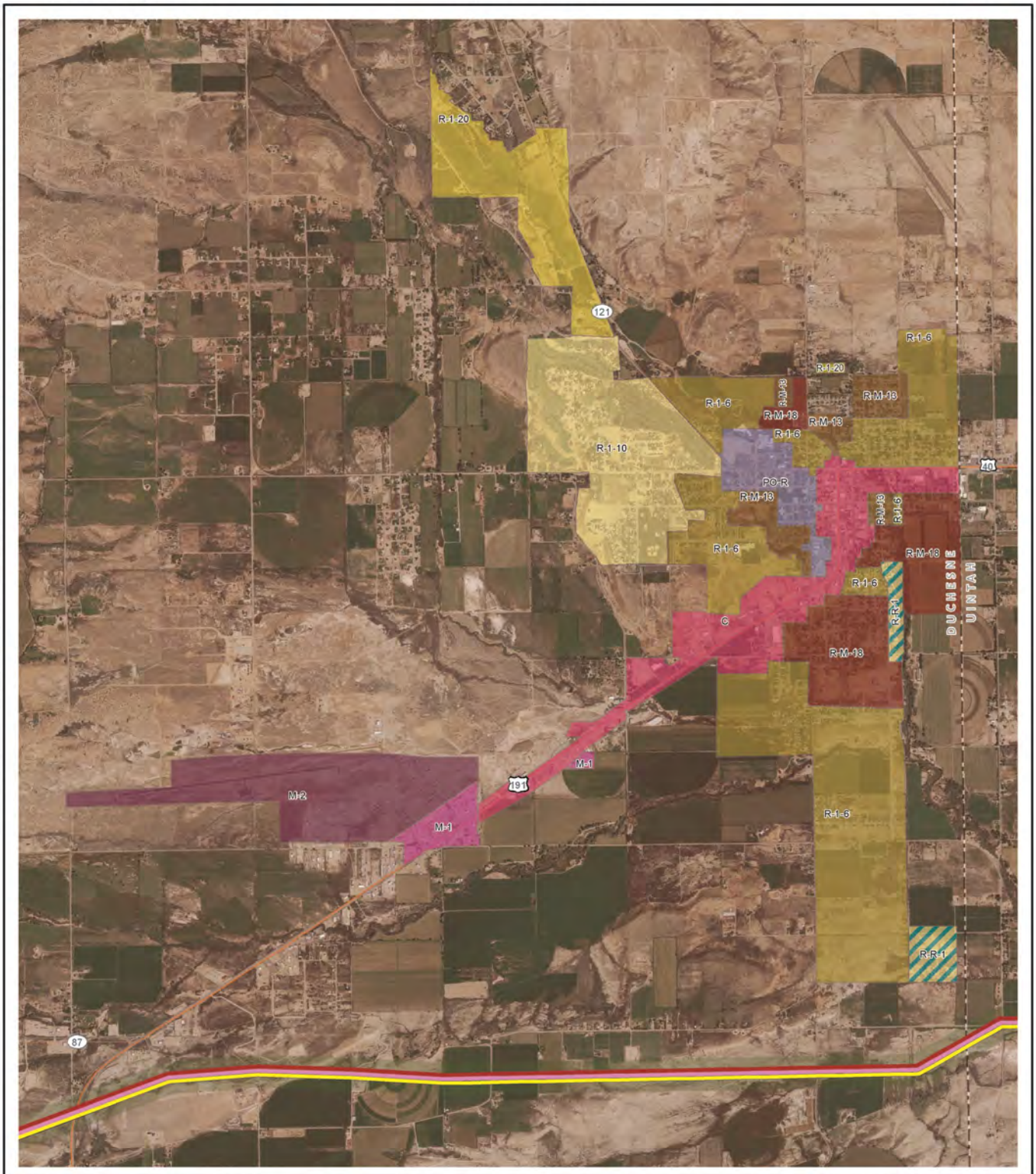


EIS Alternative Routes
- Applicant Proposed II-A
- Alternative II-E
- Agency Preferred II-G

Zoning Code
- Commercial (C)
- Light Manufacturing (M-1)
- Manufacturing (M-2)
- Professional Office Residential (PO-R)
- Residential Single Family (min. 10,000 sq.ft.) (R-1-10)
- Residential Single Family (min. 20,000 sq.ft.) (R-1-20)
- Residential Single Family (min. 6,000 sq.ft.) (R-1-6)
- Residential (13 units per acre) (R-M-13)
- Residential (18 units per acre) (R-M-18)
- Agricultural (1 acre minimum) (R-R-1)

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-18
Region II
Zoning
Roosevelt City, Utah

0 0.25 0.5 1 Miles
0 0.25 0.5 1 km
1:50,000
N

Western AREA POWER ADMINISTRATION

Exported On: 1/21/2015

Designated exclusion areas occur within the 250-foot-wide transmission line ROWs, refined transmission line corridor, and analysis area under Alternatives II-B and II-C, and the analysis area overlaps with avoidance areas in the San Rafael Canyon ACEC. Alternatives II-A, II-D, II-E, and II-F all cross some conservation easement areas or WMAs with some stipulations regarding transmission lines. **Table 3.14-15** summarizes designated avoidance areas and exclusion areas affected by the Project. The mileages crossed by each alternative in designated avoidance and exclusion areas also are presented. A land use plan amendment would be necessary for Alternatives II-B and II-C as they both pass through designated exclusion areas. **Figure 3.14-19** identifies Region II designated avoidance areas and conservation easement areas with overhead line prohibitions.

Alternative II-A (Applicant Proposed)

Approximately 45 percent of the 258-mile Alternative II-A route would be located on BLM or USFS-managed lands; an additional 11 percent would be located on state lands. Alternative II-A would have 34 miles in BLM-designated utility corridors, and 63 miles in WWEC corridor. A total of 173 miles would be co-located with other ROWs. No designated exclusion or avoidance areas are crossed by this alternative. The 250-foot-wide transmission line ROW for Alternative II-A would cross the Currant Creek/Wildcat WMA and the Strawberry River WMA, both of which are within URMCC managed lands and serve as mitigation for wildlife habitat during construction of the Central Utah Project. The Sand Wash/Sink Draw conservation easement also would be crossed. It prohibits overhead transmission lines and development of a transmission line in this area would not be in conformance with area management. The 250-foot-wide transmission line ROW for Alternative II-A also would cross the Northwest Manti WMA – Birdseye, Dairy Fork, and Wildcat Canyon Units, North Nebo WMA – Spencer Fork Unit, South Nebo WMA – Triangle Ranch Unit, and the Tabby Mountain – Rabbit Gulch and Tabby Mountain Units. These WMAs also have land patent reversionary parcels or other stipulations prohibiting uses that are not consistent with area goals.

Under Alternative II-A, approximately 112 miles (43 percent) would be located on private land. Alternative II-A would require 540 acres of additional ROW clearing, 361 acres of construction disturbance, and 75 acres of permanent removal of croplands. Four of the 16 center pivots within the refined transmission line corridor would be crossed by the 250-foot-wide transmission line ROW.

An estimated 1,171 acres (59 AUMs) would be removed from BLM-managed grazing allotments, and 257 acres (13 AUMs) from USFS-managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 397 acres (20 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 16 residences and 4 commercial building within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the alignment, the number affected would be reduced to 1 residential building. There would be 7 communities, 4 wildlife management areas, 1 state park 2 cemeteries, and 1 church within the vicinity of the refined transmission line corridor or the analysis area where roads or construction support areas could be located (see Section 3.18, Public Health and Safety). The communities within the vicinity of the refined transmission line corridor include Dinosaur, Colorado and Upalco, Fruitland, Nephi, Roosevelt City, Ballard Town, and Fort Duchesne, Utah.

There are no identified incompatible land uses within these communities.

Table 3.14-15 Designated Avoidance and Exclusion Areas Crossed by Alternatives in Region II

Designated BLM Avoidance/ Exclusion	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F	Alternative II-G
Avoidance Areas	None	NSO Area	NSO Area	None	None	None	None
Preliminary Engineered Alignment Crossing Avoidance (total miles)	0	0	0	0	0	0	0
Overlap with Refined Transmission Corridor or Analysis Area[1] (acres)	None	None	Analysis Area - 849 acres in the San Rafael Canyon ACEC	None	None	None	None
Exclusion Areas	None	Demaree WSA	Demaree WSA	None	None	None	None
Preliminary Engineered Alignment Crossing Exclusion (total miles)	0	0	0	0	0	0	0
Overlap with Refined Transmission Corridor or Analysis Area[1] (acres)	None	Refined transmission line corridor – 1 acre Analysis Area – 17 acres All in the Oil Springs Mountain WSA	Refined transmission line corridor – 1 acre Analysis Area – 17 acres All in the Oil Springs Mountain WSA	None	None	None	None
Conservation easement or WMA transmission line restrictions	Currant Creek/Wildcat WMA[2] Sand Wash/Sink Draw Conservation Easement[3] North Nebo WMA – Spencer Fork Unit[4] South Nebo WMA – Triangle Ranch Unit[5] Strawberry WMA[2] Northwest Manti WMA – Birdseye, Dairy Fork, and Wildcat Canyon Units, Tabby Mountain WMA – Rabbit Gulch and Tabby Mountain Units	South Nebo WMA – Triangle Ranch Unit[5] North Nebo WMA – Moroni Unit[4]	Bar J Ranch Conservation Easement, Fillmore WMA – Millard Unit	Gordon Creek WMA[5] Northwest Manti WMA – Hilltop Unit[6] South Nebo WMA – Triangle Ranch Unit[5]	North Nebo WMA – Spencer Fork Unit[4] South Nebo WMA – Triangle Ranch Unit[5] Northwest Manti WMA – Birdseye, Dairy Fork, Starvation, and Wildcat Canyon Units, Indian Canyon WMA – Cottonwood Canyon Unit	North Nebo WMA – Spencer Fork Unit[4] Northwest Manti WMA – Birdseye, Dairy Fork Starvation, and Wildcat Canyon Units South Nebo WMA – Triangle Ranch	Currant Creek/Wildcat WMA2 Sand Wash/Sink Draw Conservation Easement3 North Nebo WMA – Spencer Fork Unit4 South Nebo WMA – Triangle Ranch Unit5 Strawberry WMA2 Northwest Manti WMA – Birdseye, Dairy Fork, and Wildcat Canyon Units, Tabby Mountain WMA – Rabbit Gulch and Tabby Mountain Units

[1] Overlap with Avoidance or Exclusion areas only indicates potential for impact as siting within the corridors has not yet been determined.

[2] Mitigation for wildlife habitat during construction of Central Utah Project.

[3] Overhead transmission lines prohibited.

[4] Precludes industrial, commercial, or other development that is not consistent with the conservation values and purpose of the WMA.

[5] Land patent reversionary clauses on some parcels if land use changes from “big game management.”

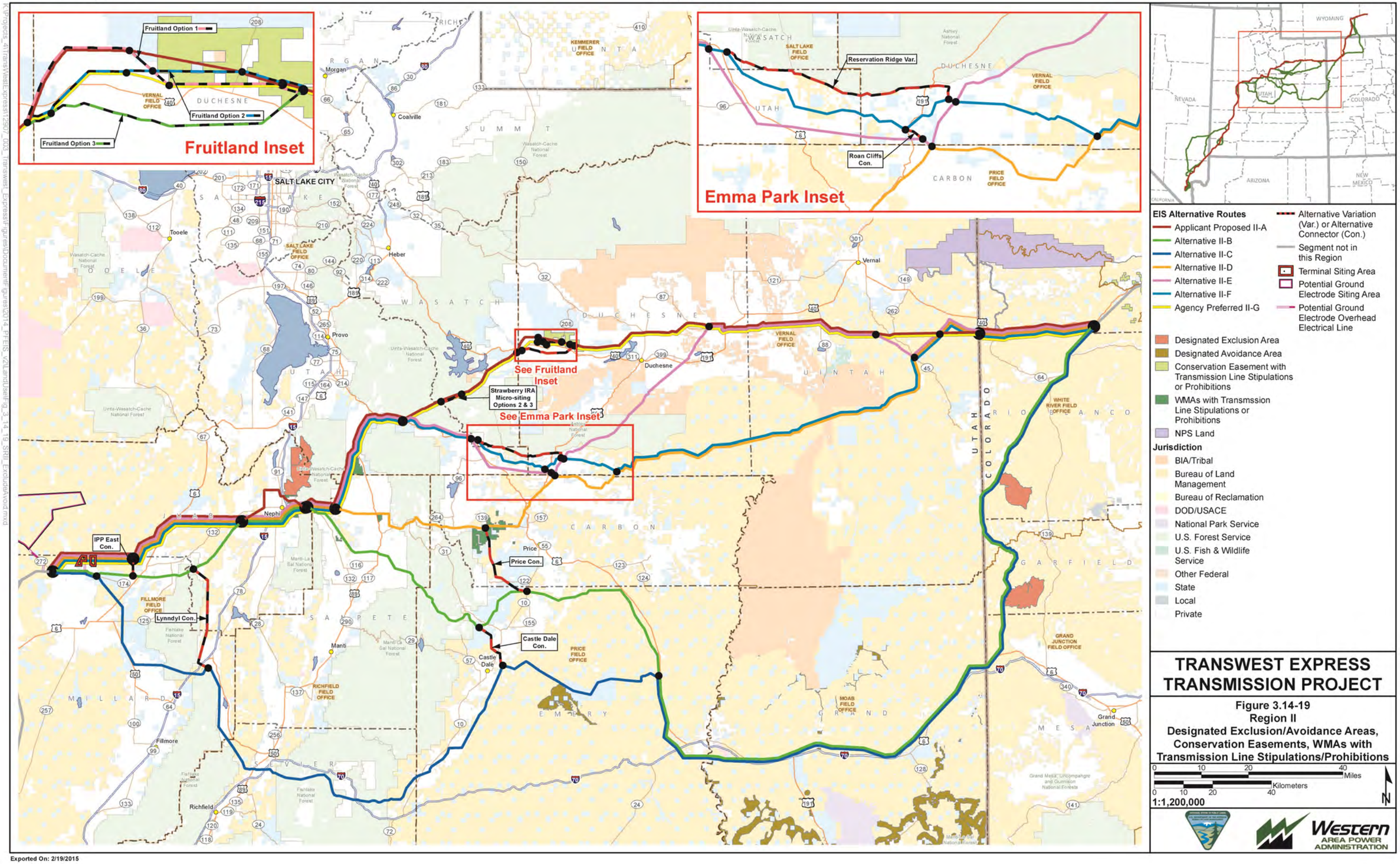
[6] Prohibits utilities, unless such structures or systems are necessary for permitted ranching operations or residential use.

Three Micro-siting options are located in the western portion of Duchesne County along Alternative II-A. The Fruitland Micro-siting Option 1 deviates from Alternative II-A to the south and reconnects with the same alternative just to the east of Red Creek. The entire length of the option is approximately 15 miles long. Of that, 72 percent is located on private land, 25 percent is located on state land, and 3 percent is located on URMCC land. Construction activities would disturb 41 acres of agricultural land and 11 acres would be long-term. Three residential buildings and one outbuilding are located within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the alignment, the number affected would be reduced to 1 residential building. A total of 3 miles of Micro-siting Option 1 would be co-located with existing transmission lines. This Micro-siting Option would pass through approximately 2 miles of the Sand Wash/Sink Draw Conservation Easement.

The Fruitland Micro-siting Option 2 deviates from Alternative II-A to the south and reconnects with the same alternative just west of the Duchesne-Wasatch county line. The entire length of the option is approximately 13 miles long. Of that, 69 percent is located on private land, 27 percent is located on state land, and 4 percent is located on URMCC land. Construction activities would disturb 59 acres of agricultural land and 8 acres would be long-term. Five residential buildings and one church are located within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the alignment, the number affected would be reduced to 1 residential building. Micro-siting Option 2 would be co-located with existing transmission lines in its entirety. This Micro-siting Option would pass through approximately 5 miles of the Sand Wash/Sink Draw Conservation Easement.

The Fruitland Micro-siting Option 3 deviates from Alternative II-A further to the south than Options 1 or 2 and reconnects with the same alternative just west of the Duchesne-Wasatch county line. The entire length of the option is approximately 13 miles long. Of that, 98 percent is located on private land and 2 percent is located on URMCC land. Construction activities would disturb 29 acres of agricultural land and 7 acres would be long-term. One center pivot would be affected by the alignment, which would be located within the rotational route of the system. This would require a decrease to the full range of motion of the pivot system and an associated reduction to the agricultural production within the irrigated area. Twelve residential buildings are located within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the alignment, the number affected would be reduced to 1 residential building. A total of 1 miles of Micro-siting Option 3 would be co-located with existing transmission lines. This Micro-siting Option would pass through approximately 1 mile of the Sand Wash/Sink Draw Conservation Easement.

Under Alternative II-A, approximately 19 miles of the refined transmission line corridor would cross 7 management prescription types in 5 MAs within the Uinta National Forest Planning Area, and one management unit within the Manti-La Sal National Forest. The analysis area where access roads could be located would cross one additional management unit within the Manti-La Sal National Forest. Consistency with many of the standards and guidelines for each management unit is already addressed through TransWest Design Features (see **Appendix C**, Section C.2), and in general, the alternative is consistent with both Forest Plans. There is one wildlife standard for the Uinta National Forest specific to the Strawberry Reservoir MA that specifies the avoidance of sagebrush removal within 300 yards of sage grouse foraging areas along riparian zones, meadows, lakebeds, and farmland, unless such removal is necessary to achieve sage grouse habitat management objectives. The majority of acreage within the Strawberry Reservoir Management Area is not near sage grouse foraging areas; however, there is a portion of concern (near the reservoir) in which the refined transmission line corridor would pass (but not the preliminary engineered alignment or 250-foot-wide transmission line ROW). Consistency with this standard would be addressed through application of special status species mitigation **SSWS-5**. See Section 3.8, Special Status Wildlife Species, for more information regarding impacts to sage grouse. Alternative II-A would use the Desert Utility Corridor and a project-specific amendment would be required to allow for this project. Within the Uinta National Forest Planning Area, two micro siting options (Strawberry Micro-siting Options 2 and 3) have been proposed to reduce impacts to inventoried roadless areas. Both options would cross the same management prescription types and management areas as Alternative II-A.



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Within the Manti-La Sal National Forest, the Project would cross three management areas, GWR, KWR, and RNG. The Project would be consistent with management area direction for visual resources or would be co-located with existing transmission, cleared ROW, and access roads. Therefore the project would be consistent with the LRMP and no amendments would be needed for this alternative.

More detail regarding LRMP consistency can be found in the Forest Plan spreadsheets in the Project Record, as well as in Chapter 4.0, Federal Agency Land Use Plan Amendments. Consistency with ROS Class designations is discussed in Section 3.13, Recreation Resources. Impacts to IRAs are discussed in Section 3.15, Special Designation Areas.

Alternative II-B

Approximately 65 percent of the 346-mile Alternative II-B route would be located on BLM or USFS-managed lands; an additional 12 percent would be located on state lands. Alternative II-B would have 136 miles in BLM-designated utility corridors, and 33 miles in the WWEC corridor. A total of 127 miles would be co-located with other ROWs. No designated avoidance areas would be crossed by the ROW and one designated exclusion area would be crossed for less than 1 mile. The refined transmission line corridor and the analysis area would overlap with 1 acre and 17 acres, respectively, of exclusion areas in the Oil Springs Mountain WSA.

Under Alternative II-B, approximately 78 miles (23 percent) would be located on private land. Alternative II-B would require 136 acres of additional ROW clearing, 119 acres of construction disturbance, and 40 acres of permanent removal of croplands. No center pivots would be crossed by the 250-foot-wide transmission line ROW.

An estimated 3,197 acres (160 AUMs) would be removed from BLM-managed grazing allotments, and 367 acres (18 AUMs) from USFS managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 861 acres (43 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

In Millard County, approximately 2 miles of Alternative II-B would cross through the northern portion of the Magnum Gas Storage project site. Surface disturbance for this crossing would include required clearing for 3 to 4 transmission towers (approximately 40 square feet each). Vegetation at the site is below 6 feet in height; therefore, ROW clearing would not be necessary. The presence of these transmission lines and towers would inhibit potential activities involving tall heavy equipment or tall structures directly under the lines. This would potentially restrict certain surface uses on approximately (52 acres) of the storage project site. Mitigation measure **LU-1** provides for coordination with land owners and managers regarding the placement of project components and would allow Magnum Development, LLC to develop and operate their facilities as planned.

There would be 5 residences and 12 commercial buildings within 500 feet of the preliminary engineered alignment. At a distance of 200 feet, the number affected would be reduced to 2 and 4 residential and commercial/industrial structures, respectively. There would be 8 communities, 2 WMAs, and 2 cemeteries within the vicinity of the refined transmission line corridor or the analysis area where roads or construction support areas could be located (see Section 3.18, Public Health and Safety). The

communities within the vicinity of the refined transmission line corridor include Carbonera[2] and Rangely, Colorado and Thompson Springs, Crescent Junction, Nephi, Mount Pleasant, Green River, and Lynndyl, Utah.

There are no identified incompatible land uses within these communities; however, because this alternative would not be located within the WWEC in Millard County, it would be inconsistent with the goals, objectives and implementation strategies of the Millard County General Plan and would require a General Plan and Utilities Corridor Map amendment prior to the approval of any required land use application(s). One WMA, South Nebo WMA—Triangle Ranch have land patent reversionary parcels if uses are not consistent with area goals. Compatibility with park management is further discussed in Section 3.13, Recreation Resources.

Under Alternative II-B, there would be 17 miles of the refined transmission line corridor within NFS lands, crossing 1 management area in the Uinta National Forest Planning Area, 7 management units within the Manti-La Sal National Forest, and 1 management unit within the Fishlake National Forest. The analysis area would cross one additional management unit within the Manti-La Sal National Forest, and one management unit within the Uinta National Forest Planning Area. In general, the alternative is consistent with the Forest Plans. Within the Manti-Las Sal National Forest, one area within management area DRS would not be consistent with visual objectives and would not be within a designated utility corridor. Section 3.12, Visual Resources, provides additional mitigation measures to reduce impacts in this area; however, a project-specific amendment would be needed. Within the Fishlake National Forest, there is one area near Leamington Pass that would not be consistent with visual management objectives for the area; however, the alternative would be located within a designated utility corridor and an amendment would not be needed. More detail regarding LRMP compliance can be found in the Forest Plan consistency spreadsheets in the Project record. Consistency with ROS class designations is discussed in Section 3.13, Recreation Resources. Impacts to IRAs and URUD areas are discussed in Section 3.15, Special Designation Areas.

Alternative II-C

Approximately 67 percent of the 365-mile Alternative II-C route would be located on BLM or USFS-managed lands; 12 percent would be located on state lands. Alternative II-C would have 146 miles in BLM-designated utility corridors, and 17 miles in the WWEC corridor. A total of 121 miles would be co-located with other ROWs. No designated avoidance areas would be crossed and one designated exclusion area would be crossed for less than 1 mile. The refined transmission line corridor and the analysis area would overlap with 1 acre and 17 acres, respectively, of exclusion areas in the Oil Springs Mountain WSA. The analysis area also would overlap with 849 acres of avoidance areas in the San Rafael Canyon ACEC.

Under Alternative II-C, approximately 78 miles (21 percent) would be located on private land. Alternative II-C would require 282 acres of additional ROW clearing, 181 acres of construction disturbance, and 45 acres of permanent removal of croplands. No center pivots would be crossed by the 250-foot-wide transmission line ROW.

An estimated 3,351 acres (168 AUMs) would be removed from BLM-managed grazing allotments, and 518 acres (26 AUMs) from USFS-managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional

[2] There is no census population data for the community of Carbonera,

annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 928 acres (47 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

In Millard County, approximately 3 miles of Alternative II-C would cross through the northern and eastern portion of the Magnum Gas Storage project site. Surface disturbance for this crossing would include required clearing for 3 to 4 transmission towers (approximately 40 square feet each). Vegetation at the site is below 6 feet in height; therefore, ROW clearing would not be necessary. The presence of these transmission lines and towers would inhibit potential activities involving tall heavy equipment or tall structures directly under the lines. This would potentially restrict certain surface uses on approximately (83 acres) of the storage project site. Mitigation measure **LU-1** provides for coordination with land owners and managers regarding the placement of project components and would allow Magnum Development, LLC to develop and operate their facilities as planned.

Two residences and 11 commercial buildings would be within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the alignment, the number affected is reduced to 4 commercial/industrial structures. There would be 11 communities, 2 wildlife management areas, 1 cemetery, 1 church, and 1 school within the vicinity of the refined transmission line corridor or the analysis area where roads or construction support areas could be located (see Section 3.18, Public Health and Safety). The communities within the vicinity of the refined transmission line corridor include Carbonera and Rangely, Colorado, and Thompson Springs, Crescent Junction, Moore, Harding, McCornick, Emery, Aurora, Green River, and Salina, Utah.

There are no identified incompatible land uses within these communities; however, this alternative would not be within the WWEC in Millard County. This would be inconsistent with Millard County General Plan goals, objectives, and implementation strategies and would require a General Plan and Utilities Corridor Map amendment. Compatibility with park management and recreation opportunities is discussed in Section 3.13, Recreation Resources.

Within the Fillmore FO, the transmission line would span the 1,926-acre DMAD Reservoir. Approximately 36 acres (0.2 percent of the reservoir) would be within the 250-foot-wide transmission line ROW and 1,454 acres 975 percent of the reservoir) within the refined transmission line corridor; however the purposes of the impoundment (irrigation, water storage and cooling water for IPP) would be unaffected.

Under Alternative II-C, approximately 34 miles of the refined transmission line corridor would cross 5 management units within the Fishlake National Forest; the analysis area would cross two additional management units. In general, the alternative is consistent with the Fishlake National Forest LRMP with the exception of Visual Quality standards in a portion of the route near I-70. This is addressed through a proposed LRMP amendment in Chapter 4.0. More detail regarding LRMP compliance can be found in the Forest Plan spreadsheets in the Project Record. Consistency with ROS class designations is discussed in Section 3.13, Recreation Resources. Impacts to URUD areas are discussed in Section 3.15, Special Designation Areas.

Alternative II-D

Approximately 57 percent of the 259-mile Alternative II-D route would be located on BLM- or USFS-managed lands. There would be 3 miles (1 percent) of the route located on tribal lands (the Uintah and Ouray Indian Reservation) and an additional 12 percent would be located on state lands. Alternative II-D would have 71 miles in BLM-designated utility corridors, and 46 miles in the WWEC corridor. A total 70 miles would be co-located with other ROWs. No designated avoidance or exclusion areas would be crossed by the ROW or overlapped by the refined transmission line corridor or analysis area.

Under Alternative II-D, approximately 78 miles (30 percent) would be located on private land. Alternative II-D would require 97 acres of additional ROW clearing, 84 acres of construction disturbance, and 29 acres of permanent removal of croplands. No center pivots would be crossed by the 250-foot-wide transmission line ROW.

An estimated 1,848 acres (92 AUMs) would be removed from BLM-managed grazing allotments, and 163 acres (8 AUMs) from USFS managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 509 acres (26 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 3 residences within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the alignment, there would be no structures affected. There would be 4 communities, 3 WMAs, 2 cemeteries, 1 church, and 2 schools within the vicinity of the refined transmission line corridor or the analysis area where roads or construction support areas could be located (see Section 3.18, Public Health and Safety). The communities within the vicinity of the refined transmission line corridor include Dinosaur, Colorado and Nephi, Helper, and Clear Creek, Utah. All three WMAs (Gordon Creek WMA, Northwest Manti WMA – Hilltop Unit, and South Nebo WMA – Triangle Ranch Unit) have prohibitions related to overhead utilities or land patent reversionary clauses if land use changes. Compatibility with park management and recreation opportunities is further discussed in Section 3.13, Recreation Resources.

There are no identified incompatibilities with land uses within the communities; however, portions of the refined transmission line corridor would overlap with the area identified for the Gooseberry Narrows Project, a proposed dam and reservoir south of Lower Gooseberry Reservoir along Gooseberry Creek, within the Manti-La Sal National Forest. The proposed reservoir is supported by the objectives of the Sanpete County General Plan. **Figure 3.14-6** shows the location of the 250-foot-wide transmission line ROW and refined transmission line corridor in relation to the proposed reservoir. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within the area proposed for the reservoir.

The 3-mile crossing of the Uintah and Ouray Indian Reservation would have to be negotiated between the Applicants and the Ute Indian Tribe. The Tribe has the authority to negotiate the location, management, and compensation for the transmission line through the Reservation and also could choose to deny the application to cross their Reservation. Neither federal agencies nor the state has the right to exercise eminent domain over tribal lands (25 CFR Part 169).

Under Alternative II-D, there would be 8 miles of the refined transmission line corridor within NFS lands, crossing 3 management units in the Manti-La Sal National Forests, and 2 management units in the Ashley National Forest. The analysis area would cross one additional management unit in the Ashley National Forest, 2 management prescription type (in 1 management area) within the Uinta National Forest, and 5 additional management units within the Manti-La Sal National Forest. This includes two developed recreation sites (specifically, the Flat Canyon and Gooseberry Campgrounds in the Manti-La Sal National Forest). The alternative would generally be consistent with these Forest Plans; however, construction of access roads or other support facilities may not be consistent with the management goals of developed recreation management areas and would have impacts to dispersed RAs through visual and noise disturbances. This issue is further discussed in Section 3.13, Recreation Resources, and would be mitigated through application of **REC-5**, which would impose timing restraints on construction

activities to reduce these noise impacts. Within the Manti-La Sal National Forest, Alternative II-D would cross only retention VQO and partial retention VQO areas and would not be consistent with these management guidelines in four management areas Impacts to IRAs and URUD areas are discussed in Section 3.15, Special Designation Areas. Section 3.13, Recreation Resources, also addresses consistency with primitive motorized and non-motorized ROS areas.

Alternative II-E

Approximately 44 percent of the 268-mile Alternative II-E route would be located on BLM or USFS-managed lands; an additional 10 percent would be located on state lands and 3 percent would be located on tribal lands (the Uintah and Ouray Indian Reservation). Forty miles of Alternative II-E would be in BLM-designated utility corridors, and 66 miles in the WWEC corridor. A total of 171 miles would be co-located with other ROWs. No designated avoidance or exclusion areas would be crossed by the 250-foot-wide transmission line ROW, refined transmission line corridor, or the analysis area.

Under Alternative II-E, approximately 115 miles (43 percent) would be located on private land. Alternative II-E would require 352 acres of additional ROW clearing, 258 acres of construction disturbance, and 61 acres of permanent removal of croplands. One of the 10 center pivots within the refined transmission line corridor would be crossed by the 250-foot-wide transmission line ROW.

An estimated 1,218 acres (61 AUMs) would be removed from BLM-managed grazing allotments, and 125 acres (6 AUMs) from USFS-managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 325 acres (16 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 27 residences and 4 commercial building within 500 feet from the preliminary engineered alignment. At a distance of 200 feet from the alignment, the number affected would be reduced to 2 and 1 residential and commercial/industrial structures, respectively. The majority of the commercial/industrial structures are oil and gas pads. Land use conflicts with oil and gas structures would be addressed by maintenance of requisite buffers between well pads and transmission line. Gathering systems or pad access roads within the area are not included in the above “structure” count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within areas used for oil and gas development.

There would be 5 communities, 4 WMAs, 3 cemeteries, and 1 church that are within the vicinity of the refined transmission line corridor or the analysis area where roads or construction support areas could be located in Region II (see Section 3.18, Public Health and Safety). The communities within the vicinity of the refined transmission line corridor include Dinosaur, Colorado and Nephi, Roosevelt City, Fort Duchesne, and Ballard, Utah.

There are no identified incompatible land uses within these communities. Compatibility with WMA management and recreation opportunities is discussed in Section 3.13, Recreation Resources.

The 3-mile crossing of the Uintah and Ouray Indian Reservation would have to be negotiated between the Applicants and the Ute Indian Tribe. The Tribe has the authority to negotiate the location, management, and compensation for the transmission line through the Reservation and also could choose to deny the application to cross their Reservation. Neither federal agencies nor the state has the right to exercise eminent domain over tribal lands (25 CFR Part 169).

Under Alternative II-E, there would be 19 miles of the refined transmission line corridor within NFS lands, crossing 5 management prescription types (in 2 management areas) within the Uinta National Forest Planning Area, 2 management units within the Manti-La Sal National Forest, and 3 management units in the Ashley National Forest. The analysis area would cross one additional unit in the Manti-La Sal National Forest and 2 additional management areas in the Uinta National Forest. Development of a transmission line would generally be consistent with the Forest Plans. However, the Ashley National Forest LRMP specifies several actions for any transmission line ROW through the Sowers Canyon utility window that may not be fully covered by TransWest BMPs or TransWest Design Features. These include the use of some helicopter tower placement, avoidance of tower placement on steep side slopes, and use of plowing for reseeding in some areas. The following mitigation is proposed to ensure compliance with the LRMP:

LU-3: *For transmission line construction within the Sowers Canyon utility window, TransWest will work collaboratively with the USFS on placement of tower structures to avoid steep side slopes, define areas where helicopter tower placement would be required, and identify areas where plowing would be required for reseeding efforts. These areas would be defined in the construction POD.*

Within the Manti-La Sal National Forest, there is one area near the county line east of Nephi that would not meet visual quality objectives; however, the Project would be co-located with an existing transmission line through the area. More detail regarding LRMP consistency can be found in the Forest Plan spreadsheets in the Project record. Consistency with primitive motorized and non-motorized ROS areas is discussed in Section 3.13, Recreation Resources. Impacts to IRAs and URUD areas are discussed in Section 3.15, Special Designation Areas.

Alternative II-F

Approximately 55 percent of the 265-mile Alternative II-F route would be located on BLM- or USFS-managed lands; an additional 14 percent would be located on state lands and 1 percent would be located on tribal lands (the Uintah and Ouray Indian Reservation). Seventy-two miles of Alternative II-F would be in BLM-designated utility corridors, and 31 miles in the WWEC corridor. A total of 95 miles would be co-located with other ROWs. No designated avoidance or exclusion areas would be crossed by the 250-foot-wide transmission line ROW, refined transmission line corridor, or the analysis area.

Under Alternative II-F, approximately 78 miles would be located on private land. This alternative would require 153 acres of additional ROW clearing, 120 acres of construction disturbance, and 30 acres of permanent removal of croplands. No center pivots would be crossed by the 250-foot-wide transmission line ROW.

An estimated 1,847 acres (92 AUMs) would be removed from BLM-managed grazing allotments, and 125 acres (6 AUMs) from USFS-managed grazing allotments due to construction-related surface disturbance. Once construction is complete, areas not required for operation would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 513 acres (25 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of the total available AUMs on these allotments.

There would be 4 residences within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the alignment, there would be no structures affected. There would be 2 communities, 4 wildlife management areas, 2 cemeteries, and 1 church within the vicinity of the refined transmission line corridor or the analysis area where roads or construction support areas could be located in Region II. The communities within the vicinity of the refined transmission line corridor include Dinosaur, Colorado and Nephi, Utah.

There are no identified incompatible land uses within these communities; however, because this alternative would not be located within the WWEC in Millard County, it would be inconsistent with the goals, objectives and implementation strategies of the Millard County General Plan and would require a General Plan and Utilities Corridor Map amendment prior to the approval of any required land use application(s).

The 3-mile crossing of the Uintah and Ouray Indian Reservation would have to be negotiated between the Applicants and the Ute Indian Tribe. The Tribe has the authority to negotiate the location, management, and compensation for the transmission line through the Reservation and also could choose to deny the application to cross their Reservation.

Under Alternative II-F, there would be 9 miles of the refined transmission line corridor within NFS lands, crossing 1 management unit in the Manti-La Sal National Forest, 2 management units in the Ashley National Forest, and 4 management prescription types (in 2 management areas) within the Uinta National Forest Planning Area. The analysis area would include portions of 2 additional management units in the Manti-La Sal National Forest, and 3 management prescriptions (within 3 management areas) of within the Uinta National Forest Planning Area. Development of the Project in these areas would generally be consistent with the Forest Plans. Alternative II-F would use the Spanish Fork Canyon corridor and a plan amendment would be required to allow for this Project. Within the Manti-La Sal National Forest, there is one area near the county line east of Nephi that would not meet visual quality objectives; however, the Project would be co-located with an existing transmission line through the area. More detail regarding LRMP consistency can be found in the Forest Plan spreadsheets in the Project record. Consistency with ROS Classes is discussed in Section 3.13, Recreation Resources. Alternative II-F would not cross IRAs or URUD areas.

Alternative II-G (Agency Preferred)

Alternative II-G would follow the same route as Alternative II-A with the exception of two areas where it deviates. This would result in a 5-mile reduction compared to Alternative II-A, all on state lands. All other impacts would be the same, or very similar to Alternative II-A.

Alternative Variations in Region II

The land ownership crossed by the Reservation Ridge Alternative Variation and other key impact parameters are summarized in **Table 3.14-16**.

Table 3.14-16 Impact Parameters of Alternative Variation Alternatives in Region II

Impact Parameter	Description	Reservation Ridge Alternative Variation	Comparable Portions of Alternative II-F
Jurisdiction	BLM (miles)	6	3
	Salt Lake	4	3
	Vernal	2	0
	Private (miles)	11	14
	USFS (miles)	3	0
	State (miles)	<1	4
	Total (miles)	**20**	**21**
Designated Utility Corridors[1]	Length within RMP designated corridors (miles/percent of alternative)[2]	0/0%	0/0%
	Length within WWEC designated corridors (miles/percent of alternative)[3]	0/0%	0/0%
	Total (miles/percent of alternative)	**0/0%**	**0/0%**
Co-location	Non co-located/Co-located (mileage)	20/0	21/0

Table 3.14-16 Impact Parameters of Alternative Variation Alternatives in Region II

Impact Parameter	Description	Reservation Ridge Alternative Variation	Comparable Portions of Alternative II-F
Designated Avoidance/Exclusion Areas Crossed	Avoidance (miles)	0	0
	Avoidance (corridor acres)	0	0
	Exclusion (miles)	0	0
	Exclusion (corridor acres)	0	0
	Description	N/A	-
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	0	0
	Construction disturbance (acres)	0	0
	Operation disturbance (acres)	0	0
Livestock Grazing	Construction Disturbance (acres) (BLM/USFS)	77 / 30	66 / 0
	Estimated decreased AUMs (BLM/USFS)[4]	4 / 2	3 / 0
	Operational Disturbance (acres) (BLM/USFS)	26 / 8	23 / 0
	Long-term decreased AUMs (BLM/USFS)[4]	1 / <1	1 / 0
Structures within 500 feet of the preliminary engineered alignment	Residential (count)	12	0
	Commercial/Industrial (count)	0	0
	Agricultural (count)	0	0
	Outbuilding (count)	0	0
	Total (count)	**12**	**0**
Structures within 200 feet of the preliminary engineered alignment	Residential (count)	2	0
	Commercial/Industrial (count)	0	0
	Agricultural (count)	0	0
	Outbuilding (count)	0	
	Total (count)	**0**	**0**

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.
[2] Corridors identified by the BLM and the USFS in their respective land management plans.
[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.
[4] The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.
Note: Discrepancies in totals due to rounding.

Alternative Connectors in Region II

The land ownership of land crossed by the alternative connectors and other key impact parameters are summarized in **Table 3.14-17**. The Lynndyl, Castle Dale, and Price alternative connectors would use portions of BLM-designated corridors. The IPP East Alternative Connector would use a portion of the WWEC designated corridor. The Lynndyl, IPP East, Price, and Roan Cliffs alternative connectors present no, or almost no, disturbance to private agriculture lands, whereas the Castle Dale Alternative Connector would present some disturbance to private agriculture land. Impacts to livestock grazing allotments would be slightly greater with the addition of any combination of the alternative connectors. The Castle Dale and Roan Cliffs connectors would have the least impacts on grazing.

The Lynndyl Connector would use portions of Fishlake NFS lands managed for livestock grazing. Consistency with area management is discussed under Alternative II-C.

Region II Series Compensation Stations (Design Option 3)

If Design Option 3 were implemented, a series compensation station would be necessary along the alternative routes of Region II during the first-phase (AC operation). There are three potential sites, each corresponding to specific alternative routes. Upon completion of Phase 2 of Design Option 2, when there was no utility for the station, it would be deconstructed and reclaimed to the original condition. These series compensation station alternatives are depicted in **Figure 2-3**.

Series Compensation Station 1 – Design Option 3 corresponds to Alternatives II-A and II-E. This station alternative would be located on 45 acres of private land, within the BLM Vernal FO, southwest of Fort Duchesne. It would be in the vicinity of several center pivots, but would not overlap with any center pivots. No other land uses would be affected by this station alternative.

Series Compensation Station 2 – Design Option 3 corresponds to Alternatives II-B and II-C. This station alternative would be located on 45 acres of BLM-managed lands, within the BLM Moab FO, adjacent to I-70 as it enters the State of Utah from the east. No other land uses would be affected by this station alternative.

Series Compensation Station 3 – Design Option 3 corresponds to Alternatives II-D and II-F. This station alternative would be located on 46 acres of private land, within the BLM Cedar City FO, approximately 25 miles south of the Town of Roosevelt. No other land uses would be affected by this station alternative.

Region II Conclusion

Alternatives II-A, II-B, II-C, II-D, II-E, II-F, and II-G have similar impacts to most of the parameters discussed. Alternative II-C would use the greatest amount of designated corridors (147 miles and 40 percent of the route), whereas Alternative II-A and II-G would use the fewest (70 miles and 28 percent of the route). Alternative II-A has the greatest amount of co-located mileage (173) and Alternative II-D has the fewest (70). Alternative II-A would create the greatest disturbance to agricultural lands and Alternative II-D would create the fewest. Alternatives II-A and II-G would cross a portion of URMCC lands. Alternatives II-B and II-C would have the greatest impact to designated avoidance and exclusion areas. Alternatives II-D, II-E, and II-F cross 3 miles of the Uintah and Ouray Indian Reservation, which would require negotiations between the Applicant and the Ute Indian Tribe that could result in potential denial of the ROW if an agreement is not met.

Table 3.14-17 Impact Parameters of Region II Alternative Connectors

Impact Parameter	Description	Lynndyl Alternative Connector	IPP East Alternative Connector	Castle Dale Alternative Connector	Price Alternative Connector	Roan Cliffs Alternative Connector
Jurisdiction	BLM (miles)	10	3	2	4	0
	Fillmore	10	3	--	--	
	Price	--	--	2	4	
	Private (miles)	14	1	4	4	1
	State (miles)	0	0	5	10	1
	USFS (miles)	0	0	--	--	0
	Total (miles)	**24**	**4**	**11**	**18**	**2**
Designated Utility Corridors[1]	Length within RMP designated corridors (miles/percent of alternative)[2]	<1/<1%	0	2/18%	4/22%	0/0%
	Length within WWEC designated corridors (miles/percent of alternative)[3]	0	<1/8%	0	0	0/0%
	Total (miles/percent of alternative)	**<1/<1%**	**<1/8%**	**2/18%**	**4/22%**	**0/0%**
Co-location	Non co-located/Co-located mileage	22/2	0/4	0/11	7/11	2/0
Designated Avoidance/ Exclusion Areas Crossed	Avoidance (miles)	0	0	0	0	0
	Exclusion (miles)	0	0	0	0	0
	Description	N/A	N/A	N/A	N/A	N/A
Agriculture		1 acre of additional ROW clearing, 4 acres due to construction, 1 acre of permanent removal of croplands.	No disturbance to agriculture lands due to clearing, construction, or removal of croplands.	32 acres of additional ROW clearing, 22 acres of construction disturbance, 4 acres of permanent removal of croplands.	No disturbance to agriculture lands due to clearing, less than 1 acre of construction, less than 1 acre of permanent removal of croplands.	No disturbance to agriculture lands due to clearing, construction, or removal of croplands.
Livestock Grazing		Construction impacts 74 acres (4 AUMs) on BLM managed lands, 3 acres(<1 AUM) on USFS managed lands; Operation impacts 17 acres (1 AUM) on BLM-managed lands ,<1 acre (<1 AUM) on USFS-managed lands	Construction impacts 31 acres (2 AUMs); Operation impacts 5 acres (<1 AUM); all on BLM-managed lands.	Construction impacts 16 acres (<1 AUM); Operation impacts 4 acres (<1 AUM); all on BLM-managed lands.	Construction impacts 80 acres (4 AUMs); Operation impacts 20 acres (1 AUM); all on BLM-managed lands.	No disturbance to livestock grazing allotments.

Table 3.14-17 Impact Parameters of Region II Alternative Connectors

Impact Parameter	Description	Lynndyl Alternative Connector	IPP East Alternative Connector	Castle Dale Alternative Connector	Price Alternative Connector	Roan Cliffs Alternative Connector
Structures within 500 feet of the preliminary engineered alignment	Residential (count)	0	0	0	0	0
	Commercial/Industrial (count)	1	0	0	0	0
	Agricultural (count)	0	0	0	0	0
	Outbuilding (count)	0	0	0	0	0
	Total	**1**	**0**	**0**	**0**	**0**
Structures within 200 feet of the preliminary engineered alignment	Residential (count)	0	0	0	0	0
	Commercial/Industrial (count)	0	0	0	0	0
	Agricultural (count)	0	0	0	0	0
	Outbuilding (count)	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

[2] Corridors identified by the BLM and the USFS in their respective land management plans.

[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

Note: Discrepancies in totals due to rounding.

Livestock grazing impacts would be fairly similar between Alternative II-A and Alternative II-F. Acreage-wise, the greatest impacts would occur on Alternative II-C, and the fewest on Alternative II-G. For all routes, reclamation in the Uintah Basin also would be difficult due to soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, specifically halogeton. Additionally, reclamation in the San Rafael Swell area, specifically, along Alternatives II-B and II-C, would be difficult due to soil reclamation constraints, and low regional annual precipitation rates. If successful reclamation is not achieved, restoration of livestock grazing on disturbed lands would not occur. The spread of halogeton is of particular concern as it is toxic to sheep and cattle in larger doses.

Alternatives II-A, II-B, II-D, II-E, II-F, and II-G are generally consistent with the standards and guidelines of most of the USFS management units crossed by the transmission line. Alternative II-C traverses two small areas of High SIO and areas that would not meet visual management objectives, and would require a project-specific plan amendment.

Impacts related to the Strawberry IRA micro-siting options would differ only slightly. Strawberry Micro-siting Option 3 would be entirely located within a WWEC-designated corridor compared to the 2.4 miles (51 percent of the route) for the Strawberry Micro-siting Option 2.

The Reservation Ridge Alternative Variation reduces mileage on BLM lands and the variation also reduces mileage to private and state lands that results in impacts to agricultural lands through ROW clearing, construction, and permanent facilities. Mileage through USFS lands would be increased. The Reservation Ridge Alterative Variation would cross 1 mile (3 management units) of the Ashley National Forest, and almost 2 miles (1 management prescription within 1 management area) of the Uinta National Forest Planning Area. The development of a transmission line corridor in this area generally would be consistent with the Forest Plans. More detail can be found in the Forest Plan spreadsheets in the Project Record. Impacts to ROS class areas are discussed in Section 3.13, Recreation Resources. Impacts to IRAs are discussed in Section 3.15, Special Designation Areas.

The alternative connectors in Region II include the Lynndyl, IPP East, Castle Dale, Price, and Roan Cliffs connectors. In most respects their impacts would be similar. The Lynndyl Alternative Connector is the longest of the Region II connectors (24 miles), using less than 1 mile of designated utility corridors. The Castle Dale Alternative Connector is the only Region II connector that would require disturbance to agricultural lands.

3.14.6.5 Region III

The preliminary engineered alignments under all action alternatives in Region III cross BLM and USFS lands and state-owned lands in Utah (**Figure 2-14**). USFS lands are located in the Dixie National Forest in Utah. The BIA/Tribal lands crossed by Alternative III-B include a portion of the Moapa River Indian Reservation southwest of Moapa. Residential uses in the vicinity of Moapa are mixed with croplands. **Table 3.14-18** identifies the Dixie National Forest management units that are crossed by the alternatives. **Table 3.14-19** summarizes impact parameters for each alternative in Region III.

Table 3.14-18 Region III National Forest Management Area Impacts Within the Refined Transmission Line Corridor and Analysis Area by Alternative

Description	Alternative III-A	Alternative III-B	Alternative III-C	Alternative III-D
Dixie National Forest [1]	1, 2b, 5a, 6a (4c)	NA	NA	NA

[1] **Dixie National Forest Management Unit**s: 1-General Forest Direction; 2b-Roaded Natural Recreation; 4c-Wildlife Habitat: Brushy Range; 5a-Big Game Winter Range; 6a-Livestock Grazing; 9a-Riparian Management; 10b-Municipal Water Supply Watersheds.

Table 3.14-19 Region III Alternative Route Land Use Impact Parameters

Impact Parameter	Description	Alternative			
		III-A	III-B	III-C	III-D
Jurisdiction	BLM (miles/percent of alternative)	212/77%	211/74%	254/83%	212 / 75%
	Fillmore	69	69	70	70
	Cedar City	46	39	39	39
	St. George	25	0	0	0
	Caliente	22	67	98	67
	Las Vegas	50	36	47	36
	USFS (Dixie National Forest)	20/7%	0	0	0
	Bureau of Indian Affairs/Tribal	0	13/5%	0	14 / 5%
	State	13/5%	11/4%	7/2%	7 / 3%
	Private	31/11%	48/17%	47/15%	48 / 17%
	Total (miles)	**276**	**284**	**308**	**281**
State	**County**				
Utah	Beaver	33	33	33	33
	Iron	46	56	56	56
	Millard	76	76	73	73
	Washington	48	0	0	0
Nevada	Clark	51	51	47	51
	Lincoln	22	68	99	68
Designated Utility Corridors[1]	Length within RMP designated corridors (miles/percent of alternative)[2]	107/39%	103/36%	160/52%	137/49%
	Length within WWEC designated corridors (miles/percent of alternative)[3]	158/57%	80/28%	121/39%	50/18%
	Total (miles/percent of alternative)	**185/67%**	**153/54%**	**195/63%**	**155 55%**
Co-location	Non co-located/Co-located mileage	91/185	157/128	111/197	121/161
Dixie National Forest miles-acres 250-foot-wide transmission line ROW /acres analysis area	1 General Management Area	3 – 102/9,558	--	--	--
	2B Roaded Natural Recreation	2 – 57/1,458	--	--	--
	4C Wildlife Habitat (Shrub Areas)	0/1,613	--	--	--
	5A Big Game Winter Range	5 – 148/5,216	--	--	--
	6A Livestock Grazing	7 – 223/5,958	--	--	--

Table 3.14-19 Region III Alternative Route Land Use Impact Parameters

Impact Parameter	Description	Alternative			
		III-A	III-B	III-C	III-D
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	5	7	4	7
	Construction disturbance (acres)	4	6	3	6
	Operation disturbance (acres)	1	1	1	1
	Number of center pivots crossed by alignment (count)	0	0	0	0
	Number of center pivots within refined transmission line corridor (count)	1	1	1	2
Livestock Grazing	Construction disturbance (acres) (BLM/USFS)	2,572 / 309	2,590 / 0	2,665 / 0	2,544 / 0
	Estimated decreased construction-related reductions to AUMs (BLM/USFS)[4]	128 / 15	130 / 0	133 / 0	127 / 0
	Operation disturbance (acres) (BLM/USFS)	584 / 70	523 / 0	512 / 0	491 / 0
	Long-term decreased reductions to AUMs (BLM/USFS)[4]	29 / 4	26 / 0	26 / 0	25 / 0
Communities	Count within refined transmission line corridor	4	2	2	2
Structures within 500 feet of the preliminary engineered alignment	Residential (count)	0	0	1	0
	Commercial/Industrial (count)	0	0	1	0
	Agricultural (count)	0	0	0	0
	Outbuilding (count)	0	0	0	0
	Total (count)	**0**	**0**	**2**	**0**
Structures within 200 feet of the preliminary engineered alignment	Residential (count)	0	0	0	0
	Commercial/Industrial (count)	0	0	1	0
	Agricultural (count)	0	0	0	0
	Outbuilding (count)	0	0	0	0
	Total (count)	**0**	**0**	**1**	**0**

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

[2] Corridors identified by the BLM and the USFS in their respective land management plans.

[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

[4] The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding.

Alternatives III-A, III-B, and III-C cross through counties listed in **Table 3.14-20**. Existing and future land use spatial data, in a digital or paper map format, were not available for all counties in the region. This is because the majority of unincorporated lands outside of municipal areas are federal or state lands; or because the zoning designations describe the existing/planned/future land use. Most of the affected counties allow for the development of large transmission lines and associated facilities through zoning districts. Two counties require review by the board of county commissioners. Four counties require a Conditional Use or other type of permit or review. The development of transmission lines is not addressed in all zoning ordinances. These counties would require a consultation with the county planning agency to determine the procedure for permitting the proposed Project.

Table 3.14-20 Consistency with Applicable Land Use Plans and Policies in Region III

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Beaver County, Utah	Beaver County General Plan Beaver County Zoning Ordinance	Land Use – spatial data not available Future Land Use – spatial data not available Zoning – Multiple Use district: Electric transmission line is a conditional use.
Iron County, Utah	Iron County Zoning Ordinance	Land Use – spatial data not available Future Land Use – spatial data not available Zoning - Agriculture district: Electric transmission line is a conditional use.
Millard County, Utah	Millard County General Plan Millard County Zoning Ordinance Millard County Major Utility Corridor Map (2009a)	Land Use – spatial data not available Future Land Use – spatial data not available Zoning – Range & Forest, Agricultural districts: transmission lines 140 kV or larger authorized by a Conditional Use permit within designated and mapped major utility corridor.
Washington County, Utah	Washington County General Plan Washington County Zoning Code	Land Use – spatial data not available Future Land Use – Open Space Multiple Use, Open Space Conservation, Agricultural to Residential Transition Zoning – Open Space Conservation, Open Space, Agricultural districts: Public utilities and transmission lines are a conditional use of Open Space districts; not specified for Agricultural districts.
Clark County, Nevada	Clark County Comprehensive Plan Clark County Multiple Species Habitat Conservation Plan	Land Use – Public, Woodland Recreation Future Land Use – Public, Woodland Recreation Zoning – Rural Open Land, Open Space, Industrial districts: to acquire ROW for transmission lines, the proposed route shall be submitted to the board of county commissioners for review and recommendation.
Lincoln County, Nevada	Lincoln County Master Plan Lincoln County Public Lands Policy Plan (2010) Southeast Lincoln County Habitat Conservation Plan	Land Use – Public, Woodland Recreation Future Land Use – Public, Woodland Recreation Zoning – Almost all alignments on public land designated as agricultural. All other districts: to acquire ROW for transmission lines, the proposed route shall be submitted to the board of county commissioners for review and recommendation.

Designated avoidance and exclusion areas occur within the 250-foot-wide transmission line ROW, refined transmission line corridor, and/or analysis area under all alternatives. **Table 3.14-21** summarizes the designated avoidance areas and exclusion areas by Alternative. **Figure 3.14-20** identifies all Region III designated avoidance areas and exclusion areas.

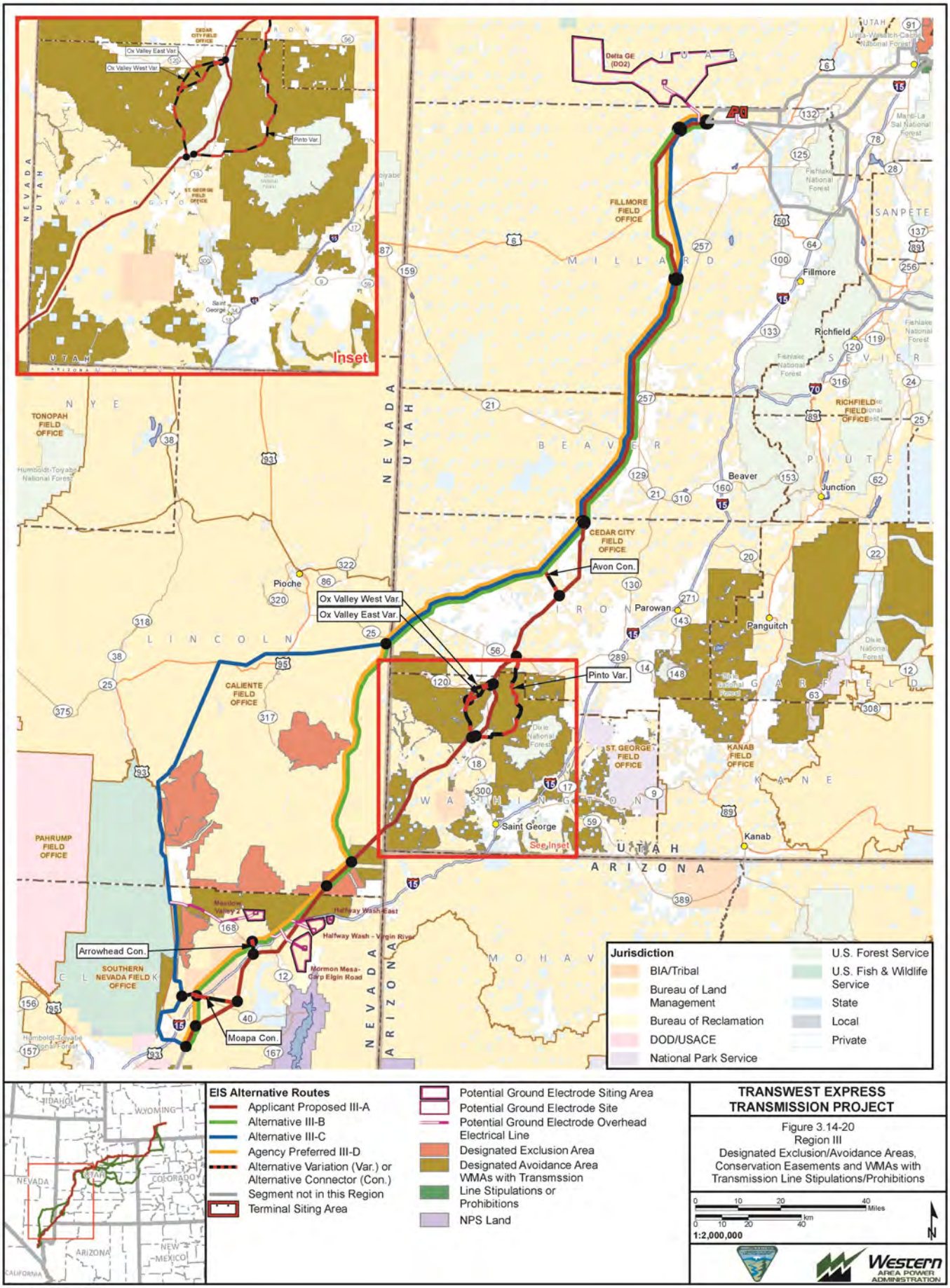
Table 3.14-21 Region III Designated Avoidance and Exclusion Areas by Alternative

Designated Avoidance/Exclusion	Alternative III-A	Alternative III-B	Alternative III-C	Alternative III-D
Avoidance	Dixie National Forest Avoidance Area	Mormon Mesa ACEC	Coyote Springs Valley ACEC	Mormon Mesa ACEC.
Preliminary Engineered Alignment Crossing of Avoidance (miles)[1]	1	2	<1	2

Table 3.14-21 Region III Designated Avoidance and Exclusion Areas by Alternative

Designated Avoidance/Exclusion	Alternative III-A	Alternative III-B	Alternative III-C	Alternative III-D
Overlap with the Refined Transmission Line Corridor or Analysis Area(acres)	Refined transmission line corridor – 78 in the Mormon Mesa ACEC, 12 acres in an unnamed UT Avoidance area Analysis area – 4,524 in the Beaver Dam Slope ACEC, 1,452 in the Beaver Dam Wash NCA 973 in the Dixie National Forest 4,602 in the Mormon Mesa ACEC 114 in an unnamed UT ROW	Refined transmission line corridor – 168 in the Mormon Mesa ACEC Analysis area – 304 in the Beaver Dam Slope ACEC, 6,617 in the Mormon Mesa ACEC	Refined transmission line corridor – 35 in the Coyote Springs Valley ACEC Analysis area – 10,220 in the Coyote Springs Valley ACEC	Refined transmission line corridor – 168 in the Mormon Mesa ACEC Analysis area – 304 in the Beaver Dam Slope ACEC, 6,617 acres in the Mormon Mesa ACEC.
Exclusion	Mormon Mesa-Ely ACEC	Mormon Mesa-Ely ACEC	No Exclusion Areas Under This Alternative	Mormon Mesa – Ely ACEC.
Preliminary Engineered Alignment Crossing of Exclusion (miles)[1]	<1	<1	0	<1
Overlap with the Refined Transmission Line Corridor or Analysis Area (acres)	Refined transmission line corridor – 130 in the Mormon Mesa-Ely ACEC Analysis Area – 137 in the Mormon Mesa – Ely ACEC	Refined transmission line corridor – 90 in the Mormon Mesa-Ely ACEC Analysis area – 9 in the Clover Mountain Wilderness, 90 in the Mormon Mesa-Ely ACEC	Refined transmission line corridor – 90 in the Delamar Mountains Wilderness Analysis area – 90 in the Delamar Mountains Wilderness	Refined transmission line corridor – 90 in the Mormon Mesa – Ely ACEC. Analysis area – 9 in Clover Mountains, 90 in the Mormon Mesa ACEC.

[1] Avoidance/exclusion area is within corridor but not crossed by alignment if number of miles is 0.


Inset
Ox Valley East Var.
Ox Valley West Var.
Pinto Var.
Avon Con.
Arrowhead Con.
Moapa Con.
See Inset
Delta GE (DO2)
Fillmore
Richfield
Beaver
Junction
Parowan
Panguitch
Pioche
Saint George
Kanab
FILLMORE FIELD OFFICE
RICHFIELD FIELD OFFICE
CEDAR CITY FIELD OFFICE
TONOPAH FIELD OFFICE
CALIENTE FIELD OFFICE
ST. GEORGE FIELD OFFICE
KANAB FIELD OFFICE
PAHRUMP FIELD OFFICE
SOUTHERN NEVADA FIELD OFFICE
Halfway Wash - East
Halfway Wash - Virgin River
Mormon Mesa-Carp Elgin Road
NEVADA
UTAH
ARIZONA
Jurisdiction
BIA/Tribal
Bureau of Land Management
Bureau of Reclamation
DOD/USACE
National Park Service
U.S. Forest Service
U.S. Fish & Wildlife Service
State
Local
Private
EIS Alternative Routes
Applicant Proposed III-A
Alternative III-B
Alternative III-C
Agency Preferred III-D
Alternative Variation (Var.) or Alternative Connector (Con.)
Segment not in this Region
Terminal Siting Area
Potential Ground Electrode Siting Area
Potential Ground Electrode Site
Potential Ground Electrode Overhead Electrical Line
Designated Exclusion Area
Designated Avoidance Area
WMAs with Transmission Line Stipulations or Prohibitions
NPS Land
TRANSWEST EXPRESS TRANSMISSION PROJECT
Figure 3.14-20
Region III
Designated Exclusion/Avoidance Areas, Conservation Easements and WMAs with Transmission Line Stipulations/Prohibitions
1:2,000,000
Western AREA POWER ADMINISTRATION
Exported On: 2/19/2015

Alternative III-A (Applicant Proposed)

Approximately 84 percent of the 276-mile Alternative III-A route would be located on BLM or USFS-managed lands; an additional 5 percent would be located on state lands. Approximately 67 percent of the route would be within a BLM or WWEC-designated utility corridor (107 miles and 158 miles, respectively) and 185 miles would be co-located with other ROWs. The remainder of the route mileage is not located within a designated corridor. One mile of an avoidance area in the Dixie National Forest would be crossed by the ROW. The refined transmission line corridor would overlap with approximately 78 acres of avoidance areas in the Mormon Mesa ACEC and 12 acres in an unnamed Utah avoidance area and 130 acres of exclusion areas in the Mormon Mesa-Ely ACEC. The analysis area would overlap with 4,524 acres of avoidance areas in the Beaver Dam Slope ACEC, 1,452 acres in the Beaver Dam Wash NCA, 973 acres in the Dixie National Forest, 4,602 acres in the Mormon Mesa ACEC, and 114 acres in an unnamed Utah ROW. Exclusion areas overlapped by the analysis area include 137 acres in the Mormon Mesa-Ely ACEC.

The ROW for this alternative overlaps with 8 acres of the Toquop disposal lands in the Caliente FO. This may affect the ability of this area to be used for agricultural production in the future; however, the preliminary engineered alignment does not cross through the disposal lands so it may be possible to keep all project components out of the area. Mitigation measure **LU-1** provides for coordination with land managers regarding the placement of project components. If it is not possible to locate project components outside of the Toquop disposal lands, this alternative may affect the ability to designate this area for other uses.

Under Alternative III-A, approximately 31 miles (14 percent) would be located on private land. ROW clearing would take place on 5 acres of agriculture croplands, of which 4 acres would be for construction, and 1 acre would be permanent. One center pivot would be located with the refined transmission line corridor.

An estimated 2,572 acres (128 AUMs) would be removed from BLM-managed grazing allotments, and 309 acres (15 AUMs) from USFS-managed grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 654 acres (33 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be no structures within 500 feet of the preliminary engineered alignment. There would be 4 communities (Central and Newcastle, Utah and Jackman and Moapa Valley, Nevada) and 1 national historic landmark (Mountain Meadows NHL) within the refined transmission line corridor or the analysis area where roads or construction support areas could be located (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the community.

Under Alternative III-A, approximately 20 miles of the refined transmission line corridor would be located on NFS lands within the Dixie National Forest. The refined transmission line corridor would pass through four management units. Additional portions of the analysis area also would encompass acreage within one additional management unit. Development of a transmission line, access roads, and support facilities within these units would generally be consistent with the Forest Plan. More detail regarding LRMP consistency can be found in the Forest Plan spreadsheets in the Project Record. Impacts IRA and URUD areas are discussed in Section 3.15, Special Designation Areas. Impacts to ROS Class areas are discussed in Section 3.13, Recreation Resources.

Alternative III-B

Approximately 74 percent of the 284-mile Alternative III-B route would be located on BLM-managed lands; an additional 4 percent would be located on state lands and 5 percent would be on tribal lands (the Moapa Reservation). Alternative III-B contains 103 miles in BLM-designated corridors and 80 miles in the WWEC corridor. A total of 128 miles would be co-located with other ROWs. The ROW would cross 2 miles of an avoidance area in the Mormon Mesa ACEC and less than 1 mile of an exclusion area in the Mormon Mesa-Elk ACEC. The refined transmission line corridor would overlap with 168 acres of an avoidance area in the Mormon Mesa ACEC and 90 acres in the Mormon Mesa-Ely ACEC. The analysis area would overlap with 304 acres of a designated avoidance area in the Beaver Dam Slope ACEC, and 6,617 acres of a designated avoidance area in the Mormon Mesa ACEC. Exclusion areas overlapped by the analysis area include 9 acres in the Clover Mountain Wilderness and 90 acres in the Mormon Mesa-Ely ACEC.

The crossing of the Moapa Reservation would be within a utility corridor administered by the BLM; therefore, no additional BIA approval would be required if the alternative route remains within the designated BLM-administered utility corridor through the Moapa Indian Reservation.

This alternative would cross the Yucca Mountain rail line land withdrawal area. Surface entry and mining claims are precluded (DOE 2005); however, ROWs are not precluded through this area. Therefore, neither the Caliente FO nor the Nevada State Office view this Project as incompatible with the intended land use. The 250-foot-wide transmission line ROW also overlaps with 62 acres of the Crestline disposal lands and 8 acres of the Toquop disposal lands in the Caliente FO. Mitigation measure **LU-1** provides for coordination with land managers regarding the placement of project components. It may be possible to keep project components out of the Toquop disposal lands, but it is unlikely that the same would be true for the Crestline disposal lands because the preliminary engineered alignment passes through those lands. This alternative may affect the ability of the area to be designated for other uses.

Under Alternative III-B, approximately 31 miles (11 percent) would be located on private land. Alternative III-B would require 7 acres of additional ROW clearing, 6 acres of construction disturbance, and 1 acres of permanent removal of croplands. One center pivot would be within the refined transmission line corridor.

An estimated 2,590 acres (130 AUMs) would be removed from grazing allotments, all on BLM-managed lands, due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 523 acres (26 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be no structures within 500 feet of preliminary engineered alignment. There would be two communities (Moapa and Moapa Valley, Nevada) within the refined transmission line corridor or the analysis area where roads or construction support areas could be located (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the communities.

Alternative III-C

Approximately 83 percent of the 308-mile Alternative III-C route would be located on BLM-managed lands; an additional 2 percent would be located on state lands. Alternative III-C would have 160 miles in BLM-designated utility corridors and 121 miles in the WWEC corridor. A total of 197 miles would be co-located with other ROWs. Approximately 1 mile of a designated avoidance area in the Coyote Springs

Valley ACEC would be crossed by the 250-foot-wide transmission line ROW creating a 35-acre overlap with the designated avoidance area. The analysis area where access roads could be located would overlap with 10,220 acres of a designated avoidance area in the Coyote Springs Valley ACEC.

This alternative would cross the Yucca Mountain rail line land withdrawal area. Surface entry and mining claims are precluded (DOE 2005); however, ROWs are not precluded through this area. Therefore, neither the Caliente FO nor the Nevada State Office view this as incompatible with the intended land use. The ROW also overlaps with 205 acres of the Caliente disposal lands in the Caliente FO. This may affect the ability of this area to be used for agricultural production in the future. Mitigation measure **LU-1** provides for coordination with land managers regarding the placement of project components; however, it is unlikely that all project components would be located outside of these disposal lands because the preliminary engineered alignment passes through those lands. This alternative may affect the ability of the area to be designated for other uses.

Approximately 47 miles (15 percent) would be located on private land. Alternative III-C would require 4 acres of additional ROW clearing, 3 acres of construction disturbance, and 1 acre of permanent removal of croplands. One center pivot would be located within the refined transmission line corridor.

An estimated 2,665 acres (133 AUMs) would be removed from grazing allotments, all on BLM-managed lands, due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the Project, 512 acres (26 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

No center pivots would be crossed by the 250-foot-wide transmission line ROW. There would be 1 residence and 1 commercial/industrial structure within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the alignment, the number affected would be reduced to 1 commercial/industrial structure.

There would be two communities (Beaverdam and North Las Vegas, Nevada) within the refined transmission line corridor or the analysis area where roads or construction support areas could be located (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the communities.

Alternative III-D (Agency Preferred)

Alternative III-D would follow the same route as Alternative III-B with the exception of one area where it deviates from Alternative III-B for approximately 30 miles and follows the same route as proposed for Alternative III-C. This would result in an overall reduction of three miles compared to Alternative III-B. All other impacts would be the same, or very similar to Alternative III-B.

Alternative Variations in Region III

The land ownership crossed by the alternative variations and other key impact parameters are summarized in **Table 3.14-22**. The Ox Valley East, Ox Valley West, and Pinto Alternative Variations pass through areas of high SIO and would not be consistent with visual management objectives; therefore, project-specific amendments would be required.

Table 3.14-22 Impact Parameters of Alternative Variations and Comparative Portions of Alternatives in Region III

Impact Parameter	Description	Ox Valley East Alternative Variation	Comparable (Portions of Alternative III-A)	Ox Valley West Alternative Variation	Comparable (Portions of Alternative III-A)	Pinto Alternative Variation	Comparable (Portions of Alternative III-A)
Jurisdiction	BLM (miles)	0	--	1	--	5	5
	Cedar City	0	0	<1	0	3	5
	St. George	0	0	0	0	2	0
	Private (miles)	<1	<1	<1	<1	3	2
	USFS (miles)	16	15	15	15	20	16
	State	0	0	0	0	0	0
	Total (miles)	**17**	**15**	**17**	**15**	**29**	**23**
Designated Utility Corridors[1]	Length within RMP designated corridors (miles/percent of alternative)[2]	2/13%	14/95%	2/12%	14/82%	2/7%	15/65%
	Length within WWEC designated corridors (miles/percent of alternative)[3]	<1/5%	8/53%	1/6%	8/47%	1/4%	10/43%
	Total (miles/percent of alternative)	2/13%	14/93%	3/18%	14/82%	2/7%	16/70%
Co-location	Non co-located/Co-llocated mileage	16/0	0/15	17/0	0/15	29/0	0/23
Designated Avoidance/Exclusion Areas Crossed	Avoidance (miles)	14	1	13	1	19	1
	Avoidance (corridor acres)[4]	Refined transmission line corridor – 2,844 Analysis Area – 6,254	Refined transmission line corridor – 57 Analysis Area – 673	Refined transmission line corridor – 2,555 Analysis Area – 4,644	Refined transmission line corridor – 57 Analysis Area – 673	Refined transmission line corridor – 3,547 Analysis Area – 17,178	Refined transmission line corridor – 137 Analysis Area – 756
	Exclusion (miles)	0	0	0	0	0	0
	Exclusion (corridor acres)[4]	None	None	None	None	None	None
	Description	Dixie National Forest	Dixie National Forest	Dixie National Forest	Dixie National Forest	Dixie National Forest	Dixie National Forest
Dixie National Forest miles-acres 250-foot-wide transmission line ROW / acres refined transmission line corridor	General Management Area	7 – 206/10,173	3 – 102/6,598	6 – 178/7,167	3 – 102/6,598	6 – 182/10,699	3 – 102/9,556
	2B Roaded Natural Recreation	<1 – 11/618	2 – 57/1,458	1 – 23/446	2 – 57/1,458	1 – 32/1,661	2 – 57 /1,458
	4C Wildlife Habitat - Brushy Range	0	0/1,613	0	0/1,613	5 – 158/4,796	0/1,613
	5A Big-Game Winter Range	3 – 82/2,057	2 – 75/1,637	3 – 82/2,057	2 – 75/1,637	1 – 28/795	1 – 44/736
	6A Livestock Grazing	5 – 158/2,703	6 – 187/5,262	6 – 174/1,598	6 – 187/5,262	7 – 213/7,032	7 – 223/5,958
	9A Riparian Management	0	0	0	0	1 – 14/227	0
	10B Municipal Water Supply Watersheds	<1 – 13/944	0	<1 – 13/944	0	0/77	0
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	0	0	0	0	12	0
	Construction disturbance (acres)	0	0	0	0	9	<1
	Operation disturbance (acres)	0	0	0	0	2	<1

Table 3.14-22 Impact Parameters of Alternative Variations and Comparative Portions of Alternatives in Region III

Impact Parameter	Description	Ox Valley East Alternative Variation	Comparable (Portions of Alternative III-A)	Ox Valley West Alternative Variation	Comparable (Portions of Alternative III-A)	Pinto Alternative Variation	Comparable (Portions of Alternative III-A)
Livestock Grazing	Construction disturbance (acres)	0 / 303	1 / 235	0 / 293	1 / 235	41 / 299	51 / 241
	Estimated decreased AUMs (AUMs/percent of total AUMs)[4]	0 / 15	<1 / 12	0 / 15	<1 / 12	2 / 15	3 / 12
	Operation disturbance (acres)	0 / 98	<1 / 59	0 / 99	<1 / 59	13 / 74	14 / 60
	Long-term decreased AUMs (AUMs)[5]	0 / 5	<1 / 3	0 / 5	<1 / 3	<1 / 4	1 / 3
Structures within 500 feet of the preliminary engineered alignment	Residential (count)	0	0	0	0	0	0
	Commercial/Industrial (count)	0	0	0	0	0	0
	Agricultural (count)	0	0	0	0	0	0
	Outbuilding (count)	0	0	0	0	0	0
	Total (count)	**0**	**0**	**0**	**0**	**0**	**0**
Structures within 200 feet of preliminary engineered alignment	Residential (count)	0	0	0	0	0	0
	Commercial/Industrial (count)	0	0	0	0	0	0
	Agricultural (count)	0	0	0	0	0	0
	Outbuilding (count)	0	0	0	0	0	0
	Total (count)	**0**	**0**	**0**	**0**	**0**	**0**

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

[2] Corridors identified by the BLM and the USFS in their respective land management plans.

[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

[4] Overlap with Avoidance or Exclusion areas only indicates potential for impact as siting within the corridors has not yet been determined.

[5] The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding.

Alternative Connector in Region III

The Moapa Alternative Connector comprises 13 miles located on lands managed by the BLM in the Southern Nevada FO. Three miles are located within designated utility corridors: 2 miles in a BLM-designated corridor and 1 mile in the WWEC corridor. A total of 4 miles are co-located with other ROWs. The connector corridor does not include any designated avoidance/exclusion areas. No crop production affected by the connector. There are no structures within 500 feet of the preliminary engineered alignment. There are no communities within the refined transmission line corridor. An estimated 148 acres (7 AUMs) would be removed from grazing allotments from construction impacts and 28 acres (1 AUMs) due to operational impacts.

The Avon Alternative Connector is located in the Cedar City FO and comprises 4 miles located on lands managed by the BLM; 3 miles on private lands and less than 1 mile on state lands. It is not located within designated utility corridors and it is not co-located with any other ROWs. The connector corridor does not include any designated avoidance/exclusion areas. No crop production is affected by the connector. An estimated 44 acres (2 AUMs) would be removed from grazing allotments due to construction impacts and 8 acres (<1 AUM) due to operational impacts. There are no structures within 500 feet of the preliminary engineered alignment. There is one community (Avon, Utah) within the vicinity of the refined transmission line corridor or the analysis area where roads or construction support areas could be located. There are no identified incompatible designated land uses within the community.

The Arrowhead Alternative Connector is located near Moapa in Clark County, Nevada, and totals 3 miles in length; 2 miles on BLM-managed lands and 1 mile on private lands. One-half mile is located within a BLM-designated utility corridor and no portion of the connector is co-located with other utility ROWs. The connector does not cross any designated avoidance/exclusion areas. No agricultural croplands are located within the refined transmission line corridor and no livestock grazing is currently permitted within Clark County.

An estimated 41 acres (2 AUMs) would be removed from grazing allotments due to construction impacts and 6 acres (<1 AUM) due to operational impacts. There is 1 residence within 500 feet of the alignment and 1 community (Moapa, Nevada) within the vicinity of the refined transmission line corridor or analysis area where roads or construction support areas could be located.

Alternative Ground Electrode Systems in Region III

A ground electrode system of approximately 600 acres in size would be necessary in Region III within 50 to 100 miles of the southern terminal as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided by the Applicant. The ground electrode system alternative locations in Region III are depicted in Chapter 2.0 in **Figure 2-14**. The conceptual locations are located on BLM lands that are not within special designation areas, croplands, or private lands containing residences or other built-environment uses; however, two potential sites (the Halfway Wash-Virgin River and Halfway Wash-East) would overlap with the parcel of land dedicated for the Mesquite airport. The Halfway Wash-Virgin River site is directly on top of the land reserved for the airport and the Halfway Wash-East site is adjacent to, and partially overlaps, the reserved land. Aboveground lines leading to both of these ground electrode sites would be incompatible with the planned use of this land for an airport. Mitigation measure **LU-4** is suggested to address this impact.

LU-4: *Lines connecting to the Halfway Wash-Virgin River and Halfway Wash-East ground electrode sites may need to be adjusted or placed underground at the discretion of Federal Aviation Administration (FAA) so as to not interfere with the future potential land use of an airport.*

The Mormon Mesa-Carp Elgin Road ground electrode site would be approximately 7 miles from the airport site. This location should not be incompatible with existing land use plans.

Initial and permanent disturbances to grazing from the construction and operation of ground electrode systems associated with the conceptual siting areas in Region III would be as described above in Section 3.14.6.2, Impacts Common to All Alternative Routes and Associated Facilities.

Region III Series Compensation Stations (Design Option 2)

If Design Option 2 were implemented, a series compensation station would be necessary along the AC-configured alternative routes of Region III. There are three potential sites, each corresponding to a specific alternative route. These series compensation station alternatives are depicted in **Figure 2-2**.

Series Compensation Station 1 – Design Option 2 corresponds to Alternative III-A. This station alternative would be located on 45 acres of BLM-managed lands, within the BLM Cedar City FO, approximately 20 miles northwest of Cedar City. No other land uses would be affected by this station alternative.

Series Compensation Station 2 – Design Option 2 corresponds to Alternative III-C. This station alternative would be located on 45 acres of BLM-managed lands, within the BLM Caliente FO, approximately 15 miles west of Caliente. No other land uses would be affected by this station alternative.

Series Compensation Station 3 – Design Option 2 corresponds to Alternative II-B. This station alternative would be located on 46 acres of private land, within the BLM Cedar City FO, approximately 7 miles west of the Town of Beryl. It would be in the vicinity of several center pivots, but would not overlap with any. No other land uses would be affected by this station alternative.

Region III Conclusion

Alternatives III-A, III-B, III-C, and III-D have similar impacts to most of the parameters discussed. Alternative III-A would use the greatest amount of designated corridors (185 miles and 67 percent of the route), whereas Alternative III-B and III-D would use 153 and 155 miles, respectively (approximately 54 percent of the route), and Alternative III-C would use 195 miles (63 percent of the route). Alternative III-C has the greatest amount of co-located mileage (202) and Alternative III-B has the fewest (123). Alternatives III-B and III-D would create the greatest disturbance to agricultural lands and Alternative III-A would create the fewest. Alternatives III-B and III-D would cross the most designated avoidance areas (2 miles in the Mormon Mesa ACEC); however, Alternative III-A would have the most overlap with the refined transmission line corridor and analysis area where access roads could be located and various avoidance and exclusion areas. Livestock grazing impacts would be fairly similar between Alternatives III-A, III-B, and III-C with the exception that Alternative III-A affects BLM- and USFS-managed grazing allotments as opposed to just BLM-managed allotments. Alternatives III-B and III-C would cross the Moapa Indian Reservation in a BLM-managed utility corridor, which would require negotiations between the Applicant and the Moapa Indian Tribe that could result in potential denial of the ROW if an agreement is not met.

The alternative variations in Region III include the Ox Valley East, Ox Valley West, and Pinto variations. No portions of these variations are co-located. All variations cross through designated avoidance areas and areas of high SIO in the Dixie National Forest (14 and 13 miles for the Ox Valley East and West variations and 19 miles for the Pinto Variation). Only the Pinto Variation would affect agricultural croplands.

The alternative connectors in Region III include the Moapa, Arrowhead, and Avon connectors. Three miles of the Moapa Connector are located within designated corridors and 4 miles are co-located with other ROWs. No mileage of the Avon Connector would be located within designated corridors or co-located. One-half mile of the Arrowhead Connector is located within a BLM-designated corridor and no portion of the connector is co-located with other utility ROWs.

3.14.6.6 Region IV

Land ownership crossed by the alternatives in Region IV includes BLM, DOE, Bureau of Reclamation, NPS, and private. BLM lands are within the Southern Nevada FO; NPS lands consist of the Lake Mead National RA; and private lands include Boulder City annexation area, described under the Southern Terminal Impacts in Section 3.14.6.1, Impacts from Terminal Construction, Operation, and Decommissioning and shown in **Figures 3.14-9** and **3.14-10**. The Bureau of Reclamation and DOE lands also are crossed. **Table 3.14-23** summarizes land ownership and other impact parameters for each alternative in Region IV.

Table 3.14-23 Region IV Alternative Route Land Use Impact Parameters

Impact Parameter	Description	Alternative IV-A	Alternative IV-B	Alternative IV-C
Jurisdiction	BLM (Southern Nevada FO) (miles/percent of alternative)	27/73%	7/17%	7/16%
	Private (miles/percent of alternative)	3/8%	18/45%	20/45%
	Bureau of Reclamation (miles/percent of alternative)	7/19%	0	0
	DOE (miles/percent of alternative)	0	1/3%	3/7%
	NPS (miles/percent of alternative)	0	14/35%	14/32%
	Total (miles)	**37**	**40**	**44**
Nevada	Clark County	37	40	44
Designated Utility Corridors[1]	Utility Corridors designated in BLM RMPs[2] (miles/percent of alternative)	11/32%	5/13%	5/11%
	West-wide Energy Corridor[3] (miles/percent of alternative)	14/38%	5/13%	5/11%
	Total (miles/percent of alternative)	25/68%	5/13%	5/11%
Co-location	Non co-located/Co-located mileage	0/37	10/30	9/35
Livestock Grazing	Currently no permitted grazing activities on BLM grazing allotments along this alternative.			
Communities	Count within refined transmission line corridor	2	1	1
Structures within 500 feet of the preliminary engineered alignment	Residential (count)	5	8	8
	Commercial/Industrial (count)	1	1	0
	Agricultural (count)	0	0	0
	Outbuilding (count)	0	9	9
	Total (count)	**6**	**9**	**8**
Structures within 200 feet of the preliminary engineered alignment	Residential (count)	0	0	0
	Commercial/Industrial (count)	1	0	0
	Agricultural (count)	0	0	0
	Outbuilding (count)	0	0	0
	Total (count)	**1**	**0**	**0**

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

[2] Corridors identified by the BLM and the USFS in their respective land management plans.

[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

Note: Discrepancies in totals due to rounding.

The proportion of proposed IV-A, IV-B, and IV-C alternatives within designated utility ROWs and corridors is relatively low; however, as shown in **Figure 3.14-10**, the alternative routes are generally co-located with other existing linear corridors, and along linear roadways.

Based on a GIS analysis of land cover types and a review of recent aerial photography of the analysis area, there are no producing croplands affected under any alternative within Region IV. Grazing allotments are designated on BLM-managed lands contained within the analysis area in Region IV;

however, a review of BLM allotment management summaries indicate there are currently no permitted grazing activities on BLM grazing allotments. Most of the structures affected by Alternative IV-A are located in the City of Henderson, Nevada.

Alternatives IV-A, IV-B, and IV-C cross through the counties and local and federal entities listed in **Table 3.14-24**. The development of transmission lines is not addressed in all zoning ordinances. These governmental units would require a consultation with their planning agency to determine the procedure for permitting the Proposed Project. **Figures 3.14-10** and **3.14-21** show the zoning designations for Boulder City and the City of Henderson.

Table 3.14-24 Consistency in Region IV with Applicable Land Use Plans and Policies

Regulating Agency	Plan, Policy, or Regulation	Proposed Project in Agency Designated Land Management Districts
Clark County, Nevada	Clark County Comprehensive Plan Title 30 Development Code Clark County Multiple Species Habitat Conservation Plan	Land Use – Public, Woodland Recreation Future Land Use – Public, Woodland Recreation Zoning – Rural Open Land, Open Space, Industrial districts: to acquire ROW for transmission lines, the proposed route shall be submitted to the board of county commissioners for review and recommendation.
City of Henderson, Nevada	City of Henderson Comprehensive Plan City of Henderson College Area Plan Henderson Municipal Code	Land Use – no available spatial data Future Land Use – Low Density Residential, Public/Semi-Public, High Density Residential, Highway Commercial Zoning – Residential (RH-24, RS-1A, DH): major utilities are a conditional use.
Boulder City, Nevada	Boulder City Conservation Easement Agreement and Boulder City Master Plan	Land Use (city) – Open Lands, Parks and Recreation, Land Use (Eldorado Valley) – Energy, Preserve Land Use (city) – Open Lands, Parks and Recreation, Land Use (Eldorado Valley) – Energy, Preserve, Open Lands Zoning – Alternatives IV-B and IV-C are partially outside of existing utility ROWs, and crossing through multiple zoning districts. The alternatives shall be submitted to the board of county commissioners for review and recommendation.
National Park Service	Lake Mead National RA General Management Plan & Alternatives, 1986	No approved utility corridors in Proposed Project corridors. The proposed route crosses area designated Environmental Protection Subzone. Proposed project is not consistent with General Management Plan (NPS 2011). Per the General Management Plan, the NPS generally would oppose granting any further corridors (NPS 1986).

Designated avoidance areas occur within the refined transmission line corridor under all alternatives; however, the preliminary engineered alignment only intersects with designated avoidance areas under Alternatives IV-B and IV-C. No designated exclusion areas are crossed or overlapped by the preliminary engineered alignment or refined transmission corridor. **Table 3.14-25** summarizes the special designation areas that also are designated avoidance areas and exclusion areas within the analysis area. **Figure 3.14-22** identifies Region IV designated avoidance and exclusion areas.

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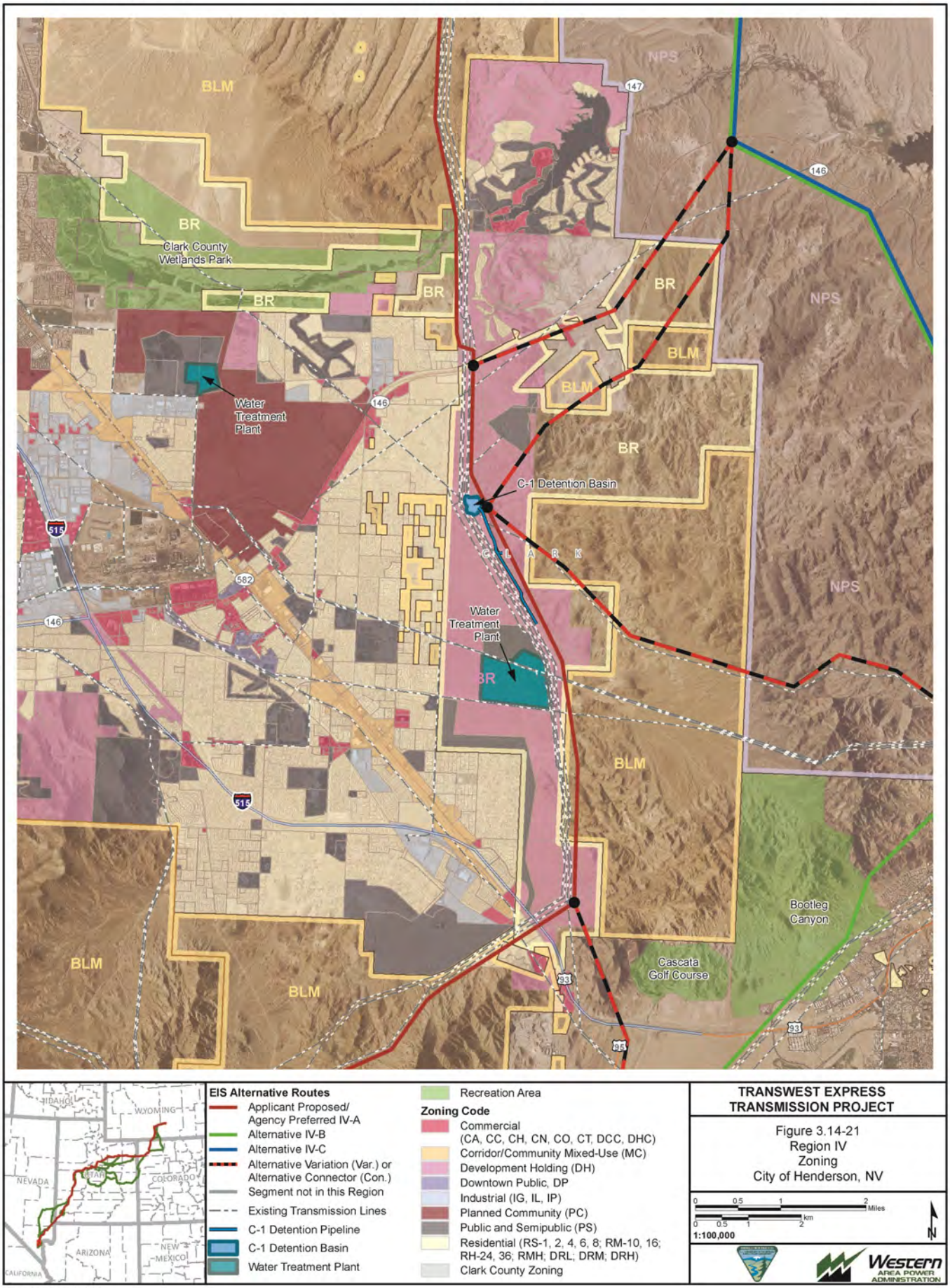

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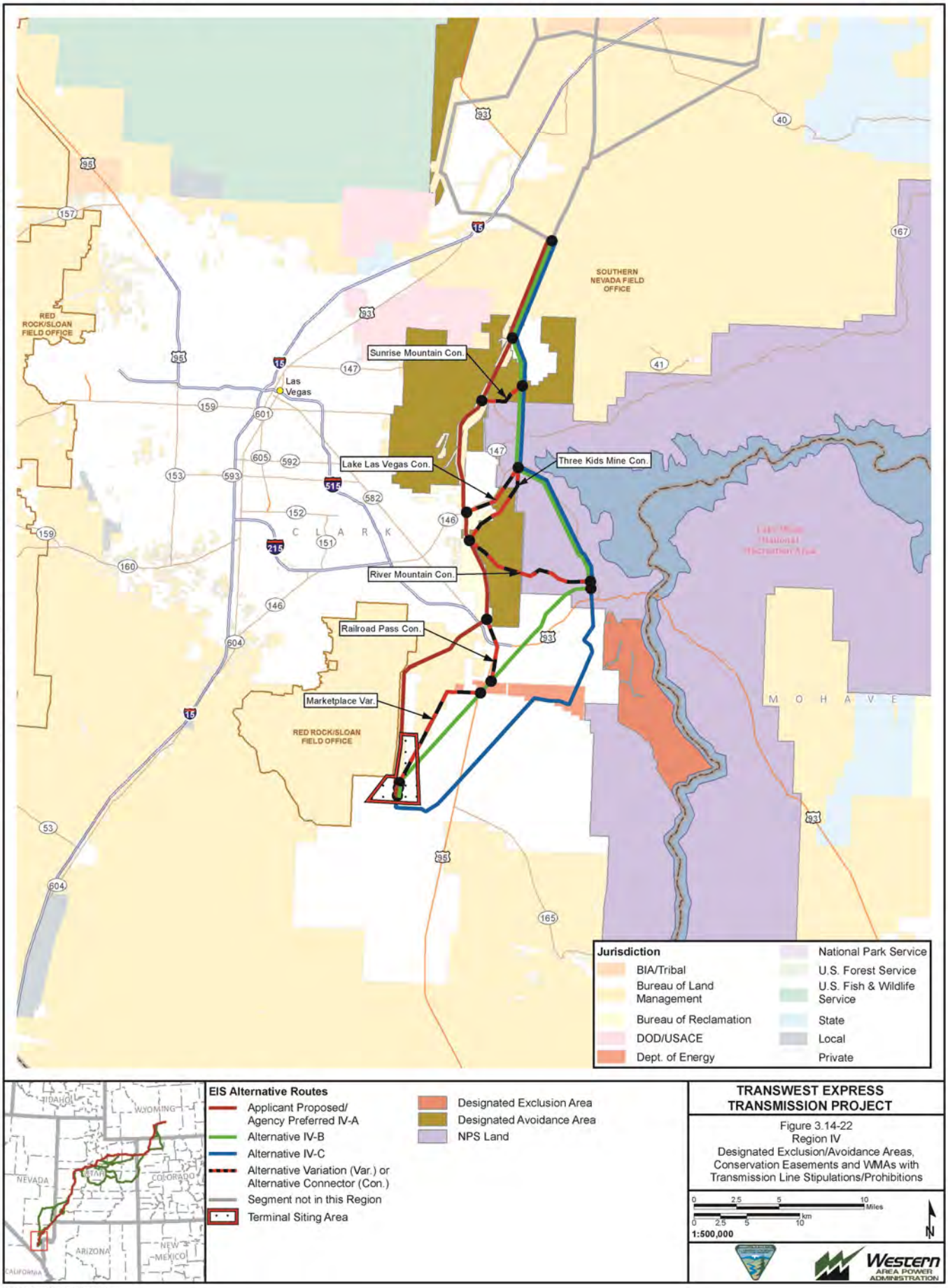

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Table 3.14-25 Designated Avoidance and Exclusion Areas in Region IV

Designated Avoidance/Exclusion	Alternative IV-A	Alternative IV-B	Alternative IV-C
Avoidance	Rainbow Gardens ACEC River Mountains ACEC	Rainbow Gardens ACEC River Mountains ACEC[1]	Rainbow Gardens ACEC
Preliminary Engineered Alignment Crossing of Avoidance Areas (miles)	0	2	2
Overlap with Refined Transmission Line Corridor and Analysis Area (acres)[2]	Refined transmission line corridor – 131 Analysis Area – 9,405	Refined transmission line corridor – 174 Analysis Area – 1,867	Refined transmission line corridor – 174 Analysis Area – 1,793
Exclusion	None	None	None
Overlap with Refined Transmission Line Corridor and Analysis Area (acres)[2]	0	0	0
Preliminary Engineered Alignment Crossing of Exclusion Areas (miles)	0	0	0

[1] Applies to the refined transmission line corridor and analysis area overlap only.

[2] Overlap with Avoidance or Exclusion areas only indicates potential for impact as siting within the corridors has not yet been determined.

Alternative IV-A (Applicant Proposed and Agency Preferred)

Over 90 percent of the 37-mile Alternative IV-A route would be located on federally managed lands. Unlike the other alternatives in Region IV, Alternative IV-A would cross through Bureau of Reclamation land. Seven miles, equaling 19 percent of the route, would be crossed. Approximately 25 miles (68 percent) of the Alternative IV-A route is within a designated utility corridor; 11 miles of BLM-designated corridors and 14 miles of designated WWEC corridor. The entire alternative route would be co-located with other ROWs. Designated avoidance areas in the Rainbow Gardens and River Mountains ACEC would be overlapped by the refined transmission line corridor for 131 acres and the analysis area where access roads could be located for 9.405 acres.

Under Alternative IV-A, approximately 3 miles (8 percent) would be located on private land. There would be 5 residential structures and 1 commercial/industrial structure within 500 feet of the proposed preliminary engineered alignment. At a distance of 200 feet from the preliminary engineered alignment, the number affected would be reduced to 1 commercial/industrial structure. There would be two communities (Henderson and Boulder City) within the refined transmission line corridor or the analysis area where roads or construction support areas could be located (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the communities.

Alternative IV-B

Approximately 55 percent of the 40-mile Alternative IV-B route would be located on federally managed lands. Alternative IV-B contains 5 miles in BLM-designated utility corridors and 5 miles in the WWEC corridor (a total of 13 percent). A total of 30 miles would be co-located with other ROWs. Designated avoidance areas would be crossed by the preliminary engineered alignment for 2 miles in the Rainbow Gardens ACEC, and no designated exclusion areas would be crossed. Designated avoidance areas in the Rainbow Gardens ACEC and River Mountains ACEC would be overlapped by the refined transmission line corridor for 174 acres and the analysis area where access roads could be located for 1,867 acres. The General Management Plan for the Lake Mead NRA, while not specifically identifying the Alternative IV-B route area as a designated ROW avoidance area, indicates that the NPS generally would oppose granting any further corridors; instead, additional use of existing corridors would be favored in the event there is a justified need for additional utility lines through the NRA (NPS 1986). The

proposed route is not within a designated corridor, and the NPS has indicated that the proposed development is not consistent with the NRA's General Management Plan (NPS 2011).

Under Alternative IV-B, approximately 18 miles (45 percent) would be located on private land. There would be 8 residential structures and 1 commercial/industrial structure within 500 feet of preliminary engineered alignment. At a distance of 200 feet from the preliminary engineered alignment, there would be no structures affected. There would be one community (Boulder City) within the refined transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the community.

Alternative IV-C

Approximately 55 percent of the 44-mile Alternative IV-C route would be located on federally managed lands with 5 miles in BLM-designated utility corridors and 5 miles in the WWEC corridor (a total of 11 percent). A total of 36 miles would be co-located with other ROWs. Designated avoidance areas would be crossed by the preliminary engineered alignment for 2 miles in the Rainbow Gardens ACEC, and no designated exclusion areas would be crossed. Designated avoidance areas would be overlapped by the refined transmission line corridor for 174 acres and by the analysis area where access roads could be located for 1,793 acres. As discussed under Alternative IV-B, the NPS has indicated that the proposed development is not consistent with the NRA's General Management Plan (NPS 2011). The refined transmission line corridor would pass through 8.9 miles of the Boulder City Conservation Easement. As required by Mitigation measure **LU-1** the Applicant would coordinate with both Boulder City and the Desert Conservation Program if this alternative is selected.

Under Alternative IV-C, approximately 20 miles (45 percent) would be located on private land. There would be 8 residential structures within 500 feet of the preliminary engineered alignment. At a distance of 200 feet from the preliminary engineered alignment, there would be no structures affected. There would be one community (Boulder City) within the refined transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the community.

Alternative Variation in Region IV

The land ownership crossed by the alternative variation and other key impact parameters are summarized in **Table 3.14-26**. No cropland, grazing areas, or structures would be within either the refined transmission line corridor or the analysis area where access roads could be located. There would be one community (Boulder City) within the refined transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the community.

Alternative Connectors in Region IV

The land ownership crossed by the alternative connectors and other key impact parameters are summarized in **Table 3.14-27**. A small portion (less than 1 mile) of the Sunrise Mountain Connector falls within the WWEC-designated utility corridor. All of the connectors are co-located with other utility ROWs in their entirety. No cropland would be within the analysis area. Every proposed connector would cross a designated avoidance area except for the Railroad Pass Connector. The refined transmission line corridor and analysis area where roads could be located for all of the connectors would overlap with avoidance areas. No designated exclusion areas would be crossed or overlapped by the connectors.

Region IV Conclusion

Alternatives IV-A, IV-B, and IV-C have similar impacts to most of the parameters discussed. Alternative IV-A would use the greatest amount of designated corridors (25 miles and 68 percent of the route), whereas Alternatives IV-B and IV-C use approximately 6 miles (13 percent and 11 percent, respectively) of their routes. Alternative IV-A is co-located with existing ROWs for its entire length (37 miles). Alternatives IV-B and IV-C are approximately 80 percent co-located and 20 percent not co-located. Alternatives IV-B and IV-C cross 2 miles of a designated avoidance area in the Rainbow

Gardens ACEC. The refined transmission line corridor and analysis area where access roads could be located for all alternatives would overlap with designated avoidance areas. No designated exclusion areas would be crossed or overlapped in Region IV. Currently, there are no permitted grazing activities on BLM grazing allotments in Region IV; therefore, there would be no impacts to livestock grazing in Region IV for any alternative.

Table 3.14-26 Impact Parameters of Marketplace Alternative Variation and Comparative Portions of Alternative IV-B in Region IV

Impact Parameter	Description	Marketplace Alternative Variation	Marketplace Comparable (portion of Alternative IV-B)
Jurisdiction	BLM (Southern Nevada FO) (miles)	3	0
	Private (miles)	5	7
	DOE (miles)	1	<1
	NPS (miles)	0	0
	Total (miles)	**8**	**7**
Designated Utility Corridors[1]	Length within RMP designated corridors (miles/percent of alternative)[2]	<1/3%	0/0%
	Length within WWEC designated corridors (miles/percent of alternative)[3]	<1/3%	0/0%
	Total (miles/percent of alternative)	**<1/3%**	**0/0%**
Co-location	Non co-located/Co-located mileage	0/8	0/7
Designated Avoidance/ exclusion		0	0
Livestock Grazing	Currently no permitted grazing activities on BLM grazing allotments along this alternative.		
Communities	Count within refined transmission line corridor	1	1
Structures within 500 feet of the preliminary engineered alignment	Residential (count)	0	0
	Commercial/Industrial (count)	1	0
	Agricultural (count)	0	0
	Outbuilding (count)	0	0
	Total	**1**	**0**
Structures within 200 feet of the preliminary engineered alignment	Residential (count)	0	0
	Commercial/Industrial (count)	0	0
	Agricultural (count)	0	0
	Outbuilding (count)	0	0
	Total	**0**	**0**

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

[2] Corridors identified by the BLM and the USFS in their respective land management plans.

[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

Note: Discrepancies in totals due to rounding.

Table 3.14-27 Impact Parameters of Alternative Connectors in Region IV

Impact Parameter	Description	Sunrise Mountain Alternative Connector	Lake Las Vegas Alternative Connector	Three Kids Mine Alternative Connector	River Mountain Alternative Connector	Railroad Pass Alternative Connector
Jurisdiction	BLM (Southern Nevada FO) (miles)	2	0	1	3	0
	Private (miles)	0	1	<1	0	3
	Bureau of Reclamation (miles)	0	2	3	1	<1
	NPS (miles)	1	1	1	4	0
	Total (miles)	**3**	**4**	**5**	**8**	**4**
Designated Utility Corridors[1]	Length within RMP designated corridors (miles/percent of alternative)[2]	0	0	0	0	0
	Length within WWEC designated corridors (miles/percent of alternative)[3]	<1	0	0	0	0
	Total (miles/percent of alternative)	**<1/10%**	**0**	**0**	**0**	**0**
Co-location	Non co-located/Co-located mileage	0/3	0/4	0/5	0/8	0/4
Designated Avoidance/Exclusion Areas Crossed or Overlapped	Avoidance (miles)	1	1	3	3	0
	Avoidance (acres)[4]	Refined transmission line corridor – 100 Analysis Area – 935	Refined transmission line corridor – 65 Analysis Area – 403	Refined transmission line corridor – 772 Analysis Area – 1,090	Refined transmission line corridor - 1,413 Analysis Area – 2,817	Refined transmission line corridor – 2 Analysis Area - 237
	Exclusion (miles)	0	0	0	0	0
	Exclusion (acres)[4]	0	0	0	0	0
	Description	Rainbow Gardens ACEC	River Mountains ACEC	River Mountains ACEC	River Mountains ACEC	River Mountains ACEC
Livestock Grazing	Currently no permitted grazing activities on BLM grazing allotments along this alternative.					
Communities	Count within the refined transmission line corridor or road/construction support areas	0	1 Henderson, NV	1 Henderson, NV	2 Boulder City & Henderson, NV	3 Boulder City, Henderson, & Texas Acres, NV
Structures within 500 feet of the preliminary engineered alignment	Residential (count)	0	0	0	0	0
	Commercial/Industrial (count)	0	1	0	1	0
	Agricultural (count)	0	0	0	0	0
	Outbuilding (count)	0	0	0	0	0
	Total	**0**	**1**	**0**	**1**	**0**
Structures within 200 feet of the preliminary engineered alignment	Residential (count)	0	0	0	0	0
	Commercial/Industrial (count)	0	1	0	0	0
	Agricultural (count)	0	0	0	0	0
	Outbuilding (count)	0	0	0	0	0
	Total	**0**	**1**	**0**	**0**	**0**

[1] Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

[2] Corridors identified by the BLM and the USFS in their respective land management plans.

[3] Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

[4] Overlap with designated Avoidance or Exclusion areas only indicates potential for impact as siting within the corridors has not yet been determined.

Note: Discrepancies in totals due to rounding.

The Marketplace Alternative Variation would be the only alternative variation in Region IV. Approximately 3 percent of the 8-mile route would be located within a designated corridor. The entire 8 miles of the route would be co-located with existing ROWs. No designated avoidance or exclusion areas would be crossed by the Marketplace Variation.

The Alternative Connectors in Region IV include the Sunrise Mountain, Lake Las Vegas, Three Kids Mine, River Mountain, and Railroad Pass Connectors. Less than one mile (10 percent) of the Sunrise Mountain Alternative Connector would be located in a designated utility corridor; however, no utilities currently exist within this corridor. None of the other alternative connectors would use designated corridors, but they are entirely co-located with existing utilities. The Railroad Pass Connector is the only connector that would not cross through designated avoidance areas. The Sunrise Mountain Connector crosses through the Rainbow Gardens ACEC. The Lake Las Vegas, Three Kids Mine, and River Mountain Connectors all cross through the River Mountains ACEC; however, the Lake Las Vegas has the shortest crossing distance of the three. The refined transmission line corridor and analysis area where access roads could be located for all alternatives overlap with designated avoidance areas. No designated exclusion areas are crossed or overlapped by connectors in Region IV.

3.14.6.7 Residual Effects

Land use mitigation measures would reduce impacts through structure siting. If applied, there would be low residual effects. If this measure cannot be applied, residual impacts would consist of land use that would be inconsistent with planned goals and uses.

Agriculture mitigation measures would reduce impacts through structure placement and construction scheduling. Residual impacts would comprise a loss of some agricultural lands as identified above and some restrictions in future placement of center pivots.

Range-related mitigation measures would reduce impacts through structure placement and construction scheduling, maintenance of grazing access, and speed limits. Residual impacts would comprise a loss of AUMs, forage, and potential loss of livestock from vehicular travel.

3.14.6.8 Irreversible and Irretrievable Commitments of Resources

All operation impacts to land use described above within the refined transmission line corridor would be irretrievable until transmission line decommissioning, after which time all land uses could be reclaimed. However, reclamation activities may have limited success in areas with poor soils, some vegetation communities would take years to reestablish, and some areas may never return to their former vegetation cover and composition. As such, these impacts may represent an irreversible commitment of range resources. Additionally, changes in land use around the proposed transmission line could occur as a result of its placement and long term operation. These changes are unlikely to be returned to previous use after transmission line decommissioning and should therefore be considered irreversible.

3.14.6.9 Relationship between Local Short-term Uses and Long-term Productivity

Implementation of the Project would result in the conversion some lands from existing uses to use as ROW corridors. In the short term, the current productivity of lands for agricultural and grazing would be reduced and lands would be unavailable for other uses such as energy production. Long-term impacts to grazing include the disturbance of vegetation covers requiring extended time (10 to 100 years) for recovery, and the potential for weedy annual species such as halogeton and cheatgrass to become established in localized areas for extended periods of time. The project also could result in long term changes to productivity if land use in the area surrounding the Project shifts to a more industrial use as a result of the transmission line placement and is lost as an area high visual quality or residential use.

3.14.6.10 Impacts to Land Use Resources from the No Action Alternative

Under the No Action Alternative, there would be no impacts to land use resources as the proposed Project would not be developed.