Summary

Summary

This section summarizes the San Juan Basin Energy Connect Project EIS and discusses key findings and conclusions.

S.1 Introduction

On November 5, 2008, Tri-State Generation and Transmission Association Inc. (Tri-State) filed a preliminary application for a right-of-way grant with the United States (US) Department of the Interior (DOI) Bureau of Land Management (BLM) Farmington Field Office (FFO). The preliminary right-of-way application is for the construction, operation, and maintenance of a new 230-kilovolt (kV) overhead electric transmission line, two new substations, expansion of an existing substation, and access roads. The proposed approximately 65-mile transmission line, called the San Juan Basin Energy Connect Project (SJBEC Project), would run from near Shiprock, New Mexico, to Ignacio, Colorado, across federal, state, tribal, and private lands. It would improve reliability of the transmission system and deliver electricity generated at existing facilities to meet increasing demand in the San Juan Basin.

Tri-State is a wholesale electric power supplier owned by the 44 electric cooperatives that it serves. Tri-State generates and transmits electricity to its member systems throughout a 200,000-square-mile service territory across Colorado, Nebraska, New Mexico, and Wyoming. Tri-State's mission is to provide its member-owners a reliable, cost-based supply of electricity while maintaining a sound financial position through effective utilization of human, capital, and physical resources in accordance with cooperative principles.

Increasing electric load growth in the San Juan Basin region of Colorado and New Mexico, in commercial, residential, and industrial sectors, has put a strain on the existing electrical system. Tri-State is proposing to construct a 230 kV transmission line from the Farmington area in northwest New Mexico to Ignacio, Colorado. Tri-State is pursuing the SJBEC Project to:

- Improve electric system reliability with a high voltage transmission path from Colorado into northern New Mexico.
- Provide electric system capacity to support the La Plata Electric Association's (LPEA) requested transmission capacity.
- Directly improve the load-serving capability and reliability of the electric system serving LPEA, Empire Electric Association (EEA), and San Miguel Power Association.

Tri-State is requesting right-of-way grants to authorize use of specific public lands from the BLM FFO; Southern Ute Indian Tribe (SUIT) tribal lands from the Bureau of Indian Affairs (BIA); and state lands from the New Mexico State Land Office. Tri-State is also requesting approval from La Plata County for the operation and construction of the transmission line on private properties located in La Plata County. Tri-State is requesting financial assistance from the US Department of Agriculture's Rural Utilities Service (RUS). Tri-State is requesting approval from the Western Area Power Administration (Western) to interconnect its proposed 230 kV transmission line to Western's Shiprock Substation and also to locate the new Three Rivers Substation on Western's reserved area within BLM lands.

Prior to making a decision, federal agencies, including the BLM, BIA, RUS, and Western, are required to conduct environmental review under the National Environmental Policy Act (NEPA) of 1969, Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and Section 7 of the Endangered Species Act (ESA) of 1973 in accordance with federal agency policies and procedures. The BLM is the lead federal agency for NEPA, NHPA, and ESA review and compliance. Environmental Impact Statement (EIS) preparation is a joint process between the BLM and cooperating agencies. Cooperating agencies include the BIA, RUS, Western, SUIT, La Plata County, the New Mexico State Land Office, and the Navajo Nation.

Chapter 1, Introduction

Chapter 1 of the EIS introduces the project, describes its purpose, and explains why the project is needed. It identifies the agencies involved with the project and the decisions that need to be made. It identifies relevant land use plans, laws, and policies, and also summarizes major federal, state, and local permitting requirements. Finally, Chapter 1 describes the NEPA Scoping Process and summarizes issues identified during EIS scoping.

S.2 BLM's Purpose and Need for Action

The purpose of BLM's action is to respond to Tri-State's application to construct, operate, and maintain a proposed 230 kV transmission line and associated substations and access roads by either granting a right-of-way on public lands, granting a right-of-way with conditions, or denying the application. The need for BLM's action to respond to Tri-State's right-of-way application for the SJBEC Project arises from the Federal Land Policy and Management Act (FLPMA). The FLPMA establishes a multiple-use mandate for managing federal lands, which includes transmission facilities as outlined in Title V.

Pursuant to 43 CFR §2801.2, it is BLM's objective to grant right-of-way and to control its use on public land in a manner that (a) protects the natural resources associated with public land and adjacent land, whether private or administered by a government entity; (b) prevents unnecessary or undue degradation to public land; (c) promotes the use of right-of-way in common considering engineering and technological compatibility, national security, and land use plans; and
(d) coordinates, to the fullest extent possible, all BLM actions under the regulations in this part with state and local governments, interested individuals, and appropriate quasi-public entities.

S.3 Western's Purpose and Need

Pursuant to the Federal Power Act, Western must consider and respond to Tri-State's request to interconnect with the Shiprock Substation and to construct the Three Rivers Substation on Western's reserved lands. Western's purpose and need is to consider the interconnection request in accordance with Western's General Requirements for Interconnection.

S.4 Proponent's Project Objectives

Tri-State's objective is to obtain authorization to construct, maintain, and operate a new 230 kV transmission line as described above under Section S.1.

Electricity demand in the San Juan Basin region of Colorado and New Mexico in the industrial, commercial, and residential sectors has put a strain on the existing regional transmission system. As shown in Exhibit S-1, Tri-State's Coincident Peak Load, the coincident peak load is approximately 300 megawatts (MW) and is forecast to increase

substantially. Although the existing generation resources throughout the region are adequate to meet near-term moderate increases in demand, additional transmission facilities are needed to ensure that electricity can be reliably delivered as loads grow over the next several years.

Exhibit S-1
Tri-State's Coincident Peak Load (MW)

	December Actual				Tri-State 2012 Base Economic Forecast December Projected				
	2009	2010	2011	2012	2014	2017	2020	2025	2030
La Plata Electric Association	169.1	174.9	155.8	150.1	163.4	172.3	182.8	200.3	217.2
Empire Electric Association	89.3	88.1	87.8	89.5	101.4	102.0	102.3	108.3	116.0
San Miguel Power Association[1]	36.4	38.8	32.8	45.4	36.8	38.7	40.3	42.9	45.7
Total Tri-State Southwest Colorado Load MW	**294.8**	**301.8**	**276.4**	**285.0**	**301.6**	**313.1**	**325.4**	**351.5**	**378.9**

[1] *Excludes the San Miguel Power Association) Dalls Creek Substation which is normally supplied north of TOT 2A.*

Tri-State, its member co-operative LPEA, and other regional utilities have been continuously making improvements and additions to the electrical system in the San Juan Basin to maintain reliability. Most of the infrastructure in the region was originally built in the 1950s, and over the years aging equipment has been replaced and upgraded. Numerous investments have been made in the transmission system and at substations throughout the region to improve reliability by building in redundant systems, installing voltage support mechanisms, and increasing capacity. Nevertheless, the transmission path in the region is still constrained and Tri-State must ensure it meets the needs of its member systems, as well as comply with numerous mandatory federal reliability standards.

S.5 Issues Raised During Scoping

The BLM has engaged the public since the SJBEC Project began in 2008. The BLM originally initiated an environmental assessment (EA) to determine the appropriate level of documentation to comply with NEPA. Public scoping for the SJBEC Project EA occurred from September 17 through November 9, 2009. Scoping meetings were held with the public and local, state, and federal agencies on October 7 and 8, 2009, in Farmington, New Mexico, and Ignacio, Colorado.

A total of 82 individuals signed in as attendees to the EA scoping meetings. Comments were received from 91 individuals. Issues of primary concern identified by the public during the scoping period were:

- Proximity of the transmission line to residences
- Land use issues
- Impacts to visual resources
- Health and safety concerns
- Impacts related to noise

Public input received during the scoping period suggested that an EIS-level analysis would be more appropriate than the proposed EA. As a result, the BLM decided in December 2009 to prepare an EIS instead of an EA.

NEPA Scoping

Sections 1.8 and 1.9 of this EIS provide additional information about NEPA scoping and issues raised during scoping.

The EIS scoping process began when the BLM published the Notice of Intent in the Federal Register on January 25, 2011, and continued to April 1, 2011. Three public scoping meetings and one agency scoping meeting were held on March 16 and 17, 2011, in Farmington and Aztec, New Mexico, and Ignacio, Colorado, to solicit comments on the scope of the EIS.

A total of 140 individuals signed in as attendees to the three public scoping meetings. A total of 71 individuals, agencies, and non-governmental organizations submitted comments on the SJBEC Project. Comments were received regarding a wide variety of issues, but largely fell into the following categories:

- Land use
- Effects on resources and resource use
- Public health and safety
- Socioeconomics and environmental justice
- Alternatives
- Mitigation measures

S.6 Alternatives Evaluated in this EIS

A collaborative and comprehensive process was used to develop and consider a range of alternatives for the SJBEC Project as described in Section 2.3, Alternatives Considered but Eliminated, of this EIS. Based on the outcome of the alternatives development process, this EIS evaluates the No Action Alternative and two action alternatives: the Preferred Alternative and the Proposed Action.

Chapter 2, Alternatives

Chapter 2 describes the alternatives evaluated in this EIS, identifies actions common to all action alternatives, and explains what alternatives were considered, but eliminated from detailed analysis in this EIS.

The Proposed Action was submitted by Tri-State as part of their right-of-way application. The Proposed Action was developed in coordination with the BLM through comprehensive public outreach effort. Based on agency coordination, scoping, and analysis, a second alternative was developed. This alternative was selected as the preferred alternative because it would meet the purpose and need and minimize effects to the built and natural environment to a greater extent than the Proposed Action. The action alternatives are described below. The No Action Alternative is also discussed.

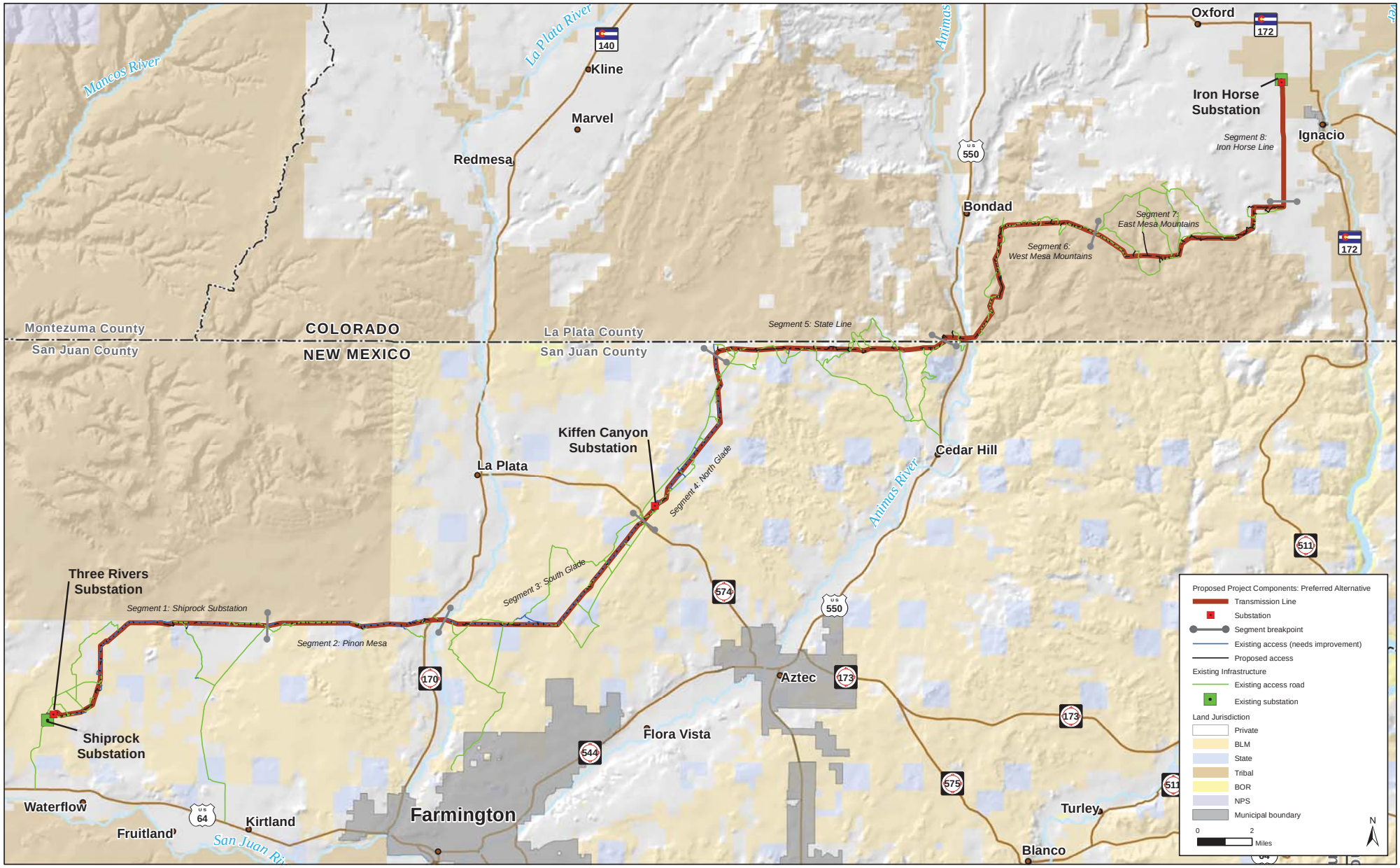
S.6.1 No Action Alternative

With the No Action Alternative, the SJBEC Project would not be constructed. The objectives of the SJBEC Project, which include improving electric reliability and increasing load-serving capabilities, would not be met.

S.6.2 Preferred Alternative

The Preferred Alternative includes a 230 kV transmission line that is approximately 64.3 miles long and is shown in Exhibit S-2, Preferred Alternative. The new 230 kV transmission line would originate at Western's existing Shiprock Substation and would end at the Iron Horse Substation located near Ignacio, Colorado. The Preferred Alternative would include the following components:

- A new 345 kV to 230 kV substation (Three Rivers Substation) near Western's existing Shiprock Substation. The new Three Rivers Substation would connect to the existing Shiprock Substation.
- Approximately 33.1 miles of new double-circuit-capable 230 kV transmission line from the new Three Rivers Substation to the area north of the proposed Kiffen Canyon Substation to Segment 5 (shown in Exhibit S-2) where the transmission line would turn east and parallel the New Mexico/Colorado state line.



Source: GIS BLM 2012, GIS CDOT and SJC 2012, GIS Tri-State 2013

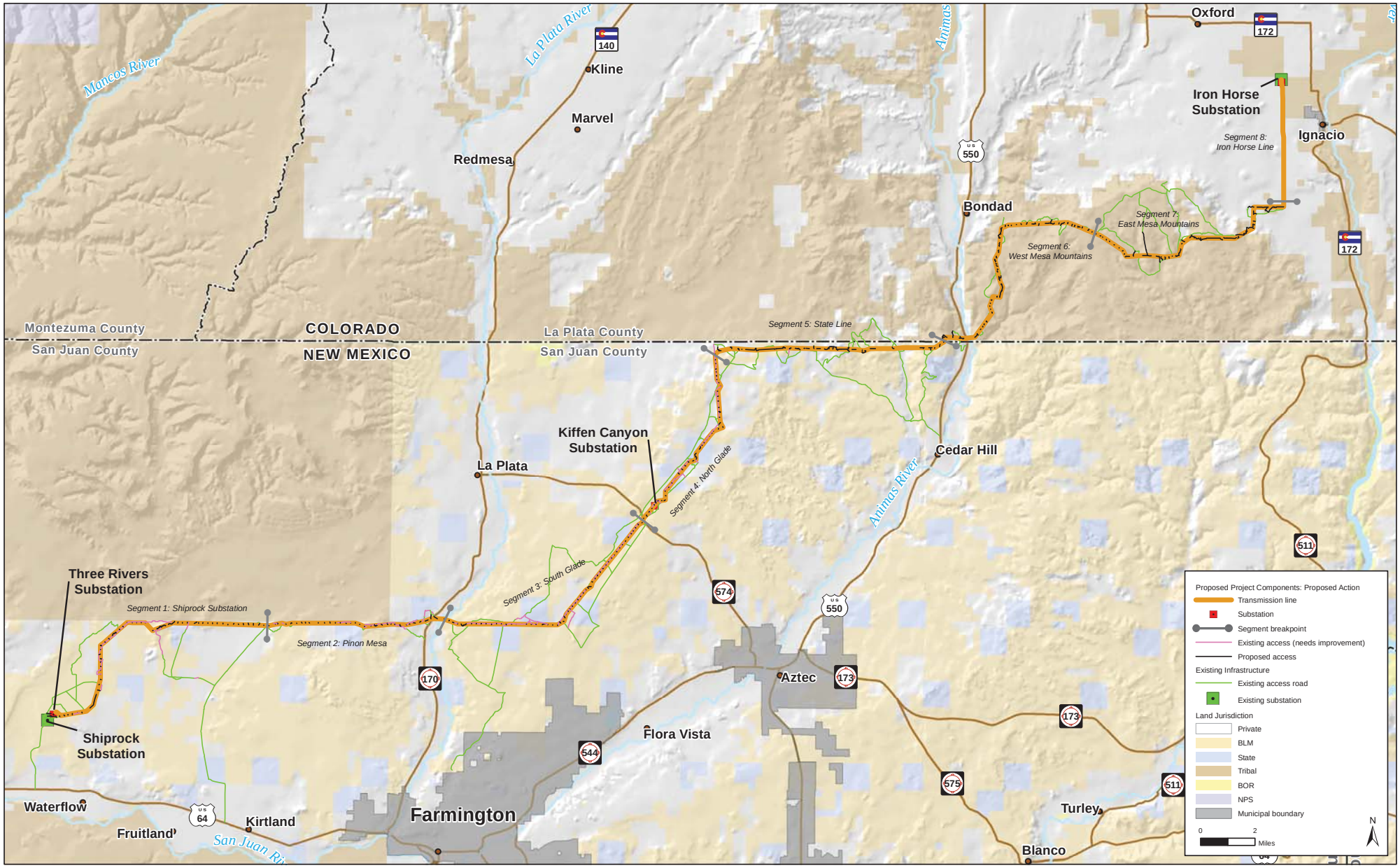
Exhibit S-2 Preferred Alternative

- A new 230 kV substation (Kiffen Canyon Substation) near the existing City of Farmington 115 kV Glade Tap Substation.
- Approximately 31.2 miles of new single-circuit 230 kV transmission line between Segment 5 to the existing Iron Horse Substation. Approximately 4.5 miles south of the existing Iron Horse Substation, the new single-circuit 230 kV transmission line would be strung on existing poles that connect to the existing Iron Horse Substation.
- An expansion of the Iron Horse Substation.
- Access roads, which will include a combination of new unpaved access roads, improvements to existing access roads, and the use of existing roads in their current state.
- Overhead ground wire for the entire 230 kV transmission line. Overhead ground wire protects the transmission line from lightning strikes, and contains fiber optics in the wire to transmit data and serve as a communication system.

S.6.3 Proposed Action

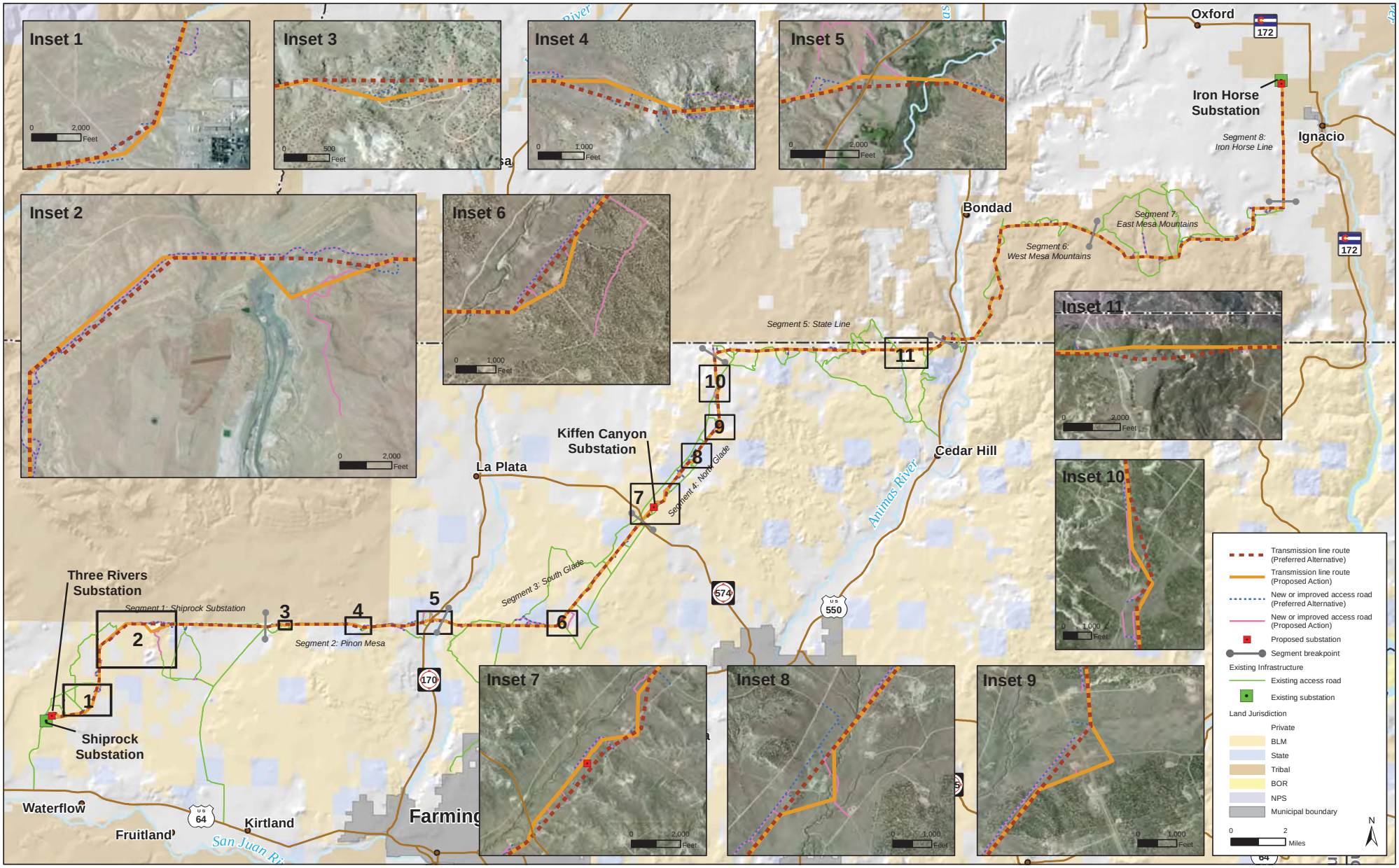
The Proposed Action includes a 230 kV transmission line that is approximately 64.9 miles long and is shown in Exhibit S-3, Proposed Action. The Proposed Action would follow a slightly different alignment and would have a different access road network than what is proposed for the Preferred Alternative as shown in Exhibit S-4, Differences Between the Preferred Alternative and the Proposed Action. The Proposed Action would have similar components as described for the Preferred Alternative that are summarized below:

- A new 345 kV to 230 kV substation (Three Rivers Substation) near Western's existing Shiprock Substation. The new Three Rivers Substation would connect to the existing Shiprock Substation.
- Approximately 33.7 miles of new double-circuit-capable 230 kV transmission line from the new Three Rivers Substation to the New Mexico/Colorado state line. A new 230 kV substation (Kiffen Canyon Substation) near the existing City of Farmington 115 kV Glade Tap Substation.



Source: GIS BLM 2012, GIS CDOT and SJC 2012, GIS Tri-State 2013

Exhibit S-3 Proposed Action



Source: GIS BLM 2012, GIS CDOT and SJC 2012, GIS Tri-State 2013

Exhibit S-4 Differences Between the Preferred Alternative and the Proposed Action

- Approximately 31.2 miles of new single-circuit 230 kV transmission line between the proposed New Mexico/Colorado state line and the existing Iron Horse Substation. Approximately 4.5 miles south of the existing Iron Horse Substation, the new single-circuit 230 kV transmission line would be strung on existing poles that connect to the existing Iron Horse Substation.
- An expansion of the Iron Horse Substation.
- Access roads, which will include a combination of new unpaved access roads, improvements to existing access roads, and the use of existing roads in their current state.
- Overhead ground wire for the entire 230 kV transmission line. Overhead ground wire protects the transmission line from lightning strikes, and contains fiber optics in the wire to transmit data and serve as a communication system.

S.7 Alternatives Comparison

No effects are expected with the No Action Alternative, since it assumes the SJBEC Project would not be built. For purposes of the permanent effects analysis, the area of land permanently affected by ground-disturbing activities for transmission line structures, substations, and access roads is estimated at 182 acres for the Preferred Alternative and 183 acres for the Proposed Action.

For purposes of the temporary effects analysis, the area of land temporarily affected by ground-disturbing activities for transmission line structures, substations, and access roads is estimated at 800 acres for the Preferred Alternative and approximately 827 acres for the Proposed Action.

Environmental Protection Measures (EPMs) listed in Exhibit 2-23, Environmental Protection Measures, are part of the Preferred Alternative and the Proposed Action and were considered before arriving at effects. The estimated area of effects includes constructing new access roads or improving existing access roads. Proposed access roads for the Preferred Alternative and the Proposed Action are provided below in Exhibit S-5, Estimate of New and Improved Access Roads for the Preferred Alternative, and

Chapter 3, Affected Environment and Environmental Effects

Chapter 3 describes the affected environment and identifies the environmental effects of the No Action Alternative, Preferred Alternative, and the Proposed Action

Exhibit S-6, Estimate of New and Improved Access Roads for the Proposed Action.

Exhibit S-5

Estimate of New and Improved Access Roads for the Preferred Alternative

Jurisdiction	Miles of New Access Roads	Miles of Existing Roads Requiring Improvement	Total (miles)
BLM	8.4	14.2	22.6
NMSLO[1]	1.7	5.2	6.9
SUIT	11.6	0	11.6
Private	6.9	6.0	12.9
Total	**28.6**	**25.4**	**54.0**

New Mexico State Land Office

Exhibit S-6

Estimate of New and Improved Access Roads for the Proposed Action

Jurisdiction	Miles of New Access Roads	Miles of Existing Roads Requiring Improvement	Total (miles)
BLM	8.3	14.9	23.2
NMSLO	1.2	4.8	6.1
SUIT	11.6	0	11.6
Private	6.9	6.5	13.4
Total	**28.0**	**26.3**	**54.2**

A comparison of effects between the three alternatives is provided below in Exhibit S-7, Comparison of Effects.

Exhibit S-7

Comparison of Effects

		No Action	Preferred Alternative	Proposed Action
Land Ownership and Use	Permanent	No effects	About 182 acres permanently affected.	About 183 acres permanently affected.
	Temporary	No effects	About 800 acres required for construction.	About 827 acres required for construction.
Special Designation Lands	Permanent	No effects	About 21.3 acres in Hogback ACEC permanently disturbed.	About 21.6 acres in Hogback ACEC permanently disturbed.
	Temporary	No effects	Temporary effect to an additional 1.8 acres in the Hogback ACEC for construction areas for access roads and structures.	Temporary effect to an additional 2.2 acres the Hogback ACEC for construction areas for access roads and structures.

Exhibit S-7
Comparison of Effects

		No Action	Preferred Alternative	Proposed Action
Recreation	Permanent	No effects	Would increase recreational access on BLM (8.4 miles) and New Mexico state lands (1.7 miles). In the Pinon Mesa Recreation Area, The Preferred Alternative would add 0.5 mile of new access roads. In the Glade Run Recreation Area, the Preferred Alternative would add 1.8 miles of access roads.	Would increase recreational access on BLM (8.3 miles) and New Mexico state lands (1.2 miles). In the Pinon Mesa Recreation Area, the Proposed Action would add 0.4 mile of new access roads. In the Glade Run Recreation Area, the Proposed Action would add 1.5 miles of access roads.
	Temporary	No effects	Construction may require the temporary closure of access roads to protect public safety. However, there would likely be no noticeable change for the average recreational user.	Same as the Preferred Alternative.
Grazing and Livestock	Permanent	No effects	There would be no measurable effects upon grazing capacity and no change in the authorized uses for the allotments, since acreage that would be disturbed in each allotment would be less than 1 percent of its area.	Same the Preferred Alternative.
	Temporary	No effects	Less than 1 percent of all allotments would be affected during construction. Disturbance at any given site would generally be limited to only a portion of the 18- to 24-month construction period.	Same as the Preferred Alternative.
Visual Resources	Permanent	No effects	Key Observation Points (KOPs) 1, 2, 4, 5, 6, 7, 8, and 9, the degree of contrast would meet VRM class objectives for BLM-managed lands. KOPs 3, 10, 11, and 12, are not located on BLM-managed lands. The level of change to the landscape would be low to moderate, similar to the KOPs with representative views on BLM-managed lands.	Permanent effects would be the similar to the Preferred Alternative, with one exception - visual effects would be greater at KOP 9 because the transmission line would be located about 400 feet closer to a natural stone arch.
	Temporary	No effects	Temporary direct effects to visual resources would be minimal and would occur from ground-disturbing activities.	Temporary effects would be the same as the Preferred Alternative.

Exhibit S-7
Comparison of Effects

		No Action	Preferred Alternative	Proposed Action
Transportation and Access	Permanent	No effects	Access network would use about 197.7 miles of roads. New and improved access roads would cover about 130.4 acres. No noticeable effect to traffic on federal, state, or county roads.	Access network would use about 203.6 miles of roads. New and improved access roads would cover about 132 acres. No noticeable effect to traffic on federal, state, or county roads.
	Temporary	No effects	Construction would temporarily disturb about 244.4 acres for access roads.	Construction would temporarily disturb about 240.4 acres for access roads.
Geology and Geologic Hazards	Permanent and Temporary	No effects	Possible risks and effects for landslides and subsidence would be avoided or minimized by evaluating geotechnical conditions before construction.	Same as the Preferred Alternative.
Paleontology	Permanent	No effects	No permanent direct effects to paleontological resources are expected with the implementation of EPMs. Likelihood is low for possible indirect effects due to vandalism or unauthorized collection of fossils.	Same as the Preferred Alternative.
	Temporary	No effects	No temporary direct or indirect effects to paleontological resources are expected.	Same as the Preferred Alternative.
Minerals	Permanent	No effects	Would require a portion (about 20 square feet) of a transmission line structure to be located in the reclamation area of the former San Juan Mine. Would preclude future development of surface mineral resources on 182 acres.	Transmission line would span the area of the former San Juan Mine. Would preclude future development of surface mineral resources on 183 acres.
	Temporary	No effects	About 800 acres would be temporarily disturbed or unavailable for surface mineral resource development during construction.	About 827 acres would be temporarily disturbed or unavailable for surface mineral resource development during construction.
Soils	Permanent	No effects	About 182 acres would be permanently disturbed. Implementing EPMs would minimize permanent soil loss, erosion, soil compaction; geotechnical surveys and design would mitigate possible soil hazards for expansive clays and gypsum.	Same as the Preferred Alternative, only about 183 acres would be permanently disturbed.

Exhibit S-7
Comparison of Effects

		No Action	Preferred Alternative	Proposed Action
Soils (Cont.)	Temporary	No effects	About 800 acres would be temporarily disturbed. Implementing EPMs would minimize permanent soil loss, erosion, soil compaction; geotechnical surveys and design would mitigate possible soil hazards for expansive clays and gypsum.	Similar to the Preferred Alternative; however, about 827 acres would be temporarily disturbed.
Farmlands	Permanent	No effects	Permanent direct effects include the loss of potential farmlands due to the footprint of support structures, substations, and new access roads. Total area of permanent disturbance would be about 17.5 acres[1]. Would not cause prime or unique farmlands to be converted to non-agricultural uses.	Permanent effects would be similar to the Preferred Alternative. Total area of permanent disturbance[1] would be about 15.7 acres.
	Temporary	No effects	Maximum total area of temporary disturbance would be about 56.8 acres[1]. Construction effects would be temporary and would not permanently convert farmland to other uses.	Maximum total area of temporary disturbance would be about 57 acres[1]. Construction effects would be temporary and would not permanently convert farmland to other uses.
Water Resources and Wetlands	Permanent	No effects	Would intersect 48 ephemeral drainages that are potential waters of the US. Would intersect with about 1.79 acres of 100-year floodplains. No effects to wetlands. EPMs would be implemented to mitigate possible effects to water quality from erosion, sedimentation, and possible spills.	Would intersect 49 ephemeral drainages that are potential waters of the US. Would intersect with about 2.75 acres of 100-year floodplains. No effects to wetlands. EPMs would be implemented to mitigate possible effects to water quality from erosion, sedimentation, and possible spills.
	Temporary	No effects	Would intersect 48 ephemeral drainages that are potential waters of the US. Would intersect with about 5.61 acres of 100-year floodplains. No effects to wetlands. EPMs would be implemented to mitigate possible effects to water quality from erosion, sedimentation, and possible spills.	Would intersect 49 ephemeral drainages that are potential waters of the US. Would intersect with about 11.46 acres of 100-year floodplains. No effects to wetlands. EPMs would be implemented to mitigate possible effects to water quality from erosion, sedimentation, and possible spills.

Exhibit S-7

Comparison of Effects

		No Action	Preferred Alternative	Proposed Action
Vegetation	Permanent	No effects	Permanent disturbance for up to 182 acres. None of the affected habitat is rare or uncommon. No effects to ESA-listed plant species are expected.	Permanent disturbance for up to 183 acres. None of the affected habitat is rare or uncommon. No effects to ESA-listed plant species are expected.
	Temporary	No effects	Temporarily disturbance to vegetation on up to 800 acres[2]. Areas would be remediated and revegetated. No effects to ESA-listed plant species are expected.	Temporarily disturbance to vegetation on up to 827 acres[2]. Areas would be remediated and revegetated. No effects to ESA-listed plant species are expected.
Fish and Wildlife	Permanent	No effects	Habitat loss on about 182 acres. Temporary disturbance from maintenance activities. Possible increased risk of collisions for some bird species. No permanent effects to ESA-listed species. EPMs and mitigation measures will minimize possible effects.	Similar to the Preferred Alternative, only habitat loss would occur on about 183 acres.
	Temporary	No effects	Increased potential for temporary species displacement and reduced productivity on about 800 acres. No temporary effects to most ESA-listed species, possible increased sediment loading could affect fish species, but EPMs would minimize potential effects.	Similar to the Preferred Alternative; however, the affected area would be about 827 acres.
Cultural Resources	Permanent	No effects	The Preferred Alternative intersects with 36 historic properties. Further investigation and consultation will occur to determine the nature of possible direct effects and appropriate mitigation. Navajo Nation and Hopi Tribe have identified a number of potential TCPs. Specific avoidance, minimization, and mitigation measures would be determined during ongoing government-to-government consultation.	The Proposed Action intersects with 48 historical properties. Further investigation and consultation will occur to determine the nature of possible direct effects and appropriate mitigation. Navajo Nation and Hopi Tribe have identified a number of potential TCPs. Specific avoidance, minimization, and mitigation measures would be determined during ongoing government-to-government consultation.

Exhibit S-7
Comparison of Effects

		No Action	Preferred Alternative	Proposed Action
Cultural Resources (Continued)	Temporary	No effects	Temporary effects would include localized and short-term increases in traffic on roadways. The diminishment of the setting from increased traffic would not affect the potential eligibility of historic properties to the NRHP under Criterion D.	Temporary effects would be the same as the Preferred Alternative.
Air Quality, Climate Change, and Greenhouse Gases	Permanent	No effects	Would not be a locally, regionally, or nationally significant source of greenhouse gases. Emissions from maintenance activities would be intermittent and temporary. Because the transmission line would be used to carry load from existing generation sources, operations would not result in criteria air pollutant, hazardous air pollutant, or greenhouse gas emissions.	Same as the Preferred Alternative.
	Temporary	No effects	Construction activities would have a temporary direct effect to air quality during the duration of the 18- to 24-month construction period. Emissions, especially fugitive dust emissions, would be localized to the area surrounding any given construction activity and would be minimized through the implementation of a fugitive dust control plan and other EPMs.	Same as the Preferred Alternative.

Exhibit S-7
Comparison of Effects

		No Action	Preferred Alternative	Proposed Action
Noise and Vibration	Permanent	No effects	There are four known sensitive noise receptors located 600 feet or less from the transmission line. Possible noise effects related to corona were modeled and the highest potential noise levels in all areas would be below 50 dBA, which is considered to be quiet and similar to the sound a refrigerator would make from a distance of 3 feet. The highest expected noise levels from corona would be expected to occur during nighttime precipitation events, which are infrequent, typical corona noise expected from the line would be much lower and similar to the sound of a whisper. Possible short-term noise from maintenance activities would be limited to infrequent vehicle traffic. There would be no direct or indirect effects from vibration.	Permanent effects would be the similar to the Preferred Alternative; the only difference is that the Proposed Action would be located within 600 feet of six receptors. In addition to the four receptors described for the Preferred Alternative, two additional receptors are located in Segment 2.
	Temporary	No effects	Construction activity along the transmission line route, use of access roads by construction equipment, and helicopter use would temporarily increase noise levels. Construction activities could introduce infrequent and short-duration vibration; however, any increase would be minimal and likely imperceptible to sensitive receptors, which are located several hundred feet from proposed construction areas.	Same as the Preferred Alternative.
Electric and Magnetic Fields	Permanent	No effects	No adverse effects are expected from electric and magnetic fields, since electric and magnetic field exposure will be well below established guidelines to protect human health.	Same as the Preferred Alternative.
	Temporary	No effects	No effects	No effects

Exhibit S-7
Comparison of Effects

		No Action	Preferred Alternative	Proposed Action
Hazardous Materials	Permanent	No effects	Spills or minor releases of hazardous, non-hazardous, or potentially hazardous materials during maintenance activities would be avoided or minimized through the implementation of EPMs.	Same as the Preferred Alternative.
	Temporary	No effects	The Preferred Alternative is not expected to directly or indirectly affect known hazardous materials sites. Spills or minor releases of hazardous, non-hazardous, or potentially hazardous materials during construction would be avoided or minimized through the implementation of EPMs.	Same as the Preferred Alternative.
Socioeconomics	Permanent	No effects	Minimal permanent direct effects to the local economy are anticipated. No new permanent employment would be generated. Limited direct effects to local residents and property values are anticipated. About 36 acres of private land may require compensation for easements.	Similar to the Preferred Alternative, but about 37.9 acres of private land may require compensation for easements.
	Temporary	No effects	Little to no effect on related economics is anticipated due to the temporary and localized nature of construction activities. Due to the specialized nature of construction, workers and materials are likely to be imported from other areas.	Same as the Preferred Alternative.
Environmental Justice	Permanent	No effects	No disproportionate adverse effects to low-income or minority populations.	Same as the Preferred Alternative
	Temporary	No effects	No disproportionate adverse effects to low-income or minority populations.	Same as the Preferred Alternative.

1 *There may be overlapping disturbance from the structures and access roads, and actual acres of disturbance may be less.*

2 *The total area of temporary effects on vegetation would likely be less since improvements such as new roads would typically be 20-feet wide and would not encompass the entire 30- to 50-foot road right-of-way. In addition, the study area and the entire right-of-way are not completely covered in vegetation.*

S.8 Mitigation Measures

In addition to the EPMs proposed as part of the project, several possible mitigation measures have been identified. Implementation of these mitigation measures would further reduce possible effects from the SJBEC Project. Mitigation measures have been proposed for the following resource areas and are discussed in Chapter 3 of the Draft EIS.

- Recreation
- Fish and Wildlife
- Cultural Resources