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## Chapter 4 Environmental Impact Assessment Summary

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This section examines the potential environmental impacts of the Full-Rebuild Concept for the Ivanpah-Control Project (IC Project); Alternatives to the Full-Rebuild Concept are addressed in Chapter 5. The analysis of each resource category begins with an examination of the existing physical setting (baseline conditions as determined pursuant to Section 15125(a) of the California Environmental Quality Act [CEQA] Guidelines) that may be affected by the Full-Rebuild Concept. The effects of the Full-Rebuild Concept are defined as changes to the environmental setting that are attributable to project construction and operation.<sup>11</sup>

Significance criteria are identified for each environmental issue area. The significance criteria serve as a benchmark for determining if a project would result in a significant adverse environmental impact when evaluated against the baseline. According to the CEQA Guidelines Section 15382, a significant effect on the environment means “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Proposed Project.”

CEQA Guidelines Section 15126.4(a)(3) states that mitigation measures are not required for effects which are not found to be significant. Therefore, where an impact is less than significant no mitigation measures have been proposed. In addition, compliance with laws, regulations, ordinances, and standards designed to reduce impacts to less than significant levels are not considered mitigation measures under CEQA. Where potentially adverse impacts may occur, SCE has proposed Applicant Proposed Measures (APMs) to minimize the environmental impacts.

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<sup>11</sup> The CPUC’s Working Draft Proponent’s Environmental Assessment (PEA) Checklist for Transmission Line and Substation Projects, dated December 2008 (Checklist), provides two options for applicants for formatting PEAs. One option is to include a Chapter 4 entitled “Environmental Setting” along with a separate Chapter 5 entitled “Environmental Impact Assessment Summary.” The other option offered by the Checklist is for both sections to be combined into a single section. SCE has chosen to combine both the discussion of environmental setting with the discussion of environmental impacts into a single Chapter 4.

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## 4.1 Aesthetics

This section examines visual resources in the area of the Ivanpah-Control Project to determine how the Full-Rebuild Concept could affect the aesthetic character of the landscape. This section includes a description of existing visual conditions and an evaluation of potential visual impacts on aesthetic resources resulting from the construction, operation, and maintenance of the Full-Rebuild Concept. The Full-Rebuild Concept includes rebuilding approximately 358 miles of existing subtransmission facilities within and immediately adjacent to an existing utility right of way (ROW) between the existing Control Substation and the existing Ivanpah Substation located in Inyo, Kern, and San Bernardino counties in southeastern California.

Visual or aesthetic resources are generally defined as the natural and built features of the landscape that can be seen. Landforms, water, and vegetation patterns are among the natural landscape features that define an area's visual character, whereas buildings, roads and other structures reflect human modifications to the landscape. These natural and built landscape features are considered visual resources that contribute to the public's experience and appreciation of the environment. This section analyzes whether the Project would alter the perceived visual character of the environment and cause visual impacts.

The visual analysis is based on site reconnaissance and review of technical data including maps and drawings as well as review of aerial and ground level photographs of the Project area, review of public policy and planning documents, and computer-generated visual simulations that portray the project's appearance. Field observations were conducted in October 2017 to document existing visual conditions in the project vicinity, including potentially affected sensitive viewing locations.

Visual simulations were prepared to support the impact analysis and illustrate before-and-after visual conditions in the Project area as seen from 16 key sensitive public viewpoints or Key Observation Points (KOPs). The KOPs represent views where the project would be most visible to the public from sensitive locations such as designated scenic roadways, recreation facilities, areas in proximity to residences, or public land subject to scenic resource management policy.

This visual assessment employs methods based, in part, on those adopted by the U.S. Department of Interior Bureau of Land Management (BLM), the U.S. Forest Service (USFS), U.S. Department of Transportation (DOT) Federal Highway Administration (FHWA), and other accepted visual analysis techniques. The impact analysis describes change to existing visual resources, and assesses viewer response to that change. Central to this assessment is an evaluation of key views from which the project would be visible to the public. The visual impact assessment is based on evaluation of the project-related changes to the existing visual resources that would result from construction and operation of the project; the changes were assessed, in part, by evaluating views of the Full-Rebuild Concept provided by the computer-generated visual simulations and comparing them to the existing visual environment. A description of the technical methods that were employed to prepare the visual simulations is included in Section 4.1.4.1 Visual Simulations and Visual Change.

### 4.1.1 Environmental Setting

#### 4.1.1.1 Regional and Local Landscape Context

The IC Project Alignment is located in southeastern California, extending an overall length of approximately 358 miles through portions of Inyo, Kern and San Bernardino counties. Situated at the confluence of the Sierra Nevada, Great Basin Desert and Mojave Desert, this region is characterized by

abrupt changes in topography, with steep, relatively narrow mountain chains separated by flat alluvial basins. Figureset 4.1-1 shows the IC Project Alignment within the regional landscape context.

The northern portion of the IC Project Alignment passes through the Owens Valley, an approximately 77 mile-long, five to ten mile-wide high desert river basin that stretches from the Volcanic Tablelands near Bishop in the north to Owens Lake in the south. Visible against the backdrop of the eastern fault scarp of the Sierra Nevada to the west, the White Mountains, Inyo Mountains to the east and Coso Range to the southeast, this part of the IC Project Alignment consists of alluvial plains, punctuated by ancient lava fields and thermal hot springs, and includes riparian areas associated with the Owens River and adjacent thermal springs, as well as dry lakebeds or playas with arid expanses largely devoid of vegetation. South of the Owens Valley the IC Project Alignment enters the more open, increasingly arid landscape of the Mojave Desert, an approximately 47,900 square-mile area bounded on the west by the southern Sierra Nevada and Tehachapi Mountains, on the southwest by Southern California's Transverse Range and to the east by the lower Colorado River valley, and featuring broad shallow playas interspersed with isolated mountainous outcrops.

Reflecting the arid desert climate, relatively sparse, low-growing scrub vegetation with its characteristic grey-green color is found throughout the region, affording open views across the landscape. Limited areas of irrigated cropland can be found in the vicinity of the Owens River and Indian Wells Valley at the north of the IC Project Alignment, and in the vicinity of Barstow in the Mojave River valley to the south. Features in this landscape also include rugged terrain with large areas of exposed, multicolored rock and flat expanses of reflective alluvial deposits.

Elevations along the IC Project Alignment range from approximately 4,800 feet above sea level in the northern Owens Valley to approximately 3,500 feet above sea level at Owens Lake at the southern end of the valley, while surrounding mountain peaks reach up to 14,000 feet above sea level on either side of the valley. South and east of the Owens Valley elevations along the IC Project Alignment range from approximately 2,450 feet above sea level at Inyokern, within Indian Wells Valley, to as low as approximately 930 feet near the town of Baker east of Barstow. The IC Project Alignment reaches its highest elevation of approximately 5,390 feet above sea level near the eastern terminus of the IC Project Alignment, in the Clark Mountains.

The majority of the IC Project Alignment consists of undeveloped open space and is sparsely populated. Residential areas are concentrated in widely scattered population centers, located primarily in the northern and western portion of the IC Project Alignment in close proximity to the major transportation corridors bisecting the region. From its northern terminus southwest of Bishop south to Kramer Junction the IC Project Alignment generally parallels U.S. Highway 395 (US 395), the main north-south transportation artery through the region. This all-season highway provides access to the region's diverse, natural landscape scenery within the Owens Valley and the surrounding mountains, attracting visitors that include hikers, campers and winter recreational visitors. The resident population within the Owens Valley and areas to the south is highly localized along this highway corridor, and include the communities of Big Pine, Independence and Lone Pine. Smaller, scattered residential areas further south along the US 395 corridor include Olancho and the nearby community of Cartago at the southern edge of Owens Lake, the area around Inyokern, within Indian Wells Valley, and the mining town of Randsburg.

East of Kramer Junction, from Barstow to the IC Project Alignment's eastern terminus in the Ivanpah Valley, the alignment closely parallels Interstate 15 (I-15), which constitutes the main east-west transportation link between Los Angeles and Las Vegas. Barstow and the surrounding Mojave Valley functions as a major highway and railroad hub where several regional highways converge, including I-15,

I-40 and SR-58 and represents the largest concentration of population in the Project area. The I-15 corridor east of Barstow is for the most part sparsely inhabited, with residents generally limited to widely scattered service locales along the interstate including Yermo and Baker. Within those portions of the IC Project Alignment removed from the major transportation arteries, access within the region is limited to widely dispersed secondary roadways such as SR-190 in the Owens Valley, SR-178 within Indian Wells Valley, and SR-127 east of Barstow. A network of unpaved roadways, generally restricted to OHV use, provides additional access within the IC Project Alignment vicinity.

Approximately half of the IC Project Alignment crosses federal land administered by the Bureau of Land Management (BLM). In addition, the alignment passes in close proximity to the Mojave National Preserve, the Mojave Trails National Monument, and is located on U.S. Air Force, Marine Corps, and Navy facilities.

The IC Project Alignment’s landscape setting is comprised of diverse natural scenery as well as a variety of built features that include infrastructure associated with regional highway, electrical utility and railway corridors. Established utility elements include lattice structures and wood utility poles supporting distribution and other overhead power lines, telecommunication towers, and substations. In addition, lattice structures supporting several non-IC Project transmission lines pass through the area and cross or closely parallel the IC Project Alignment along much of its route.

#### 4.1.1.2 Project Viewshed

A project viewshed is defined as the general area from which a project is visible. For purposes of describing a project’s visual setting and assessing potential visual impacts, the viewshed can be broken down into foreground, middleground, and background zones. The foreground is defined as the zone within 0.25 to 0.5 mile from the viewer. The middleground is defined as the zone extending from the foreground to a maximum of 3 to 5 miles from the viewer; and the background zone extends from the middleground to infinity (USFS 1995).

Viewing distance is a key factor that affects the potential degree of project visibility. Visual details generally become apparent to the viewer when they are observed in the foreground, at a distance of 0.25 to 0.5 mile or less. Analysis of the Full-Rebuild Concept primarily considers the potential effects of project elements on foreground viewshed conditions although consideration is also given to the potential effects on the middleground and background views.

#### 4.1.1.3 Landscape Units and Representative Views

Five Landscape Units corresponding to the five Segments of the Full-Rebuild Concept are defined to geographically-segment the IC Project Alignment; these Landscape Units or subareas are based upon the physical and cultural landscape characteristics found along the IC Project Alignment. Table 4.1-1 summarizes the Landscape Units in terms of their location and approximate length. Figures 4.1-1a and 4.1-1b depict the location of Landscape Units in relationship to the project alignment and photograph viewpoints.

**Table 4.1-1: Summary of Landscape Units**

Landscape Unit / IC Project Segment	Location (County)	Approximate Length
1: Control Substation to Inyokern Substation / Segment 1	Inyo, Kern	126 miles
2: Inyokern Substation to Kramer Substation / Segment 2	Kern, San Bernardino	48 miles
3: Kramer Substation to Coolwater Substation / Segment 3N	San Bernardino	44 miles
4: Kramer Substation to Coolwater Substation / Segment 3S	San Bernardino	44 miles
5: Coolwater Substation to Ivanpah Substation / Segment 4	San Bernardino	96 miles

Figures 4.1-2a through 4.1-2y present a set of 50 photographs taken from representative locations along the IC Project Alignment, within the Project viewshed. Table 4.1-2, a summary of this set of representative photographs, includes information on the viewpoint location, primary type of viewers, backdrop conditions, and approximate viewing distance to the IC Project Alignment. In addition, Table 4.1-2 also highlights a subset of the photographs that are KOPs. Taken together, these photographs convey a general sense of the existing visual character of the landscape within the vicinity of the IC Project Alignment. The set of photographs also demonstrates that existing transmission, subtransmission and distribution facilities within the IC Project Alignment viewshed, including those of the Full-Rebuild Concept, are established elements of the visual setting of the area.

**Table 4.1-2: Summary of Representative and KOP Photographs**

Photograph number and Location* denotes KOP	Primary Viewers	Viewing Distance	Predominant Backdrop for Project Structures
<b>LANDSCAPE UNIT 1 (Segment 1)</b>			
1. SR-168 near Control Substation	<ul style="list-style-type: none"> <li>Recreational Motorists</li> <li>Local Motorists</li> </ul>	0.5 mile	Landscape
2. Sunland Lane south of Bishop	<ul style="list-style-type: none"> <li>Residents</li> </ul>	500 feet	Sky
*3. Gerkin Road south of Bishop	<ul style="list-style-type: none"> <li>Residents</li> </ul>	600 feet	Sky
4. US 395 north of Big Pine at Big Pine Canal	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	650 feet	Landscape and Sky
*5. Baker Creek Campground, Big Pine	<ul style="list-style-type: none"> <li>Recreationalists</li> </ul>	500 feet	Landscape and Sky
6. Cornell Street near Rossi Lane, Big Pine	<ul style="list-style-type: none"> <li>Residents</li> </ul>	< 500 feet	Landscape
7. US 395 near Tinemaha Reservoir	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	1,000 feet	Landscape
8. Division Creek Roadside Rest Area	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	> 2 miles	Landscape
9. Manzanar Historic Site	<ul style="list-style-type: none"> <li>Recreationalists</li> </ul>	1 mile	Landscape
*10. US 395 crossing north of Lone Pine	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	500 feet	Sky and Landscape
11. Goodwin Road in Lone Pine Paiute-Shoshone Reservation	<ul style="list-style-type: none"> <li>Residents</li> </ul>	0.5 mile	Landscape
12. Boulder Creek RV Resort, south of Lone Pine	<ul style="list-style-type: none"> <li>Residents</li> <li>Recreationalists</li> </ul>	0.5 mile	Landscape
13. Owens Lake visitor information center east of US 395/ Lubken Canyon Road Junction	<ul style="list-style-type: none"> <li>Recreationalists</li> </ul>	1,000 feet	Landscape
*14. US 395 crossing near Owens Lake	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	< 500 feet	Sky
*15. Whitney Street near Mojave Street Cartago	<ul style="list-style-type: none"> <li>Residents</li> </ul>	1,100 feet	Landscape
*16. SR-190 crossing near Olancho	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	< 500 feet	Landscape
17. Fall Road, Olancho	<ul style="list-style-type: none"> <li>Residents</li> </ul>	600 feet	Landscape
18. North Haiwee Road near Haiwee Reservoir	<ul style="list-style-type: none"> <li>Recreational Motorists</li> <li>Recreationalists</li> </ul>	< 500 feet	Sky
19. Coso Junction Safety Roadside Rest Area	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	0.45 miles	Landscape
*20. Fossil Falls Campground and Trail	<ul style="list-style-type: none"> <li>Recreationalists</li> <li>Recreational Motorists</li> </ul>	1,800 feet	Landscape
21. US 395 at Little Lake	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	1,000 feet	Landscape and Sky
22. BLM OHV Road SE109	<ul style="list-style-type: none"> <li>Recreational motorists</li> </ul>	500 feet	Sky
*23. Patrice Avenue, Inyokern	<ul style="list-style-type: none"> <li>Residents</li> </ul>	< 500 feet	Sky
24. SR-178 looking toward Inyokern Substation	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	1,200 feet	Landscape

**Table 4.1-2: Summary of Representative and KOP Photographs**

Photograph number and Location* denotes KOP	Primary Viewers	Viewing Distance	Predominant Backdrop for Project Structures
<b>LANDSCAPE UNIT 2 (Segment 2)</b>			
*25. Sydnor Avenue at Mercury Street, Inyokern	<ul style="list-style-type: none"> <li>Residents</li> </ul>	800 feet	Sky
26. US 395 near Inyokern	<ul style="list-style-type: none"> <li>Local and Regional Motorists</li> </ul>	500 feet	Landscape and Sky
27. Garlock Road	<ul style="list-style-type: none"> <li>Local and Regional Motorists</li> </ul>	1,000 feet	Landscape
*28. Lexington Avenue Randsburg	<ul style="list-style-type: none"> <li>Residents</li> <li>Local motorists</li> </ul>	< 500 feet	Sky and Landscape
29. Fremont Peak Road at US 395	<ul style="list-style-type: none"> <li>Regional motorists</li> <li>Recreationalists</li> </ul>	500 feet	Sky
<b>LANDSCAPE UNIT 3 (Segment 3N)</b>			
30. US 395 near Kramer Junction	<ul style="list-style-type: none"> <li>Regional motorists</li> </ul>	500 feet	Sky
31. US 395 at Kramer Junction	<ul style="list-style-type: none"> <li>Regional motorists</li> </ul>	500 feet	Sky
*32. Harper Dry Lake Wildlife Viewing Area	<ul style="list-style-type: none"> <li>Recreationalists</li> </ul>	1.0 mile	Sky
33. Holstead Road near Hinkley Road	<ul style="list-style-type: none"> <li>Residents</li> <li>Local motorists</li> </ul>	600 feet	Landscape and Sky
34. Daggett-Yermo Road near Silver Valley High School	<ul style="list-style-type: none"> <li>Regional motorists</li> </ul>	1,100 feet	Landscape
<b>LANDSCAPE UNIT 4 (Segment 3S)</b>			
35. SR-58 near Barstow	<ul style="list-style-type: none"> <li>Regional motorists</li> </ul>	600 feet	Landscape
*36. Bonanza Road near H Street, Barstow	<ul style="list-style-type: none"> <li>Residents</li> <li>Local motorists</li> </ul>	< 500 feet	Sky
37. SR-247 near Barstow	<ul style="list-style-type: none"> <li>Regional motorists</li> <li>Recreational motorists</li> </ul>	800 feet	Sky
*38. I-40 near Daggett	<ul style="list-style-type: none"> <li>Regional motorists</li> </ul>	500 feet	Landscape and Sky
39. Route 66-National Trails Highway near Daggett	<ul style="list-style-type: none"> <li>Regional Motorists</li> </ul>	650 feet	Landscape and Sky
<b>LANDSCAPE UNIT 5 (Segment 4)</b>			
*40. Carol Ann Drive at Crystal Lakes Estates east of Barstow	<ul style="list-style-type: none"> <li>Residents</li> <li>Local motorists</li> </ul>	700 feet	Sky
41. I-15 near Field Road	<ul style="list-style-type: none"> <li>Regional motorists</li> </ul>	650 feet	Sky
*42. Clyde V. Kane Safety Roadside Rest Area on I-15	<ul style="list-style-type: none"> <li>Regional motorists at roadside rest area</li> </ul>	600 feet	Sky
43. Afton Canyon Road	<ul style="list-style-type: none"> <li>Recreationalists</li> </ul>	500 feet	Landscape and Sky
44. I-15 near Basin Road	<ul style="list-style-type: none"> <li>Regional motorists</li> </ul>	700 feet	Landscape
*45. SR-127 at Junior High School, Baker	<ul style="list-style-type: none"> <li>Regional and local motorists</li> <li>School visitors</li> </ul>	900 feet	Sky
46. Halloran Springs Wash near Halloran Springs Road	<ul style="list-style-type: none"> <li>Recreationalists</li> </ul>	1,500 feet	Landscape
47. I-15 west of Halloran Summit Road	<ul style="list-style-type: none"> <li>Regional motorists</li> </ul>	800 feet	Landscape

**Table 4.1-2: Summary of Representative and KOP Photographs**

Photograph number and Location* denotes KOP	Primary Viewers	Viewing Distance	Predominant Backdrop for Project Structures
48. Valley Wells Safety Roadside Rest Area on I-15 near Cima Road	<ul style="list-style-type: none"> <li>Regional motorists at roadside rest area</li> </ul>	0.5 mile	Landscape
49. Excelsior Mine Road	<ul style="list-style-type: none"> <li>Recreationalists</li> </ul>	1,200 feet	Sky
50. Clark Mountain Road near Mojave Preserve	<ul style="list-style-type: none"> <li>Recreationalists</li> </ul>	800 feet	Landscape

#### 4.1.1.3.1 Landscape Unit 1 (Photographs 1 through 24)

From the northern IC Project Alignment's terminus at Control Substation, Landscape Unit 1 extends approximately 126 miles, traversing the length of the Owens Valley and continuing through Rose Valley to Inyokern Substation in Indian Wells Valley to the south. From Control Substation, situated approximately 5 miles southwest of Bishop, the IC Project Alignment heads in a southeasterly direction across an open, gently sloping high desert landscape, passing near several isolated residential developments nestled against the adjacent eastern Sierra foothills. Approximately 9 miles south of Bishop, the IC Project Alignment passes within less than 100 feet of the US 395 corridor, and then generally parallels this four-lane highway at varying distances from the roadway, crossing it multiple times as it runs through the valley. The IC Project Alignment is in close proximity to tribal land and other residential communities as it passes the western and eastern periphery of Big Pine and Lone Pine. The IC Project Alignment then skirts the western edge of the Owens Lake Basin, where it crosses US 395 once again, passing to the east of the historic highway towns of Cartago and Olancho, and the Cartago Wildlife Area. After crossing SR-190 at the south end of the basin, the IC Project Alignment enters federal land managed by the BLM at the edge of the Coso Range Wilderness. The IC Project Alignment passes approximately 700 feet west of Haiwee Reservoir, a series of open water storage facilities, and also passes Haiwee Substation and Coso Substation, subsequently entering a largely uninhabited alluvial basin, approximately 8 miles south of the reservoir. Continuing along the east side of US 395, the IC Project Alignment runs alongside a series of volcanic escarpments for approximately 10 miles, before crossing into Kern County where it enters the China Lake basin and Indian Wells Valley within the western boundary of the China Lake Naval Air Weapons Station and terminating at the Inyokern Substation at the northern edge of the Mojave Desert.

Photographs 1 through 24 show representative views of the IC Project Alignment and surrounding landscape character found within Landscape Unit 1. Eight of these views are KOPs selected to show the Full-Rebuild Concept as seen from sensitive locations including viewpoints near the communities of Bishop, Big Pine, Olancho, Cartago, and Inyokern, as well as US 395, SR-190, and the Fossil Falls BLM recreation site (refer to Figures 4.1-1 and 4.1-2). Appendix E includes a detailed description of each representative photograph.

#### 4.1.1.3.2 Landscape Unit 2 (Photographs 25 through 29)

Landscape Unit 2 extends approximately 48 miles south, from Inyokern Substation to Kramer Substation, which is located at the junction of US 395 and SR-58. From Inyokern Substation, the IC Project Alignment traverses the southern portion of Indian Wells Valley, crossing US 395 approximately 0.75 mile from the substation, and passing an area of widely-dispersed residences around the unincorporated community of Inyokern. The IC Project Alignment enters federal land administered by the BLM at the south end of Indian Wells Valley, and traverses the El Paso Mountains where it reaches an elevation of

approximately 4,500 feet above sea level. After descending into a comparatively narrow desert basin and crossing Garlock Road, a local roadway connecting US 395 to SR-14 on the west, the IC Project Alignment enters the Rand Mountains, where it skirts the historic mining community of Randsburg. Descending into the generally flat expanse of the western Mojave Desert southeast of Randsburg, the IC Project Alignment crosses into San Bernardino County. For approximately the next 18 miles it closely parallels US 395, passing in and out of BLM-administered land before crossing a railroad corridor approximately 0.75 mile north of Kramer Junction. Landscape Unit 2 terminates at Kramer Substation.

Photographs 25 through 29 show representative existing views of the IC Project Alignment and surrounding landscape character found within Landscape Unit 2. Two of the views are KOPs selected to show the Full-Rebuild Concept as seen from locations near residences in Inyokern and Randsburg (refer to Figures 4.1-1 and 4.1-2 and Appendix E).

#### **4.1.1.3.3 Landscape Unit 3 (Photographs 30 through 34)**

At Kramer Junction, the IC Project Alignment turns in an easterly direction, and divides into two separate alignments that extend north and south of SR-58 for approximately 44 miles before merging at Coolwater Substation, located approximately 9.5 miles southeast of Barstow. From Kramer Substation the northern extension, identified as Landscape Unit 3, parallels US 395 for approximately 0.5 mile before turning east and paralleling SR-58 approximately 0.4 mile north of the highway for approximately 2.8 miles, at which point the roadway veers to the southeast and the IC Project Alignment continues in an easterly direction, passing in close proximity to a large solar photovoltaic facility and skirting the south edge of Harper Dry Lake, a mostly arid playa with a seasonal wetland that includes a wildlife viewing area. At the eastern edge of Harper Dry Lake, the IC Project Alignment passes within a few hundred feet of several isolated rural residences, north of the town of Hinkley, as it traverses an otherwise unpopulated desert basin. Crossing land under BLM jurisdiction approximately 8 miles east of Harper Dry Lake, the IC Project Alignment turns to the southeast, traversing and subsequently paralleling the northern edge of a series of granitic outcrops that extend north and east of Barstow. Entering the Mojave River Valley, the IC Project Alignment veers south, crossing Interstate 15 (I-15) where it passes in close proximity to a school and RV park west of the community of Yermo before reaching Coolwater Substation, within a somewhat populated and developed area approximately 8 miles east of central Barstow.

Photographs 30 through 34 are representative existing views of the IC Project Alignment and surrounding landscape character found within Landscape Unit 3. One of these views is a KOP selected to show the Full-Rebuild Concept as seen from Harper Dry Lake, a BLM Area of Critical Environmental Concern (ACEC) and BLM Watchable Wildlife Site (refer to Figures 4.1-1 and 4.1-2 and Appendix E).

#### **4.1.1.3.4 Landscape Unit 4 (Photographs 35 through 39)**

Landscape Unit 4 is the southern segment of the split alignment between Kramer Substation and Coolwater Substation. Landscape Unit 4 extends southeast from Kramer Substation for approximately 10 miles, then east for approximately 9 miles as it passes the uninhabited southern edge of the Harper Dry Lake basin south of SR-58. Approximately 7 miles west of Barstow, the IC Project Alignment enters Hinkley Valley, where it crosses an area of widely scattered rural residences and agricultural land located within the Mojave River floodplain. The IC Project Alignment parallels and subsequently crosses the Mojave River as it approaches Barstow's western outskirts, where it veers to the southeast, and within a distance of less than a mile the IC Project Alignment crosses SR-58, the National Trails Highway (historic Route 66), and I-15 before turning east once again. Skirting Barstow's southern perimeter, the IC Project Alignment traverses a residential subdivision, then crosses open desert, where it passes within 0.3 mile of a public park and recreation area, and crosses SR-247 at the northern edge of a BLM-administered

OHV area. For approximately the next 8.5 miles the IC Project Alignment traverses a largely uninhabited expanse of gently sloping terrain along the southern edge of the Mojave River Valley, crossing I-40 and the National Trails Highway less than a mile from Coolwater Substation, the end of this Landscape Unit.

Photographs 35 through 39 show representative existing views of the IC Project Alignment and surrounding landscape found within Landscape Unit 4. Two KOP simulation views show the Full-Rebuild Concept from a viewpoint near residences in Barstow and from I-40, an eligible State Scenic Highway and San Bernardino County scenic route (refer to Figures 4.1-1 and 4.1-2 and Appendix E).

#### **4.1.1.3.5 Landscape Unit 5 (Photographs 40 through 50)**

From Coolwater Substation, Landscape Unit 5 extends in a northeasterly direction for approximately 96 miles, largely following the I-15 corridor to the Project's terminus at Ivanpah Substation. In this Landscape Unit the IC Project Alignment initially heads north as it crosses the Mojave River and the adjacent Union Pacific railroad before turning to the northeast where it follows the northern edge of the lower Mojave River basin, a flat expanse of open desert terrain with irrigated cropland parcels and widely scattered rural homesteads. Within this area the IC Project Alignment passes in close proximity to several small residential developments northeast of the unincorporated community of Yermo and also crosses BLM-administered land at several locations. The IC Project Alignment then continues northeast, traversing a predominantly-uninhabited landscape comprised of narrow mountainous outcrops separating isolated dry lake basins or playas. The IC Project Alignment crosses I-15 at several locations in this area and also passes the northern edge of the Mojave Trails National Monument near Afton Canyon, a recreation area managed by the BLM. It subsequently skirts the northern boundary of the Mojave National Preserve and the unincorporated desert community of Baker, where the IC Project Alignment crosses SR-127, the principal southern access into Death Valley National Park. After traversing the Clark Mountain range, where surrounding peaks reach approximately 8,000 feet above sea level, the IC Project Alignment makes a steep descent into Ivanpah Valley, where it passes alongside solar thermal and photovoltaic power generating facilities before terminating at Ivanpah Substation.

Photographs 40 through 50 show representative views of the IC Project Alignment and surrounding landscape character found within Landscape Unit 5 (refer to Figures 4.1-1 and 4.1-2). Three of the views are KOPs selected to show the Full-Rebuild Concept as seen from a residential area, a roadside safety rest area along I-15, and SR-127, an eligible State Scenic Highway and San Bernardino County scenic route where the IC Project Alignment is in proximity to a public school in the Town of Baker (Figures 4.1-2t, -2u, and -2w). Appendix E includes detailed description of the representative photographs.

#### **4.1.1.4 Potentially Affected Viewers**

Accepted visual assessment methods, including those adopted by the BLM and other federal agencies, establish sensitivity levels as a measure of public concern for changes to scenic quality. Viewer sensitivity, one of the criteria used to evaluate visual impact significance, can be divided into high, moderate, and low categories. Factors considered in assigning a sensitivity level include viewer activity, view duration, viewing distance, adjacent land use, and special management or planning designation. Visual sensitivity would vary with the type of users. (BLM 1984) The primary viewer groups within the Project viewshed are described below.

##### **4.1.1.4.1 Motorists**

Motorists or roadway travelers are the largest viewer group along the IC Project Alignment. Included in this group are motorists traveling on the region's network of frequently used paved roadways with views of the IC Project Alignment. In Landscape Unit 1 the IC Project Alignment parallels US 395 and crosses

the highway four times between Bishop and Inyokern; between Bishop and Big Pine the IC Project Alignment runs parallel to SR-168; and the IC Project Alignment crosses SR-190. Less heavily used roadways in the vicinity include SR-136, which connects to SR-190 from US 395 south of Lone Pine, and Gherkin Road, crossed and paralleled by the IC Project Alignment, and used by residents south of Bishop.

The IC Project Alignment parallels US 395 for most of Landscape Unit 2, and both Landscape Units 3 and 4 include crossings of I-15. In Landscape Unit 4 the IC Project Alignment crosses SR-58 and SR-247 near Barstow, and to the east crosses and parallels both I-40 and Route 66. In Barstow, the IC Project Alignment also follows and crosses various residential streets. Within Landscape Unit 5 the IC Project Alignment largely follows I-15, running both parallel and crossing it, and also crosses SR-127 at the town of Baker.

Motorists include both local and regional travelers who are familiar with the visual setting. Local travelers include those commuting to or residents of communities in the area, as well as drivers of commercial vehicles. Regional motorists include long distance truck drivers, and recreational visitors to the area as noted below. Depending upon the travel route and type of roadway, the duration of motorists' views is generally brief and could range from a few seconds to up to several minutes. Local and regional traveler viewer sensitivity is considered low to moderate.

#### **4.1.1.4.2 Recreationalists**

Recreationalists, including visitors to the Inyo National Forest, Mojave National Preserve, Mojave Trails National Monument, and BLM lands, constitute another important viewer group. Recreational motorists are considered part of the recreationalist viewer group. Activities include sightseeing, on- and off-road vehicle touring, hiking, bird watching, wildlife viewing, photography, stargazing, camping, horseback riding, running, bicycling, and backpacking. Off-road vehicle users include those using unpaved BLM off-highway vehicle (OHV) recreation routes within the Coso Range Wilderness, Olancho Dunes OHV Area, Stoddard Valley OHV Area, as well as other OHV routes located on BLM-administered land. Although the total duration of views for much of this viewer group tends to be short, the general expectation of a natural-appearing landscape setting among some recreationalists raises the sensitivity to moderate to high.

#### **4.1.1.4.3 Residents**

As outlined above, most of the area along the IC Project Alignment is sparsely inhabited. Within Landscape Unit 1, residential populations are primarily concentrated in and immediately around Bishop, Big Pine and Lone Pine within the Owens Valley. Where residences border the IC Project Alignment, including at the western edge of Big Pine, the town of Cartago, and within Indian Wells Valley north of Inyokern, residential viewers experience close-range views of existing subtransmission infrastructure. Landscape Unit 2 includes scattered residences in close proximity to the IC Project Alignment south of Inyokern and residences in the community of Randsburg. In Landscape Unit 3 the IC Project Alignment passes near the community of Daggett and several residences in the valley near Harper Dry Lake. In Landscape Unit 4 the IC Project Alignment passes near residences west of Barstow and also crosses a residential area within the city of Barstow; in both cases close-range residential views of existing subtransmission infrastructure are available. Within Landscape Unit 5, a few small residential developments situated along I-15 east of Barstow and residences on the north side of the town of Baker are located in proximity to the IC Project Alignment. Residential views tend to be long in duration, and the sensitivity of this viewer group is considered moderate to high.

#### 4.1.1.5 Scenic Resources

Scenic resources are those natural and built landscape patterns and features that are considered visually or aesthetically pleasing, and therefore contribute positively to the definition of a distinct community or region. Scenic resources may include trees or other important vegetation; landform elements, such as hills or mountains, ridgelines or rock outcroppings; water features, such as rivers, bays, or reservoirs; and landmarks, important buildings, or historic sites and structures.

As described in Section 4.1.1.1, dominant features of the landscape and scenic resources that are visible from many locations within the northern Project area include the Owens Valley, Eastern Sierra Escarpment, White Mountains, Owens Lake, and the Coso Volcanic Range to the south. East of Barstow the Mojave National Preserve and Mojave Trails National Monument are also scenic resources. In addition, built features such as the Manzanar National Historic Site and Rand Mining District State Historical Landmark, are scenic resources.

Various public roadways are recognized for providing visual access to scenic resources in the vicinity of the IC Project Alignment. Scenic roadways are listed in Table 4.1-3 and shown on Figures 4.1-1a and 4.1-1b. In the Owens Valley near its northern terminus at Control Substation, the IC Project Alignment can be seen from SR-168 where this roadway is a designated State Scenic Highway. South of Bishop, the IC Project Alignment parallels and crosses US 395 at several locations where this roadway is a designated State Scenic Highway, and crosses and parallels this highway where it is an eligible State Scenic Highway. US 395 is part of the Eastern Sierra Scenic Byway, designated by the Coalition for Unified Recreation in the Eastern Sierra, a coalition partnership of public agencies and recreation providers. Near Owens Lake, the IC Project Alignment crosses SR-190, an eligible State Scenic Highway. Near Kramer Substation and again immediately west of Barstow, the IC Project Alignment crosses SR-58, an eligible State Scenic Highway. To the south and east of Barstow, the IC Project Alignment crosses SR-247, I-40, and SR-127, also eligible State Scenic Highways and county scenic routes. The IC Project Alignment also parallels and crosses I-15 where it is an eligible State Scenic Highway and county scenic route, and Route 66, a National Trails Highway and county scenic route.

Additionally, approximately 172 miles of the IC Project Alignment cross BLM-administered land. Section 4.1.2, Regulatory Setting, and Table 4.1-5 provide additional information regarding BLM-administered land and scenic resources management of this area. Figures 4.1-1c and -1d show BLM visual management classifications in the vicinity of the IC Project Alignment.

**Table 4.1-3: Summary of Scenic Roadways**

Roadway Location	Designation	Relationship to IC Project Alignment	Representative Photograph and Viewpoint Number (Figures 4.1-1 and 4.1-2)
<b>SR-168</b> West of US 395	Designated State Scenic Highway	Near Control Substation	1
<b>SR-168</b> East of and co-located with US 395	Eligible State Scenic Highway	Alignment runs parallel	4
<b>US 395</b> Inyo County	Designated State Scenic Highway	Alignment crosses and runs parallel	7,8
<b>US 395</b> Kern/Inyo County	Eligible State Scenic Highway; Eastern Sierra Scenic Byway	Alignment crosses and runs parallel	9, 10, 14, 19, 21

**Table 4.1-3: Summary of Scenic Roadways**

<b>Roadway Location</b>	<b>Designation</b>	<b>Relationship to IC Project Alignment</b>	<b>Representative Photograph and Viewpoint Number (Figures 4.1-1 and 4.1-2)</b>
<b>SR-190</b> Inyo County	Eligible State Scenic Highway; Eastern Sierra Scenic Byway	Alignment crosses	16
<b>SR-58</b> Kern/San Bernardino County	Eligible State Scenic Highway; County Scenic Route	Alignment crosses	35
<b>SR-247</b> San Bernardino County	Eligible State Scenic Highway County Scenic Route	Alignment crosses	37
<b>I-40</b> San Bernardino County	Eligible State Scenic Highway County Scenic Route	Alignment crosses	38
<b>Route 66</b> San Bernardino County	National Trails Highway; County Scenic Route	Alignment crosses	39
<b>I-15</b> San Bernardino County	Eligible State Scenic Highway; County Scenic Route	Alignment crosses and runs parallel	41, 42, 44
<b>SR-127</b> San Bernardino County	Eligible State Scenic Highway; County Scenic Route	Alignment crosses	45
<b>Cima Road</b> San Bernardino County	County Scenic Route	0.75 mile away; Alignment visibility is minimal	Not needed due to viewing distance
<b>Kelbaker Road</b> San Bernardino County	County Scenic Route	1.0 mile away; Alignment visibility is minimal	Not needed due to viewing distance

## 4.1.2 Regulatory Setting

Federal, state, and local regulations were reviewed for applicability to the IC Project.

### 4.1.2.1 Federal

#### 4.1.2.1.1 Federal Land Policy and Management Act of 1976

The Federal Land Policy and Management Act of 1976 (FLPMA) (43 United States Code [U.S.C.] 1701) and the U.S. Department of the Interior’s (DOI) Bureau of Land Management (BLM) Land Use Planning Handbook (BLM 2005) both emphasize the importance of protecting the quality of scenic resources on public lands. FLPMA sections relevant to the IC Project are:

Section 102(a): “The public lands [shall] be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values.”

Section 103(c): Identifies “scenic values” as resources for public management. Section 201(a): “The Secretary shall prepare and maintain on a continuing basis and inventory of all public lands and their resources and other values (including...scenic values).”

Section 505(a): “Each right-of-way shall contain terms and conditions which will...minimize damage to the scenic and esthetic values.”

FLPMA’s legal mandate to protect the quality of scenic resources on public lands is carried out by BLM and detailed in BLM’s Visual Resource Management (VRM) system, described below.

#### 4.1.2.1.2 US Department of Interior, Bureau of Land Management (BLM)

The Federal Land Policy and Management Act of 1976 requires BLM to protect the quality of scenic values on public lands (43 U.S.C. 1701). To this end, BLM has developed the Visual Resource Management (VRM) system to identify and maintain scenic values and visual quality. Under this system, BLM-administered lands are inventoried, analyzed, and assigned visual ratings or Management Classes. Class designations are derived from an analysis of scenic quality (rated by landform, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modification), a determination of viewer sensitivity levels (sensitivity of people to changes in the landscape), and distance zones. Management Classes describe the different degrees of modification allowed to the basic elements of the landscape (form, line, color, texture). Management classes and their corresponding goals are defined in Table 4.1-4 and discussed below.

**Table 4.1-4: BLM Visual Management Classes and Goals**

Management Class	Goals
Class I	To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.
Class II	To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.
Class III	To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.
Class IV	To provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

Source: BLM

Approximately 170 miles of the IC Project Alignment cross BLM-administered land. Table 4.1-5 shows the number of miles crossed by each Segment. As indicated on Figures 4.1-1c and d, the majority of this land is designated as VRM Classes III and IV. In Landscape Unit 1 south of Big Pine, approximately 4 miles of the IC Project Alignment crosses BLM-administered land that is VRM Class II, where management goals allow for a low level of change to existing landscape character, and any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. In Class II areas, management activities may be seen, but should not attract the attention of the casual observer.

**Table 4.1-5: BLM Land Crossed by IC Project Alignment**

Landscape Unit / Project Segment	Number of Miles Crossed by IC Project Alignment				
	Total	VRM Class I	VRM Class II	VRM Class III	VRM Class IV
1 / 1	37.9	0	4.1	24.8	9
2 / 2	27.3	0	0	27.3	0
3 / 3N	21.9	0	0	0.2	21.7
4 / 3S	19.2	0	0	3.8	15.4
5 / 4	63.8	0	0	62	1.8
Total	170.1	0	4.1	118.1	47.9

#### **4.1.2.1.3 BLM Desert Renewable Energy Conservation Plan (DRECP) Record of Decision**

Covering more than 20 million acres in seven California counties including Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego County, the DRECP was developed as an interagency plan by the BLM, the U.S. Fish and Wildlife Service (USFWS), the California Energy Commission (CEC), and the California Department of Fish and Wildlife. The BLM manages approximately 10 million acres of the 22.5 million acres covered in the overall Plan area.

The DRECP landscape-scale planning effort was undertaken to achieve two sets of overarching goals. The first is Renewable Energy. To address these goals, the plan identifies specific development focus areas with high-quality renewable energy potential and access to transmission in areas where environmental impacts can be managed and mitigated. The second overarching goal concerns Conservation. The plan specifies species, ecosystem and climate adaptation requirements for desert wildlife, as well as the protection of recreation, cultural, visual, and other desert resources. Through the DRECP Record of Decision (ROD) an approved Land Use Plan Amendment (LUPA) establishes a policy framework for BLM-managed land, including management and conservation of visual resources. With the exception of a small area in the northern portion of Landscape Unit 1, all BLM-administered land crossed by the IC Project Alignment is within the area governed by the DRECP ROD. Two maps showing the IC Project Alignment with VRM classes on BLM-administered are included as Figures 4.1-1c and -1d.

#### **4.1.2.1.4 BLM Bishop Resource Management Plan Record of Decision**

A limited part of Segment 1 crosses BLM-administered land that lies outside the area governed by the DRECP. A portion of this area is located in the Bishop Resource Management Plan Management Area 7, which includes BLM-managed land in the Owens Valley between Bishop and Lone Pine, while another part is in Management Area 9, an area near Owens Lake that the BLM manages to protect and enhance wildlife habitat. The Bishop Resource Management Plan (RMP) provides guidance for visual resources management in these areas. Area-wide visual resources policies of the Bishop RMP Record of Decision (1993) require use of non-specular wire for all power lines, and also calls for managing all activities to conform with Visual Resource Management (VRM) standards, stating that enforcement emphasis for Visual Resource Management (VRM) classes 2 - 4 will be along key observation points. Outside key observation points, the Bureau will apply designated VRM class prescriptions but the Area Manager may allow development to exceed the VRM class for reasons such as technological infeasibility or low visitor use.

#### **4.1.2.1.5 Best Management Practice for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands**

Bureau of Land Management guidance is provided in this document in the form of 122 best management practices (BMPs) to avoid or reduce potential visual impacts associated with the siting, design, construction, operation, and decommissioning of utility-scale renewable energy generation facilities, including wind, solar, and geothermal facilities as well as ancillary components, such as electric transmission structures and access. (BLM 2013) Selection of structure types and selection of appropriate materials surface treatments are among the pertinent BMPs outlined in this document to minimize potential visual effects and contrast associated with transmission facilities.

#### **4.1.2.2 State**

##### **4.1.2.2.1 California Department of Transportation: Scenic Highway Program**

The State Scenic Highway Program—a provision of Sections 260 through 263 of the Streets and Highways Code—was established by the Legislature in 1963 to preserve and enhance the natural beauty of California. The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a State Scenic Highway changes from “eligible” to “officially designated” when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives the designation from Caltrans. A city or county may propose adding routes with outstanding scenic elements to the list of eligible highways. However, State legislation is required.

State Scenic Highways are listed on Table 4.1-3 and shown on Figures 4.1-1a and 4.1-1b.

##### **4.1.2.2.2 California State Parks Office of Historic Preservation (OHP) California Landmarks and Points of Historic Interest**

The OHP is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration, and protection of California’s historic resources including California Historic Landmarks and Points of Historic Interest. These resources are buildings, sites, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. Description of the Project’s visual setting includes two such resources.

Listed on the National Registry of Historic Places and located nine miles north of Lone Pine, Manzanar is a California Historic Landmark commemorating the approximately 800-acre site where Japanese American citizens and resident Japanese aliens were incarcerated during World War II, when in 1942, the United States government detained more than 110,000 men, women, and children in remote, military-style camps. The Project alignment passes within approximately one mile of Manzanar, which is managed by the National Park Service and open to the public. Photograph 9 is a view toward the IC Project Alignment from Manzanar (refer to Figureset 4.1-2c and Table 4.1-2).

Situated near US 395 in Kern County, the Rand Mining District is a California Historic Landmark commemorating discovery of Rand mine in 1895, along with the town of Randsburg and several other nearby sites that developed in conjunction with mining activity in the late 1800s and early 1900s. The Project alignment crosses this state Historic Landmark site near US 395 and Randsburg; Photograph 28 is a view toward the IC Project Alignment taken near residences in Randsburg and Figureset 4.1-12 shows a view of the Full-Rebuild Concept from this KOP (refer to Figures 4.1-2n and 4.1-12).

#### **4.1.2.3 Local**

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the IC Project. Pursuant to CPUC General Order 131-D (GO 131-D), Section XIV.B, “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC’s jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the counties’ and cities’ regulations are not applicable as the counties and cities do not have jurisdiction over the IC Project. Accordingly, the following discussion of local land use regulations is provided for informational purposes only.

#### **4.1.2.3.1 Inyo County General Plan**

The Inyo County General Plan Circulation Element and Conservation/Open Space Element contain the following goals, respectively:

Goal SH-1. Maintain a system of scenic routes that will preserve and enhance the quality of life for present and future generations.

Goal VIS-1. Preserve and protect resources throughout the County that contribute to a unique visual experience for visitors and quality of life for County residents.

#### **4.1.2.3.2 Kern County General Plan**

Section 2.3.9, Scenic Route Corridors, of the Circulation Element recognizes several Caltrans-designated “Eligible State Scenic Highways” within the county including portions of US 395 and SR-58 (refer to Table 4.1.3 in Section 4.1.1.5, Scenic Resources). In addition, the Land Use, Open Space, and Conservation Element addresses visual resources and aesthetics primarily in commercial and industrial settings, outdoor storage, and landscaping. It also includes general policies for the protection of oak woodlands and the conservation of open space (Section 1.10, 10, Oak Tree Conservation, Policies 65 and 66). (Kern County 2009)

#### **4.1.2.3.3 San Bernardino County General Plan**

The San Bernardino County General Plan Conservation Element and Open Space Element contain the following:

GOAL D/CO 1. Preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water and scenic vistas.

GOAL OS 5. The County will maintain and enhance the visual character of scenic routes in the County.

The Open Space Element of the General Plan indicates that county scenic routes in the Project area include US 395, SR-247, I-40, Route 66, and I-15 as well as Cima Road and Kelbaker Road. Information regarding these designated scenic routes is included on Table 4.1-3 in Section 4.1.1.5 Scenic Resources and on Figures 4.1-1a and 4.1-1b.

#### **4.1.2.3.4 City of Barstow General Plan**

The City of Barstow General Plan Land Use Element includes Goal 2, which states “The City seeks to ensure an aesthetically pleasing appearance to the community that will maintain and enhance property values throughout the planning area.” (LU-12). Additionally, Strategy 7.A1 of the Resource and Open Space Element indicates the City should “Work with the utility companies owning large “cross-town” easements to ensure that these areas remain as open space for recreation, circulation, etc.”

### **4.1.3 Significance Criteria**

The significant criteria for assessing the impacts to aesthetics come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources within a State Scenic Highway, including, but not limited to: trees, rock outcroppings, and historic buildings
- Substantially degrade the existing visual character or quality of the site and its surroundings

- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area

#### 4.1.4 Impact Analysis

##### 4.1.4.1 Visual Simulations and Visual Change

The set of visual simulations presented on Figures 4.1-3 through 4.1-18 document the Full-Rebuild Concept-related visual change that would occur at 16 KOPs, and provides the basis for evaluating potential visual effects associated with the Full-Rebuild Concept from these key public views. The methodology employed for preparing the simulations includes systematic site photography, computer modeling, and digital rendering techniques. Photographs were taken using a digital single-lens reflex camera with standard 50-millimeter lens equivalent, which represents an approximately 40-degree horizontal view angle. Photography viewpoint locations were documented in the field using photo log sheet notation, global positioning system (GPS) recording, and basemap annotation. Digital aerial photographs and project design information provided the basis for developing three-dimensional computer modeling of the new project components. For each simulation viewpoint, viewer location was input from global positioning system data using 5 feet as the assumed eye level. Computer “wireframe” perspective plots were overlaid on the simulation photographs to verify scale and viewpoint location. Digital visual simulation images were then produced based on computer renderings of the three-dimensional modeling combined with selected digital site photographs. The simulations presented on Figuresets 4.1-3 through 4.1-18 consist of two full-page images designated “a” and “b,” with the existing views shown in the “a” figure and the after visual simulations in the “b” figure.

This section includes a description of the project-related change and an evaluation of potential visual effects on key public views, primarily as represented by the set of 16 KOP visual simulations. Table 4.1-6 presents an overview including viewpoint location with corresponding visual sensitivity factor(s); approximate viewing distance; and summary of visible change and potential effect that would occur each KOP location. As summarized in Table 4.1-6 and detailed under discussion of the five Landscape Units, the visual change associated with the Full-Rebuild Concept would not substantially alter existing visual conditions in the area.

**Table 4.1-6: Summary of Visual Change at KOPs**

Photograph Number and Location (Figure number)	Visual Sensitivity Factor(s)	Viewing Distance	Visual Change and Effect
<b>LANDSCAPE UNIT 1</b>			
3. Gerkin Road south of Bishop (Figureset 4.1-3)	<ul style="list-style-type: none"> <li>• Proximity to residences</li> </ul>	600 feet	<ul style="list-style-type: none"> <li>• Taller steel poles replace existing lattice towers; the closest lattice tower is permanently removed.</li> <li>• Reduction in number of transmission structures in vicinity of residences.</li> <li>• Increased height of replacement pole represents an incremental change that would not substantially affect visual character of landscape experienced in this area.</li> </ul>
5. Baker Creek Campground in Big Pine (Figureset 4.1-4)	<ul style="list-style-type: none"> <li>• Proximity to recreational facility</li> </ul>	500 feet	<ul style="list-style-type: none"> <li>• Taller steel pole replaces existing lattice tower.</li> <li>• Minor shift in location of new structure within existing alignment; existing vegetation partially screens replacement pole.</li> </ul>

**Table 4.1-6: Summary of Visual Change at KOPs**

<b>Photograph Number and Location (Figure number)</b>	<b>Visual Sensitivity Factor(s)</b>	<b>Viewing Distance</b>	<b>Visual Change and Effect</b>
			<ul style="list-style-type: none"> <li>• Narrower profile of replacement pole less noticeable against backdrop.</li> <li>• Increased height of replacement pole does not affect views of White Mountains in backdrop, and overall change would not substantially affect existing view.</li> </ul>
<b>10.</b> US 395 crossing north of Lone Pine ( <i>Figureset 4.1-5</i> )	<ul style="list-style-type: none"> <li>• Eligible State Scenic Highway</li> <li>• Eastern Sierra Scenic Byway</li> </ul>	500 feet	<ul style="list-style-type: none"> <li>• Taller steel poles replace existing lattice towers.</li> <li>• Replacement poles visible in distance somewhat more noticeable.</li> <li>• Permanent removal of one lattice tower and wood guy poles.</li> <li>• Project modifications result in more uniform appearance of built elements in the landscape.</li> <li>• Incremental visual change would not adversely affect views of the landscape including the nearby hills.</li> </ul>
<b>14.</b> US 395 crossing near Owens Lake ( <i>Figureset 4.1-6</i> )	<ul style="list-style-type: none"> <li>• Eligible State Scenic Highway</li> <li>• Eastern Sierra Scenic Byway</li> </ul>	< 500 feet	<ul style="list-style-type: none"> <li>• Somewhat taller steel poles replace two existing lattice towers.</li> <li>• Permanent removal of two existing lattice towers.</li> <li>• Similarity of form and color to adjacent transmission structures results in more uniform appearance of utility structures seen at this location.</li> <li>• Overall change would not substantially affect existing view from roadway.</li> </ul>
<b>15.</b> Whitney Street near Mojave Street in Cartago ( <i>Figureset 4.1-7</i> )	<ul style="list-style-type: none"> <li>• Proximity to residences</li> <li>• Recreational motorists</li> </ul>	1,100 feet	<ul style="list-style-type: none"> <li>• Two taller steel poles replace existing lattice tower and pair of wood poles; one existing lattice tower and pair of wood poles permanently removed.</li> <li>• Vertical form of replacement poles more closely resemble adjacent utility structures, resulting in more unified appearance of built elements in the landscape.</li> <li>• Incremental increase in height of replacement poles does not adversely affect views of the landscape backdrop and overall change would not substantially affect existing view at this location.</li> </ul>
<b>16.</b> SR-190 crossing near Olancha ( <i>Figureset 4.1-8</i> )	<ul style="list-style-type: none"> <li>• Eligible State Scenic Highway</li> </ul>	< 500 feet	<ul style="list-style-type: none"> <li>• Taller steel pole replaces existing lattice tower.</li> <li>• Replacement pole location is further from the highway.</li> <li>• Vertical form of replacement pole more closely resembles adjacent utility structures, resulting in more unified appearance of built elements seen in the landscape.</li> <li>• Incremental increase in height of replacement poles does not adversely affect views of the landscape backdrop and overall change would not substantially affect existing motorists' view.</li> </ul>
<b>20.</b> Fossil Falls Campground and Trail ( <i>Figureset 4.1-9</i> )	<ul style="list-style-type: none"> <li>• Proximity to BLM recreational facilities</li> </ul>	1,800 feet	<ul style="list-style-type: none"> <li>• Taller steel poles replace two existing lattice towers; two wood poles permanently removed.</li> <li>• Increased height of replacement poles not particularly noticeable against dominant landscape backdrop.</li> </ul>

**Table 4.1-6: Summary of Visual Change at KOPs**

<b>Photograph Number and Location (Figure number)</b>	<b>Visual Sensitivity Factor(s)</b>	<b>Viewing Distance</b>	<b>Visual Change and Effect</b>
	<ul style="list-style-type: none"> <li>Proximity to BLM-designated ACEC</li> </ul>		<ul style="list-style-type: none"> <li>Reduction in number of visible utility structures seen in landscape.</li> <li>Overall change would not adversely affect existing view experienced by recreational visitors.</li> </ul>
<b>23. Patrice Avenue, Inyokern (Figureset 4.1-10)</b>	<ul style="list-style-type: none"> <li>Proximity to residences</li> </ul>	<500 feet	<ul style="list-style-type: none"> <li>Slightly taller steel poles replace existing lattice towers.</li> <li>Narrower vertical profile of replacement poles more closely resembles form of nearby utility structures, resulting in more uniform appearance of built elements seen in the landscape.</li> <li>Three orange FAA marker balls visible against sky.</li> <li>Overall change would not have a substantial effect on existing view from this rural location.</li> </ul>
<b>LANDSCAPE UNIT 2</b>			
<b>25. Sydnor Avenue at Mercury Street in Inyokern (Figureset 4.1-11)</b>	<ul style="list-style-type: none"> <li>Proximity to residences</li> </ul>	800 feet	<ul style="list-style-type: none"> <li>Slightly shorter steel poles replace two existing lattice towers, and pole of equal height replaces one existing lattice tower.</li> <li>Although color is similar, the form of replacement poles could contrast with adjacent existing lattice towers; resulting in new poles being more noticeable.</li> <li>Incremental visual change could be noticeable; however, given presence of existing prominent utility structures seen in this location, the project would not substantially affect existing visual character of residential area.</li> </ul>
<b>28. Lexington Avenue in Randsburg (Figureset 4.1-12)</b>	<ul style="list-style-type: none"> <li>Location is within Rand Mining District State Historical Landmark</li> <li>Proximity to residences</li> </ul>	<500 feet	<ul style="list-style-type: none"> <li>Somewhat shorter steel poles replace two existing lattice towers.</li> <li>Replacement pole visible along ridgetop against sky less noticeable due to narrower profile; increased visibility of replacement TSP at base of hill due to contrast with backdrop.</li> <li>Modification represents incremental change that would not adversely affect visual quality of the landscape given presence of utility structures and mining facilities.</li> </ul>
<b>LANDSCAPE UNIT 3</b>			
<b>32. Harper Dry Lake Wildlife Viewing Area (Figureset 4.1-13)</b>	<ul style="list-style-type: none"> <li>BLM ACEC</li> <li>BLM Watchable Wildlife Site</li> </ul>	1 mile	<ul style="list-style-type: none"> <li>Slightly taller steel poles replace existing wood H-frame structures.</li> <li>Visual change nearly imperceptible due to viewing distance and presence of substantially larger transmission structures adjacent to Project.</li> <li>Effect would not affect visual character of landscape experienced in this recreational area.</li> </ul>
<b>LANDSCAPE UNIT 4</b>			
<b>36. Bonanza Road near H Street, Barstow (Figureset 4.1-14)</b>	<ul style="list-style-type: none"> <li>Proximity to residences</li> </ul>	< 500 feet	<ul style="list-style-type: none"> <li>Somewhat taller steel poles replace existing wood H-frame structures.</li> <li>Lighter color and more slender profile of replacement poles make them less noticeable.</li> </ul>

**Table 4.1-6: Summary of Visual Change at KOPs**

<b>Photograph Number and Location (Figure number)</b>	<b>Visual Sensitivity Factor(s)</b>	<b>Viewing Distance</b>	<b>Visual Change and Effect</b>
			<ul style="list-style-type: none"> <li>• Increased height of replacement poles not readily apparent when seen against backdrop.</li> <li>• Replacement poles more closely resemble existing nearby utility structures, resulting in a more uniform appearance of built elements seen in the landscape.</li> <li>• Overall change would not substantially affect existing view from residential area and could be considered a visual improvement.</li> </ul>
<b>38.</b> I-40, near Daggett ( <i>Figureset 4.1-15</i> )	<ul style="list-style-type: none"> <li>• Project route crossing of eligible State Scenic Highway</li> <li>• San Bernardino County scenic route</li> </ul>	500 feet	<ul style="list-style-type: none"> <li>• Somewhat taller steel poles replace existing wood H-frame structures.</li> <li>• Color of replacement poles blends more effectively with light colored backdrop making them less noticeable.</li> <li>• Replacement of H-frame structures with single pole structures results in incremental reduction in visibility of built components in the landscape.</li> <li>• FAA marker balls visible against the sky in distance.</li> <li>• Overall change would not substantially affect existing motorist view.</li> </ul>
<b>LANDSCAPE UNIT 5</b>			
<b>40.</b> Carol Ann Drive at Crystal Lakes Estates, east of Barstow ( <i>Figureset 4.1-16</i> )	<ul style="list-style-type: none"> <li>• Proximity to residences</li> <li>• VRM Class III</li> </ul>	700 feet	<ul style="list-style-type: none"> <li>• Similar color, slightly taller steel poles replace existing lattice H-frame structures.</li> <li>• Replacement poles have narrower, tapered vertical profile and simplified form compared with existing structures</li> <li>• Visual change is incremental and would not adversely affect views of the landscape setting; could be considered a visual improvement.</li> </ul>
<b>42.</b> Clyde V. Kane Safety Roadside Rest Area on I-15 ( <i>Figureset 4.1-17</i> )	<ul style="list-style-type: none"> <li>• Eligible State Scenic Highway</li> <li>• San Bernardino County scenic route</li> </ul>	600 feet	<ul style="list-style-type: none"> <li>• Somewhat taller steel poles replace two existing H-frame structures; slightly shorter TSP replaces existing lattice tower.</li> <li>• Replacement poles have simpler profile compared with existing structures.</li> <li>• Form of replacement poles more closely resemble nearby existing utility structures, resulting in a more uniform appearance of built elements seen in the landscape.</li> <li>• Visual change is incremental and would not adversely affect views of the landscape setting; could be considered a visual improvement.</li> </ul>
<b>45.</b> SR-127 at Baker Junior High School ( <i>Figureset 4.1-18</i> )	<ul style="list-style-type: none"> <li>• Proximity to public school</li> <li>• Project route crossing of eligible State Scenic Highway</li> </ul>	900 feet	<ul style="list-style-type: none"> <li>• Somewhat taller H-frame structure replaces existing lattice H-frame structure; steel pole and new H-frame structure replace existing H-frame structure and lattice tower.</li> <li>• Replacement structures slightly more visible against backdrop than existing lattice structures; new poles represent noticeable new elements in the landscape.</li> <li>• Increased height of replacement structures would not substantially alter degree of Project visibility in relation to</li> </ul>

**Table 4.1-6: Summary of Visual Change at KOPs**

Photograph Number and Location (Figure number)	Visual Sensitivity Factor(s)	Viewing Distance	Visual Change and Effect
	<ul style="list-style-type: none"> <li>San Bernardino County scenic route</li> </ul>		<p>backdrop, while visual effect resulting from change in location of two new Project structures would be attenuated by removal of existing visually complex and dissimilar structures.</p> <ul style="list-style-type: none"> <li>Predominant vertical form of new and replacement poles consistent with majority of numerous adjacent utility elements, resulting in a more uniform appearance of built elements in the landscape.</li> <li>Overall change is incremental and would not adversely affect views of the landscape setting; could be considered a visual improvement.</li> </ul>

**4.1.4.1.1 Landscape Unit 1**

In Landscape Unit 1, close-range views of the Full-Rebuild Concept are seen from near the communities of Bishop, Big Pine, Olancho, Cartago, and Inyokern and from scattered rural residences within Owens Valley, as well as from the Fossil Falls BLM recreation site and along US 395 and SR-190, which are crossed by the IC Project Alignment.

**4.1.4.1.1.1 Figureset 4.1-3: Visual Simulation, Viewpoint 3: Gerkin Road, South of Bishop**

Looking north from Gerkin Road, Figureset 4.1-3 represents a close-range view of the Full-Rebuild Concept from the edge of a residential community approximately 4.5 miles south of Bishop. The IC Project Alignment crosses the roadway, approximately 900 feet from the viewpoint, and can be seen by motorists as well as nearby residents. To the left and right of the roadway, Figureset 4.1-3a shows two prominent existing lattice towers, partially silhouetted against the sky in the foreground. On the left side of the roadway, additional towers recede into the distance, as their visibility decreases against a backdrop of similar colored mountains. In this open view of the northern Owens Valley basin, multiple transmission towers supporting two adjacent power alignments are also visible in the backdrop east of the roadway. As seen from the nearby residence in the immediate foreground on the right, views toward the IC Project Alignment are partially screened by landscaping out of the view to the right.

The Figureset 4.1-3b simulation shows the replacement of towers under the Full-Rebuild Concept left of the roadway with taller steel poles, and the permanent removal of the nearest structure in the foreground to the right of the roadway. Compared to the existing structures being replaced, the new poles are noticeably taller; however, their overall form with a considerably narrower profile is simpler than the complex form of existing lattice towers. The closest replacement structure seen in the visual simulation is approximately 0.25 mile from the viewpoint, whereas Figureset 4.1-3a shows a noticeably closer existing tower that is only approximately 750 feet away. A comparison of Figures 4.1-3a and 4.1-3b demonstrates that the increased height of the new poles would not substantially alter the overall visibility of the Full-Rebuild Concept in relation to the landscape backdrop. Additionally, as shown in the Figureset 4.1-3b visual simulation, the removal of the closest structure would represent an incremental improvement to the visual setting that includes numerous transmission structures of varied design. The introduction of the new poles thus represents an incremental effect that would not result in a substantial change in the existing landscape character.

#### 4.1.4.1.1.2 **Figureset 4.1-4: Visual Simulation, Viewpoint 5: Baker Creek Campground in Big Pine**

The Figureset 4.1-4 photograph is a view looking east from Baker Creek Campground, a public recreation area located northwest of the town of Big Pine in Owens Valley. From this location existing structures are visible against a backdrop comprised of sky as well as the distant White Mountains. In the immediate foreground a restroom building and a darker colored trash receptacle can be seen partially screened by vegetation. Part of an unpaved campsite access road is also visible near the left edge of the view, and the existing lattice tower situated approximately 500 feet away is a vertical element seen on the right. In addition to the built campground features seen in the foreground, the structure is a noticeable built element within the predominantly natural appearing landscape setting.

The Figureset 4.1-4b simulation shows a taller steel pole has replaced the existing tower under the Full-Rebuild Concept. The replacement pole is noticeably taller; the taller pole is required because an existing lattice tower located at the campground situated to the left of this view is removed and not replaced. Vegetation along the roadway partially screens the lower portion of the new structure. A comparison of the existing view and simulation indicates that the existing and replacement structures are similar in color and the horizontal cross arms at the top of both structures are similar in appearance. Due to its narrower profile the new pole is less noticeable than the existing lattice tower, particularly as seen against the mountain and sky backdrop. The visual simulation demonstrates that taken together the Full-Rebuild Concept-related change represents a minor, incremental effect that would not significantly alter the overall composition or visual character of the existing landscape experienced by recreational visitors at this location.

#### 4.1.4.1.1.3 **Figureset 4.1-5: Visual Simulation, Viewpoint 10: US 395 Crossing North of Lone Pine**

Figureset 4.1-5 is a motorist's view of the IC Project Alignment from US 395, approximately 2 miles north of Lone Pine. This KOP location represents a close-range view of the IC Project Alignment crossing as seen along an eligible State Scenic Highway, and also along the Eastern Sierra Scenic Byway. This northbound motorist view shows the roadway gradually descending a high-desert alluvial plain, flanked by the Alabama Hills on the left. On the right, the Inyo Mountains border the east side of the Owens Valley, and multiple lattice structures, along with adjacent wood guy poles, are visible on both sides of the roadway. In the immediate foreground on the right, a prominent lattice structure is visible primarily against the sky while the closest wood pole and the next lattice structure are seen against a backdrop composed of landscape and sky. Beyond the highway crossing, structures become progressively less evident where their contrast against the darker color and varied texture of the mountain backdrop is weak. Near the center of this view several towers are barely visible silhouetted against the sky, on the low distant horizon.

The Figureset 4.1-5b visual simulation shows steel poles have replaced the two closest existing lattice towers under the Full-Rebuild Concept, and an existing tower on the left side of the highway has been removed and not replaced. Additional less visible lattice towers in the distance are also replaced with steel poles under the Full-Rebuild Concept. The simulation also portrays the removal of the wood guy pole and cables supporting the closest structure on the right side of the road. The new poles are somewhat taller than the existing towers being replaced. As seen at this location the most noticeable change relates to the design of the new structures being a more simplified vertical form compared to the form and appearance of existing towers. To a degree the vertical form of the new structures would contrast with the predominantly horizontal form seen within the surrounding landscape; however, this effect would be less apparent where the structures recede into the background. The color of the new poles would also tend to blend in against the light-colored backdrop. Additionally, the Full-Rebuild Concept would result in a more uniform appearance of built features seen within the landscape and the permanent removal of the lattice tower and wood pole

would result in a decreased number of visible structures seen at this location. A comparison of the Figures 4.1-5a existing view and the 4.1-5b visual simulation demonstrates that while the visual change could be somewhat noticeable, taken together the Full-Rebuild Concept-related modifications represent an incremental effect that would not substantially alter motorist views of the landscape experienced along this part of an eligible State Scenic Highway and the Eastern Sierra Scenic Byway.

#### **4.1.4.1.1.4 Figureset 4.1-6: Visual Simulation, Viewpoint 14: US 395 Crossing Near Owens Lake**

The IC Project Alignment crosses US 395 again at the northwest edge of the Owens Lake Basin. Taken from northbound US 395, the photograph in Figureset 4.1-6a shows towers on both sides of the highway near this crossing, and represents the view from an eligible scenic highway and a portion of the Eastern Sierra Scenic Byway. In this area the roadway climbs a low summit along the former lake shoreline, and the IC Project Alignment traverses open, desert terrain bordering the lake basin. Existing structures are seen primarily against the sky on both sides of the highway and an adjacent parallel power line supported by smaller steel poles is also visible approximately 300 feet to the west of the IC Project Alignment. BLM-managed lands on the left of the photograph are designated VRM III.

The Figureset 4.1-6b visual simulation shows two Full-Rebuild Concept replacement poles located in close proximity to where the existing lattice towers have been removed. The new structures are somewhat taller than the existing structures being replaced; however, the visual simulation also shows that a more distant existing tower seen to the right of the blue colored roadway sign has been removed but not replaced. Additionally, another existing tower situated to the left of the highway, and outside the left edge of the view shown in Figureset 4.1-6 is also permanently removed. A comparison of the existing view and visual simulation indicates that although taller, the replacement poles are similar in form and color to existing poles supporting the adjacent power alignment, thus Full-Rebuild Concept-related change would result in greater overall uniformity in the appearance of built elements seen within the landscape. Together with the decrease in the number of structures visible at the highway crossing, these changes would not substantially alter the existing visual character of the landscape setting in this location.

#### **4.1.4.1.1.5 Figureset 4.1-7: Visual Simulation, Viewpoint 15: Whitney Street Near Mojave Street in Cartago**

Looking southeast across the southern tip of the Owens Lake Basin from the northeast corner of Cartago, Figureset 4.1-7 represents the KOP view from a residential community within the southern Owens Valley as well as the view from a roadway providing access to the Cartago Wildlife Area, situated at the edge of Owens Lake. In this view a variety of wood and steel utility structures are discernible, including two lattice towers located approximately 0.25 mile away that can be seen beyond the roadway intersection in the immediate foreground. Also visible are a pair of wood poles, situated midway between the two towers. In addition, another pair of wood poles can be seen near the right edge of this view. In the immediate foreground, more prominent vertical elements include wood H-frame structures supporting an adjacent power line that passes within approximately 300 feet of residences located along Cartago's eastern perimeter, as well as a wood utility pole near the left edge of the view that supports a variety of power and telecommunication lines.

The Figureset 4.1-7b simulation shows the existing wood poles and the lattice tower in the center of the view have been removed and not replaced under the Full-Rebuild Concept. The lattice tower on the left has been replaced by a taller steel pole, as has the pair of wood poles near the right edge of the view. Where the top of the new taller pole on the left projects above the mountain horizon, and is seen against the sky, it is somewhat more noticeable compared to the existing lattice tower it has replaced. At the same time, the removal of existing elements in the center of the view results in a decrease in the number of

utility structures seen from this KOP and thus represents an incremental improvement to the overall setting. At this location where numerous existing transmission elements are currently seen, the overall visual change is incremental and the effect would not substantially alter the composition or quality of the landscape as seen by community residents or motorists.

#### **4.1.4.1.1.6 Figureset 4.1-8: Visual Simulation, Viewpoint 16: SR-190 Crossing Near Olancha**

The view shown in Figureset 4.1-8 depicts the IC Project Alignment from SR-190, an eligible State Scenic Highway that skirts the southern perimeter of the Owens Lake Basin and serves as the principal western gateway for travelers to Death Valley. This two-lane highway also provides access to Olancha Dunes, a nearby OHV recreation area. Figureset 4.1-8a shows a lattice structure supporting multiple overhead conductors in the immediate foreground, at a distance of approximately 400 feet from where the alignment crosses the roadway. This prominent vertical element is seen just to the right of the roadside primarily against a backdrop of the Sierra Nevada, although the upper part is silhouetted against the sky. Multiple wood utility poles and conductors are also visible in the foreground along both sides of the roadway as well as in the distance, where numerous poles are discernible in the vicinity of the town of Olancha, located approximately 0.8 miles away and partially visible near the center of this view.

The Figureset 4.1-8b simulation shows a new steel pole that replaces the lattice tower that has been removed under the Full-Rebuild Concept. A comparison of Figureset 4.1-8a and 4.1-8b indicates that the replacement pole is somewhat taller and similar to the existing lattice structure; most of the replacement pole is visible against the mountain backdrop and the upper portion can be seen against the sky. When compared with the existing lattice structure, the design of the new structure is a more streamlined vertical form that more closely resembles the form of existing wood utility structures seen along the roadside at this KOP location. Overall, the new structure would not substantially alter the composition or character of the existing landscape seen at this location, and the change brought about by the Full-Rebuild Concept would result in a more uniform appearance of built elements seen in the landscape. In addition, an existing lattice structure approximately 650 feet to the right, and beyond the view captured in the Figureset 4.1-8 photograph, would be removed under the Full-Rebuild Concept and would not be replaced. Given this project-related change, there would be a decrease in the number of visible structures seen in the vicinity of the highway crossing, which would represent an incremental visual improvement. In light of the changes described above, the effect would not substantially alter existing composition or visual character of the landscape seen in this location.

#### **4.1.4.1.1.7 Figureset 4.1-9: Visual Simulation, Viewpoint 20: Fossil Falls Campground and Trail**

Figureset 4.1-9 is a KOP view showing the IC Project Alignment where it passes near a BLM-managed recreational site including a campground within a BLM Area of Critical Environmental Concern (ACEC). This area is located on an elevated terrace approximately 0.5 mile east of US 395. Looking southwest from the parking area of the recreational facility, Figureset 4.1-9a shows existing lattice towers and wood interset poles approximately 0.35 mile away, visible against the large-scale backdrop of the distant Sierra Nevada. These structures are seen beyond an expanse of dark-colored basalt. Although visible, the structures are not particularly noticeable given the dominant backdrop and presence of visual elements in the foreground landscape, including the informational kiosk structure and exposed basalt formation. BLM-managed lands in the photograph are designated VRM III.

The Figureset 4.1-9b simulation shows the two existing lattice towers replaced by two somewhat taller steel poles under the Full-Rebuild Concept, while the two wood interset poles have been removed and not replaced. A comparison of the existing and simulation views indicates that the height difference between

the new poles and the existing lattice structures is not particularly noticeable given the viewing distance and landscape context of the dominant mountain backdrop. Combined with the removal of the existing wood poles, the Full-Rebuild Concept represents a minor, incremental change that does not substantially alter or degrade the existing landscape character seen at this BLM-managed recreation area.

#### **4.1.4.1.1.8 Figureset 4.1-10: Visual Simulation, Viewpoint 23: Patrice Avenue in Inyokern**

A view toward the IC Project Alignment from within the community of Inyokern is shown in Figureset 4.1-10, which represents a close-range view of the IC Project Alignment as seen by residents in the rural desert landscape setting characteristic of the area near Inyokern Substation in Indian Wells Valley.

Figureset 4.1-10a shows a single story house, assorted outbuildings, vehicles and fencing, interspersed with clusters of small trees and large shrubs on a rural residential property in the foreground, and on the left a prominent tower is silhouetted against the sky. The top of a second tower appears against the sky near the right edge of the view. Additionally, a variety of wood utility pole structures supporting several nearby power lines, including single pole and H-frame structures, can be seen at this KOP location.

The Figureset 4.1-10b visual simulation shows a Full-Rebuild Concept-related replacement steel pole in the foreground. Small trees screen the bottom part of this new structure. Near the right edge of the view the upper portion of a second replacement Full-Rebuild Concept-related pole can be seen beyond the building. Although slightly taller than the existing lattice structures being replaced, the horizontal arms at the top of the new poles are similar in appearance to the cross arms of the lattice towers that have been removed. Compared with the more complex trapezoidal form of the existing lattice structures, the narrower vertical profile of the new steel poles is similar to the form of nearby existing wood poles and therefore the Full-Rebuild Concept would result in a slightly more uniform overall appearance with respect to the utility structures seen at this location. The simulation also shows three orange FAA marker balls silhouetted against the sky between the replacement poles; the marker balls are 36” in diameter each and spaced along the wire at approximately 200-foot (61-meter) intervals. Although their bright color could be somewhat noticeable, the size of the marker balls is relatively small and their color is not dissimilar to the reddish color of the outbuilding seen nearby, on the left. Taken together, the visual changes would not result in substantial alteration or degradation of the landscape setting.

#### **4.1.4.1.2 Landscape Unit 2**

Within Landscape Unit 2, the alignment crosses largely unoccupied, desert terrain. Open views of the Project can be seen by passing motorists where the alignment closely parallels US 395 within flat terrain of the northern Mojave Desert, south of Indian Wells Valley. Close-range views of the Project are generally limited, and include a small number of scattered residents in the area immediately south of Inyokern Substation in addition to a small number of residents at Randsburg, an historic mining community located in mountainous terrain that separates Indian Wells Valley from the Mojave Desert basin.

#### **4.1.4.1.2.1 Figureset 4.1-11: Visual Simulation, Viewpoint 25: Sydnor Avenue at Mercury Street in Inyokern**

Taken near the US 395/SR-178 junction approximately 0.8 mile south of Inyokern Substation, Figureset 4.1-11 represents a close-range view of the IC Project Alignment at a KOP within this low-density suburban residential area. Looking southeast from this location, Figureset 4.1-11a shows multiple transmission structures including three IC Project-related lattice towers as well as lattice towers, wood H-frame structures and wood utility poles that support three parallel power lines. These noticeable vertical elements are seen primarily against a backdrop of sky, and extending toward the low hills seen along the horizon on the right. On the left, the closest and most prominent lattice tower supports a non-Project transmission line, while the closest of the three IC Project-related towers is to its right and situated

approximately 450 feet beyond the residence. Although situated less than 200 feet to the east, the US 395 corridor is generally screened from view by vegetation surrounding the residence.

The Figureset 4.1-11b visual simulation shows three new single circuit poles have replaced the three double circuit lattice towers under the Full-Rebuild Concept. The height of the new poles is comparable to the height of the existing structures being replaced. Although the color of the new pole is similar to the color of the adjacent lattice towers, the form of the replacement structures is somewhat dissimilar and thus could be seen to contrast with the form of these towers and other landscape elements. At the same time, the new poles would not be dissimilar to the vertical form of some of the existing wood power poles. Given the presence of existing prominent utility structures seen in this location, together with other visible built elements in the landscape, the Full-Rebuild Concept represents a noticeable but incremental change that would not affect the composition of the landscape or existing visual character of this area.

#### **4.1.4.1.2.2 Figureset 4.1-12: Visual Simulation, Viewpoint 28: Lexington Avenue in Randsburg**

As it crosses the historic mining community of Randsburg, the IC Project Alignment passes within 300 feet of residences located at the town's northeastern perimeter. Figureset 4.1-12 represents a view taken from a residential street in this area. Houses and a church as well as utility structures and various mining facilities are located within the immediate vicinity. Figureset 4.1-12a shows a lattice structure, and to its right a taller tower supports an adjacent line. Both structures are seen silhouetted against the sky on the ridge, beyond the houses in the foreground. A second tower, seen against the mottled hillside backdrop near the right edge of the view, is barely visible. Also in the foreground, a telecommunication line is a noticeable horizontal feature. BLM-managed lands on the left of the photograph are designated VRM III.

The Figureset 4.1-12b simulation shows two steel poles installed under the Full-Rebuild Concept that are slightly taller than the two lattice towers they replace. The replacement pole on the left has a more-slender form that would contrast with the broader, trapezoidal shape of the existing lattice tower while the steel replacement structure on the right would be somewhat more noticeable against the hillside backdrop compared with the existing tower that is removed. At the same time, the new pole is partially screened by the residence seen in the foreground. It is also noted that existing utility structures located nearby although not visible in this view, more closely resemble the new poles in terms of their form. In this respect the change would be less noteworthy. Additionally, because the visual juxtaposition of older and newer built elements such as relic mining equipment and transmission structures is a characteristic feature of this landscape, and given the presence of existing utility structures and mining facilities within this vicinity, the visual effect of Full-Rebuild Concept modifications represents an incremental change that would not substantially affect the visual character or quality of the landscape in this location.

#### **4.1.4.1.3 Landscape Unit 3**

Located primarily away from regional transportation corridors, Landscape Unit 3 is the most isolated of the five Landscape Units. Throughout the length of this Landscape Unit, the IC Project Alignment closely parallels one or more existing transmission alignments. Few close-range public views of the IC Project Alignment are available and overall, visual change would not be particularly discernible.

#### **4.1.4.1.3.1 Figureset 4.1-13: Visual Simulation, Viewpoint 32: Harper Dry Lake Wildlife Viewing Area**

Looking south from a BLM-managed Watchable Wildlife Site located at Harper Dry Lake, Figureset 4.1-13 represents a view of the IC Project Alignment from a BLM Area of Critical Environmental Concern (ACEC) approximately 14 miles east of Kramer Junction. Built features seen in the immediate foreground of this view include an information kiosk and fencing that encloses the wildlife viewing area, separating it

from the unpaved access road beyond. Figureset 4.1-13a shows H-frame structures that are barely visible against the light colored sky and backdrop of distant low hills, when seen beyond the flat playa landscape and alongside taller lattice towers of two adjacent power alignments from a distance of approximately one mile away. BLM-managed lands in the photograph are designated VRM IV.

The Figureset 4.1-13b simulation shows the replacement of wood H-frame structures with taller steel poles under the Full-Rebuild Concept. Compared to the structures being replaced, the increased height of the replacement poles is not discernible at this viewing distance, and because the view direction is perpendicular to the alignment, the difference between the broad profile of the existing H-frame and the narrower, more vertical form of the replacement poles is not readily apparent. A comparison of the existing and simulation views demonstrates that the visual change is minor and incremental. Given the viewing distance of approximately one mile, and the landscape context with adjacent transmission structures of varied height and design, the visual change would be nearly imperceptible and would not affect landscape views experienced by visitors to the wildlife viewing area.

#### **4.1.4.1.3.2 Landscape Unit 4**

Within Landscape Unit 4 the IC Project Alignment generally parallels, and in several locations crosses, local and regional roadway corridors. A small portion passes in close proximity to residential areas in the city of Barstow. As shown on Figures 4.1-14a through 4.1-15b, some of these public views are within a few hundred feet of existing Full-Rebuild Concept-related elements.

#### **4.1.4.1.3.3 Figureset 4.1-14: Visual Simulation, Viewpoint 36: Bonanza Road Near H Street in Barstow**

Figureset 4.1-14 is a close-range view of the IC Project Alignment taken from a residential street within a subdivision located southwest of central Barstow. In the foreground of this view, residences are set back from both sides of the road and dark wood H-frame structures, the nearest situated approximately 475 feet from the viewpoint, are prominent against the sky along the right side of the road. Utility poles and numerous overhead conductors of nearby power lines are also noticeable in the backdrop, partially screened by primarily low growing, relatively-sparse vegetation.

The Figureset 4.1-14b simulation shows taller, gray colored steel poles replacing the dark wood H-frame structures under the Full-Rebuild Concept. The simulation illustrates that the increased height between the replacement poles and existing structures would be most noticeable in the case of the closest pole with the difference decreasing in the case of the more distant poles. A comparison of the existing and simulation views indicates that, although somewhat taller, the replacement poles would be less noticeable than the existing dark-colored H-frame structures, due to their more-slender profile, together with their lighter color, which is less visible against the sky. In addition, as the replacement structures recede toward the distant horizon, their increased height would not be particularly noticeable when seen within the context of the predominant sky backdrop. Moreover, the form of the replacement poles more closely resembles that of existing utility structures seen in the surrounding environment. Taken together, the Full-Rebuild Concept-related change would result in a slight decrease in visual presence of utility components and a greater overall uniformity in appearance of built elements within the landscape. Therefore, the Full-Rebuild Concept's incremental visual effect would not substantially affect the visual quality of the landscape within this residential area, and could be considered an incremental improvement.

#### **4.1.4.1.3.4 Figureset 4.1-15: Visual Simulation, Viewpoint 38: I-40**

Figureset 4.1-15, a view from I-40 approximately 6.5 miles southeast of Barstow near the community of Daggett, represents a close-range motorist's view of the IC Project Alignment crossing of an eligible State Scenic Highway and San Bernardino County scenic route. Figureset 4.1-15a shows two noticeable H-

frame structures seen to the right of the highway in the foreground against a backdrop of mountains and sky. Due to the oblique angle of the alignment crossing, multiple structures can be seen receding into the distance on the left side of the highway where they are less noticeable against the light colored backdrop as viewing distance increases. Beyond the IC Project Alignment and somewhat visible in the distance is an array of lattice towers supporting multiple nearby transmission alignments. BLM-managed lands on the left of the photograph are designated VRM IV, while lands on the right are designated VRM III.

In the Figureset 4.1-15b visual simulation, steel poles have replaced the H-frame structures on both sides of the highway under the Full-Rebuild Concept. The replacement structures are somewhat taller; however, compared with the double pole configuration of the existing structures, the form of the new poles would result in an overall reduction of vertical built elements seen within the broadly horizontal landscape setting. A comparison of the existing and simulation views also indicates the lighter color of the replacement poles would be less noticeable when seen at close-range in the foreground and would also more effectively blend in with the light-colored sky backdrop. On the left side of I-40, the simulation also shows new FAA marker balls along overhead spans between the replacement poles that can be seen receding into the distance. Despite their orange color, these spherical markers would not be particularly noticeable against the sky, given the viewing distance and brief duration of the view. Taken together, the change and overall visual effect is an incremental reduction of built components at a location that includes numerous existing utility structures. As a result, the Full-Rebuild Concept would not significantly degrade the visual quality of the landscape setting as seen by motorists.

#### **4.1.4.1.4 Landscape Unit 5**

Within Landscape Unit 5 the IC Project Alignment parallels I-15 for much of its length, passing within approximately 0.5 and 2 miles of the highway corridor through a sparsely inhabited landscape characterized by broad flat basins and rugged mountainous outcrops. Due to viewing distance and landscape backdrop conditions, the existing components are not readily discernible along large portions of this Landscape Unit, and close-range public views of components are generally limited to locations at or near highway crossings, and from a few widely-dispersed residential and service centers located along the highway.

##### **4.1.4.1.4.1 Figureset 4.1-16: Visual Simulation, Viewpoint 40: Carol Ann Drive at Crystal Lakes Estates, East of Barstow**

Figureset 4.1-16, taken from the edge of a residential development located adjacent to I-15 and within the Mojave Valley, represents a view of the IC Project Alignment where it passes in close proximity to residences while crossing BLM land that has a VRM Class III designation. The perimeter roadway visible in the immediate foreground is a residential perimeter road for the adjacent private development, where homes are oriented inward toward an artificial lagoon and away from the surrounding Mojave Valley landscape. Several residential properties with houses, storage buildings, fencing and sparse landscaping are visible in the foreground on the left. Starting at the right edge of the view, lattice H-frame structures can be seen receding against a backdrop of sky and mountains. Situated approximately 300 feet from the nearest residence, the closest structure in the foreground is a noticeable vertical element; more distant structures are less visible where they blend in with the similar colored backdrop at the horizon. BLM-managed lands on the right of the photograph are designated VRM III.

The Figureset 4.1-16b simulation shows slightly taller steel replacement poles in approximately the same location as the lattice H-frame structures that have been removed under the Full-Rebuild Concept. A comparison of the existing view and visual simulation indicates that the color of the replacement poles is similar to the color of the existing structures, which tend to blend in with the light-colored backdrop. Although the new poles are slightly taller than the existing H-frame structures, the increased height

difference would not be particularly noticeable due to the more slender, somewhat tapered profile of the replacement structures. The visual simulation demonstrates that taken together the Full-Rebuild Concept-related change represents a minor, incremental effect that would not substantially alter the overall visual character or quality of the existing landscape experienced by nearby residents as well as recreational visitors to this area, and could be considered to represent a visual improvement.

#### **4.1.4.1.4.2 Figureset 4.1-17: Visual Simulation, Viewpoint 42: Clyde V. Kane Safety Roadside Rest Area on I-15**

Figureset 4.1-17 represents a close-range public view of the IC Project Alignment as seen from the Clyde V. Kane Safety Roadside Rest Area along I-15, an eligible State Scenic Highway and San Bernardino County scenic route. Figureset 4.1-17a shows existing structures, including a wood H-frame on the left and a lattice tower near the center-right, seen from distances of approximately 600 feet and 770 feet respectively. These structures are conspicuous built features situated near the entry to the rest area facility. Near the right edge of this view, a more distant lattice H-frame is somewhat less noticeable. Other prominent built elements in the immediate foreground include light-colored metal light standards and a wood utility pole supporting a nearby power line. In the distance on the horizon, several lattice towers supporting another transmission line can also be seen near the center of this view.

In the Figureset 4.1-17b simulation, somewhat taller steel poles have replaced the two existing H-frame structures under the Full-Rebuild Concept, and a new steel pole replaces the existing lattice tower that was slightly taller. Compared to the structures being replaced, the poles would have a narrower profile and simpler overall form, not unlike the existing utility pole seen in the center of the view. Additionally, the replacement structures would be similar in form, color and apparent height to the numerous light standards seen along the highway and at the entrance to the rest area. A comparison of the existing and simulation views indicates the introduction of the Full-Rebuild Concept replacement poles would result in an increase in visual uniformity amongst built elements seen within the landscape. The visual simulation demonstrates that the Full-Rebuild Concept-related change represents an incremental effect that would not significantly alter the overall character or degrade the visual quality of the existing landscape experienced by motorists along an eligible State Scenic Highway and San Bernardino County scenic route. The Full-Rebuild Concept's effect could be considered an incremental visual improvement at this location.

#### **4.1.4.1.4.3 Figureset 4.1-18: Visual Simulation, Viewpoint 45: SR-127 at Baker Junior High School**

Figureset 4.1-18 represents a view from the town of Baker, where the IC Project Alignment can be seen crossing SR-127, an eligible State Scenic Highway and San Bernardino County scenic route as well as the southern gateway to Death Valley National Park from I-15. Taken near the entrance to a junior high school campus seen in the immediate foreground, Figureset 4.1-18a shows a flat desert playa against a backdrop of distant mountains and sky at the town's northern edge with structures seen on both sides of the roadway at distances ranging between approximately 900 and 1,400 feet. On the left, a steel H-frame and a lattice tower are silhouetted against the sky. On the right, the dark steel framework of the existing Baker Substation stands out against the lighter-colored terrain in the backdrop, and to the right of the substation facility, a lattice H-frame structure blends in with the backdrop and is less noticeable. Adjacent utility components that are unrelated to the Full-Rebuild Concept include a prominent lattice tower with overhead conductors at the right edge of the roadway in the foreground, multiple wood power poles near the substation, and an array of wood utility poles along the left side of the roadway. BLM-managed lands in the photograph are designated VRM III.

The Figureset 4.1-18b visual simulation shows that three existing structures on the left are replaced with three new structures under the Full-Rebuild Concept. On the left side of the highway the two lattice H-frame structures are replaced with a steel pole on the far left, and the second with a steel H-frame that is relocated to the right side of the roadway near the substation. At the far-right side, adjacent to the substation, a steel H-frame has replaced the existing lattice H-frame. Compared to the existing structure being replaced, the new structure on the right side is somewhat taller and slightly more noticeable against the backdrop. Although the replacement H-frame structure at the right edge of the roadway and the new steel pole near the left edge of the view are noticeable new built landscape elements, their predominantly vertical form is not inconsistent with the form of most of the numerous utility structures seen in the landscape at this location. A comparison of Figures 4.1-18a and 4.1-18b further demonstrates that the relocation and increased height of the replacement structure would not substantially change the overall visibility of the Full-Rebuild Concept in this landscape setting. Taken together, the modifications at the SR-127 crossing represents a minor, incremental effect that would not result in a substantial change in the existing landscape character or quality as seen by motorists as well as by school campus attendees within the town of Baker. At this location, the Full-Rebuild Concept's effect could be considered to represent an incremental visual improvement.

#### **4.1.4.2 Would the project have a substantial adverse effect on a scenic vista?**

##### **4.1.4.2.1 Construction**

**No Impact.** For the purpose of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized in land management documents. By this definition, there are no scenic vistas in the area from which the Full-Rebuild Concept would be visible. Therefore, the Full-Rebuild Concept would not result in effects on a scenic vista.

##### **4.1.4.2.2 Operations**

**No Impact.** For the purpose of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. By this definition, there are no scenic vistas in the area from which the Full-Rebuild Concept would be visible. Therefore, the Full-Rebuild Concept would not result in effects on a scenic vista.

#### **4.1.4.3 Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?**

##### **4.1.4.3.1 Construction**

**Less than Significant Impact.** As documented in Section 4.1.2.2 and on Table 4.1-3, there are two designated scenic highways in the Project area: SR-168 and a portion of US 395. Impacts to scenic resources within these roadway corridors would be less than significant.

Photograph 1 in Figureset 4.1-2a is a view from SR-168 looking south toward the IC Project Alignment and Control Substation. From this location the substation and lattice towers that extend along the base of the hills approximately 0.45 miles away are barely discernable against the desert landscape backdrop. To a degree, the new steel poles installed under the Full-Rebuild Concept may be more visible than the lattice structures at this distance; however, it is expected that visual change associated with the replacing existing steel structures with fewer new, taller steel poles would not be readily noticeable given the viewing distance and background conditions.

Photographs 7 and 8 in Figureset 4.1-2d are views taken from the portion of US 395 that is a designated State Scenic Highway. Photograph 7 shows a close-range view of the crossing where steel poles have replaced older structures more typical of those seen along the Project corridor. At this location the existing steel poles would be replaced with slightly shorter steel poles under the Full-Rebuild Concept. It is therefore expected that there would not be an effect on motorists' views from the designated State Scenic Highway portion of US 395. Photograph 8 is a view from the Division Creek Safety Roadside Rest Area along US 395, looking east. In this view, lattice towers of two adjacent transmission lines located approximately 1.8 miles east of the highway are barely visible against the mottled landscape backdrop. Because the smaller structures located approximately 2.2 miles away are generally imperceptible, the change associated with replacement Full-Rebuild Concept structures would not be evident as seen from this location along US 395. In light of the change described above, the Full-Rebuild Concept would not result in damage to scenic resources within a designated State Scenic Highway.

As noted on Table 4.1-3, the IC Project Alignment is also visible from portions of the two roadways discussed above where they are eligible State Scenic Highways. The visual simulations in Figures 4.1-5 and 4.1-6 demonstrate the Full-Rebuild Concept would result in a minor incremental change that would not substantially affect scenic resources or views from this portion of US 395. Table 4.1-3 also notes that portions of the IC Project Alignment are visible from several other eligible State Scenic Highways, including SR-190, SR-58, I-15, SR-247, and I-40. The evaluation presented in Section 4.1.4.1, and outlined in Table 4.1-6, describes visual change associated with the Full-Rebuild Concept at KOPs along these roadway corridors. The Figureset 4.1-8 visual simulation indicates the Full-Rebuild Concept would not substantially affect motorist views along SR-190. Similarly, the Figureset 4.1-15, 4.1-17, and 4.1-18 visual simulations demonstrate the Full-Rebuild Concept-related change would not substantially affect existing scenic resources or views along I-40, I-15, or SR-127, respectively. Additionally, in a view where the IC Project Alignment crosses SR-58, Photograph 35 in Figureset 4.1-2r shows that steel poles have already replaced older Project structures while Photograph 37 in Figureset 4.1-2s, taken from SR-247 near Barstow, illustrates a similar condition and also shows that where Full-Rebuild Concept components are seen within a landscape context that includes utility structures supporting adjacent power lines, the overall visibility of the IC Project Alignment is diminished. Taken together, the incremental effects described above would not result in damage to existing scenic resources along a State Scenic Highway. Therefore, the impact is less than significant.

#### **4.1.4.3.2 Operations**

**No Impact.** Operation and Maintenance (O&M) activities required for the rebuilt power lines would not change from those currently required for the existing system; thus, no operation-related impacts to aesthetic conditions would occur.

#### **4.1.4.4 Would the project substantially degrade the existing visual character or quality of the site and its surroundings?**

##### **4.1.4.4.1 Construction**

**Less than Significant Impact.** Construction-related visual impacts resulting from the temporary presence of equipment, materials, and work crews along the IC Project Alignment, staging and work areas, and stringing sites would not substantially degrade the existing visual character of the landscape. To varying degrees, construction activity would be noticeable to local residents, motorists, and recreational visitors. Trees or portions of trees that encroach on the 18-foot wide access and spur road prism may be removed to facilitate the safe movement of construction equipment. Similarly, trees or portions of trees within or adjacent to stringing sites, construction laydown areas, construction work areas, staging yards, and helicopter landing zones may be trimmed or removed to permit the safe operation of construction equipment; however, these areas would be preferentially selected to minimize the trimming or removal of

trees. With these noted exceptions, Full-Rebuild Concept construction is not anticipated to require removal of trees, and effects on existing vegetation would be limited to tree trimming and some removal of shrubs and desert scrub. If restoration and/or revegetation occurs within sensitive habitats, a habitat restoration and/or revegetation plan(s) would be developed by SCE with the appropriate resource agencies and implemented after construction is complete. In general, the visual effects of vegetation removal would be minor and not noticeable to the public and the impact would be less than significant.

During construction, migration of fugitive dust from the construction sites would be limited by control measures set forth by regional air quality management districts; these measures may include the use of water trucks and other dust control measures. Minor disturbance of land within and along the IC Project would occur as a result installing replacement poles and removing existing structures. In addition, minor land disturbance may occur at some of the temporary staging and work areas that would be established as part of the project construction; these areas would generally be located on disturbed land located near or on existing project alignments. It is expected that the effect could be most noticeable at staging or work areas located in close proximity to residences in Lone Pine and Inyokern, and in close proximity to major roadways such as US 395. A limited degree of visual contrast could occur as a result of land disturbance activity such as creation of newly exposed soil areas; however, because SCE would restore all areas that would be temporarily disturbed by construction including locations where structures are removed, staging yards, construction work areas, and stringing sites, among others, to as close to pre-construction conditions as feasible, or to the conditions agreed upon between the landowner and SCE following the completion of construction of the Full-Rebuild Concept, the effect would be minimized so that the disturbed areas would blend in with the surrounding landscape setting, thus reducing visual contrast and potential visibility of these areas. As a result, any visual character degradation resulting from temporary construction activity would be less than significant.

The Full-Rebuild Concept would result in incremental permanent visual change that would not substantially alter or degrade the existing visual character in the area. The Full-Rebuild Concept includes rebuilding approximately 358 miles of existing subtransmission facilities within and immediately adjacent to an existing utility ROW using a combination of single TSPs, multi-pole TSP structures, LWS H-frames, and LWS poles between the existing Control Substation and the existing Ivanpah Substation located in rural, sparsely populated portions of Inyo, Kern and San Bernardino counties. Replacement structures would be dulled galvanized steel, and existing conductor would be replaced with new non-specular conductor. Marker balls are shown installed on overhead groundwire in Figures 4.1-10b and 4.1-15b. To varying degrees, Full-Rebuild Concept components would be visible from locations along public roadways as well as publicly-accessible unpaved off-road tracks. In addition, they would be seen from limited numbers of residential and public recreation areas. At some locations intervening landforms, vegetation and structures partially or fully screen Full-Rebuild Concept elements from all but a small number of viewers. In addition, in many areas of the IC Project Alignment, surrounding or backdrop landforms and vegetation, combined with the effect of distance, would diminish the visibility of project components.

In Landscape Unit 1, approximately 126 miles of the existing alignment would be rebuilt under the Full-Rebuild Concept. The portion of the IC Project Alignment passes within less than 100 feet of the US 395 and also comes in close proximity to tribal land and other residential communities as it passes the western and eastern periphery of Big Pine and Lone Pine. Figures 4.1-3 through 4.1-10 show existing and post-Full-Rebuild Concept views as seen from eight KOPs within this Landscape Unit; these portray views from sensitive locations in proximity to residences and recreational facilities as well as from scenic roadways. As discussed in Section 4.1.4.1 and outlined on Table 4.1-6, the simulations demonstrate that the incremental change associated with the Full-Rebuild Concept would not substantially alter or degrade existing landscape or visual character in the area.

In Landscape Unit 2, approximately 48 miles of existing IC Project Alignment would be replaced under the Full-Rebuild Concept. Within this Landscape Unit, the IC Project Alignment crosses largely unoccupied, desert terrain. Open views of the IC Project Alignment can be seen by passing motorists where the alignment closely parallels US 395, south of Indian Wells Valley, and close-range views of the IC Project Alignment are generally limited to a small number of scattered residents in the area immediately south of Inyokern Substation and a small number of residents at Randsburg, an historic mining community. Figures 4.1-11 and 4.1-12 are before and after views from KOPs in proximity to residences that show the Full-Rebuild Concept's incremental visual change would not substantially affect or degrade existing visual character at these or similar areas.

Approximately 44 miles of existing IC Project Alignment would be replaced under the Full-Rebuild Concept in Landscape Unit 3, the most isolated of the five Landscape Units, and where few close-range public views of the IC Project Alignment are available. Throughout the length of this unit, the IC Project Alignment closely parallels one or more existing transmission alignments and visual change associated with the Full-Rebuild Concept would not be particularly discernable, as demonstrated by the Figureset 4.1-13 visual simulation showing the IC Project Alignment from the BLM-managed Harper Dry Lake Wildlife Viewing Area.

In Landscape Unit 4, approximately 44 miles of existing IC Project Alignment would be rebuilt under the Full-Rebuild Concept. Within this unit the IC Project Alignment generally parallels, and in several locations crosses, various roadway corridors, and a small portion is in close proximity to residential areas in the city of Barstow. Both the Figureset 4.1-14 simulation from a KOP in proximity to residences and the Figureset 4.1-15 simulation from a KOP along an eligible State Scenic Highway and San Bernardino County scenic route demonstrate that the Full-Rebuild Concept's incremental visual change would not substantially affect or degrade the existing visual character at these or similar key viewing locations.

Approximately 96 miles of existing alignment would be replaced in Landscape Unit 5 under the Full-Rebuild Concept, an area where the project crosses a sparsely inhabited area and landscape characterized by flat basins and rugged mountainous outcrops. Existing infrastructure are not readily discernible along large portions of this unit due to the viewing distance and landscape backdrop conditions. Close-range public views of the IC Project Alignment are generally limited to locations near highway crossings, and a few dispersed residential or service centers located along the highway. Figureset 4.1-16 shows the Full-Rebuild Concept from a KOP located on BLM-administered land in proximity to residences and Figures 4.1-17 and 4.1-18 show KOP views from along an eligible State Scenic Highway. Taken together these simulations illustrate that the incremental visual change associated with the Full-Rebuild Concept would not substantially alter or degrade existing visual character of the landscape.

As outlined above and summarized in Table 4.1-6, as well as demonstrated by the set of visual simulations from 16 KOPs presented on Figures 4.1-3 through 4.1-18, the Full-Rebuild Concept would result in incremental visual change that would not substantially alter or degrade existing visual character or quality in the area. Therefore, the impact would be less than significant.

#### **4.1.4.4.2 Operations**

**No Impact.** Operation activities required for the rebuilt power lines would not change from those currently required for the existing system; thus, no operation-related impacts to aesthetic conditions would occur.

#### 4.1.4.5 Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

##### 4.1.4.5.1 Construction

**Less than Significant Impact.** Most construction would take place during daylight hours; however, at limited times some construction along the project alignment may be required or finished at night, and these activities would require lighting for safety. Any required lighting would be limited to an individual work area and would be temporary in nature. Staging yards may be lit for staging and security; this lighting would be directed on site and away from potentially sensitive receptors. Non-specular conductors and galvanized steel poles with a dulled finish would replace existing components, thus reducing potential glare. Therefore, the Full-Rebuild Concept would not result in a substantial light or glare effect and the impact would be less than significant.

##### 4.1.4.5.2 Operations

**No Impact.** No new permanent lighting is proposed for the Full-Rebuild Concept. Operation activities required for the rebuilt power lines would not change from those currently required for the existing system; thus, no operation-related impacts to day or nighttime conditions would occur.

#### 4.1.5 Applicant Proposed Measures

Because no significant impacts to aesthetics would occur as a result of the Full-Rebuild Concept, no avoidance or minimization measures are proposed.

#### 4.1.6 Alternatives

Alternatives to the Full-Rebuild Concept are addressed in Section 5.2, Description of Project Alternatives and Impact Analysis.

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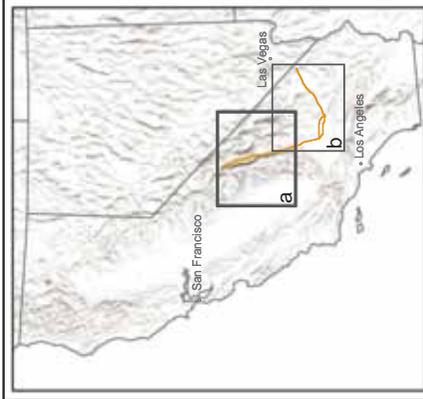
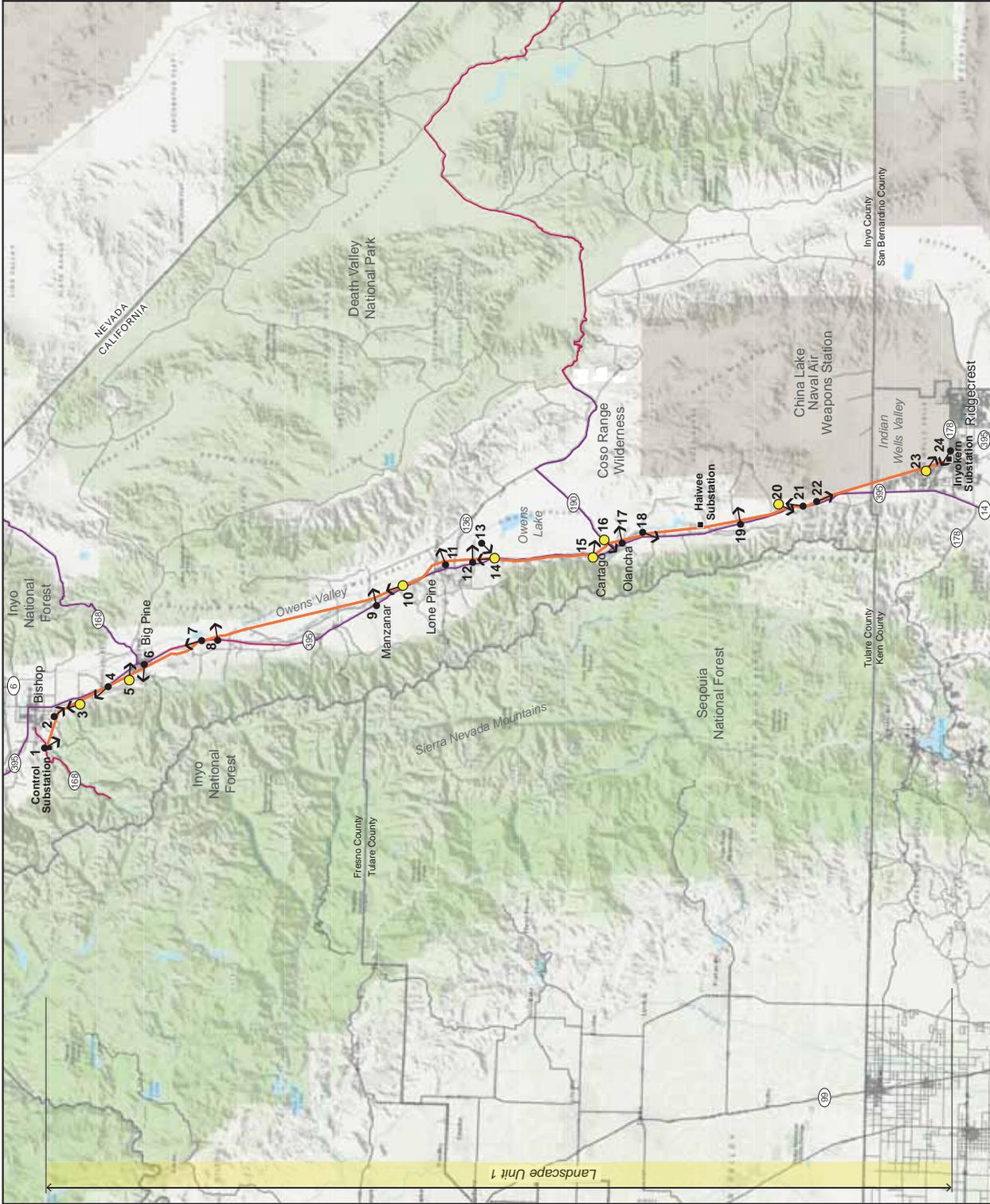
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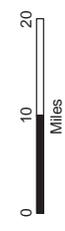
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- Legend**
- Ivanpah-Control Project Alignment
  - Roads and Highways
  - Designated State Scenic Highway
  - Eligible State Scenic Highway
  - Counties
  - Key Viewpoint Location and Direction
  - Photograph Viewpoint Location and Direction
  - Landscape Unit



ENVIRONMENTAL VISION

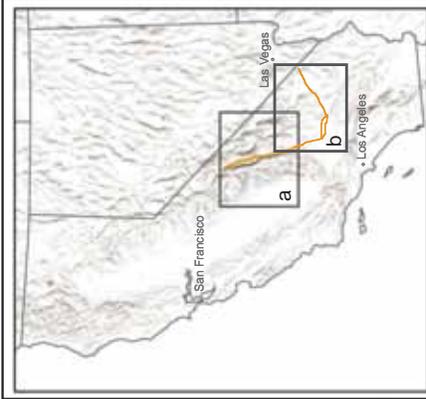
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**IVANPAH-CONTROL PROJECT**

**PHOTOGRAPH VIEWPOINT LOCATIONS**

ARCADIS | EDISON

FIGURE 4.1-1a

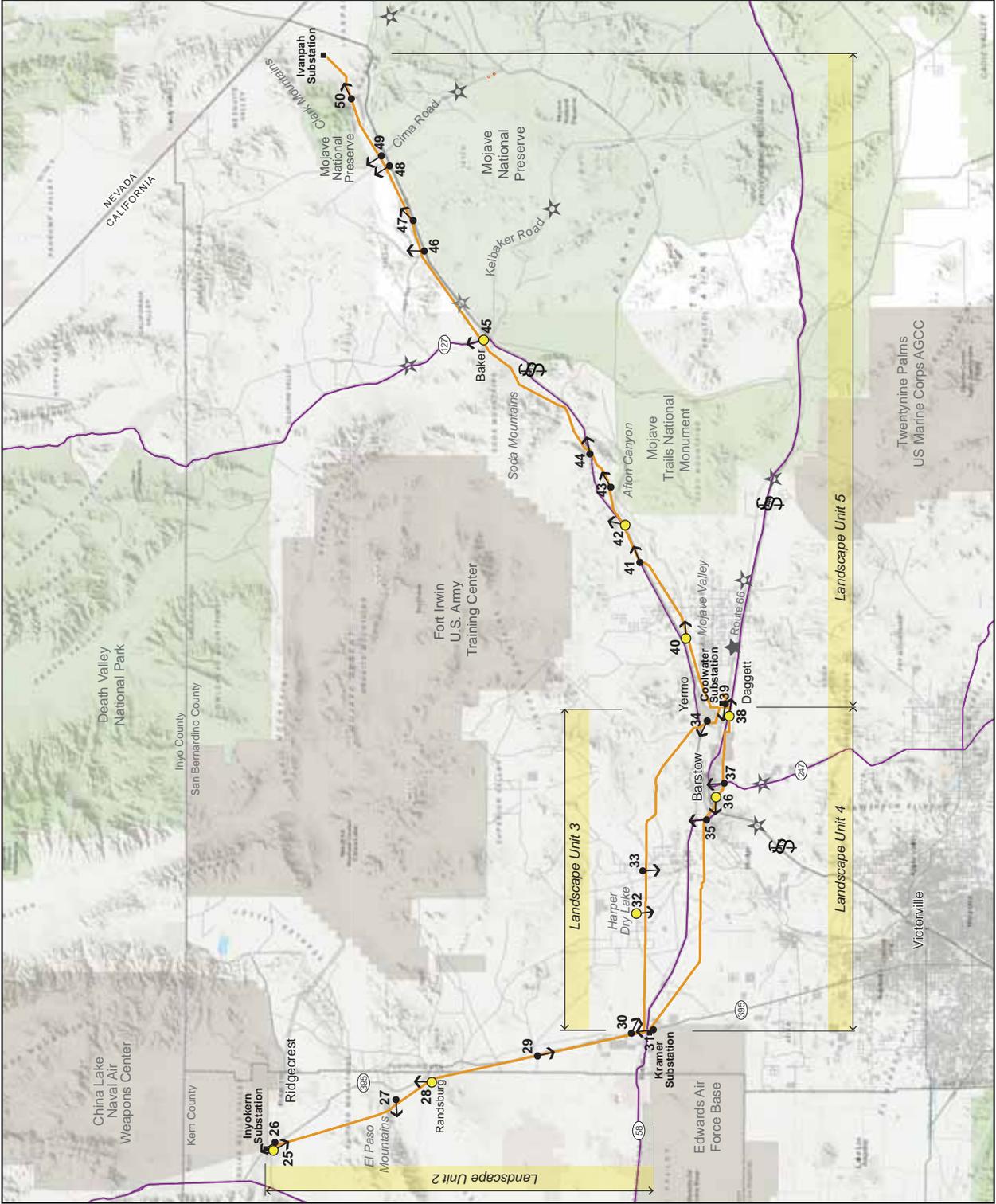


- Legend**
- Ivanpah-Control Project Alignment
  - Counties
  - Roads and Highways
  - Eligible State Scenic Highway
  - ★ San Bernardino County Scenic Route
  - ★ National Trails Highway
  - Key Viewpoint Location and Direction
  - Photograph Viewpoint Location and Direction
  - Landscape Unit

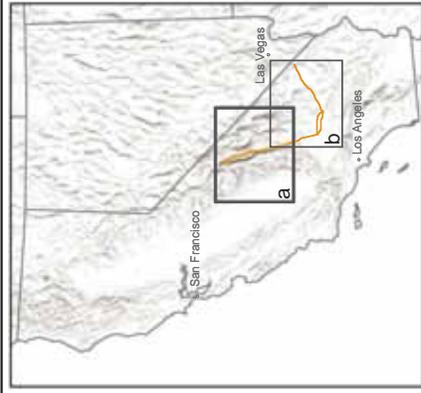
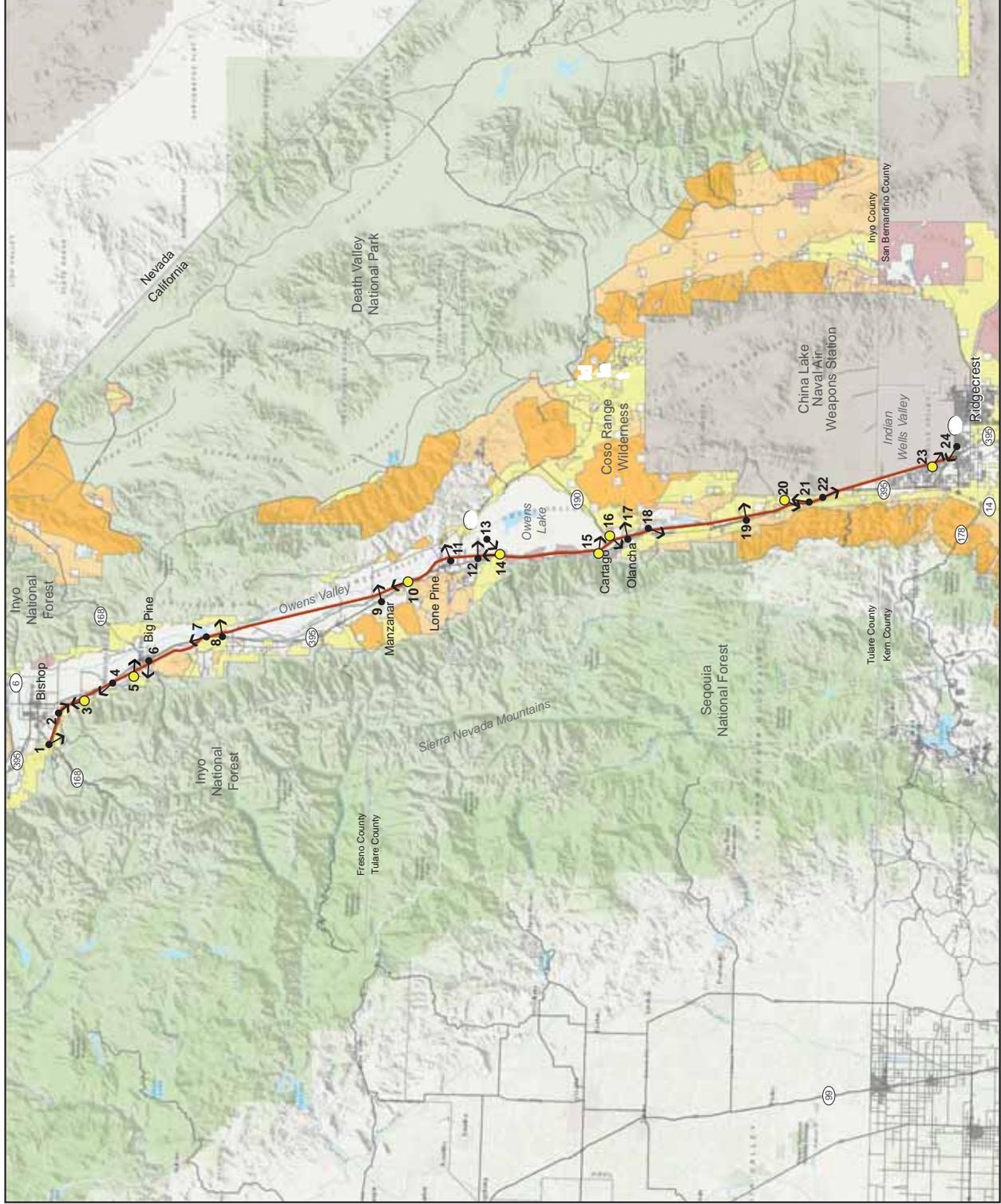


ENVIRONMENTAL VISION  
**IVANPAH-CONTROL PROJECT**  
**PHOTOGRAPH VIEWPOINT LOCATIONS**

ARCADIS EDISON  
 FIGURE 4.1-1b



DRAFT



**Legend**

— Ivanpah-Control Project Alignment

**BLM VRM Classifications**

- Class I
- Class II
- Class III
- Class IV



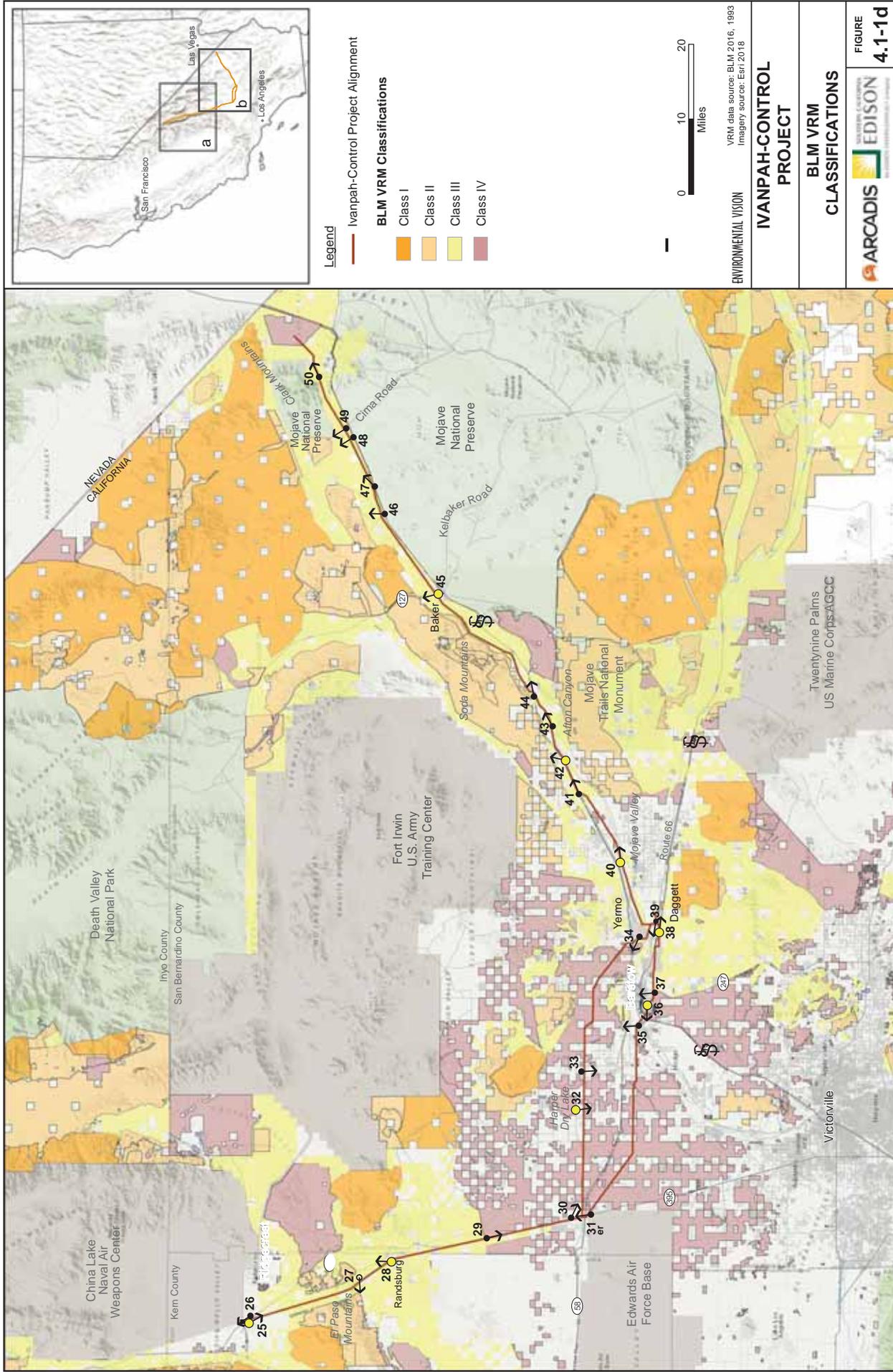
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VRM data source: BLM 2016, 1993  
Imagery source: Esri 2018

**IVANPAH-CONTROL PROJECT**

**BLM VRM CLASSIFICATIONS**

FIGURE 4.1-1C

DRAFT





1. SR-168 looking southeast toward Control Substation



2. Sunland Lane looking southeast

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1



FIGURE  
4.1-2a

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



\*3. Gerkin Road looking north



4. US-395 at Big Pine Canal looking northwest

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1

 ARCADIS

 SOUTHERN CALIFORNIA  
EDISON  
An EDISON INTERNATIONAL Company

FIGURE  
**4.1-2b**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



\*5. Baker Creek Campground in Big Pine looking east



6. Cornell Street at Rossi Lane in Big Pine looking west

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1**



**FIGURE  
4.1-2c**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



7. US-395 near Tinemaha Reservoir looking north



8. Division Creek Safety Roadside Rest Area looking east

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1**



**FIGURE  
4.1-2d**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



9. Manzanar National Historic Site looking east



\*10. US-395 north of Lone Pine looking north

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1



FIGURE  
4.1-2e

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



11. Goodwin Road at Substation Road in Lone Pine Paiute-Shoshone Reservation looking northeast



12. Boulder Creek RV Resort looking east

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1**



**FIGURE  
4.1-2f**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



13. Owens Lake visitor information center looking southwest



\*14. US-395 near Owens Lake looking north

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1



FIGURE  
4.1-2g

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



\*15. Whitney Street near Mojave Street in Cartago looking southeast



\*16. SR-190 near Olancho looking southwest

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1



FIGURE  
4.1-2h

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



17. Fall Road in Olancho looking northeast



18. North Haiwee Road near Haiwee Reservoir looking southwest

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1**



**FIGURE  
4.1-2i**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



19. Coso Junction Safety Roadside Rest Area looking east



\*20. Fossil Falls Trailhead looking southwest

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1



FIGURE  
4.1-2j

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



21. US-395 at Little Lake looking north



22. BLM OHV Road SE109 looking south

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1**



**FIGURE  
4.1-2k**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



\*23. Patrice Avenue in Inyokern looking southeast



24. SR-178 looking northwest towards Inyokern Substation

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 1**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



**FIGURE  
4.1-21**



\*25. Syndor Avenue at Mercury Street in Inyokern looking southeast



26. US-395 near Inyokern looking northwest

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 2**



**FIGURE  
4.1-2m**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



27. Garlock Road looking west



\*28. Lexington Avenue in Randsburg looking north

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 2



FIGURE  
4.1-2n

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



29. Fremont Peak Road near US-395 looking south



30. US-395 near Kramer Junction looking southeast

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 2**



**FIGURE  
4.1-2o**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



31. US-395 at Kramer Junction looking north



\*32. Harper Dry Lake Wildlife Viewing Area looking south

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 3N



FIGURE  
4.1-2p

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



33. Holstead Road near Hinkley Road looking south



34. Daggett-Yermo Road near Silver Valley High School looking northwest

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 3N



FIGURE  
4.1-2q

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



35. SR-58 near Barstow looking north



\*36. Bonanza Road near H Street in Barstow looking west

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 3S**



**FIGURE  
4.1-2r**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



37. SR-247 near Barstow looking north



\*38. I-40 near Daggett looking east

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 3S**



**FIGURE  
4.1-2s**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



39. Route 66 - National Trails Highway near Daggett looking west



\*40. Carol Ann Drive at Crystal Lakes Estates, east of Barstow looking east

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 4**



**FIGURE  
4.1-2t**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



41. I-15 near Field Road looking northeast



\*42. Clyde V. Kane Safety Roadside Rest Area on I-15 looking north

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 4**



**FIGURE  
4.1-2u**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



43. Afton Canyon Road looking northeast



44. I-15 near Basin Road looking east

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 4



FIGURE  
4.1-2v

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



\*45. SR-127 at Baker Junior High School looking north



46. Halloran Wash near Halloran Springs Road looking north

## IVANPAH-CONTROL PROJECT

REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 4



FIGURE  
4.1-2w

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



47. I-15 west of Halloran Summit Road looking northeast



48. Valley Wells Safety Roadside Rest Area on I-15 near Cima Road looking northwest

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 4**



**FIGURE  
4.1-2x**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



49. Excelsior Mine Road looking northwest



50. Clark Mountain Road near Mojave Preserve looking northeast

**IVANPAH-CONTROL  
PROJECT**

**REPRESENTATIVE PHOTOGRAPHS--  
SEGMENT 4**



**FIGURE  
4.1-2y**

\* Key viewpoint; see Figure 4.1-10 for visual simulation  
Refer to Figure 4.1-1 for photograph viewpoint locations



Existing View from Gerkin Road, south of Bishop (VP3)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--GERKIN ROAD



FIGURE:  
4.1-3a



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--GERKIN ROAD



FIGURE:  
**4.1-3b**



Existing View from Baker Creek Campground in Big Pine (VP 5)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
BAKER CREEK CAMPGROUND



FIGURE:  
**4.1-4a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION-  
BAKER CREEK CAMPGROUND



FIGURE:  
4.1-4b



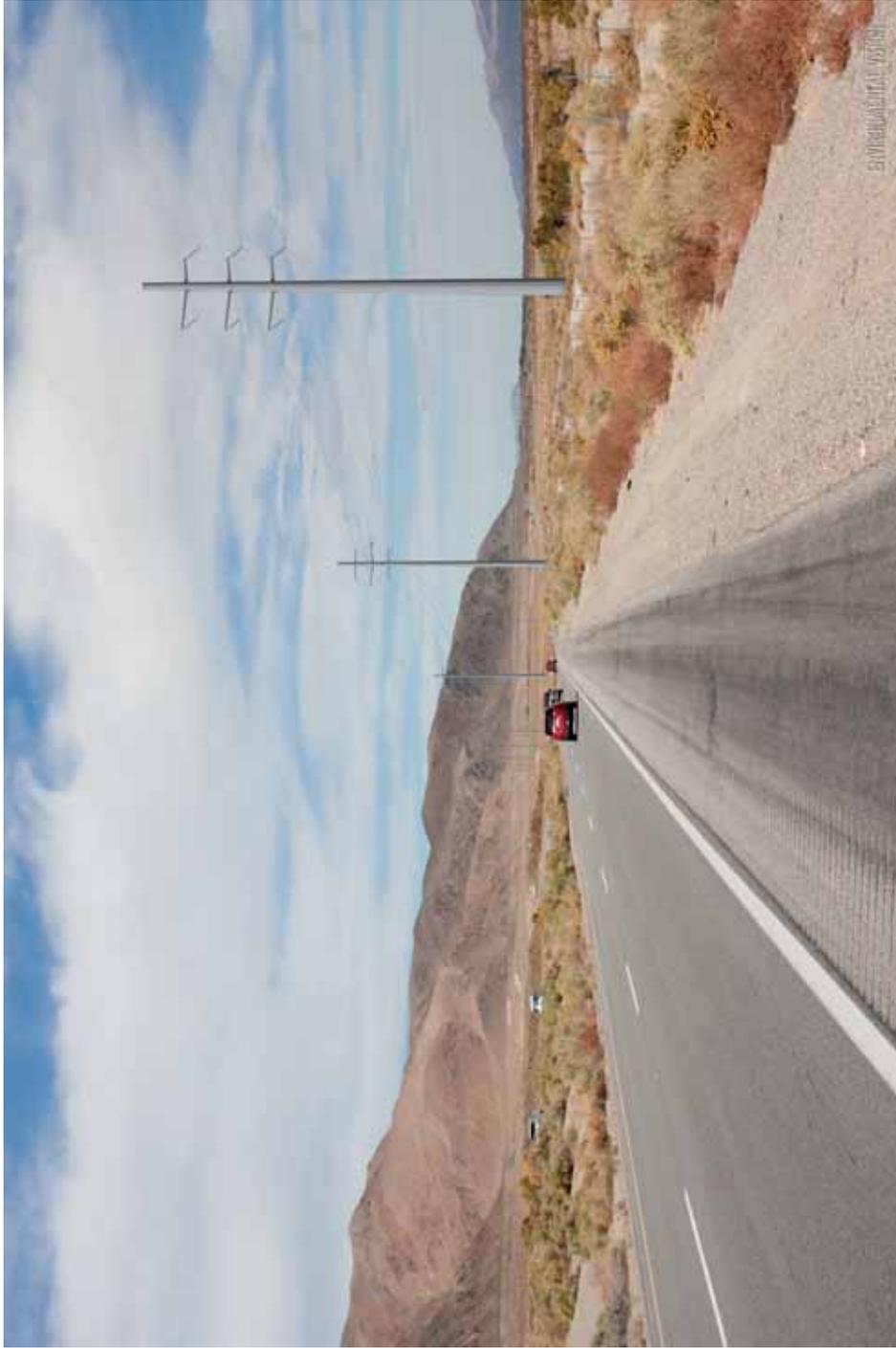
Existing View from US-395 north of Lone Pine (VP 10)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
US 395 NORTH OF LONE PINE



FIGURE:  
**4.1-5a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
US 395 NORTH OF LONE PINE



FIGURE:  
**4.1-5b**



Existing View from US-395 near Owens Lake (VP 14)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
US 395 NEAR OWENS LAKE



FIGURE:  
**4.1-6a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
US 395 NEAR OWENS LAKE



FIGURE:  
**4.1-6b**



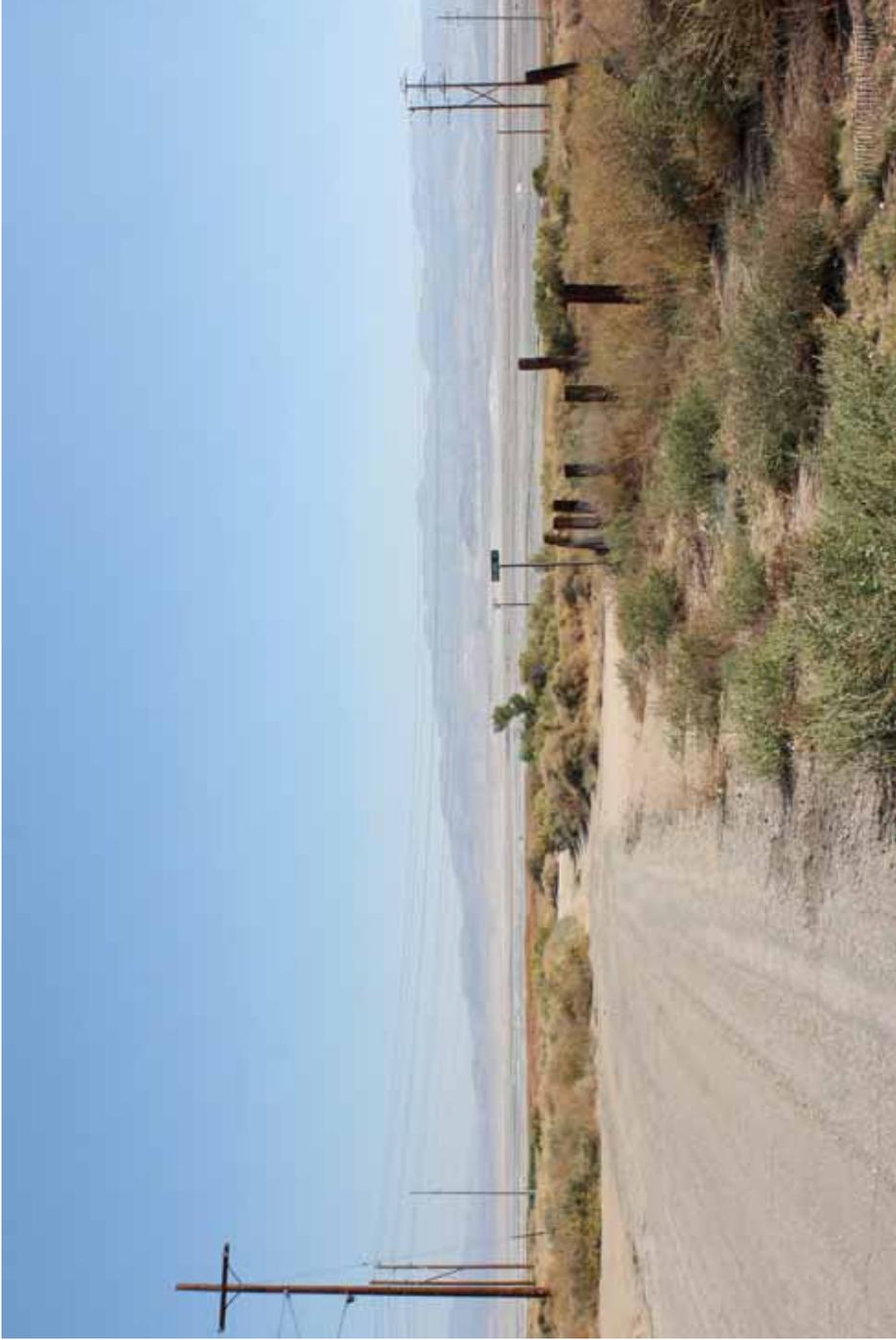
Existing View from Whitney Street near Mojave Street in Cartago (VP 15)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
WHITNEY STREET



FIGURE:  
**4.1-7a**



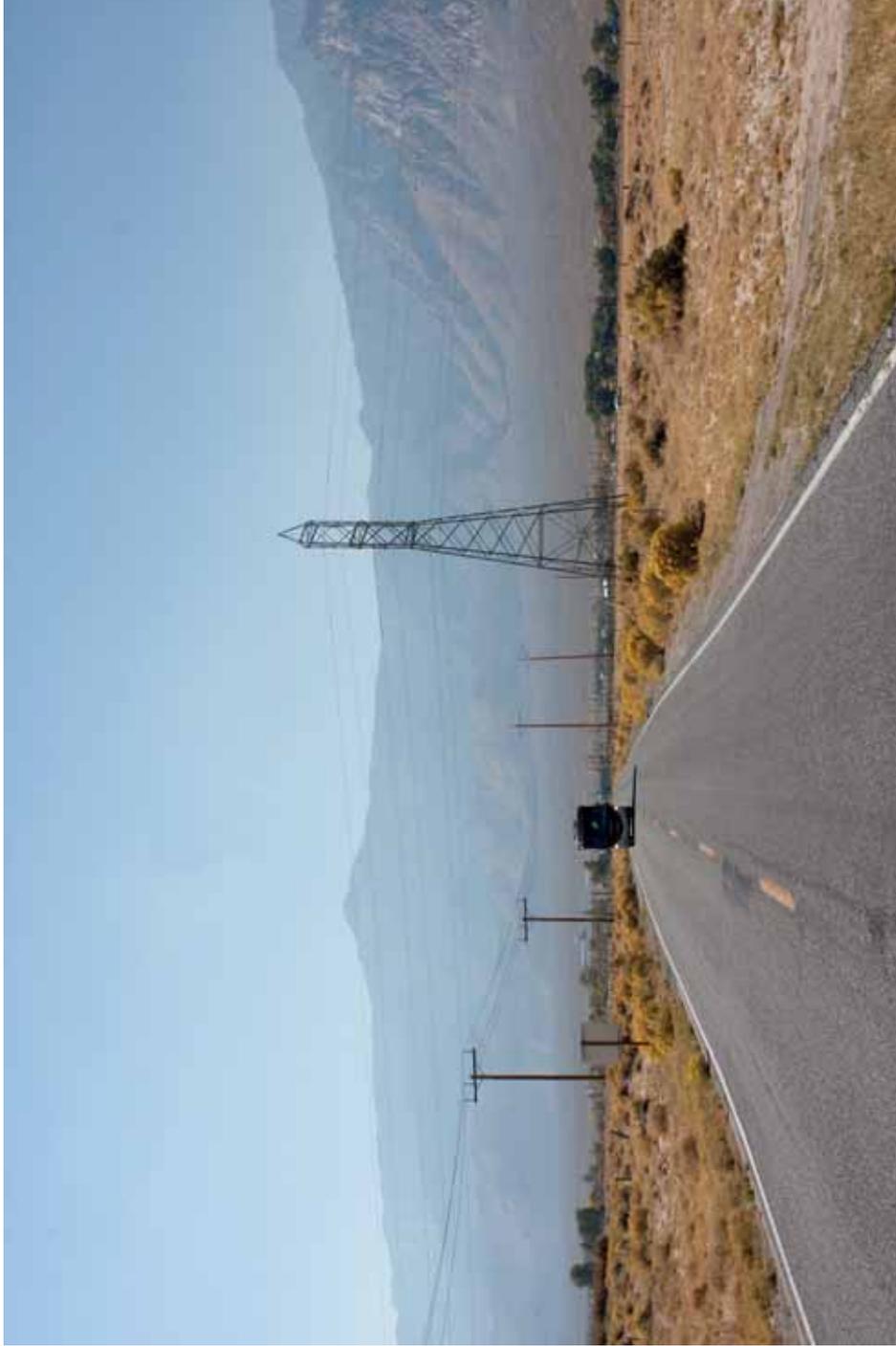
Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
WHITNEY STREET



FIGURE:  
4.1-7b



Existing View from SR-190 near Olancha (VP 16)  
Refer to Figure 4.1-1 for photograph viewpoint locations

**IVANPAH-CONTROL  
PROJECT**

EXISTING VIEW--  
SR-190 NEAR OLANCHA



FIGURE:  
**4.1-8a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
SR-190 NEAR OLANCHA



FIGURE:  
**4.1-8b**



Existing View from Fossil Falls Trailhead (VP 20)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
FOSSIL FALLS



FIGURE:  
**4.1-9a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
FOSSIL FALLS



FIGURE:  
**4.1-9b**



Existing View from Patrice Avenue in Inyokern (VP 23)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
PATRICE AVENUE



FIGURE:  
**4.1-10a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
PATRICE AVENUE



FIGURE:  
**4.1-10b**



Existing View from Syndor Avenue at Mercury Street in Inyokern (VP 25)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--SYNDOR AVENUE



FIGURE:  
**4.1-11a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

# IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--SYNDOR AVENUE



FIGURE:  
**4.1-11b**



Existing View from Lexington Avenue in Randsburg (VP 28)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
LEXINGTON AVENUE



FIGURE:

**4.1-12a**



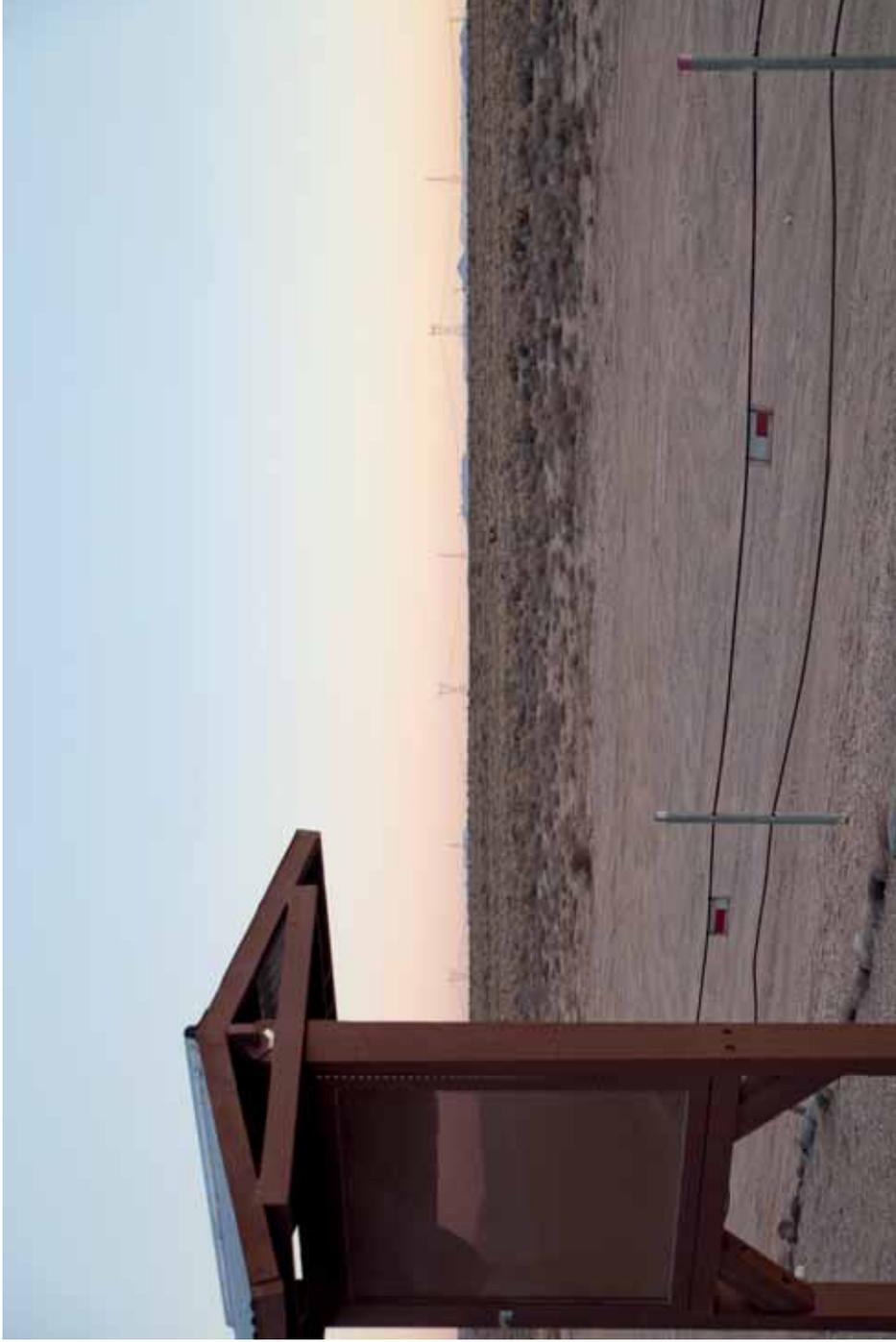
Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION-  
LEXINGTON AVENUE



FIGURE:  
**4.1-12b**



Existing View from Harper Dry Lake Wildlife Viewing Area (VP 32)  
Refer to Figure 4.1-1 for photograph viewpoint locations

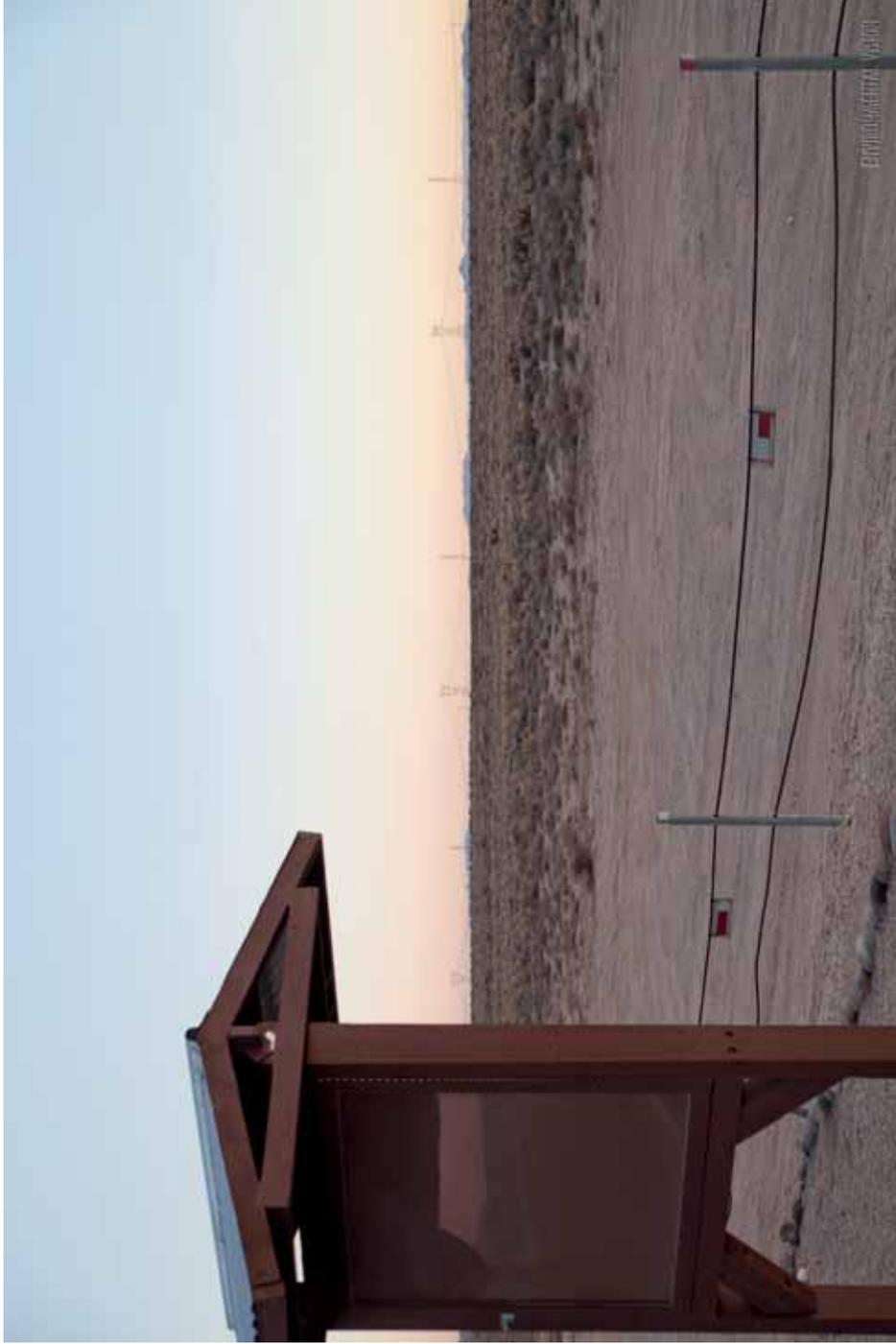
## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
HARPER DRY LAKE



FIGURE:

4.1-13a



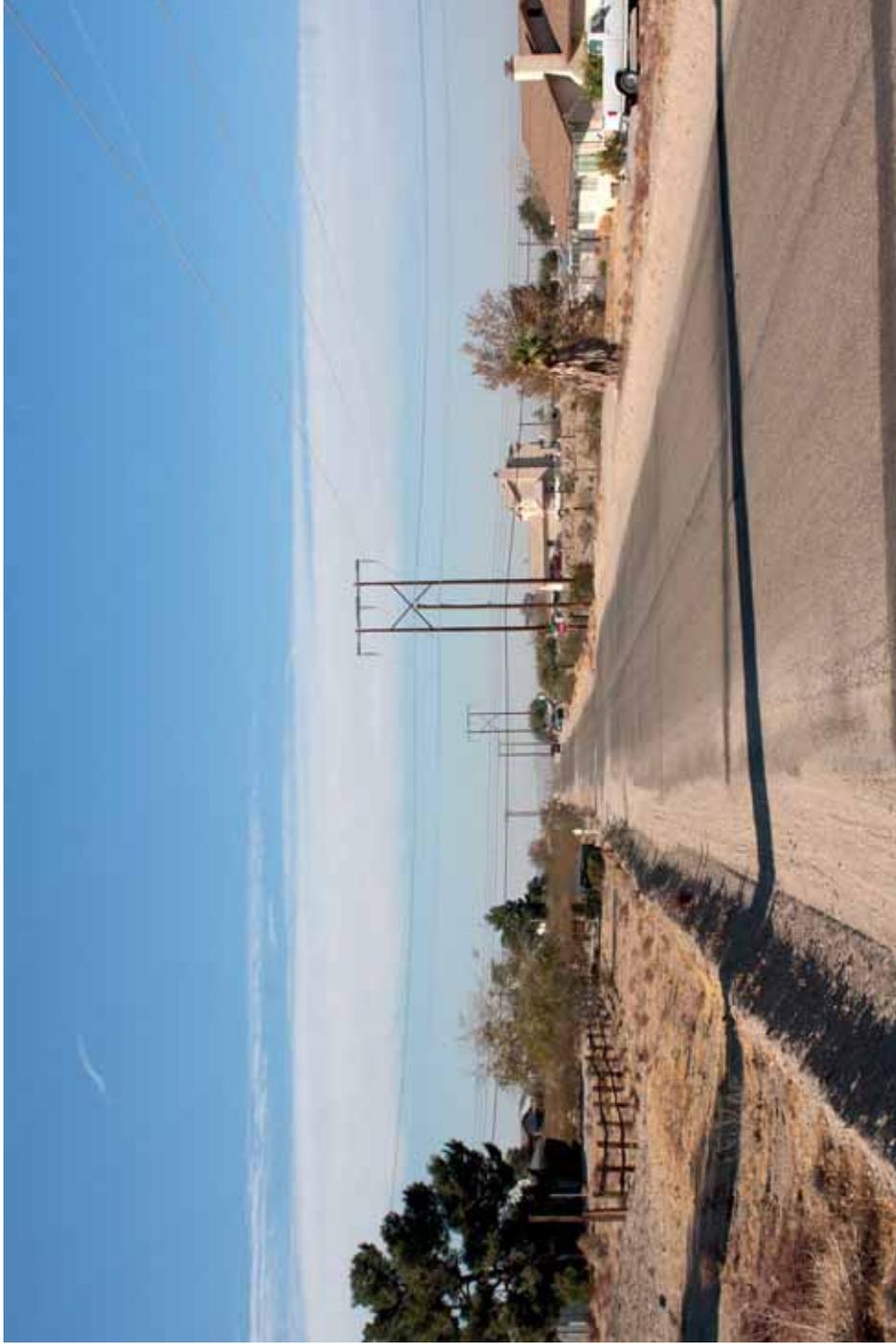
Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
HARPER DRY LAKE



FIGURE:  
**4.1-13b**



Existing View from Bonanza Road near H Street in Barstow (VP 36)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
BONANZA ROAD



FIGURE:

4.1-14a



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
BONANZA ROAD



FIGURE:  
**4.1-14b**



Existing View from I-40 near Daggett (VP 38)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
I-40 NEAR DAGGETT



FIGURE:  
**4.1-15a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
I-40 NEAR DAGGETT



FIGURE:  
**4.1-15b**



Existing View from Carol Ann Drive at Crystal Lakes Estates, east of Barstow (VP 40)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
CAROL ANN DRIVE



FIGURE:  
**4.1-16a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

# IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
CAROL ANN DRIVE



FIGURE:  
**4.1-16b**



Existing View from Clyde V. Kane Safety Roadside Rest Area on I-15 (VP 42)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
CLYDE V. KANE SAFETY ROADSIDE  
REST AREA ON I-15



FIGURE:  
**4.1-17a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
CLYDE V. KANE SAFETY ROADSIDE  
REST AREA ON I-15



FIGURE:  
**4.1-17b**



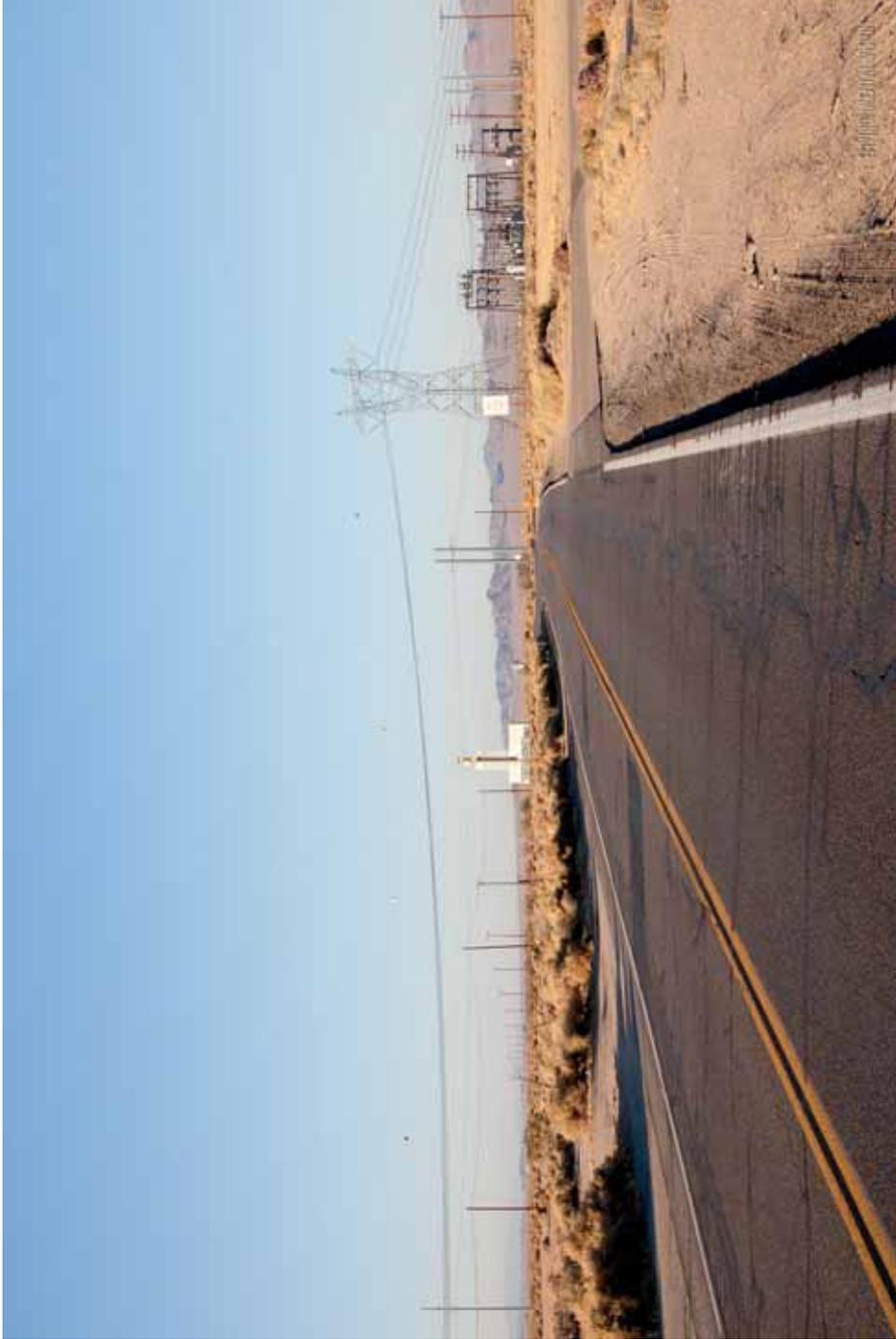
Existing View from SR-127 at Baker Junior High School (VP 45)  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

EXISTING VIEW--  
SR-127 AT BAKER JUNIOR  
HIGH SCHOOL



FIGURE:  
**4.1-18a**



Visual Simulation of Full-Rebuild Concept  
Refer to Figure 4.1-1 for photograph viewpoint locations

## IVANPAH-CONTROL PROJECT

VISUAL SIMULATION--  
SR-127 AT BAKER JUNIOR  
HIGH SCHOOL



FIGURE:  
**4.1-18b**



## 4.2 Agriculture and Forestry Resources

This section describes the agriculture and forestry resources in the area of the Ivanpah-Control Project (IC Project) and the potential impacts that may result from construction and operation of the Full-Rebuild Concept and its Alternatives.

### 4.2.1 Environmental Setting

The IC Project Alignment is not located on lands identified as Prime Farmland or Farmland of Statewide Importance. Approximately 2.75 miles of the IC Project Alignment at the southern end of Segment 1 crosses lands identified as Unique Farmland (Figureset 4.2-1). The IC Project Alignment does not cross lands zoned as forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production. (California Department of Conservation 2017a and b; CALFIRE 2015) The IC Project Alignment is not located on lands under a Williamson Act contract. Agricultural land uses are not widespread along the IC Project Alignment: In Segment 1, clusters of irrigated agricultural lands are found at the southern terminus near Inyokern Substation, and around the communities of Olancho, Independence, Fish Springs, and Big Pine; and irrigated agricultural lands are found along Segment 3S west of Barstow.

#### 4.2.1.1 Unincorporated Inyo County

Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is not mapped by the California Department of Conservation's Farmland Mapping and Monitoring Program in Inyo County. Inyo County does not participate in the Williamson Act program. The IC Project Alignment does not cross lands zoned as forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production in Inyo County. The IC Project Alignment is located on lands designated in the Inyo County General Plan as Agriculture (A); these lands are zoned Open Space.

#### 4.2.1.2 Unincorporated Kern County

The IC Project Alignment is not located on lands identified as Prime Farmland or Farmland of Statewide Importance in Kern County; approximately 2.75 miles of the IC Project Alignment crosses lands identified as Unique Farmland (Figureset 4.2-1). No replacement structures are located on lands identified as Unique Farmland. The IC Project Alignment is not located on any lands under a Williamson Act contract in Kern County. The IC Project Alignment does not cross lands zoned as forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production in Kern County. The IC Project Alignment is located on approximately 39 acres of lands designated in the Kern County General Plan as Map Code 8.3 (Extensive Agriculture, Minimum 20 Acre Parcel Size), and approximately 91 acres of land zoned A-1 (Limited Agriculture).

#### 4.2.1.3 Unincorporated San Bernardino County

The IC Project Alignment is not located on lands identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in San Bernardino County; the IC Project Alignment is not located on any lands under a Williamson Act contract in San Bernardino County. The IC Project Alignment does not cross lands zoned as forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production in San Bernardino County. No portion of the IC Project Alignment is located on lands designated AG (Agriculture) in the San Bernardino County General Plan.

#### **4.2.1.4 City of Barstow**

The IC Project Alignment is not located on lands zoned or designated for agricultural use within the City of Barstow.

### **4.2.2 Regulatory Setting**

Federal, state, and local regulations were reviewed for applicability to the IC Project.

#### **4.2.2.1 Federal**

##### **4.2.2.1.1 Farmland Protection Policy Act**

The National Agricultural Land Study of 1980-1981 found that millions of acres of farmland were being converted out of agricultural production in the United States each year. The 1981 Congressional report, “Compact Cities: Energy-Saving Strategies for the Eighties” (Compact Cities report), identified the need for Congress to implement programs and policies to protect farmland and combat urban sprawl and the waste of energy and resources that accompanies sprawling development.

The Compact Cities report indicated that much of the sprawl was the result of programs funded by the federal government. With this in mind, Congress passed the Agriculture and Food Act of 1981 (Public Law 97-98) containing the Farmland Protection Policy Act (FPPA)—Subtitle I of Title XV, Section 1539-1549. The final rules and regulations were published in the Federal Register on June 17, 1994. The FPPA and its implementing rules and regulations set forth provisions intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses.

#### **4.2.2.2 State**

##### **4.2.2.2.1 Williamson Act**

The California Land Conservation Act of 1965 (Williamson Act) enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.

California Government Code Section 51238 provides that, unless local organizations declare otherwise, the erection, construction, alteration, or maintenance of gas, electric, water, or communication facilities is compatible with Williamson Act contracts.

Inyo County does not participate in the Williamson Act program. San Bernardino County and Kern County voluntarily participate in the Williamson Act program.

#### **4.2.2.3 Local**

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the IC Project. Pursuant to CPUC General Order 131-D (GO 131-D), Section XIV.B, “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC’s jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the counties’ and cities’ regulations are not applicable as

the counties and cities do not have jurisdiction over the IC Project. Accordingly, the following discussion of local land use regulations is provided for informational purposes only.

#### **4.2.2.3.1 Inyo County General Plan, Conservation and Open Space Element**

Section 6.2, Agricultural Resources, of the Conservation and Open Space Element of the Inyo County General Plan contains the following goals and policies:

GOAL AG-1: Provide and maintain a viable and diverse agricultural industry in Inyo County.

Policy AG-1.1 Identify Important Agricultural Lands. Support and encourage the identification of important agricultural lands within the County.

Policy AG-1.2 Continue Agricultural Production. Support and encourage continued agricultural production activities in the County.

Policy AG-1.4 Minimize Land Conflicts. Preserve and protect agricultural lands from encroachment by incompatible land uses.

#### **4.2.2.3.2 Zoning Ordinance of the County of Inyo, California**

Section 18.03.040, Interpretation, of the Zoning Ordinance of the County of Inyo, California, states:

“The provisions of this title shall be held to the minimum requirements. Nothing in this title shall repeal or amend any ordinance requiring a permit or license to cover any business activity. These regulations are not intended to impair or interfere with any existing easement, covenant or other agreement between parties; provided, however, that where this title imposes a greater restriction upon any use or upon the height or bulk of a building or structure, or requires larger building sites, yards or other open spaces than are imposed or required by any other law, ordinance, covenant or easement, than the provisions of this title shall control. (Ord. 943 § 4, 1994.)”

The definitions of each of the zones crossed by the IC Project Alignment are silent regarding the use of said zones for the construction or operation of electric transmission lines. The reconstruction of existing electrical infrastructure is not listed as a prohibited use in any zoning designation.

#### **4.2.2.3.3 Kern County General Plan, Land Use, Open Space, and Conservation Element**

The Kern County General Plan, Land Use, Open Space, and Conservation Element contains the following issues and goals related to agriculture:

**Issue:** Conflicts over the use of agricultural land frequently occur. As is the case for other urbanizing regions, the loss of valuable agricultural lands to urban development is a prime concern.

**Issue:** Land division, even where actual development does not take place, can also adversely affect the County’s agricultural resource base. This is particularly a problem in extensive agriculture areas, such as rangeland, where land values can be significantly increased beyond values based on agricultural productivity.

**Goal 1:** To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.

**Goal 2:** Protect areas of important mineral, petroleum, and agricultural resource potential for future use.

**Goal 5:** Conserve prime agriculture lands from premature conversion.

#### **4.2.2.3.4 Kern County General Plan, Land Use Designations**

The Land Use Element designations for properties traversed by the IC Project Alignment are as follows:

**Map Code 8.3 (Extensive Agriculture).** Agricultural uses involving large amounts of land with relatively low value-per-acre yields, such as livestock grazing, dry land farming, and woodlands. Minimum parcel size is 20 acres gross, except lands subject to a Williamson Act Contract/ Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross. Uses shall include, but are not limited to, the following: Livestock grazing; dry land farming; ranching facilities; wildlife and botanical preserves; and timber harvesting; one single-family dwelling unit; irrigated croplands; water storage or groundwater recharge areas; mineral; aggregate; and petroleum exploration and extraction; and recreational activities, such as gun clubs and guest ranches; and land within development areas subject to significant physical constraints.

#### **4.2.2.3.5 Kern County Zoning Ordinance**

Per Section 19.08.090 of the Kern County Zoning Ordinance, the provisions of the Ordinance do not apply to the construction, installation, operation and maintenance of the types of facilities that would be replaced under the IC Project:

19.08.090 - Public utility uses—County review.

The provisions of this title shall not be construed to apply to the construction, installation, operation and maintenance of public utility distribution and transmission lines or supporting towers, and poles and underground facilities for providing gas, water, electricity, or telephone and telegraph services by public utility companies or any other company under the jurisdiction of the California Public Utilities Commission.

#### **4.2.2.3.6 San Bernardino County Code of Ordinances**

Division 2: Land Use Zoning Districts and Allowed Land Uses establishes allowable uses for land use zoning designations. For all land use zoning designations, the Code notes that “transmission lines...are regulated and approved by the Public Utilities Commission. See alternate review procedures in §85.02.050, Alternate Review Procedures.”

Section 85.02.050, Alternate Review Procedures of the Code of Ordinances states in relevant part:

“Unless preempted by State or Federal Law, the specific land uses listed in the land use tables in Chapters 82.03 through 82.22 shall be allowed without a Conditional Use Permit when the following alternate review procedures have been completed to the satisfaction of the Director.

(a) Alternate Procedures.

(1) The land use has been approved at a public hearing by a State or Federally appointed body or commission empowered to approve or license the land use.

(2) Notice has been given to provide an opportunity for those interested or affected by the proposed use to take part in local public hearings conducted by the State or Federal body or commission approving the land use.

(3) The review process used by the approving agency has substantially addressed the same issues and concerns that would be addressed in applicable County review and approval process.

(4) The approving State or Federal body or commission has made a reasonable effort to respond to concerns expressed by the County of San Bernardino and its citizens.

(5) The approval of the land use would not have a substantially detrimental effect on the public health, safety, and welfare.

(6) Approval of the land use has complied with all applicable provisions of the California Environmental Quality Act (CEQA).

(7) The land use is consistent with the General Plan and any applicable specific plan.

(b) Acceptable Alternate Procedures. Projects approved by the following agencies shall qualify as the alternate review authority:

...

5) Projects approved by the State Public Utilities Commission.”

#### **4.2.2.3.7 San Bernardino County General Plan, Conservation Element**

The Conservation Element of the General Plan contains a number of goals, policies, and programs relevant to agricultural resources. Because the IC Project Alignment does not cross any lands designated or zoned for agricultural use in San Bernardino County, these are not relevant.

#### **4.2.2.3.8 City of Barstow General Plan**

The City of Barstow General Plan does not address agriculture or forestry resources.

#### **4.2.2.3.9 City of Barstow, The Code of the City**

Title 19, Zoning, Chapter 19.24, Other Uses, Section 19.24.110, Public utility lines, of The Code of the City of Barstow states:

“The provisions of this title shall not be so construed as to limit or interfere with the use of property in any land use district for installation, maintenance and operation of public utility pipelines and under aerial transmission and supply lines, when located in accordance with the applicable rules and regulations of the Public Utilities Commission of the state of California within rights-of-way, easements, franchises or other ownerships of such public utilities.”

### **4.2.3 Significance Criteria**

The significant criteria for assessing the impacts to agriculture and forestry resources come from the California Environmental Quality Act (CEQA) Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, to nonagricultural use
- Conflict with existing zoning for agricultural use, or a Williamson Act contract
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))
- Result in the loss of forest land or conversion of forest land to non-forest use
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use

#### **4.2.4 Impact Analysis**

##### **4.2.4.1 Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, to nonagricultural use?**

###### **4.2.4.1.1 Construction**

**No Impact.** Approximately 2.75 miles of the Full-Rebuild Concept crosses lands identified as Unique Farmland. No replacement structures are located on lands identified as Unique Farmland; this Unique Farmland would be spanned overhead by conductor and fiber optic cable. Because there would be no permanent disturbance to lands identified as Unique Farmland, and because no other portion of the Full-Rebuild Concept is located on lands designated as Prime Farmland or Farmland of Statewide Importance, the Full-Rebuild Concept would not convert such lands to nonagricultural use, and no impact would be realized under this criterion.

###### **4.2.4.1.2 Operations**

**No Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept, and therefore no impacts would be realized under this criterion during operations and maintenance.

##### **4.2.4.2 Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

###### **4.2.4.2.1 Construction**

**No Impact.** The Full-Rebuild Concept is not located on lands under a Williamson Act contract. No lands traversed by the Full-Rebuild Concept in Inyo County, San Bernardino County, or the City of Barstow, are zoned exclusively for agricultural use.

In Segment 1, the Full-Rebuild Concept traverses lands zoned for agricultural use in Kern County (A-1, Limited Agriculture). Section 19.08.090 - Public utility uses—County review, of the zoning ordinance exempts the construction, installation, operation and maintenance of transmission lines from the zoning ordinance. Therefore, the Full-Rebuild Concept would not conflict with existing zoning for agricultural use in Kern County.

Because the Full-Rebuild Concept is not located on lands under a Williamson Act contract, is not located on lands zoned for agricultural use in Inyo County, San Bernardino County, or in the City of Barstow, and would not conflict with existing zoning for agricultural use in Kern County, no impacts would occur under this criterion.

###### **4.2.4.2.2 Operations**

**No Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept, and therefore no impacts would be realized under this criterion during operations and maintenance.

**4.2.4.3 Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

**4.2.4.3.1 Construction**

**No Impact.** No lands traversed by the Full-Rebuild Concept alignment are zoned as forest land, timberland, or Timberland Production. Therefore, there would be no impact under this criterion.

**4.2.4.3.2 Operations**

**No Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept, and therefore no impacts would be realized under this criterion during operations and maintenance.

**4.2.4.4 Would the Project result in the loss of forest land or conversion of forest land to non-forest use?**

**4.2.4.4.1 Construction**

**No Impact.** No lands traversed by the Full-Rebuild Concept are identified as forest land. Therefore, there would be no impact under this criterion.

**4.2.4.4.2 Operations**

**No Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept, and therefore no impacts would be realized under this criterion during operations and maintenance.

**4.2.4.5 Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

**4.2.4.5.1 Construction**

**No Impact.** Construction of the Full-Rebuild Concept would not involve any other changes in the existing environment that could result in the conversion of farmland to non-agricultural use or forest land to non-forest use. Therefore, no impact would occur under this criterion.

**4.2.4.5.2 Operations**

**No Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept, and therefore no impacts would be realized under this criterion during operations and maintenance.

#### **4.2.5 Applicant Proposed Measures**

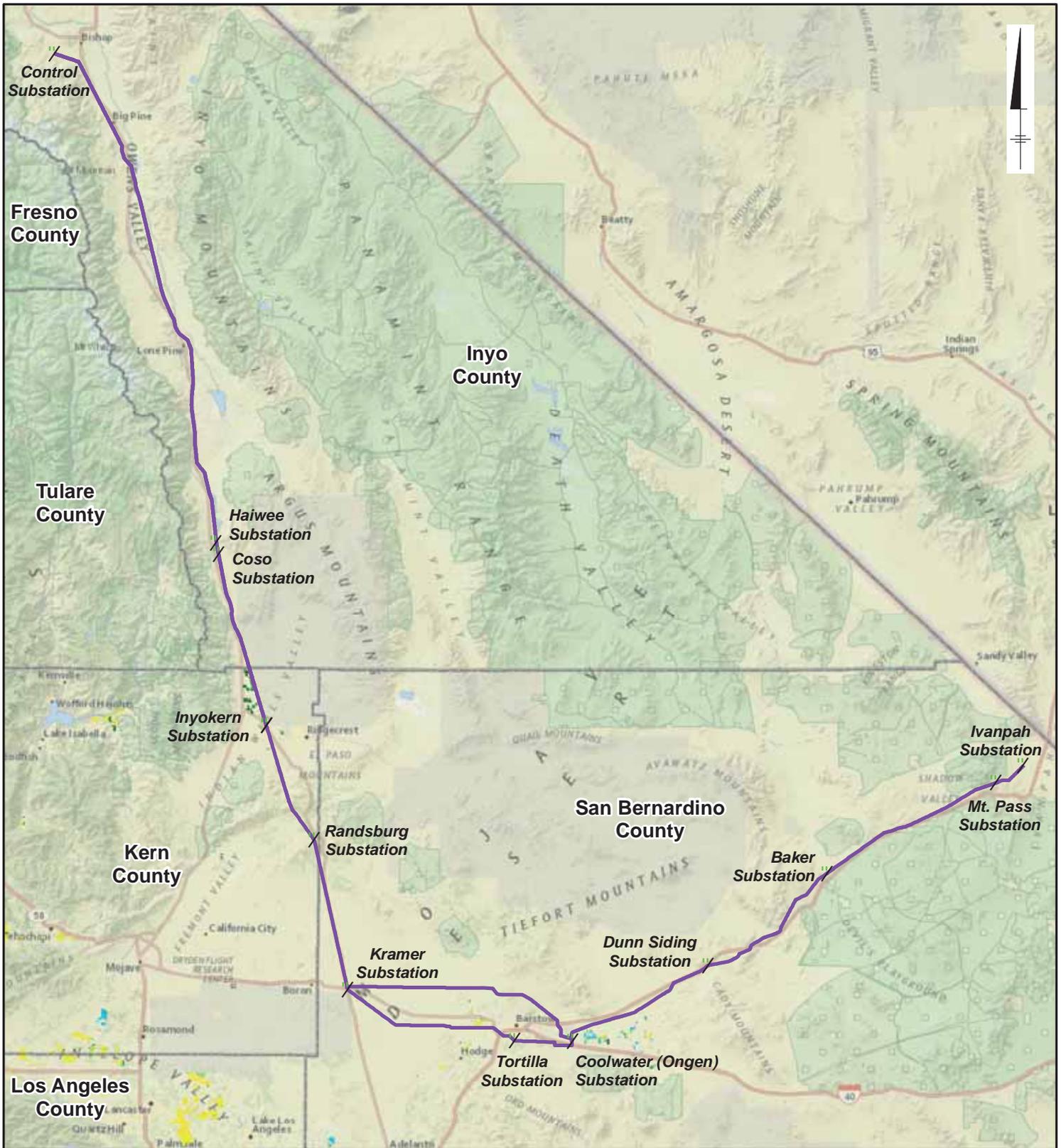
Because no impacts to agriculture or forestry would occur as a result of the Full-Rebuild Concept, no avoidance or minimization measures are proposed.

#### **4.2.6 Alternatives**

Alternatives to the Full-Rebuild Concept are addressed in Section 5.2, Description of Project Alternatives and Impact Analysis.

#### **4.2.7 References**

- City of Barstow. 2015-2020 General Plan. Available at <http://www.barstowca.org/home/showdocument?id=3074>
- California Department of Forestry and Fire Protection (CALFIRE). 2015. FVEG database. Available from [http://frap.fire.ca.gov/data/statewide/fveg15\\_1.zip](http://frap.fire.ca.gov/data/statewide/fveg15_1.zip)
- California Department of Conservation. 2017a. Kern County Important Farmland GIS Data. Farmland Mapping and Monitoring Program. [Online Resource]. Located at <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Kern.aspx>
- California Department of Conservation. 2017b. San Bernardino County Important Farmland GIS Data. Farmland Mapping and Monitoring Program. [Online Resource]. Located at <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Sanbernardino.aspx>
- County of San Bernardino. 2014. 2007 General Plan. Available at <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>
- County of San Bernardino. 2014. 2007 Development Code. Available at <http://www.sbcounty.gov/Uploads/lus/DevelopmentCode/DCWebsite.pdf>
- Kern County. 2009. General Plan. Available at <https://kernplanning.com/planning/planning-documents/general-plans-elements/>
- Kern County Board of Supervisors. 2013. Agricultural Preserve Standard Uniform Rules. Available at <https://kernplanning.com/?document=1499>
- Inyo County. 2013. Draft Zoning Code and General Plan Update. Available at <http://inyoplanning.org/projects/GPandZoningUpdates.htm>



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### Legend

- Substation
- IC Project Alignment
- County

Page 1 of 4

### Farmland Categories

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland

### NOTES:

- (1) Farmland source: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2016/>
- (2) No Farmland data available for Inyo County



## IVANPAH-CONTROL PROJECT

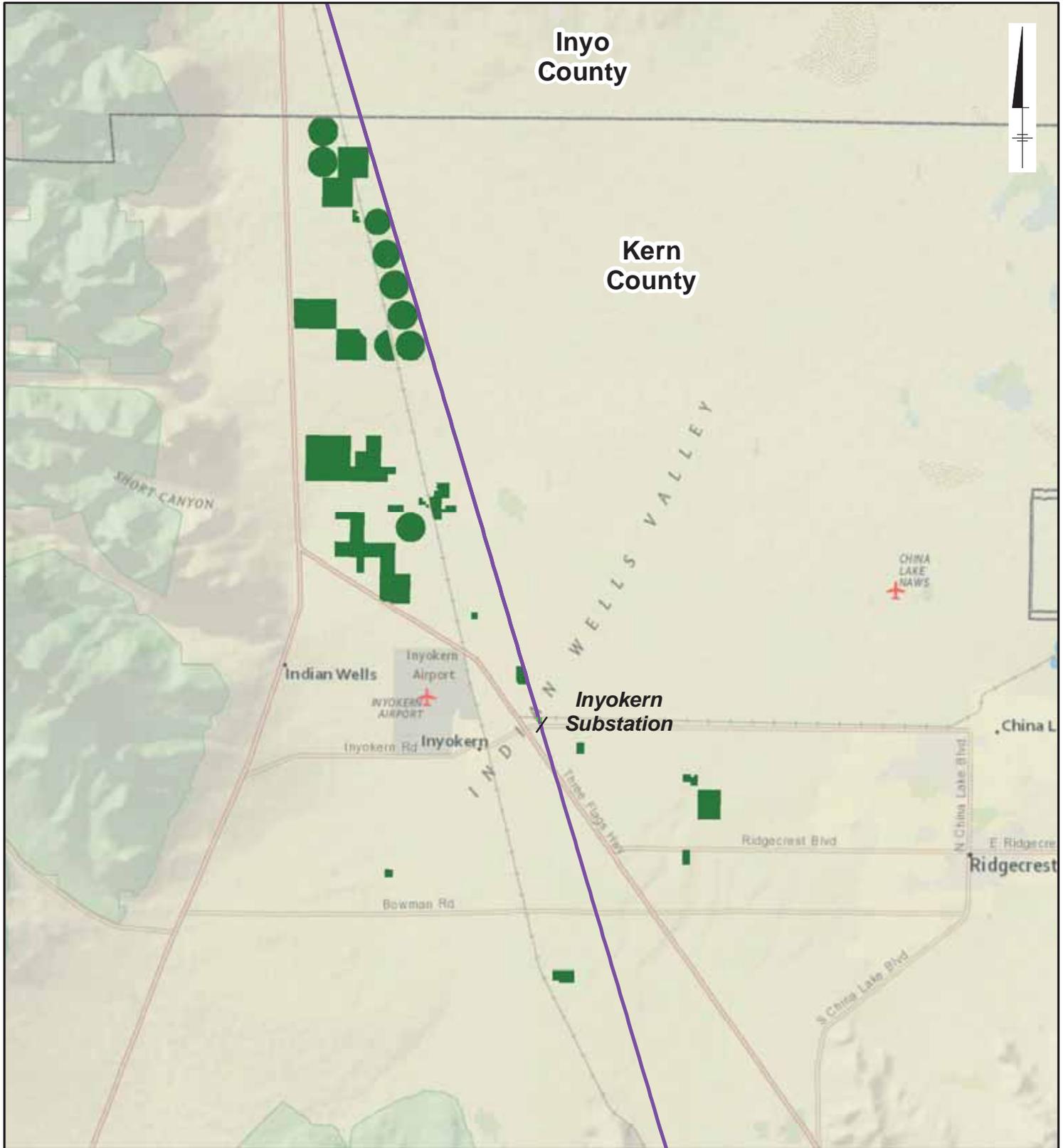
PRIME FARMLAND, UNIQUE FARMLAND, FARMLAND OF STATEWIDE IMPORTANCE



FIGURESET:  
**4.2-1**

Inyo County

Kern County



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### Legend

- Substation
- IC Project Alignment
- County

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### Farmland Categories

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland

### NOTES:

- (1) Farmland source:  
<ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2016/>
- (2) No Farmland data available for Inyo County



## IVANPAH-CONTROL PROJECT

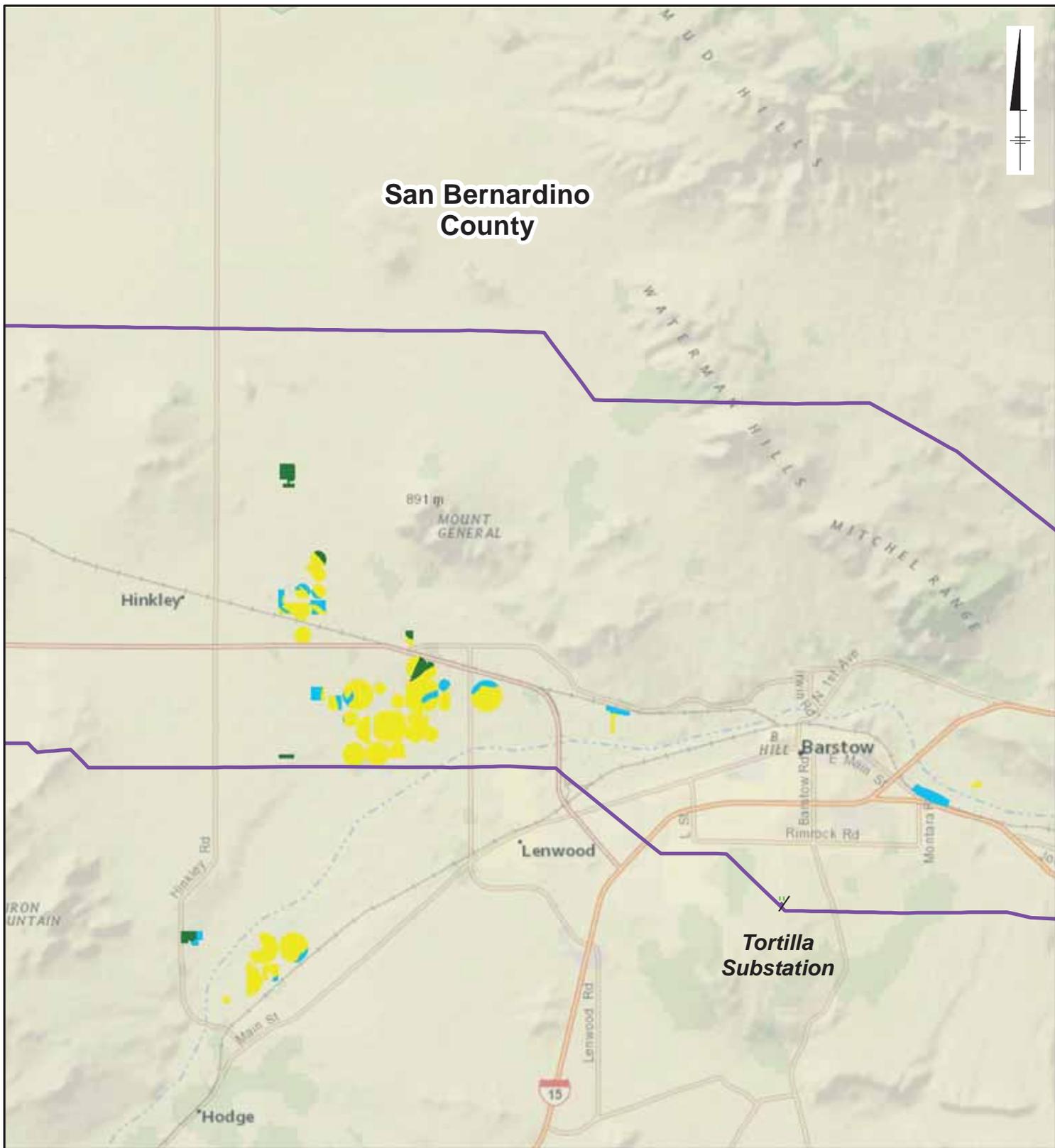
PRIME FARMLAND, UNIQUE FARMLAND, FARMLAND OF STATEWIDE IMPORTANCE



FIGURESET:  
**4.2-1**



# San Bernardino County



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## Legend

- Substation
- IC Project Alignment
- County

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### Farmland Categories

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland

### NOTES:

- (1) Farmland source: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2016/>
- (2) No Farmland data available for Inyo County

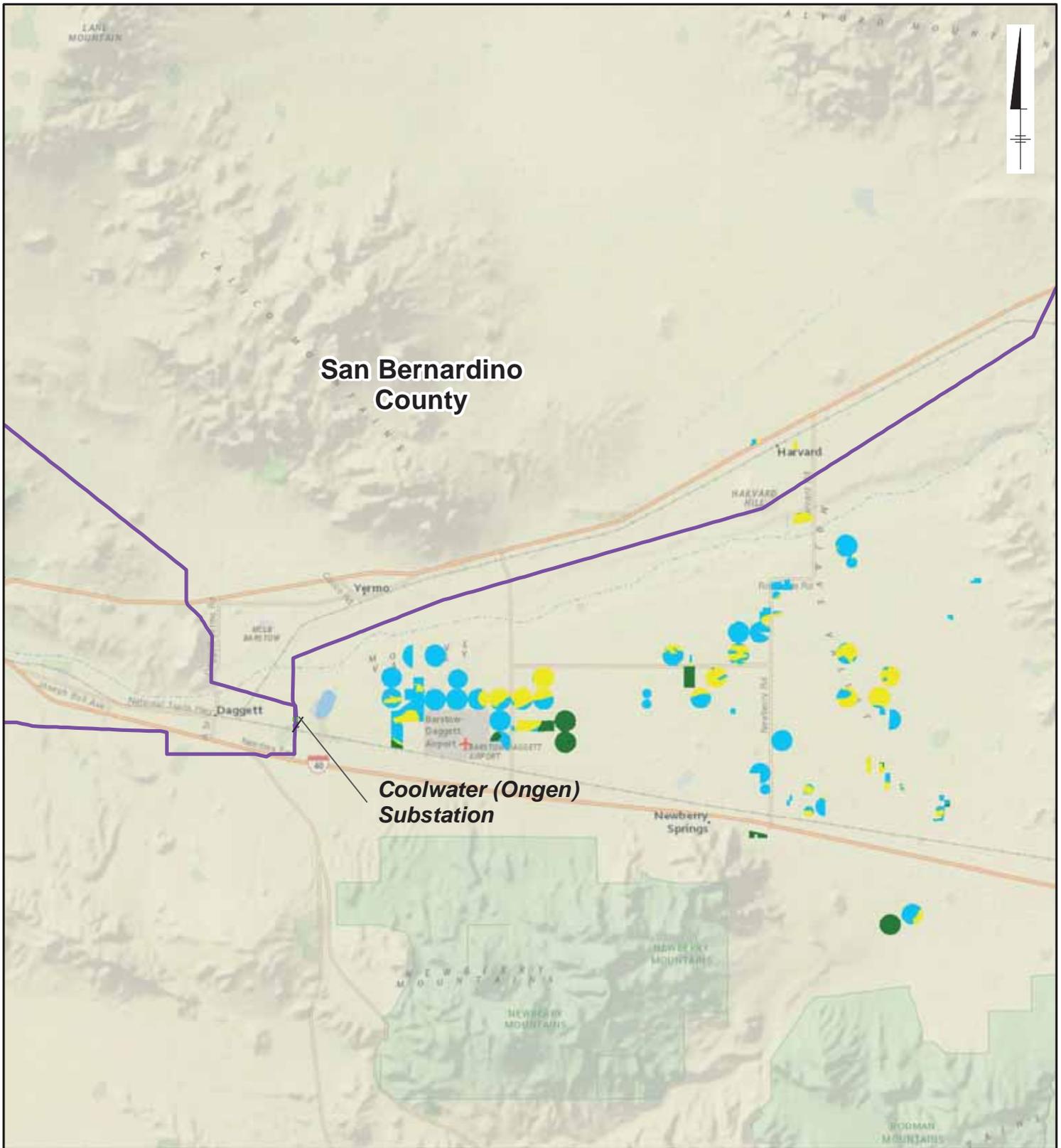


## IVANPAH-CONTROL PROJECT

PRIME FARMLAND, UNIQUE FARMLAND, FARMLAND OF STATEWIDE IMPORTANCE



FIGURESET:  
**4.2-1**



**San Bernardino County**

**Coolwater (Ongem) Substation**

**Legend**

-  Substation
-  IC Project Alignment
-  County

Page 4 of 4

**Farmland Categories**

-  Prime Farmland
-  Farmland of Statewide Importance
-  Unique Farmland

**NOTES:**

- (1) Farmland source: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2016/>
- (2) No Farmland data available for Inyo County



**IVANPAH-CONTROL PROJECT**

**PRIME FARMLAND, UNIQUE FARMLAND, FARMLAND OF STATEWIDE IMPORTANCE**



**FIGURESET: 4.2-1**

## 4.3 Air Quality

This section describes the air quality in the area of the Ivanpah-Control Project (IC Project). The potential impacts resulting from construction and operation of the Full-Rebuild Concept and its Alternatives are also addressed.

### 4.3.1 Environmental Setting

The IC Project Alignment is located within the Great Basin Valleys Air Basin and Mojave Desert Air Basin, which are under the jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD), the Eastern Kern Air Pollution Control District (EKAPCD), and the Mojave Desert Air Quality Management District (MDAQMD). These Districts regulate air pollutant emission for all stationary sources in their respective jurisdictions.

It is the responsibility of an air district to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by the State of California (California Ambient Air Quality Standards – CAAQS) and by the federal government (National Ambient Air Quality Standards – NAAQS) for the following criteria air pollutants: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), particulate matter with a mean diameter of less than 10 microns (PM<sub>10</sub>), particulate matter with a mean diameter of less than 2.5 microns (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Further, California has additional standards for sulfates, hydrogen sulfide (H<sub>2</sub>S), vinyl chloride, and visibility reducing particles (VRP). Attainment of the state and federal ambient air quality standards protect sensitive receptors and the public from criteria pollutants that are known to have adverse human health effects.

#### 4.3.1.1 Great Basin Valleys Air Basin

The Great Basin Valleys Air Basin (GBVAB) is so named because its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys and basins. The basin includes Alpine, Mono, and Inyo counties. The GBVAB is under the jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD), which regulates air pollutant emissions for all stationary sources in the Basin.

#### 4.3.1.2 Mojave Desert Air Basin

The Mojave Desert Air Basin (MDAB) includes the desert portions of Los Angeles and San Bernardino counties, the eastern desert portion of Kern County, and the northeastern desert portion of Riverside County. The MDAB is comprised of the Eastern Kern Air Pollution Control District (EKAPCD), the Antelope Valley Air Quality Management District (AVAQMD), Mojave Desert Air Quality Management District (MDAQMD) as well the eastern portion of the South Coast Air Quality Management District (SCAQMD). The IC Project Alignment is located in areas under the jurisdiction of the EKAPCD and the MDAQMD.

#### 4.3.1.3 Air Pollutants

##### 4.3.1.3.1 Ozone

Ozone (O<sub>3</sub>) is a colorless gas that is not directly emitted as a pollutant, but is formed when hydrocarbons and nitrogen oxides (NO<sub>x</sub>) react in the presence of sunlight. Low wind speeds or stagnant air mixed with warm temperatures typically provide optimum conditions for the formation of O<sub>3</sub>. Because O<sub>3</sub> formation does not occur quickly, O<sub>3</sub> concentrations often peak downwind of the emission source. As a result, O<sub>3</sub> is of regional concern as it impacts a larger area. When inhaled, O<sub>3</sub> irritates and damages the respiratory system.

#### **4.3.1.3.2 Particulate Matter**

Particulate matter (PM), which is defined as particles suspended in a gas, is often a mixture of substances, including metals, nitrates, organic compounds, diesel exhaust, and soil. PM can be traced back to both man-made and natural sources. The most common sources of natural PM are dust and fires, while the most common man-made source is the combustion of fossil fuels. PM causes irritation to the human respiratory system when inhaled. The extent of the health risks due to PM exposure can be determined by the size of the particles. The smaller the particles, the deeper they can be deposited in the lungs. PM is often grouped into two categories—PM<sub>10</sub> and PM<sub>2.5</sub>.

#### **4.3.1.3.3 Carbon Monoxide**

Carbon monoxide (CO) is a colorless, odorless, and tasteless gas that is directly emitted as a by-product of combustion. CO concentrations tend to be localized to the source, and the highest concentrations are associated with cold, stagnant weather conditions. CO is readily absorbed through the lungs into the blood, where it reduces the ability of the blood to carry oxygen.

#### **4.3.1.3.4 Nitrogen Oxides**

Nitrogen oxides (NO<sub>x</sub>) is a generic name for the group of highly reactive gases that contain nitrogen and oxygen in varying amounts. Many types of NO<sub>x</sub> are colorless and odorless. However, when combined with particles in the air, one common pollutant—NO<sub>2</sub>—can often be seen as a reddish-brown layer over many urban areas. NO<sub>x</sub> is formed when fuel is burned at high temperatures. Typical man-made sources of NO<sub>x</sub> include motor vehicles, fossil-fueled electricity generation utilities, and other industrial, commercial, and residential sources that burn fossil fuels. NO<sub>x</sub> can harm humans by affecting the respiratory system. Small particles can penetrate the sensitive parts of the lungs, causing or worsening respiratory disease and aggravating existing heart conditions. As previously discussed, O<sub>3</sub> is formed when NO<sub>x</sub> and VOCs react with sunlight.

#### **4.3.1.4 Sulfur Oxides**

Sulfur oxides (SO<sub>x</sub>) form when sulfur-containing materials are processed or burned. SO<sub>x</sub> sources include industrial facilities (e.g., petroleum refineries, cement manufacturing facilities, and metal processing facilities), locomotives, large ships, and some non-road diesel equipment. A wide variety of adverse health and environmental impacts are associated with SO<sub>x</sub> because of the way it reacts with other substances in the air. Children, elderly people, and people with asthma or a heart or lung disease are particularly sensitive to SO<sub>x</sub> emissions. When inhaled, these particles gather in the lungs and contribute to increased respiratory symptoms and disease, difficulty breathing, and premature death.

#### **4.3.1.4.1 Volatile Organic Compounds**

Volatile organic compounds (VOCs) are a group of chemicals that react with NO<sub>x</sub> and hydrocarbons in the presence of heat and sunlight to form O<sub>3</sub>. Examples of VOCs include gasoline fumes and oil-based paints. This group of chemicals does not include methane or other compounds determined by the United States Environmental Protection Agency (USEPA) to have negligible photochemical reactivity.

#### **4.3.1.5 Sensitive Receptors**

Some exposed population groups—including children, and people who are elderly or ill—can be especially vulnerable to airborne chemicals and irritants, and are termed “sensitive receptors.” In addition, due to sustained exposure durations, all persons located within residential areas are considered sensitive receptors. In general, sensitive receptor locations could include, but are not limited to: schools, hospitals, convalescence homes, residential uses, places of worship, libraries, offices, city and county buildings, and outdoor recreational areas.

Due to the remote nature of much of the IC Project Alignment, sensitive receptor locations are widely scattered along the alignment. Section 4.13, Noise; Section 4.15, Public Services; and Section 4.16, Recreation, provide descriptions of the locations of residential areas and other sensitive receptors in the vicinity of the IC Project Alignment. Table 4.13-1 lists the distance from sensitive receptor locations to the IC Project Alignment.

#### 4.3.1.6 Ambient Air Quality Standards

The USEPA compares ambient air criteria pollutant measurements with NAAQS to assess the status of air quality of regions within the states. Similarly, the California Air Resources Board (CARB) compares air pollutant measurements in California to CAAQS. Based on these comparisons, regions within the states and California are designated as one of the following categories:

- **Attainment.** A region is designated as attainment if monitoring shows ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. In addition, areas that have been re-designated from nonattainment to attainment are classified as “maintenance areas” for a 10-year period to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS is exceeded for a pollutant, then the region is designated as nonattainment for that pollutant.
- **Unclassifiable.** An area is designated as unclassifiable if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

State and federal ambient air quality standards are shown in Table 4.3-1; the attainment status of each CAAQS and NAAQS pollutant is shown in Table 4.3-2.

Presently, the ambient air in areas crossed by the IC Project Alignment is classified by the CARB as nonattainment for O<sub>3</sub> and PM<sub>10</sub> in all jurisdictions. The ambient air in the area is either unclassified or classified as attainment for all other state-regulated air pollutants.

CARB operates an extensive network of air monitoring stations within California. The monitoring station network provides air quality monitoring data, including real-time meteorological data and ambient pollutant levels, as well as historical data. Table 4.3-3 presents the average ambient pollutant concentrations and the exceedances of state and federal standards that have occurred at the monitoring stations in the Great Basin Valleys Air Basin and Mojave Desert Air Basin from 2015 through 2017, the most recent years for which data are available.

**Table 4.3-1: State and Federal Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	National Standards
Ozone (O <sub>3</sub> )	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	—
	8 Hours	0.070 ppm (137 µg/m <sup>3</sup> )	0.070 ppm (147 µg/m <sup>3</sup> )
Respirable Particulate Matter (PM <sub>10</sub> )	24 Hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
	AAM	20 µg/m <sup>3</sup>	—
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hours	—	35 µg/m <sup>3</sup>
	AAM	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )
	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )
Nitrogen Dioxide (NO <sub>2</sub> )	AAM	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )

**Table 4.3-1: State and Federal Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	National Standards
	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	0.100 ppm (188 µg/m <sup>3</sup> )
Sulfur Dioxide (SO <sub>2</sub> )	24 Hours	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> )
	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	0.075 ppm (196 µg/m <sup>3</sup> )

**Table 4.3-2: Attainment Status for the GBUAPCD, EKAPCD, and MDAQMD**

Pollutant	California Status			National Status		
	GBUAPCD	EKAPCD	MDAQMD <sup>1</sup>	GBUAPCD	EKAPCD	MDAQMD <sup>1</sup>
O <sub>3</sub>	Nonattainment	Nonattainment	Nonattainment	Attainment/ Unclassified	Nonattainment	Nonattainment
PM <sub>10</sub>	Nonattainment	Nonattainment	Nonattainment	Attainment/ Unclassified	Nonattainment	Attainment/ Nonattainment
PM <sub>2.5</sub>	Attainment	Attainment	Unclassified	Attainment/ Unclassified	Attainment/ Unclassified	Attainment/ Unclassified
CO	Attainment	Attainment	Attainment	Attainment/ Unclassified	Attainment/ Unclassified	Attainment/ Unclassified
NO <sub>2</sub>	Attainment	Attainment	Attainment	Attainment/ Unclassified	Attainment/ Unclassified	Attainment/ Unclassified
SO <sub>2</sub>	Attainment	Attainment	Attainment	Unclassified	Attainment	Unclassified
Pb	Attainment	Attainment	Attainment	Attainment/ Unclassified	Attainment	Attainment/ Unclassified
VRP	Unclassified	Unclassified	Unclassified	No Federal Standard		
Sulfates	Attainment	Attainment	Attainment	No Federal Standard		
H <sub>2</sub> S	Attainment	Unclassified	Unclassified	No Federal Standard		

Notes:

1 Does not include the classifications for the Searles Valley Planning Area of MDAQMD as the IC Project Alignment is not located in this area.

Source: <https://www.arb.ca.gov/desig/adm/adm.htm>

**Table 4.3-3: Ambient Air Quality**

Pollutant	Air Basin	2015	2016	2017	2015	2016	2017
		# Days > State 1-Hour Standard			Max 1-Hour Observation		
Ozone	Great Basin Valleys	0	0	0	0.076	0.085	0.077
	Mojave Desert	26	25	33	0.132	0.132	0.156
		# Days > State 8-Hour Standard			Max State 8-Hour Average		
Ozone	Great Basin Valleys	3	5	4	0.074	0.079	0.072
	Mojave Desert	82	70	78	0.106	0.110	0.119
		# Days > National 8-Hour Standard			Max State 24-Hour Average		
Ozone	Great Basin Valleys	3	5	2	0.073	0.078	0.072
	Mojave Desert	80	65	75	0.105	0.109	0.118
		# Days > State 24-Hour Standard			Max State 24-Hour Average		
PM <sub>10</sub>	Great Basin Valleys	21.1	15.5	23.9	677	214	995
	Mojave Desert	6.1	18.9	0	74.9	203.5	85.7

## 4.3.2 Regulatory Setting

Federal, state, and local regulations were reviewed for applicability to the IC Project.

### 4.3.2.1 Federal

#### 4.3.2.1.1 Clean Air Act

The 1970 Federal Clean Air Act (CAA) established ambient air quality standards (AAQS) for six major pollutants—O<sub>3</sub>, particle pollution (PM<sub>10</sub>, PM<sub>2.5</sub>), CO, NO<sub>2</sub>, SO<sub>2</sub>, and lead. These six air pollutants are known to have adverse impacts on human health and the environment. To protect human health and the environment, the U.S. EPA set primary and secondary maximum ambient thresholds for criteria pollutants. The primary thresholds were set to protect human health—particularly for children and the elderly, as well as for individuals who suffer from chronic lung conditions (e.g., asthma and emphysema). The secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings. The NAAQS is comprised of the combined primary and secondary standards set by the EPA. The 1977 CAA Amendments required each state to develop and maintain a State Implementation Plan (SIP) for each criteria pollutant that exceeds the NAAQS for that pollutant. The SIP serves as a tool to reduce pollutants that are known to cause impacts if they exceed ambient thresholds and to achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen regulation of both stationary and mobile emission sources for the criteria pollutants.

In July 1997, the U.S. EPA developed new health-based NAAQS for O<sub>3</sub> and PM<sub>10</sub>. However, these standards were not fully implemented until 2001, after the resolution of several lawsuits. The new federal O<sub>3</sub> standard of 0.080 parts per million (ppm), established in 1997, was based on a longer averaging period (8 hours versus 1 hour), recognizing that prolonged exposure to O<sub>3</sub> is more damaging. In March 2008, the EPA further lowered the 8-hour O<sub>3</sub> standard from 0.080 ppm to 0.075 ppm. The new federal PM standard is based on finer particles (2.5 microns and smaller versus 10 microns and smaller), recognizing that finer particles may have a higher residence time in the lungs and contribute to greater respiratory illness. In February 2007, the NAAQS for NO<sub>2</sub> was amended to lower the existing 1-hour standard of 0.25 ppm to 0.18 ppm, which is not to be exceeded; and established a new annual standard of 0.030 ppm, which is also not to be exceeded. The NAAQS are listed in Table 4.3-1.

### 4.3.2.2 State

#### 4.3.2.2.1 California Clean Air Act

The California Clean Air Act (CCAA) requires air districts to develop and implement strategies to attain CAAQS. For some pollutants, the California standards are more stringent than the national standards. Regional air quality management districts are mandated to prepare an air quality plan specifying how federal and state standards would be met. The CARB enforces the CAAQS and works with the state's Office of Environmental Health Hazard Assessment in identifying toxic air contaminants (TACs) and enforcing rules related to TACs, including the Air Toxic Hot Spots Information and Assessment Act of 1987. Enacted to identify TAC hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects, this act requires that businesses or other establishments identified as significant sources of toxic emissions provide the affected population with information about health risks posed by the emissions. CARB also regulates mobile emission sources in California (e.g., construction equipment, trucks, and automobiles) and oversees the air districts. Relevant programs related to the oversight of mobile source emissions include the Off-Road and On-Road Mobile Sources Emission Reduction Programs, the Portable Equipment Registration Program (PERP), and the Airborne Toxic Control Measure for Diesel Particulate Matter (DPM) from Portable Engines. The Mobile Sources

Emission Reduction programs are aimed at reductions of PM<sub>10</sub>, CO, NO<sub>x</sub>, and VOCs. CARB has also adopted specific control measures for the reduction of DPM from off-road, in-use diesel vehicles (rated 25 horsepower and higher), such as backhoes, bulldozers, and earthmovers used in construction projects. Additional DPM control measures are also in place for heavy-duty, on-road diesel trucks operated by public utilities and municipalities. The PERP and Airborne Toxic Control Measure for DPM from Portable Engines provide for statewide registration and control of DPM from portable engines rated 50 horsepower and higher.

#### **4.3.2.3 Local**

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the IC Project. Pursuant to CPUC General Order 131-D (GO 131-D), Section XIV.B, “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC’s jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the counties’ and cities’ regulations are not applicable as the counties and cities do not have jurisdiction over the IC Project. The IC Project, however, must comply with applicable local air district regulations as discussed below.

The applicable air districts are responsible for regulating emissions from stationary sources in their air districts. The air districts are also responsible for developing, updating, and implementing the Air Quality Management Plans (AQMPs) for their air basins. An AQMP is prepared and implemented by an air pollution district for a county or region designated as being in “nonattainment” of the national and/or California ambient air quality standards.

##### **4.3.2.3.1 Eastern Kern Air Pollution Control District**

The EKAPCD seeks to attain and maintain NAAQS and CAAQS and to ensure air pollutants do not pose a nuisance or significant health threat. In 2017, the EKAPCD adopted two plans to address EKAPCD’s nonattainment status for ozone: Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) and Ozone Attainment Plan. The EKAPCD has established the following rules, among others, to regulate air quality:

**Rule 401 and Rule 402.** These rules limit the emissions of visible particulate matter and wind erosion or fugitive dust from material handling and hauling, bulk storage, earthmoving, construction, and demolition. These rules prohibit any emissions of fugitive dust from construction, demolition, or other operations that remain visible in the atmosphere beyond the property line of the site of the source, except along roadways.

**Rule 419.** This rule prevents public nuisances.

##### **4.3.2.3.2 Great Basin Unified Air Pollution Control District**

The GBUAPCD is responsible for regulating emissions from stationary sources. GBUAPCD monitors air quality within the district and maintains an air monitoring network with monitoring stations through the GBVAB. The GBUAPCD seeks to pursue quantitative reductions in the amount of air pollutants being released within the district. The GBUAPCD has established the following rules, among others, to regulate air quality:

**Rule 401—Fugitive Dust.** This rule requires reasonable precaution measures to prevent visible particulate matter from being airborne, under normal wind conditions, beyond the source from which the emission originates.

**Rule 402—Nuisance.** This rule prohibits the discharge of air contaminants, from any source, or other materials that cause injury, detriment, nuisance or annoyance to the public.

**Rule 404-A—Particulate Matter.** This rule regulates the allowable concentration of particulate matter discharged per standard dry cubic foot of exhaust gas. Concentrations may not exceed 0.3 grains per standard dry cubic foot of exhaust gas.

**Rule 404-B—Oxides of Nitrogen.** This rule regulates the allowable concentration of nitrogen oxides emitted in exhaust fumes to not exceed 250 parts per million by volume.

**Rule 416—Sulfur Compounds and Nitrogen Oxides.** This rule controls the discharge of sulfur compounds and nitrogen oxides. Sulfur compounds may not exceed 0.2 percent by volume, and nitrogen oxides may not exceed 140 pounds per hour.

**Rule 417—Organic Solvents.** This rule prohibits the discharge of more than 15 pounds of organic materials into the atmosphere in one day, or more than 3 pounds in any one hour.

**Rule 431—Particulate Emissions.** The purpose of this rule is to improve and maintain the level of air quality in GBUAPCD communities by controlling the emissions of particulate matter, thereby protecting and enhancing the health of its citizens. The rule designates the town of Mammoth Lakes as a “High Road Dust Area (HRDA),” or a community where the GBUAPCD has determined that dust on roads contributes to exceedances of the state or federal 24-hour PM<sub>2.5</sub> or PM<sub>10</sub> standards previously mentioned. This rule does not identify any further HRDAs but identifies the Board of the GBUAPCD as having the power to determine whether any additional communities qualify for HRDA status. The rule also calls for paved-road dust-reduction measures, as well as pollution-reduction education programs.

#### 4.3.2.3.3 Mojave Desert Air Quality Management District

The MDAQMD stipulates rules and regulations with which all projects must comply. In addition, the MDAQMD provides methodologies for analyzing a project’s impacts under CEQA. The following rules and regulations apply to all sources within the MDAQMD’s jurisdiction.

**Rule 401—Visible Emissions.** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

- (a) As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- (b) Of such opacity as to obscure an observer’s view to a degree equal to or greater than does smoke described in subsection (a) of this rule

**Rule 402—Nuisance.** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

**Rule 403—Fugitive Dust.** This Rule includes the following restrictions:

(a) A person shall not cause or allow the emissions of fugitive dust from any transport, handling, construction or storage activity so that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source. (Does not apply to emissions emanating from unpaved roadways open to public travel or farm roads. This exclusion shall not apply to industrial or commercial facilities).

(b) A person shall take every reasonable precaution to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land and solid waste disposal operations.

(c) A person shall not cause or allow particulate matter to exceed 100 micrograms per cubic meter when determined as the difference between upwind and downwind samples collected on high volume samplers at the property line for a minimum of five hours.

(d) A person shall take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of their operations. Reasonable precautions shall include, but are not limited to, the removal of particulate matter from equipment prior to movement on paved streets or the prompt removal of any material from paved streets onto which such material has been deposited.

(e) Subsections (a) and (c) shall not be applicable when the wind speed instantaneously exceeds 40 kilometers (25 miles) per hour, or when the average wind speed is greater than 24 kilometers (15 miles) per hour. The average wind speed determination shall be on a 15 minute average at the nearest official air-monitoring station or by wind instrument located at the site being checked.

**Rule 403.2—Fugitive Dust Control for the Mojave Desert Planning Area.** The purpose of this Rule is to ensure that the NAAQS for PM<sub>10</sub> will not be exceeded due to anthropogenic sources of fugitive dust within the Mojave Desert Planning Area (MDPA); and to implement the control measures contained in the Mojave Desert Planning Area Federal PM<sub>10</sub> Attainment Plan.

The requirements of this Rule shall apply to owners or operators of sources in the following categories within the MDPA:

- (i) Construction/Demolition Activity;
- (ii) Heavily Traveled Publicly Maintained Unpaved Roads;
- (iii) Weed suppression activity;
- (iv) Limestone processing activity in the Lucerne Valley Area; and
- (v) Activities on Bureau of Land Management (BLM) land.

### 4.3.3 Significance Criteria

The significant criteria for assessing the impacts to air quality come from the California Environmental Quality Act (CEQA) Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O<sub>3</sub> precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

### 4.3.3.1 Thresholds for Construction Emissions

Section 15002 of the CEQA Guidelines defines a significant effect on the environment as “a substantial adverse change in the physical condition which exists in the area affected by the proposed project.” The impact of a project to air quality is determined by examining the types and levels of emissions generated by the Full-Rebuild Concept and its impact on factors that affect air quality. As such, projects should be evaluated in terms of identified air pollution thresholds.

#### 4.3.3.1.1 Great Basin Unified Air Pollution Control District

The GBUAPCD has no significance thresholds particular to its air basin. CEQA, however, allows reliance on standards or thresholds promulgated by other agencies. As such, this analysis utilizes the values developed by the EKAPCD based on location, topography and attainment status.

#### 4.3.3.1.2 Eastern Kern Air Pollution Control District

The EKAPCD Guidelines for Implementation of CEQA provide significance thresholds. If the thresholds are exceeded, a potentially significant impact could result. A project would have a significant air quality impact on the environment, if it would:

- Emit criteria air pollutants levels exceeding the trigger levels in EKAPCD Rule 210.1 of: 15 tons per year of PM<sub>10</sub>; 27 tons per year of SO<sub>x</sub>; or 25 tons per year of VOC or NO<sub>x</sub>;
- Emit more than 137 pounds per day of NO<sub>x</sub> or VOC from motor vehicle trips (indirect sources only);
- Cause or contribute to an exceedance of any California or National Ambient Air Quality Standard;
- Exceed the District health risk public notification thresholds; or
- Be inconsistent with adopted federal and state Air Quality Attainment Plans.

#### 4.3.3.1.3 Mojave Desert Air Quality Management District

The MDAQMD California Environmental Quality Act (CEQA) And Federal Conformity Guidelines notes, in relevant part:

Any project is significant if it triggers or exceeds the most appropriate evaluation criteria. The District will clarify upon request which threshold is most appropriate for a given project; in general, the emissions comparison (criteria number 1) is sufficient:

- Generates total emissions (direct and indirect) in excess of the thresholds given in Table 6;
- Generates a violation of any ambient air quality standard when added to the local background;
- Does not conform with the applicable attainment or maintenance plan(s)

...

A significant project must incorporate mitigation sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation. Note that the emission thresholds are given as a daily value and an annual value, so that multi-phased project (such as project with a construction phase and a separate operational phase) with phases shorter than one year can be compared to the daily value.

**Table 6 – Significant Emissions Thresholds**

Criteria Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Greenhouse Gases (CO <sub>2</sub> e)	100,000	548,000
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO <sub>x</sub> )	25	137
Volatile Organic Compounds (VOC)	25	137
Oxides of Sulfur (SO <sub>x</sub> )	25	137

**Table 6 – Significant Emissions Thresholds**

<b>Criteria Pollutant</b>	<b>Annual Threshold (tons)</b>	<b>Daily Threshold (pounds)</b>
Particulate Matter (PM <sub>10</sub> )	15	82
Particulate Matter (PM <sub>2.5</sub> )	12	65
Hydrogen Sulfide (H <sub>2</sub> S)	10	54
Lead (Pb)	0.6	3

#### 4.3.4 Impact Analysis

##### 4.3.4.1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

###### 4.3.4.1.1 Construction

**No Impact.** The MDAQMD, GBUAPCD, EKAPCD are the primary agencies responsible for managing local air quality and administering California and federal air pollution control programs ensuring attainment and maintenance of the ambient air quality standards. To this end, these districts have each established an air quality management plan (AQMP). Generally, a project may be inconsistent with an AQMP or applicable attainment plan if it could cause population and/or employment growth or growth in vehicle-miles traveled in excess of the growth forecasts included in an applicable AQMP or attainment plan. Because construction of the Full-Rebuild Concept would not result in population growth, the Full-Rebuild Concept would not conflict with the growth projections used in the development of the applicable AQMPs. Please see Section 4.14, Population and Housing, for a discussion of economic and population growth.

Furthermore, the emissions associated with Full-Rebuild Concept construction would be temporary and would represent a very small fraction of the regional emission inventories included in the applicable AQMPs.

Construction of the Full-Rebuild Concept would be performed in compliance with applicable air district rules and regulations; this would ensure that activities are consistent with air district efforts to achieve attainment and maintenance of the standards. Full-Rebuild Concept-related emissions occurring in compliance with these rules and regulations would not conflict with or obstruct implementation of any applicable air quality plan.

Because the Full-Rebuild Concept's construction emissions are not expected to substantially contribute to the regional emissions and would not conflict with the growth projections in the applicable AQMPs, and because construction of the Full-Rebuild Concept would be performed in compliance with applicable air district rules and regulations, the Full-Rebuild Concept would not conflict with or obstruct implementation of the applicable AQMPs, and there would be no impact.

###### 4.3.4.1.2 Operations

**No Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept, and therefore no impacts would be realized under this criterion during operations and maintenance.

##### 4.3.4.2 Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

###### 4.3.4.2.1 Construction

**Significant and Unavoidable Impact.** Emissions during the construction of the Full-Rebuild Concept would include criteria air pollutants that could contribute to existing or projected violations of the ambient air quality

standards for ozone and PM<sub>10</sub>. The Full-Rebuild Concept would result in air pollutant emissions from construction equipment and material handling at the various work areas, from off-site motor vehicle trips carrying workers and materials, and from helicopter use. Motor vehicles, helicopters, off-road equipment, and other construction equipment would directly emit criteria air pollutants and toxic air contaminants.

Emissions from ground construction activities were estimated using the California Emissions Estimator Model (CalEEMod) v2016.3.2. CalEEMod uses widely accepted models for emission estimates and default data from sources such as USEPA AP-42 emission factors, CARB vehicle emission models, and California Energy Commission and other agency studies. (California Air Pollution Control Officers Association [CAPCOA] 2013) Helicopter emissions were estimated based on the Swiss Federal Office of Civil Aviation (FOCA) Guidance on the Determination of Helicopter Emissions. (FOCA 2015) The modeling results are provided in Appendix F: Air Quality Calculations.

Tables 4.3-4, 4.3-5, and 4.3-6 summarize the estimated construction emissions for the Full-Rebuild Concept taking into account compliance with applicable local air district regulations, which would reduce construction-related impacts to air quality.

**Table 4.3-4: Estimated Annual Construction Emissions, Total**

Construction Year	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
2021 (tons/yr)	4	38	29	0.104	2	1
2022 (tons/yr)	12	95	85	0.324	5	4
2023 (tons/yr)	24	136	130	0.561	8	5
2024 (tons/yr)	2	14	13	0.050	1	1
EKAPCD Significance Threshold (tons/yr)	25	25	None	27	15	None
Exceedance?	No	Yes	No	No	No	No
MDAQMD Significance Threshold (tons/yr)	25	25	100	25	15	12
Exceedance?	No	Yes	Yes	No	No	No

**Table 4.3-5: Estimated Annual Construction Emissions, By District**

	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
GBUAPCD Emissions (tons/yr)	8.0	43	42	0.18	2.7	1.6
GBUACD Significance Threshold (EKAPCD proxy) (tons/yr)	25	25	None	27	15	None
GBUAPCD (EKAPCD proxy) Exceedance?	No	Yes	No	No	No	No
EKAPCD Emissions (tons/yr)	2.4	14	13	0.56	0.84	0.52
EKAPCD Significance Threshold (tons/yr)	25	25	None	27	15	None
EKAPCD Exceedance?	No	No	No	No	No	No
MDAQMD Emissions (tons/yr)	14	79	75	0.33	4.9	3.0
MDAQMD Significance Threshold (tons/yr)	25	25	100	25	15	12
Exceedance?	No	Yes	No	No	No	No

**Table 4.3-6: Estimated Maximum Daily Construction Emissions, Total**

Construction	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions (lbs/day)	155	1,153	1,067	4.2	56	41
MDAQMD Significance Threshold (lbs/day)	137	137	548	137	82	65
Exceedance	Yes	Yes	Yes	No	No	No

As shown in Table 4.3-4, the Full-Rebuild Concept's total annual daily emissions of NO<sub>x</sub> emissions, even with compliance with applicable local air district regulations, would be above the EKAPCD and

MDAQMD significance threshold values, and the total annual daily emission of CO would also exceed the MDAQMD significance threshold value. As shown in Table 4.3-5, taken by district, annual construction emissions for the worst-case year (2023) would exceed the GBUAPCD (EKAPCD proxy) and MDAQMD significance threshold value for NO<sub>x</sub>.

As shown in Table 4.3-6, the daily emissions of VOC, NO<sub>x</sub>, and CO would exceed the MDAQMD significance threshold, even with compliance with all applicable local air district regulations. These impacts would be significant and unavoidable.

#### **4.3.4.2.2 Operations**

**Less than Significant Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept. These O&M activities, as described in *Chapter 3—Project Description*, are infrequent and small in scope, and thus would not contribute substantially to an existing air quality violation and would not exceed EKAPCD and MDAQMD significance thresholds. Therefore, impacts would be less than significant.

#### **4.3.4.3 Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O3 precursors)?**

##### **4.3.4.3.1 Construction**

**Significant and Unavoidable Impact.** The Full-Rebuild Concept is located in air basins that are classified as nonattainment for ozone and PM<sub>10</sub>. As shown in Tables 4.3-4 and 4.3-5, construction emissions would exceed the significance thresholds for VOC, NO<sub>x</sub>, and CO, which are ozone precursors. Therefore, construction of the Full-Rebuild Concept would result in significant and unavoidable impacts, and would result in a cumulatively considerable net increase of a criteria pollutant.

##### **4.3.4.3.2 Operations**

**No Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept, and therefore O&M activities would not result in any increase in criteria pollutants. Therefore, no impacts would be realized under this criterion during operations and maintenance.

#### **4.3.4.4 Would the Project expose sensitive receptors to substantial pollutant concentrations?**

##### **4.3.4.4.1 Construction**

**Less than Significant Impact.** Sensitive receptors in the vicinity of the IC Project Alignment could be exposed to increases in pollutants as a result of the fugitive dust released during excavation activities and vehicle travel on unpaved roads and as a result of the use of internal combustion engines on construction equipment. Pollutant emissions would be distributed over the construction period and across the IC Project Alignment, and thus would not be concentrated in any one area. As a result, the actual emissions

that would be created at a single site, and thus at a single sensitive receptor, would be dramatically lower than the overall Full-Rebuild Concept emissions.

In addition, compliance with applicable local air district regulations would reduce emissions from off-road equipment use. Impacts would be less than significant due to the separation between construction activities and sensitive receptors, compliance with local air district regulations, and because sensitive receptors would only be exposed for short periods of time.

#### 4.3.4.4.2 Operations

**No Impact.** As presented in Chapter 3, SCE is currently performing operation and maintenance (O&M) activities, including inspections, along the subtransmission lines that would be rebuilt under the Full-Rebuild Concept. No material changes in O&M activities or the locations of these activities are anticipated with implementation of the Full-Rebuild Concept, and therefore no impacts would be realized under this criterion during operations and maintenance.

#### 4.3.4.5 Would the Project create objectionable odors affecting a substantial number of people?

##### 4.3.4.5.1 Construction

**Less than Significant Impact.** Potential odor sources associated with construction of the Full-Rebuild Concept include equipment exhaust. These emissions would be short-term, distributed throughout the alignment, and intermittent in nature, would disperse quickly, and would cease upon completion of construction. Because odors would be temporary and would disperse rapidly with distance from the source, and because the majority of construction activities would occur in unoccupied, open space areas, construction-generated odors would not result in the frequent or long-term exposure of a substantial number of people to objectionable odorous emissions. Therefore, impacts would be less than significant.

##### 4.3.4.5.2 Operations

**Less than Significant Impact.** Potential odor sources associated with O&M activities include equipment exhaust. These emissions would be short-term, limited to the location of the O&M activity and intermittent in nature, would disperse quickly, and would cease upon completion of the O&M activity at a given location. Because odors would be temporary and would disperse rapidly with distance from the source, and because the majority of O&M activities would occur in unoccupied, open space areas, O&M-generated odors would not result in the frequent or long-term exposure of a substantial number of people to objectionable odorous emissions. Therefore, impacts would be less than significant.

#### 4.3.5 Applicant Proposed Measures

As described above, SCE would comply with local air quality district regulations that include but are not limited to rules prohibiting the discharge of air contaminants that cause injury, detriment, nuisance or annoyance to the public; controlling the emission of particulate matter; implementing paved-road dust-reduction measures; and requiring taking reasonable precautions to minimize fugitive dust emissions from excavation, grading, and clearing of land. Compliance with these regulations would reduce emissions of PM<sub>10</sub> to a level below the applicable significance threshold.

SCE is not proposing APMs to reduce NO<sub>x</sub> or CO emissions. The exceedances of significance thresholds for VOCs, NO<sub>x</sub>, and CO were identified utilizing conservative and macro-scale construction scheduling and sequencing inputs. As the construction scheduling and sequencing of the Full-Rebuild Concept is refined during final engineering, reductions in daily construction emissions may be realized. However,

even with the feasible and practical measures available during construction, emissions of these pollutants would not likely be reduced to a level below the applicable significance threshold or result in a substantial reduction in the emissions of these pollutants.

#### **4.3.6 Alternatives**

Alternatives to the Full-Rebuild Concept are addressed in Section 5.2, Description of Project Alternatives and Impact Analysis.

#### **4.3.7 References**

- Eastern Kern Air Pollution Control District. 2012. Addendum to CEQA Guidelines. Addressing GHG Emission Impacts for Stationary Source Projects When Serving as Lead CEQA Agency. Available at <http://www.kernair.org/Documents/CEQA/EKAPCD%20CEQA%20GHG%20Policy%20Adopted%203-8-12.pdf>.
- Great Basin Unified Air Pollution Control District. 2016. Rules and Regulations for the Great Basin Unified Air Pollution Control District. Available at [https://www.gbuapcd.org/Docs/PermittingAndRules/RulesAndRegulations/GBUAPCD\\_Rules%20and%20Regulations.pdf](https://www.gbuapcd.org/Docs/PermittingAndRules/RulesAndRegulations/GBUAPCD_Rules%20and%20Regulations.pdf).
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